2016 OHBM GENEVA

22ND ANNUAL MEETING OF THE
ORGANIZATION FOR HUMAN BRAIN MAPPING

POSTER LISTINGS

June 26-30, 2016

Palexpo Exhibition and Congress Centre | Geneva, Switzerland

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POSTER CATEGORY KEY

Monday and Tuesday Posters

Poster Numbers #1000-2413 (MT)

- Display Days: Your poster should be displayed on your assigned poster board on Monday and Tuesday.
- Set-Up Time: Please set-up your poster from 8:00 – 9:00 am on Monday morning.
- Poster Stand-By Times:
  - Even numbered posters between #1000-2412 will stand-by and present their poster on Monday, June 27 from 12:45 – 14:45.
  - Odd numbered posters between #1001-2413 will stand-by and present their poster on Tuesday, June 28 from 12:45 – 14:45.
- Poster Reception: All Monday and Tuesday poster presenters will have a poster reception on Tuesday, June 28 from 17:00 – 18:30.
- Poster Teardown: Monday and Tuesday presenters should remove their posters by 19:30 on Tuesday night.

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CATEGORY/SUB-CATEGORY	POSTER NUMBERS
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Exploratory Modeling and Artifact Removal	2063-2071
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PET Modeling and Analysis	2181-2183
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Perception and Attention	
Attention: Auditory/Tactile/Motor	2222-2230
Attention: Visual	2231-2249
Chemical Senses: Olfaction, Taste	2250-2252
Consciousness and Awareness	2253-2269 & 2413
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Perception: Auditory/ Vestibular	2277-2294
Perception: Multisensory and Crossmodal	2295-2311
Perception: Pain and Visceral	2312-2337
Perception: Tactile/Somatosensory	2338-2353
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Sleep and Wakefulness	2405-2412

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Wednesday and Thursday Posters

Poster Numbers #3000-4391 (WTh)

- Display Days: Your poster should displayed on your assigned poster board on Wednesday and Thursday.
- Set-Up Time: Please set-up your poster from 8:00 – 9:00 am on Wednesday.
- Poster Stand-By Times:
  - Even numbered posters between #3000-4390 will stand-by and present their poster on Wednesday, June 29 from 12:45 – 14:45.
  - Odd numbered posters between #3001-4391 will stand-by and present their poster on Thursday, June 30 from 12:45 – 14:45.
- Poster Reception: All Wednesday and Thursday poster presenters will have a poster reception on Thursday, June 30 from 16:00 – 17:30.
- Poster Teardown: Wednesday and Thursday presenters should remove their posters by 18:30 on Thursday night.

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Monday, June 27, 2016 and Tuesday, June 28, 2016

* Indicates poster will also be presented during an Oral Session.

All Information listed, including author affiliations, appear as submitted during the Call For Abstracts.

DISORDERS OF THE NERVOUS SYSTEM

Alzheimer's Disease and Other Dementias

1000 Diffusion MRI Study with DTI and HARDI on Multi-Level Deficiency of WM Connectivity Networks in AD
Tao Wang[1], Feng Shi[2], Shifu Xiao[3], Dinggang Shen[2]
[1]IDEA Lab, Department of Radiology and BRIC, UNC, Chapel Hill, United States, [2]IDEA Lab, Department of Radiology and BRIC, University of North Carolina at Chapel Hill, NC, USA, Chapel Hill, NC, [3]Department of Geriatric Psychiatry, Shanghai Mental Health Center, Shanghai Jiao Tong University Sch, Shanghai, China

1001 Genome-wide polygenic risk for AD is associated with rate of atrophy in the hippocampus
Andre Altmann[1], Nick Fox[1]
[1]UCL, London, United Kingdom

1002 Bayesian Modeling of Atrophy Factors in Alzheimer's Disease
Xiuming Zhang[1], Elizabeth Mormino[2], Reisa Sperling[2], Mert Sabuncu[3,4], B.T. Thomas Yeo[1,5,3,6], Nanbo Sun[1]
[1]ASTAR-NUS Clinical Imaging Research Centre, Singapore, Singapore, [2]Department of Neurology, Massachusetts General Hospital/Harvard Medical School, Charlestown, MA, [3]Martinos Center for Biomedical Imaging, Massachusetts General Hospital/Harvard Medical School, Charlestown, MA, [4]Computer Science and Artificial Intelligence Laboratory, Massachusetts Institute of Technology, Cambridge, MA, [5]Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore, [6]Centre for Cognitive Neuroscience, Duke-NUS Graduate Medical School, Singapore, Singapore

1003 Alterations in brain α7 nicotinic receptors and amyloid deposition in Alzheimer's disease
Yasuomi Ouchi[1], Tatsuhiro Terada[1], Kyoko Nakaizumi[1], Etsuji Yoshikawa[2], Akihiro Kakimoto[2], Takashi Isobe[2], Tomoyasu Bunai[1], Yasuhiro Magata[1]
[1]Hamamatsu University School of Medicine, Hamamatsu, Japan, [2]Hamamatsu Photonics KK, Hamamatsu, Japan

1004 Plasma MicroRNA107 Level Relating to Abnormal Brain Cortical Anatomy in Amnestic MCI
Tao Wang[1], Feng Shi[2], Yan Jin[3], Dinggang Shen[4], Shifu Xiao[5]
[1]Shanghai Mental Health Center, Shanghai Jiao Tong University School of Medicine, Shanghai, China, Shanghai, China, [2]University of North Carolina at Chapel Hill, NC, USA, Chapel Hill, NC, [3]University of North Carolina at Chapel Hill, Carrboro, NC, [4]IDEA Lab, Department of Radiology and BRIC, University of North Carolina at Chapel Hill, NC, USA, Chapel Hill, NC, [5]Department of Geriatric Psychiatry, Shanghai Mental Health Center, Shanghai Jiao Tong University Sch, Shanghai, China

1005 Neural Network Associated with Semantic Deficits of Semantic Dementia
Yan Chen[1], Keliang Chen[2], Junhua Ding[1], Qing Yang[2], Yingru Lv[3], Yanchao Bi[1], Qihao Guo[2], Zaizhu Han[1]
[1]State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, [2]Department of Neurology, Huashan Hospital, Fudan University, Shanghai, China, [3]Department of Radiology, Huashan Hospital, Fudan University, Shanghai, China

1006 Identify Subtypes of Alzheimer's Disease based on Cortical Atrophy pattern with Clinical Implication
JongYun Park[1], Han Kyu Na[2], Sungsoo Kim[3], Hyunwook Kim[4], HeeJin Kim[5], Sang Won Seo[5], Duk L. Na[5], CheolE Han[1], Joon-Kyung Seong[1]
[1]Korea University, Seoul, Korea, Republic of, [2]Yonsei University of Medicine, Seoul, Korea, Republic of, [3]Yonsei University of Medcine, Seoul, Korea, Republic of, [4]Sungkyunkwan University of Medicine, Seoul, Korea, Republic of, [5]Samsung Medical Center, Seoul, Korea, Republic of

1007 Voxel-wise survival analysis for the prediction of clinical progression in non-demented subjects
Mara ten Kate[1], Pieter Jelle Visser[1], Wiesje van der Flier[1], Philip Scheltens[1], Frederik Barkhof[1], Betty Tijms[1]
[1]VU University Medical Center, Amsterdam, Netherlands

1008 Mapping vulnerable structural covariance networks in Alzheimer's disease: A longitudinal study
Pei-Lin Lee[1], Kun-Hsien Chou[2], Tzu-Hsien Lai[3,4], Pei-Ning Wang[5], Juan Zhou[6], Ching-Po Lin[1,2,4]
[1]Department of Biomedical Imaging and Radiological Sciences, National Yang-Ming University, Taipei, Taiwan, [2]Brain Research Center, National Yang Ming University, Taipei, Taiwan, [3]Section of Neurology, Department of Internal Medicine, Far Eastern Memorial Hospital, New Taipei, Taiwan, [4]Institute of Neuroscience, National Yang-Ming University, Taipei, Taiwan, [5]Department of Neurology, Neurological Institute, Taipei Veterans General Hospital, Taipei, Taiwan, [6]Center for Cognitive Neuroscience, Duke-NUS Medical School, Singapore, Singapore

1009 Longitudinal CBF changes predict disease conversion/revision in AD and MCI
Ze Wang[1]
[1]Hangzhou Normal University, Hangzhou, Zhejiang China

1010 Neural correlates of spontaneous thought – the wandering mind in neurodegenerative disorders
Claire O'Callaghan[1], Mac Shine[2], John Hodges[3], Jessica Andrews-Hanna[4], Muireann Irish[5]
[1]Behavioural and Clinical Neuroscience Institute, University of Cambridge, Cambridge, United Kingdom, [2]Stanford University, Palo Alto, CA, [3]Neuroscience Research Australia, Sydney, NSW, [4]Institute of Cognitive Science, University of Colorado Boulder, Boulder, CO, [5]Neuroscience Research Australia, Sydney, Australia

1011 **Resting-state BOLD variability in Alzheimer's disease versus normal aging**
Vanessa Scarapicchia[1], Erin Mazerolle[2], Lesley Ritchie[3], John Fisk[4], Jodie Gawryluk[1]
[1]University of Victoria, Victoria, Canada, [2]University of Calgary, Calgary, Canada, [3]University of Manitoba, Winnipeg, Canada, [4]Dalhousie University, Halifax, Canada

1012 **Transverse relaxation rate brain mapping in Alzheimer's disease and Dementia with Lewy bodies**
Chun-Yuan Chang[1,2], Jong-Ling Fuh[3], Fa-Hsuan Lin[2]
[1]Department of Neurology, Min-Sheng General Hospital, Taoyuan, Taiwan, [2]Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan, [3]Neurological Institute, Taipei Veterans General Hospital, Taipei, Taiwan

1013 **Abnormal white matter integrity in elderly patients with idiopathic normal-pressure hydrocephalus**
Kyunghun Kang[1], Uicheul Yoon[2]
[1]Department of Neurology, School of Medicine, Kyungpook National University, Daegu, Korea, Republic of, [2]Department of Biomedical Engineering, Catholic University of Daegu, Gyeongsan-si, Korea, Republic of

1014 **Functional Brain Networks in Aging and Alzheimer's Disease**
Bernadet Klaassens[1,2,3,4], Joop van Gerven[4], Jeroen Van der Grond[3], Christiane Möller[1,2], Serge Rombouts[1,2,3]
[1]Leiden University, Leiden, Netherlands, [2]Leiden Institute for Brain and Cognition, Leiden, Netherlands, [3]Leiden University Medical Center, Leiden, Netherlands, [4]Centre for Human Drug Research, Leiden, Netherlands

1015 **Hippocampal shape is associated with regional Aβ load in cognitively normal elderly individuals**
Clemens Schroeder[1], Anton Gietl[1], Min Tae Park[2], Jürgen Germann[3], Mallar Chakravarty[4], Lars Michels[5], Spyros Kollias[5], Sara Kroll[5], Valerie Treyer[6], Egemen Savaskan[7], Paul Unschuld[5], Andrea Kälin[5], Christoph Hock[1], Sandra Leh[1]
[1]University of Zurich, Schlieren, Switzerland, [2]Schulich School of Medicine and Dentistry, London, Ontario, [3]McGill University, Montreal, Canada, [4]Douglas Mental Health University Institute/McGill University, Montreal, Canada, [5]University of Zurich, Zurich, Switzerland, [6]University Hospital Zurich, Zurich, Switzerland, [7]Psychiatric University Hospital Zurich, Zurich, Switzerland

1016 **Spatial Distribution of Alzheimer's Disease May Vary Among Anatomical Variants of Perirhinal Cortex**
Long Xie[1,2], John Pluta[1,3], Sandhitsu Das[1,4], Laura Wisse[1,3], Brian Avants[1,3], Song-Lin Ding[5], David Wolk[6,4], Paul Yushkevich[1,3]
[1]Penn Image Computing & Science Lab, Department of Radiology, University of Pennsylvania, Philadelphia, PA, [2]Department of Bioengineering, University of Pennsylvania, Philadelphia, PA, [3]Department of Radiology, University of Pennsylvania, Philadelphia, PA, [4]Department of Neurology, University of Pennsylvania, Philadelphia, PA, [5]Allen Institute for Brain Science, Seattle, WA, [6]Penn Memory Center, University of Pennsylvania, Philadelphia, PA

1017* **Relating CSF and PET measure of tau pathology**
Brian Gordon[1], Karl Friedrichsen[1], Matthew Brier[1], Tyler Blazey[1], Yi Su[1], Jon Christensen[1], Patricia Aldea[1], Jonathan McConathy[2], David Holtzman[1], Nigel Cairns[1], John Morris[1], Anne Fagan[1], Beau Ances[1], Tammie Benzinger[1]
[1]Washington University in St. Louis, St. Louis, MO, [2]University of Alabama Birmingham, Birmingham, AL

1018 **Resting fMRI-based classification of amyloid positive and negative aMCI patients**
Kwangsun Yoo[1], Peter Lee[1], Young-Beom Lee[1], Duk L. Na[2], Sang Won Seo[2], Yong Jeong[1]
[1]KAIST, Daejeon, Korea, Republic of, [2]Samsung Medical Center, Seoul, Korea, Republic of

1019 **Effects of APOE4 on regional associations between glucose metabolism and beta-amyloid burden**
Chan-Mi Kim[1], Jee Hoon Roh[1], Jae-Hong Lee[1]
[1]Department of Neurology, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Korea, Republic of

1020 **Electroencephalographic Fractal Dimension in Healthy Aging and Alzheimer's Disease**
Camillo Porcaro[1,2], Fenne Smits[3], Carlo Cottone[1], Andrea Cancelli[1,4], Paolo Maria Rossini[4,5], Franca Tecchio[1,5]
[1]LET'S-ISTC-CNR, Rome, Italy, [2]Department of Information Engineering -Università Politecnica delle Marche, Ancona, Italy, [3]University of Amsterdam, The Netherlands, Netherlands, [4]Institute of Neurology, Cattolica del Sacro Cuore University, Rome, Italy, [5]Unit of Neuroimaging, IRCCS San Raffaele Pisana, Rome, Italy

1021 **Subjective cognitive impairment is associated with greater white matter hyperintensity volume**
Sanneke van Rooden[1], Annette van den Berg-Huysmans[1], Pauline Croll[1], Jessica Hayes[2], Raymond Viviano[2], Jeroen Van der Grond[1], Serge Rombouts[3], Jessica Damoiseaux[2]
[1]Leiden University Medical Center, Leiden, Netherlands, [2]Wayne State University, Detroit, United States, [3]Leiden University, Leiden, Netherlands

1022* **A new piece to the puzzle: Contributions of in vivo Tau to Neurodegeneration in Alzheimer's Disease**
Gérard Bischof[1,2], Julian Dronse[2,3], Klaus Fliessbach[4,5], Juraj Kukolja[2,3], Jochen Hammes[1], Özgür Onur[3], Gereon Fink[3,2], Frank Jessen[6,5], Bernd Neumaier[7], Alexander Drzezga[1,5], Thilo van Eimeren[1,2,3,5]
[1]Multimodal Neuroimaging Group, Department of Nuclear Medicine, University Hospital Cologne, Cologne, Cologne, Germany, [2]Cognitive Neuroscience, Institute of Neuroscience and Medicine (INM-3), Research Center Jülich, Jülich, Germany, [3]Department of Neurology, University Hospital Cologne, Cologne, Germany, [4]Department of Psychiatry and Psychotherapy, University Hospital Bonn, Bonn, Germany, Bonn, Germany, [5]German Center for Neurodegenerative Diseases (DZNE), Germany, Germany, [6]Department of Psychiatry, University Hospital Cologne, Cologne, Germany, [7]Institute of Radiochemistry and Experimental Molecular Imaging, University of Cologne, Cologne, Germany

1023 **[18F]AV-1451 PET imaging of Tau in Alzheimer's disease and Progressive supranuclear palsy**
Luca Passamonti[1], Patricia Vázquez Rodríguez[1], Young Hong[2], Robin Borchert[1], Saber Sami[1], William Bevan-Jones[3], Simon Jones[1], Robert Arnold[3], Ajenthan Surendranathan[3], Elijah Mak[3], Su Li[3], Tim Fryer[2], John O'Brien[3], James Rowe[1]
[1]University of Cambridge, Department of Clinical Neurosciences, Cambridge, United Kingdom, [2]Wolfson Brain Imaging Center, Cambridge, United Kingdom, [3]University of Cambridge, Department of Psychiatry, Cambridge, United Kingdom

1024 **Modeling Dependencies in Weak Biomarkers of Alzheimer's Disease**
Madelaine Daianu[1], Greg ver Steeg[2], Brandalyn Riedel[2], Artemis Zavaliangos-Petropulu[2], Aram Galstyan[2], Paul Thompson[3]
[1]University of California, Los Angeles, Los Angeles, CA, [2]University of Southern California, Los Angeles, CA, [3]University of Southern California, Los Angeles, CA

1025 **White matter degradation linked to cognitive decline independently from cortical degeneration in MCI**
Jean-Philippe Coutu[1], David Salat[1]
[1]Massachusetts General Hospital, Boston, MA

1026 **Identification of Patients with AD and MCI using Granger Causality Analysis of Resting-State fMRI**
Ali Khazaee[1], Ata Ebrahimzadeh[2], Abbas Babajani-Feremi[3]
[1]University of Bojnord, Bojnord, Iran, Islamic Republic of, [2]Babol University of Technology, Babol, Iran, Islamic Republic of, [3]The University of Tennessee Health Science Center, Memphis, TN

1027 **Resting State Network Differences Related to APOEε4 in a Large Cohort of Young Adults**
Theresa Harrison[1], Jesse Brown[2], Annchen Knodt[3], Emily Drabant Conley[4], Susan Bookheimer[5], Ahmad Hariri[3]
[1]UCLA, Los Angeles, CA, [2]UCSF, San Francisco, CA, [3]Duke University, Durham, NC, [4]23andMe, Mountain View, CA, [5]University of California Los Angeles, Los Angeles, CA

1028 **Effect of Spontaneous Physiology on Characterizing the Default Mode Network of Alzheimer's Disease**
Yi-Tien Li[1,2], Chun-Yuan Chang[1], Yi-Cheng Hsu[1], Jong-Ling Fuh[3], Fa-Hsuan Lin[1]
[1]Institute of Biomedical Engineering, National Taiwan University, Taipei City, Taiwan, [2]Department of Radiology, Institute of Medical Imaging, Taipei Medical University - Shuang Ho Hospital, New Taipei City, Taiwan, [3]Neurological Institute, Taipei Veterans Hospital, Taipei City, Taiwan

1029 **Classification of MCI from structural default mode network using Bayesian classifiers**
Liqing Zhou[1], Xiaojuan Guo[1], Jiacai Zhang[1], Li Yao[1], Kewei Chen[2]
[1]College of Information Science and Technology, Beijing Normal University, Beijing, China, [2]Banner Alzheimer's Institute and Banner Good Samaritan PET Center, Phoenix, Arizona, United States

1030 **Predicting Conversion from MCI to AD using Resting-State fMRI and Graph Theoretical Approach**
Seyed Hani Hojjati[1], Ata Ebrahimzadeh[1], Ali Khazaee[2], Abbas Babajani-Feremi[3,4]
[1]Babol University of Technology, Babol, Mazandaran, [2]University of Bojnord, Bojnord, North Khorasan, [3]University of Tennessee Health Science Center, Memphis, TN, [4]Neuroscience Institute, Le Bonheur Children's Hospital, Memphis, TN

1031 **Basal forebrain and hippocampal metabolism in healthy aging, MCI and AD: relationship with reserve**
Nicolas Brandt[1], Osman Ratib[2], Giovanni Frisoni[3], Valentina Garibotto[2], (ADNI) for the Alzheimer's Disease Neuroimaging Initiativ[4]
[1]Geneva University and Geneva University Hospitals, Geneva, Switzerland, [2]Nuclear Medicine and Molecular Imaging, Department of Medical Imaging, Geneva University Hospitals, Geneva, Switzerland, [3]Memory Clinic and LANVIE-Laboratory of Neuroimaging of Aging, Geneva University, Geneva, Switzerland, [4]multisite study across North America, United States

1032 **Estimation of Alzheimer's disease progression in-vivo with MRI-based measures of atrophy**
Jing Cui[1], Lester Melie-Garcia[1], Bogdan Draganski[1], Ferath Kherif[1]
[1]Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland

1033 **Cortical Surface Classification with Hyperbolic Wasserstein Distance**
Jie Shi[1], Yalin Wang[1]
[1]Arizona State University, Tempe, AZ

1034 **Altered Resting State Functional Connectivity in Mild Cognitive Impairment revealed by NIRS**
Andrei Medvedev[1], Raymond Turner[2]
[1]Center for Functional and Molecular Imaging, Neurology, Georgetown University Medical Center, Washington, DC, [2]Neurology, Georgetown University Medical Center, Washington, DC

1035 **Longitudinal Microstructural White Matter Changes in Alzheimer's Disease**
Chantel Mayo[1], Erin Mazerolle[2], Lesley Ritchie[3], John Fisk[4], Jodie Gawryluk[1]
[1]University of Victoria, Victoria, British Columbia, [2]University of Calgary, Calgary, Alberta, [3]University of Manitoba, Winnipeg, Manitoba, [4]Dalhousie University, Halifax, Nova Scotia

1036* **Distinct Modes of Brain Variability Across the Alzheimer's Disease Continuum**
Nhat Trung Doan[1], Krystal Zaske[1], Karin Persson[2,3], Martina Jonette Lund[1], Tobias Kaufmann[1], Andreas Engvig[1,4], Anne Brækhus[2,3], Jan Egil Nordvik[5], Ole Andreas Andreassen[1], Knut Engedal[2], Geir Selbæk[2,6], Lars Tjelta Westlye[1,7]
[1]NORMENT, Oslo University Hospital & University of Oslo, Oslo, Norway, [2]Norwegian National Advisory Unit on Ageing and Health, Vestfold Hospital Trust, Tønsberg, Norway, [3]Department of Geriatric Medicine, The Memory Clinic, Oslo University Hospital, Oslo, Norway, [4]Department of Medicine, Diakonhjemmet hospital, Oslo, Norway, [5]Sunnaas Rehabilitation Hospital HT, Nesodden, Norway, [6]Centre for Old Age Psychiatric Research, Innlandet Hospital Trust, Ottestad, Norway, [7]Department of Psychology, University of Oslo, Oslo, Norway

1037 **The impact of APOE and TOMM40 on hippocampal thinning in older, nondemented subjects over two years**
Alison Burggren[1], Theresa Harrison[1], Zanjbeel Mahmood[1], Alexandra Karacozoff[1], Susan Bookheimer[2]
[1]UCLA, Los Angeles, CA, [2]University of California Los Angeles, Los Angeles, CA

1038 **Individualized Prediction of Cognitive Worsening Using the ADNI Database at a Memory Clinic**
Ryo Sakamoto[1,2], Christopher Marano[3], Michael Miller[4], Susumu Mori[1], Constantine Lyketsos[3], Kenichi Oishi[1], for the Alzheimer's Disease Neuroimaging Initiative[5]
[1]Department of Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States, [2]Department of Radiology, Kyoto University School of Medicine, Kyoto, Japan, [3]Department of Psychiatry and Behavioral Sciences, Johns Hopkins University, Baltimore, MD, United States, [4]Center for Imaging Science, School or Engineering, Johns Hopkins University, Baltimore, MD, United States, [5]multiple institutions across North America, United States

1039 **APOE genetic associations with cortical thickness and its decay rate in Alzheimer's disease**
Arlene X Fang[1], José María Mateos[1], Yasser Iturria-Medina[1], Alan Evans[1,2]
[1]Montreal Neurological Institute, McGill University, Montreal, Canada, [2]McGill Centre for Integrative Neuroscience, Montreal, Canada

1040 **Altered functional connectivity and anatomical connectivity of hippocampus in AD and MCI**
Pan Wang[1], Hongxiang Yao[2], Yafeng Zhan[3], Bo Zhou[1], Sangma Xie[4], Zengqiang Zhang[1], Jianhua Ma[3], Ningyu An[5], Tianzi Jiang[4], Xi Zhang[1], Yong Liu[4]
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1041 **Neuroanatomical Correlates of Psychotic Symptoms in Alzheimer's Disease**
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1042 **Altered spontaneous activity in aMCI and AD revealed by resting-state fMRI**
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1043 **Gray matter volume alteration following donepezil treatment in patients with Alzheimer's disease**
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1044 **Frequency-Dependent Regional Homogeneity in Mild Cognitive Impairment during Working Memory State**
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1045 **Parcellation schemes and global signal removal affect brain network analyses in Alzheimer's disease**
Xiaodan Chen[1], Xuhong Liao[1], Zhengjia Dai[1], Zhiqun Wang[2], Kuncheng Li[2], Yong He[1]
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1046 **Classification of Alzheimer's Disease using Diffusion MRI and Structural Connectivity**
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1047 **Cerebral iron load and Amyloid-β plaque density in Super-agers**
Jiri van Bergen[1], Frances-Catherine Quevenco[1], Sandra Leh[1], Anton Gietl[1], Valerie Treyer[2], Rafael Meyer[1], Alfred Buck[2], Peter van Zijl[3], Roger Nitsch[1], Christoph Hock[1], Paul Unschuld[1], Xu Li[3]
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1048 **Medial Prefrontal Function in MCI/SCD Individuals with Inconsistent Valuative Decisions**
Yu-Shiang Su[1], Yen-Ling Chen[2], Yen-Shiang Chiu[3], Ming-jang Chiu[4,1,3,5], Wen-Yih Tseng[6,7,1,5], Kai-Yuen Tzen[8,9,1], Pei-Fang Tang[2,10,1,5], Yu-Ling Chang[3,5], Chia-Lin Lee[11,3,1,5], Joshua Goh[1,3,5]
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1049 **Iron- and Aß-related functional connectivity changes in cognitively normal super-agers**
Frances-Catherine Quevenco[1], Jiri van Bergen[2], Xu Li[3], Sandra Leh[4], Anton Gietl[4], Valerie Treyer[5], Rafael Meyer[1], Alfred Buck[5], Roger Nitsch[1], Peter van Zijl[3], Christoph Hock[4], Paul Unschuld[1]
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1050 **ApoE4 modulates the Anatomical Networks in Mild Cognitive Impairment converters to Alzheimer disease**
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1051 **Cluster-based statistics for aberrant functional connectivity in Alzheimer's disease**
Bo Zhou[1], Yafeng Zhan[2], Hongxiang Yao[3], Pan Wang[4], Zengqiang Zhang[5], Yan'e Guo[6], Ningyu An[3], Jianhua Ma[7], Xi Zhang[1], Yong Liu[8]
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1052 **Contralateral functional connectivity of temporal lobes in Alzheimer's disease and semantic dementia**
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1053 **Dynamic Changes in Fornix White Matter Microstructure with Cerebral Amyloid Deposition**
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1054 **Differential lateralization of connectivity changes in frontotemporal dementia subtypes**
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1055 **Altered resting state connectivity in MCI patients may reflect disease and compensatory mechanisms**
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1056 **Effect of Alzheimer Disease risk loci on brain morphology through modulation of gene expression**
Gennady Roshchupkin[1,2], Hieab Adams[1,3], Sven van der Lee[3], Meike Vernooij[1], Cornelia van Duijn[3], Wiro Niessen[1,2,4], Arfan Ikram[1,3,5]
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1057 **Music therapy alters brain intrinsic fluctuations in the elderly with dementia**
Yi-Ping Chao[1], Feng-Xian Yen[1], Li-Wei Kuo[2], Yu-Cheng Pei[3]
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1058 **Assessing the clinical utility of brain functional connectivity across the Alzheimer's continuum**
Aldo Córdova-Palomera[1], Tobias Kaufmann[1], Dag Alnæs[1], Nhat Trung Doan[1], Krystal Zaske[1], Karin Persson[2], Martina Jonette Lund[1], Andreas Engvig[1], Anne Brækhus[2], Ole Andreas Andreassen[1], Knut Engedal[2], Geir Selbæk[2], Lars Tjelta Westlye[1]
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1059 **Tractography of the parahippocampal tract in aging and subjects with Mild Cognitive Impairment**
Arun Bokde[1], Elizabeth Kehoe[1], Dervla Farrell[1], Francesca Sibilia[1]
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1060 **Impact of resveratrol on glucose control, hippocampus functional connectivity and structure in MCI**
Theresa Köbe[1], A. Veronica Witte[2], Valentina Tesky[3], Johannes Pantel[3], Jan Philipp Schuchardt[4], Andreas Hahn[4], Agnes Flöel[5]
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1061 **Metabolic correlates of episodic memory dysfunction in the non-demented elderly measured by 7 T MRSI**
Simon Schreiner[1,2], Thomas Kirchner[3], Michael Wyss[3], Anton Gietl[2], Jiri van Bergen[2], Frances-Catherine Quevenco[2], Stefanie Steininger[2], Sandra Leh[2], Christoph Hock[2], Roger Nitsch[2], Klaas Pruessmann[3], Anke Henning[4,3], Paul Unschuld[2]
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1062 **Regional neuropathological biomarkers in Alzheimer's disease: the role of the connectome**
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1063 **Distribution of cerebral small vessel disease in subtypes of Alzheimer's disease**
Sara Shams[1], Juha Martola[1], Matti Viitanen[1], Lena Cavallin[1], Tobias Granberg[1], Mana Shams[1], Peter Aspelin[1], Maria Kristoffersen Wiberg[1], Lars-Olof Wahlund[1]
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1064 **White blood cell counts and regional brain volumes in Alzheimer's disease**
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1065* **Regional and stage-specific association of multiple AD risk variants with brain amyloidosis**
Liana Apostolova[1], Naira Goukasian[2], Tugce Duran[1], Triet Do[2], Jonathan Grotts[2], Shannon Risacher[1], Kwangsik Nho[1], David Elashoff[2], Andrew Saykin[1]
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1066 **Brain Plasticity Following Physical Training in Individuals with Mild Cognitive Impairment**
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1067 **Local-to-remote function connectivity in amnestic mild cognitive impairment**
Huijie Li[1], Yi-Wen Zhang[1], Zhi-Lian Zhao[2], Kuncheng Li[2], Xi-Nian Zuo[1]
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1068 **A Two-Year Treatment of Amnestic Mild Cognitive Impairment using a Compound Chinese Medicine**
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DISORDERS OF THE NERVOUS SYSTEM

Anxiety Disorders

1069 Pattern of structural brain changes in social anxiety disorder after cognitive behavioral therapy
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1070 Effective connectivity between amygdala sub regions, BNST and PFC in anxiety or depressive disorders
Ronald Sladky[1], Christoph Kraus[2], Inga-Lisa Stürkat[1,3], Nicole Geissberger[1], Thomas Vanicek[2], Martin Tik[1], Bastian Auer[3], Arkadiusz Komorowski[2], Daniela Pfabigan[3], Rupert Lanzenberger[2], Claus Lamm[3], Christian Windischberger[1]
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1071 FMRI responses to the facial expression images in amygdala after CBT in social anxiety disorder
Yoshiyuki Hirano[1], Takayuki Obata[2], Chihiro Sutoh[1], Daisuke Matsuzawa[1], Naoki Yoshinaga[3], Hiroshi Ito[4], Hiroshi Tsuji[2], Eiji Shimizu[1]
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1072 Altered Subcortical Volumes Post Traumatic Stress Disorder: A PGC-ENIGMA PTSD Study of 11 cohorts
Emily Dennis[1], Mark Logue[2], Allison Ashley-Koch[3], Melanie Garrett[3], Sarah Lancaster[4], Mike Hauser[5], Kate McLaughlin[6], Matthew Peverill[7], Margaret Sheridan[8], Ilan Harpaz-Rotem[9], Ifat Levy[9], Kristen Wrocklage[9], John Krystal[9], Chadi Abdallah[9], Paul Thompson[1], Neda Jahanshad[10], William Milberg[11,12], Regina McGlinchey[13,12], Kathleen Thomaes[14], Dick Veltman[14], Saskia Koch[15], Elbert Geuze[16], Dan Stein[17], Jonathan Ipser[18], Kerry Ressler[19], Jennifer Stevens[19], Mark Miller[2], Sanne van Rooij[19], Rajendra Morey[20]
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1073 Decreased Hippocampal Subfield Volumes in Post-Traumatic Stress Disorder
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1074 How embarrassing! Social norm processing as an intermediate phenotype of Social Anxiety Disorder
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1075 Sleep and Neural Correlates of Trauma Memories
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1076 Influence of spatial frequency and emotion expression on face processing in panic disorder
Miseon Shim[1], Do-Won Kim[2], Seung-Hwan Lee[3], Chang-Hwan Im[1]
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1077 Alteration of the Default Mode Network modulated by Serotonin1A receptors in Social Anxiety Disorder
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1079 Dynamics of Emotion Regulation in Social Anxiety Disorder depicted by Dependency Network Analysis
Yael Jacob[1], James Gross[2], Talma Hendler[3], Philippe Goldin[4]
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1080 Brain correlates of inhibition in an emotional context in patients with PTSD: a longitudinal study
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1081 **White matter (WM) abnormalities in the inferior and middle temporal gyri in social anxiety disorder**
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1082 **Evaluation of rtfMRI Neurofeedback Training Effects in Combat-related PTSD Using Simultaneous EEG**
Vadim Zotev[1], Raquel Phillips[1], Masaya Misaki[1], Chung Ki Wong[1], Brent Wurfel[1], Matthew Meyer[1,2], Frank Krueger[3,1], Matthew Feldner[4,1], Jerzy Bodurka[1,5]
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1083* **Network Dysfunction in the Fronto-Limbic Circuit in Drug-Naive Social Anxiety Disorder**
Jin Liu[1], Xun Yang[2,3], Yajing Meng[4], Mingrui Xia[1], Wei Zhang[4], Qiyong Gong[2], Yong He[1]
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1084 **Investigation of Resting-State Functional Connectivity in Social Anxiety Disorder**
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1085 **Functional Connectivity near Birth Predicts Anxiety-Related Temperament at Age 2 Years**
Chad Sylvester[1], Cynthia Rogers[2], Tara Smyser[3], Christopher Smyser[2]
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1086 **Characterizing Anxiety-related Brain Circuits using Cognitive-Emotional and Fear Learning Tasks**
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1087 **Anxious/depressed symptoms are related to microstructural maturation of white matter in children**
Matthew Albaugh[1], Simon Ducharme[2], Sherif Karama[2], Richard Watts[1], John Lewis[2], Catherine Orr[1], Tuong-Vi Nguyen[2], Robert McKinstry[3], Kelly Botteron[4], Alan Evans[5], James Hudziak[1]
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DISORDERS OF THE NERVOUS SYSTEM

Autism

1088 **Changes in large scale brain networks in Autism Spectrum Disorders revealed by resting state fMRI**
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1089 **Neural signature of motor clumsiness in the structural connectome of neurodevelopmental disorders**
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1090 **Oxytocin therapy for Autism: Exploring neural and behavioral effects of single- and multiple doses**
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1091 **Autistic Cognitive Styles in Processing Emotional Voices: An ERP Mismatch Negativity Study**
Chun-Yu Tse[1], Kunyang Zhao[1], Germaine Fung[1], Flora Yi-Man Mo[2], Marshall Ming-Chung Lee[2], Caroline Ka-Sin Shea[2], Grace Fong-Chun Chan[2], Kiti Kit-I Che[2], Jenny Ching-Ying Kwok[2], May Pak-Kan Yan[2], Suk Ling Ma[3], Se-Fong Hung[3], Patrick Wing-Leung Leung[1], Kelly Yee-Ching Lai[3]
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1092 **An event-related potential study on coherence and visual working memory of individuals with ASD**
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1093 **Resting state connectivity is associated with Autism symptom severity in twins**
Janina Neufeld[1], Peter Fransson[2], Katell Mevel[3], Élodie Cauvet[1], Sven Bölte[1]
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1094 **The cerebellar role in social cognition: a resting-state fMRI study in Autism Spectrum Disorders**
Giusy Olivito[1,2], Silvia Clausi[1,2], Fiorenzo Laghi[3], Anna Maria Tedesco[1,2], Roberto Baiocco[3], Chiara Mastropasqua[4], Marco Molinari[5], Mara Cercignani[6,4], Marco Bozzali[4], Maria Leggio[1,2]
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1095 **Atypical amygdala functional connectivity in autism across development**
Paola Odriozola[1], Dina Dajani[1], Laurel Gabard-Durnam[2], Nim Tottenham[2], Lucina Uddin[3]
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1096 **Disorder-specific alteration in white matter in adults with autism relative to adults with ADHD**
Huey-Ling Chiang[1,2,3], Yu-Jen Chen[4], Hsiang-Yuan Lin[3], Wen-Yih Tseng[5], Susan Shur-Fen Gau[3]
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1097 **Brain Morphometry of dimensional autism: A Twin Study**
Elodie Cauvet[1], Annelies Van't Westeinde[1], Katell Mevel[2], Janina Neufeld[3], Roberto Toro[4], Sven Bölte[3]
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1098 **Aberrant brain network dynamics in childhood autism and its relation to symptomatology**
Kaustubh Supekar[1], Srikanth Ryali[1], Vinod Menon[1]
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1099 **Longitudinal Trajectories of Large-Scale Brain Network Architecture in Autism**
Brandon Zielinski[1], Molly Prigge[1], Milo White[1], Douglas Dean[2], Janet Lainhart[2]
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1100 **Hearing one's name in autism spectrum disorder: a preliminary fMRI investigation**
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1101 **Disrupted Brain Network Topology in Autism Spectrum Disorder**
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1102 **Global integration of control networks between cognitive states predicts executive function in ASD**
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1103 **Reduced Integrity of the Grey/White Matter Boundary in Autism Spectrum Disorders**
Derek Andrews[1], Maria Gudbrandsen[1], Eileen Daly[1], Andre Marquand[2], Clodagh Murphy[1], Simon Baron-Cohen[3], Meng-Chuan Lai[3], Michael Lombardo[3], Edward Bullmore[4], Amber Ruigrok[3], Steve Williams[1], Declan Murphy[1], Michael Craig[1], Christine Ecker[5]
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1104 **Brain correlates of task-switching to emotional stimuli in ASD: an fMRI study**
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1105 **Impacts of emotional dysregulation on regional brain volumes in males with autism spectrum disorder**
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1106 **Resting-state neural activity in children with Autism-Epilepsy Phenotype: a high-density EEG study**
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1107 **Cerebellar vermis functional connectivity predicts childhood ASD and ADHD traits**
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1108 **Static and Dynamic Resting State Functional Connectivity in Children with Autism**
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1109 **Reduced GABA levels and altered sensory function in children with Autism Spectrum Disorder**
Nicolaas Puts[1], Ericka Wodka[2], Ashley Harris[3], Deana Crocetti[2], Mark Tommerdahl[4], Richard Edden[1], Stewart Mostofsky[2]
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1110 **Machine learning distinguishes ASD patients from healthy control subjects based on brain morphometry**
Andrei Irimia[1], Carinna Torgerson[1], Sumiko Abe[1], John Van Horn[2]
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1111 **Reduced Flexibility of Cingulate-Based Functional Networks in Autism**
Dirk Neumann[1], Lucina Uddin[2]
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1112 **Subcortical brain volume development over age in ASD: results from the ENIGMA ASD working group**
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1113 **Atypical neural processing of visual-speech recognition in autism spectrum disorders**
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1114 **Automatic detection of emotional prosody in Autism, a developmental perspective**
Marie Gomot[1], Judith Charpentier[1], Roux Sylvie[1], Emmanuelle Houy-Durand[2], Joelle Malvy[2], Agathe Saby[2], Frédérique Bonnet-Brilhault[1], Marianne Latinus[1]
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1115 **Alpha Waves as a Biomarker of AutismS: the challenge of Reproducibility and Heterogeneity**
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1116 **Alterations in Structural Covariance Salience Network in Boys with Autism Spectrum Disorder**
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1117 **Large-scale Brain Network Alterations in Children with Autism Spectrum Disorder**
Megha Sharda[1], Nicholas Foster[1], Ana Tryfon[2], Krissy Doyle-Thomas[3], Evdokia Anagnostou[3], Alan Evans[4], Lonnie Zwaigenbaum[5], Jason Lerch[6], John Lewis[7], Krista Hyde[1], NeuroDevNet ASD Imaging Group[8]
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1118 **Atypical intrinsic functional organization of hippocampal memory system in children with autism**
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1119 **Altered Effects of Perspective on Functional Connectivity during Self and Other Evaluation in Autism**
Ryuichiro Hashimoto[1], Takashi Itahashi[2], Haruhisa Ohta[2], Motoaki Nakamura[2], Chieko Kanai[2], Nobumasa Kato[2]
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1120 **Disentangling computational hypotheses on altered perceptual decisions in Autism: a behavioral study**
Laurie-Anne Sapey-Triomphe[1], Sanchez Gaëtan[2], Hénaff Marie-Anne[1], Sandrine Sonié[1], Christina Schmitz[3], Jérémie Mattout[1]
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1121 **Structural covariance network alterations in high-functioning boys with autism**
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1122 **Speech and Language Deficits in Autism are Reflected in Network-level Brain Anatomy**
Milo White[1], Molly Prigge[1], Erin Bigler[2], Janet Lainhart[3], Brandon Zielinski[1]
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1123 **Atypical Age-Dependent Change of White Matter and Executive Functioning Coincide in ASD**
Kenia Martínez[1], Jessica Merchan-Naranjo[2], Joost Janssen[3], Leticia Boada[2], Yasser Alemán-Gomez[4], Laura Pina-Camacho[2], Angel del Rey-Mejías[2], Cloe Llorente[2], Carmen Moreno[2], David Fraguas[2], Celso Arango[2], Mara Parellada[2]
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1124 **Atypical Sulcal Morphometry Within Broca's Area In Children With Autistic Disorder**
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1125 **Zernike moments as shape descriptors of subcortical structures for autism classification**
Gajendra Katuwal[1,2], Stefi Baum[3,2], Andrew Michael[1]
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1126 **Autism Symptom Severity Modulates the Coupling Between Global and Regional Cortical Thickness**
Nicholas Foster[1], Megha Sharda[1], Krissy Doyle-Thomas[2], Ana Tryfon[3], Evdokia Anagnostou[2], Alan Evans[4], Lonnie Zwaigenbaum[5], John Lewis[4], Jason Lerch[6], Krista Hyde[1], NeuroDevNet ASD Imaging Group[7]
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1127 **Social Responsiveness Scale and Regional Cortical Thickness in Autism and Typical Development**
Molly Prigge[1], Erin Bigler[2], Andrew Alexander[3], Nicholas Lange[4], Janet Lainhart[3], Brandon Zielinski[1]
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1129 **Processing of biological motion in young children with autism spectrum disorder assessed with hd-EEG**
Tonia Rihs[1], Reem Jan[1], Holger Sperdin[2], Miralena Tomescu[1], Anna Custo[1], Martina Franchini[2], Nada Kojovic[2], Stéphan Eliez[2], Christoph Michel[1], Marie Schaer[2,3]
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1130 **Multivariate analyses of MRI intensity contrast reveal homo- and heterogeneous patterns in autism**
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1131 **Distinctive function-structure relationships in autism spectrum disorder across different networks**
Hsiang-Yun Chien[1], Susan Shur-Fen Gau[2], Wen-Yih Isaac Tseng[1]
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1132 **Disrupted Neural Sensitivity for Familiar Speech in 6-Week-Old Infants at Risk for ASD**
Tawny Tsang[1], Carolyn Ponting[1], Rosemary McCarron[1], Susan Bookheimer[1], Mirella Dapretto[1]
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1133 **Developmental trajectories of neuromagnetic rhythms in typical and autistic populations**
Vasily Vakorin[1], Sam Doesburg[1], Margot Taylor[2]
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1134 **Gender Differences in Salience Network Connectivity in Youth with Autism Spectrum Disorder**
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1135 **Neural Correlates of Gustatory and Olfactory Sensory Atypicalities in Autism**
Greg Wallace[1], Haroon Popal[2], Emily White[3], W. Kyle Simmons[4], Lauren Kenworthy[5], Alex Martin[3]
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1136 **The Chronnectomics of Autism**
Nina de Lacy[1], Vince D. Calhoun[2]
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1137 **Altered white matter integrity in adults with autism spectrum disorder and an IQ >100: A DTI study**
Simon Maier[1], Kathrin Nickel[2], Evgeniy Perlov[2], Ludger Tebartz van Elst[2], Andreas Riedel[2]
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DISORDERS OF THE NERVOUS SYSTEM

Bipolar Disorder

1138 **Elevated choline-containing compound levels in rapid cycling bipolar disorder**
Bo Cao[1], Jeffrey Stanley[2], Ives Passos[1], Benson Mwangi[1], Sudhakar Selvaraj[1], Giovana Zunta-Soares[1], Jair Soares[1]
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1139 **Connectomics signature of disease expression and risk to bipolar disorder**
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1140 **An fMRI study of sustained attention in psychotic Bipolar Disorder**
Gianna Sepede[1], Piero Chiacchiaretta[2], Francesco Gambi[2], Giuseppe Di Iorio[3], Antonio Ferretti[4], Mauro Gianni Perrucci[5], Domenico De Berardis[6], Rosa Maria Salerno[2], Gian Luca Romani[2], Massimo Di Giannantonio[5]
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1142 **Abnormal cortical thickness in medication-naive patients with unipolar disorder and bipolar disorder**
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1143 **Abnormal Brain White Matter Tracts in Bipolar Disorder and Major Depression Disorder**
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1144 **MRI Brain Psychosis Biomarkers for Bipolar Disorder**
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1145 **Altered frontal-amygdala effective connectivity during emotion regulation in bipolar disorder**
Liwen Zhang[1], Esther Opmeer[1], Lisette Van der Meer[1,2], Andre Aleman[1], Branislava Curcic-Blake[1], Henricus Ruhé[3]
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1146 **Structural disturbances of key emotional areas in those at high genetic risk for bipolar disorder**
Alistair Perry[1], Gloria Roberts[2], Andrew Frankland[2], Florence Levy[2], Ellen Holmes-Preston[2], Rhoshel Lenroot[2], Philip Mitchell[3], Michael Breakspear[4]
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1147 **Cortical thinning with longer duration of illness in 2,272 bipolar patients versus 3,662 controls**
Derrek Hibar[1], Lars Tjelta Westlye[2], Nhat Trung Doan[3], Paul Thompson[4], Ole Andreas Andreassen[5]
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1148 **Cortical-Subcortical Dissociation in Bipolar Disorder: Network Degree Centrality Analysis**
Fei Wang[1], Yanqing Tang[1], Qian Zhou[1]
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1149 **Bipolar Diagnoses Moderate the Relationship between Reward Sensitivity and Hippocampal Volume**
Katherine Damme[1], Robin Nusslock[1], Jason Chein[2], Elissa Hamlet[2], Tommy Ng[2], Madison Titone[2], Lauren Alloy[2]
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1150 **Patterns of gray matter alterations in first episode manic adolescents**
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1151 **Cortical investigation of bipolar disorder reveals inferior frontal gyral and sulcal abnormalities**
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1152 **Frontostriatal hyperactivation during emotion task in those at high risk of bipolar disorder**
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DISORDERS OF THE NERVOUS SYSTEM

Depressive Disorders

1153 **Neural substrates of preference and motivation and individual differences in anhedonic traits**
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1154 **Neural Changes of Successful Antidepressant Treatment in Adolescents with Major Depressive Disorder**
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1155 **Abnormal sustained default-mode state in MDD is associated with high precuneus hemodynamic activity**
Masaya Misaki[1], Hideo Suzuki[1], Jonathan Savitz[1,2], Brett McKinney[3], Jerzy Bodurka[1,4]
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1156 **Prefrontal Cortical Thickness and Response to Ketamine Therapy in Major Depression: A Pilot Study**
Megha Vasavada[1], Amber Leaver[1], Stephanie Njau[1], Shantanu Joshi[2], Randall Espinoza[1], Roger Woods[1], Katherine Narr[3]
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1157 **The correlative study of MDD patient's ATP1A1 gene expression level with the different TCM syndromes**
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1158 **The Global ECT-MRI Research Collaboration and initial results from a common processing pipeline**
Leif Oltedal[1], Hauke Bartsch[2], Ole Evjenth Sørhaug[1], Ute Kessler[3], Lars Ersland[4], Christopher Abbott[5], Bogdan Draganski[6], Indira Tendolkar[7], Pia Nordanskog[8], Martin Jorgensen[9], Annemieke Dols[10], Wendy Nieuwdorp[11], Louise Emsell[12], Miklos Argyelan[13], Amit Anand[14], Katherine Narr[15], Anders Dale[2], Ketil Oedegaard[1]
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1159 **Similarities and Dissimilarities in Topologically Structural network in Affective Disorders**
Feng Deng[1], Ying Wang[2,3], Ling Zhao[1], Shuming Zhong[4], Junjing Wang[1], Yanbin Jia[4], Ling Weng[1], Meiqi Niu[1], Li Huang[3], Ruiwang Huang[1]
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1160 **Magnetization Transfer Imaging Study of First-Episode, Drug-Naive Patients with Depression**
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1161 **Regional Cortical Thickness Decrease in Treatment Resistant Depression**
Wei Peng[1], Huaiqiang Sun[1], Ziqi Chen[1], Zhiyun Jia[1], Qiyong Gong[1]
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1162 **Reduced Connectivity and Group by Menstrual Phase Interactions in Premenstrual Dysphoric Disorder**
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1163 Abnormal limbic-cerebellar circuits in bipolar and major depression
Yuan He[1], Ying Wang[2,3], Junjing Wang[1], Shuming Zhong[4], Miao Zhong[1], Yanbin Jia[4], Feng Deng[1], Chen Niu[1], Li Huang[3], Ruiwang Huang[1]
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1164 Functional Connectome Centralities in Major Depressive Disorder: A Combined BOLD and ASL fMRI Study
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1165 Cerebro-cerebellar functional connectivity in bipolar and major depression
Yuan He[1], Ying Wang[2,3], Wenjie Jiang[1], Shuming Zhong[4], Feng Deng[1], Yanbin Jia[4], Xiaoyan Wu[1], Chen Niu[1], Li Huang[3], Ruiwang Huang[1]
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1166 Association of the TNF Transcript and Subgenual ACC Thickness Moderated by Depression and Anhedonia
Hideo Suzuki[1], Julie Marino[2], Kent Teague[2,3,4], Masaya Misaki[1], Jonathan Savitz[1,5], Brett McKinney[5], Wayne Drevets[1,6], Jerzy Bodurka[1,7]
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1167 The relationship between 5-HTTLPR/COMT, functional brain network organization and neuroticism
Michelle Servaas[1], Linda Geerligs[2], Jojanneke Bastiaansen[1], Remco Renken[1], Jan-Bernard Marsman[1], Ilja Nolte[1], Johan Ormel[1], Andre Aleman[1], Harriette Riese[1]
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1168 Disrupted emotion networks in early major depressive disorder patients
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1169 Structural and functional abnormalities in patients with MDD: a multimodal meta-analysis
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1170 Complexity of Brain Temporal Dynamics Explains the Behavioral Effects of Seizure Therapy
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1171 Major Depression is Associated with Increased Connectivity Variability in the Default Mode Network
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1172 The segregated connectome of late-life depression: a cortical thickness and graph theory analysis
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1173* Ketamine effects in resting state fMRI in major depression
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1174 Spatiospectral alterations in resting state MEG networks in major depressive disorder
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1175 An fMRI Study of Participants with Dysthymia and Normal Controls Using Emotion-Denoting Words Task
Jie Yang[1,2,3], David Hellerstein[2,3], Bret Rutherford[2,3], Guihu Zhao[3], Tingting Ji[3], Kirwan Walsh[3], Long Jun[1], Jian Dong[1], Zuping Zhang[1], Zhishun Wang[2,3]
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1176 Real-time fMRI Amygdala Neurofeedback Normalizes a Mood-Congruent Processing Bias in Depression
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1177 What make suicide depressions different from non-suicide ones: a diffusion tensor imaging study
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1178 Simultaneous rtfMRI and EEG Neurofeedback for Emotion Regulation Training in Major Depression
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1179 **Functional connectomic networks associated with remission to antidepressants in major depression**
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1180 **Meta-analytic modeling of Major Depressive Disorder**
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1181 **Emotional modulation of brain electrical slow wave in major depression vs bipolar disorder**
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1182 **Abnormal salience networks in patients with insomnia in major depressive disorder**
Chunhong Liu[1], Lihong Wang[2], Xin Ma[3], Lu-Ping Song Lu-Ping Song[4], Chuanyue Wang[3]
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1183 **Evaluation of Brain Structure and Network Alterations in Major Depressive Disorder using GQI**
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1184 **ALE meta-analysis on altered brain activity in major depression: A problem of reproducibility**
Veronika Müller[1], Edna Cieslik[1], Ilinca Serbanescu[1], Simon Eickhoff[1]
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1185 **Cortical Structural Abnormalities in 19 Cohorts with Major Depressive Disorder: An ENIGMA-MDD Study**
Lianne Schmaal[1], Derrek Hibar[2], Philipp Sämann[3], Geoffrey Hall[4], Bernhard Baune[5], Neda Jahanshad[2], Joshua Cheung[2], Theo G. M. van Erp[6], Daniel Bos[7], Arfan Ikram[7], Meike Vernooij[7], Wiro Niessen[7], Henning Tiemeier[7], Albert Hofman[7], Katharina Wittfeld[8], Hans Grabe[9], Deborah Janowitz[9], Robin Bülow[9], Maria Selonke[9], Henry Völzke[9], Dominik Grotegerd[10], Udo Dannlowski[10], Volker Arolt[10], Nils Opel[10], Walter Heindel[10], Harald Kugel[10], David Höhn[3], Michael Czisch[3], Baptiste Couvy-Duchesne[11], Miguel Rentería[12], Lachlan Strike[11], Margaret Wright[11], Greig de Zubicaray[13], Natalie Mills[11], Katie McMahon[11], Sarah Medland[12], Nicholas Martin[12], Nathan Gillespie[14], Roberto Goya-Maldonado[15], Oliver Gruber[15], Bernd Krämer[15], Sean Hatton[16], Jim Lagopoulos[16], Ian Hickie[16], Thomas Frodl[17], Angela Carballedo[18], Eva Maria Frey[19], Laura van Velzen[1], Brenda W.J.H. Penninx[1], Marie-José van Tol[20], Nic J.A. van der Wee[21], Chris Davey[22], Ben Harrison[22], Benson Mwangi[23], Bo Cao[23], Jair Soares[23], Ilya Veer[24], Henrik Walter[24], Dieter Schoepf[25], Bartosz Zurowski[26], Carsten Konrad[27], Elisabeth Schramm[28], Claus Normann[28], Knut Schnell[29], Matthew Sacchet[30], Ian Gotlib[30], Glenda MacQueen[31], Beata Godlewska[32], Thomas Nickson[33], Andrew McIntosh[33], Martina Papmeyer[33], Heather Whalley[33], Jeremy Hall[33], Meng Li[34], Martin Walter[34], Lubomir Aftanas[35], Ivan Brack[35], Bohan Nikolay[36], Paul Thompson[2], Dick Veltman[1], for the ENIGMA Major Depressive Disorder Working Group[37]
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1186 **Functional magnetic resonance imaging depicts interferon beta induced sickness behaviour in healthy**
Jörg Breitfeld[1], Michael Steffens[1], Martin Coenen[2], Gunther Hartmann[2], Roberto Viviani[3], Julia Stingl[1], Christoph Coch[2]
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1187 **A meta-analysis of functional neuroimaging and psychotherapy in depression and anxiety disorders**
Lindsey Marwood[1], Toby Wise[1], Adam Perkins[1], Anthony Cleare[1]
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1188 **Anterior cingulate cortex volume influences psychotherapy response in major depressive disorder**
Simona Spinelli[1], Nadja Doerig[2], Jürgen Hänggi[3], Fabio Sambataro[4], Janis Brakowski[1], Martin Grosse Holtforth[5], Erich Seifritz[3]
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1189 **Predicting individual response to electroconvulsive therapy in major depression by structural MRI**
Jing Sui[1], Rongtao Jiang[1], Christopher Abbott[2], Dongdong Lin[3], Tianzi Jiang[4], Vince D. Calhoun[5]
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1190 **Effects of electroconvulsive therapy on limbic brain connectivity**
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1191 **Pre-treatment default mode network connectivity is associated with response to cognitive therapy**
Rajeev Krishnadas[1], Filippo Queirazza[1], John McLean[1], Marios Philiastides[1], Jonathan Cavanagh[1]
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1192 **Neural signatures of reinforcement learning predict response to computerised CBT in depression**
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1193 **Baseline brain perfusion in depressive adolescents after a brief cognitive behavioural group therapy**
Zrinka Sosic-Vasic[1], Birgit Abler[1], Georg Grön[1], Nina Spröber[2], Linda Sprenger[3], Michael Kölch[2], Paul Plener[2], Joana Straub[2]
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1194 **Increased cingulate and insular response upon certainty stimuli in a pain paradigm in depression**
Christoph Kraus[1], Bastian Auer[2], Nicole Geissberger[3], Manfred Klöbl[1], Inga-Lisa Stürkat[2], Martin Tik[3], Andreas Hahn[1], Daniela Pfabigan[2], Allan Hummer[3], Siegfried Kasper[4], Claus Lamm[2], Christian Windischberger[3], Rupert Lanzenberger[1]
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1195 **DTI in MDD Patients Reveals Widespread White Matter Changes in Reward and Timing Circuits**
Metehan Çiçek[1,2], Nihal Apaydin[3], Arzu Has[4], Emre Kale[3], Ipek Çelikag[2], Sertaç Üstün[1], Bora Baskak[5], Halise Devrimci Ozguven[5]
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1196 **White Matter Abnormalities in Individuals at High Risk of Depression**
Xiaofu He[1,2], Lupo Geronazzo-Alman[1], Lawrence Amsel[1,2], Diana Rodriguez Moreno[2], Zhishun Wang[1,2], Bin Fan[2], George Musa[2,3], Ruth Eisenberg[2], Thao Doan[1], Judith Wicks[2], Michaeline Bresnahan[2,3], Christina Hoven[1,2,3]
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1197 **Acute psychosocial stress investigated by fMRI**
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1198 **Predicting Outcomes to Psychotherapy or Medication Treatments for Depression using fMRI**
Justin Rajendra[1], Boadie Dunlop[2], Edward Craighead[2], Helen Mayberg[2]
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1199 **ENIGMA-MDD hippocampal subfield analysis of first episode and recurrent Major Depressive Disorder**
Philipp Sämann[1], David Höhn[1], Michael Czisch[1], Neda Jahanshad[2], Christopher Whelan[2], Derrek Hibar[2], Dick Veltman[3], Paul Thompson[2], Lianne Schmaal[3]
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1200 **Altered brain network dynamics associated with rumination in remitted adolescent major depression**
Olu Ajilore[1], Rachel Jacobs[1], Katie Bessette[1], Claudia Feldhaus[1], Alyssa Barba[1], Lisanne Jenkins[1], Alex Leow[1], Scott Langenecker[1]
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1201 **Changes in Cerebral Blood Flow with Electroconvulsive Therapy for Major Depression**
Amber Leaver[1], Megha Vasavada[2], Stephanie Njau[2], Shantanu Joshi[1], Roger Woods[2], Randall Espinoza[2], Katherine Narr[1]
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1202 Changes in Cortical Glutamine and N-acetyl-aspartate concentration following Ketamine Therapy in MDD
Stephanie Njau[1], Randall Espinoza[2], Shantanu Joshi[2], Amber Leaver[2], Megha Vasavada[2], Roger Woods[2], Katherine Narr[2]
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1203 Subcortical Shape Alterations in Major Depressive Disorder: ENIGMA Findings in 1636 Subjects
Boris Gutman[1], Sean Hatton[2], Udo Dannlowski[3], Ian Gotlib[4], Henrik Walter[5], Ian Hickie[6], Jair Soares[7], Jim Lagopoulos[8], Matthew Sacchet[4], Ilya Veer[9], Dominik Grotegerd[10], Mon-Ju Wu[7], Benson Mwangi[7], Harald Kugel[11], Ronny Redlich[12], Bernhard Baune[13], Katharina Wittfeld[14], Hans Grabe[15], Philipp Saemann[16], Oliver Gruber[17], Roberto Goya-Maldonado[18], Bernd Kraemer[18], Martin Walter[19], Meng Li[19], Christopher Ching[20], Artemis Zavaliangos-Petropulu[21], Arvin Saremi[21], Neda Jahanshad[22], Dmitry Isaev[21], Paul Thompson[23], Dick Veltman[24], Lianne Schmaal[25]
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1204 Hyperglycemia Increases Insula Amplitude of Low Frequency Fluctuations in Patients with Depression
Nicolas Bolo[1], Alan Jacobson[2], Gail Musen[3], Brandon Hager[4], Matcheri Keshavan[5], Donald Simonson[6]
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1205 Visuomotor connectivity changes in depression as revealed by fMRI during finger-tapping task
Pegah Sarkheil[1], Panayiotis Odysseos[2], Martin Klasen[2], Mikhail Zvyagintsev[3], Frank Schneider[2], Klaus Mathiak[3]
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DISORDERS OF THE NERVOUS SYSTEM

Disorders of the Nervous System Other

1206 Brain Network Connectivity in Women Exposed to Intimate Partner Violence
Annerine Roos[1], Jean-Paul Fouche[1], Bavi Vythilingum[2], Dan Stein[2]
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1207 Patterns of corticofugal axonal spread in ALS are associated with increased functional connectivity
Martin Gorges[1], Ines Schulthess[1], Hans-Peter Müller[1], Dorothée Lulé[1], Kelly Del Tredici[2], Albert Ludolph[1], Jan Kassubek[3]
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1208 Structural hippocampal damage associated with persistent cognitive deficits in LGI1 encephalitis
Carsten Finke[1], Prüss Harald[1], Klaus-Peter Wandinger[2], Friedemann Paul[1], Thorsten Bartsch[3]
[1]Charité, Berlin, Germany, [2]UKSH Lübeck, Lübeck, Germany, [3]UKSH Kiel, Kiel, Germany

1209 Assessment of Neurodegeneration in ALS using Diffusion MRI
Pramod Pisharady[1], Karl LaFleur[2], David Walk[2], Christophe Lenglet[1]
[1]Center for Magnetic Resonance Research (CMRR), University of Minnesota, Minneapolis, MN, [2]Neurology, University of Minnesota, Minneapolis, MN

1210 Cortical Thickness Reductions in Non-neuropsychiatric Systemic Lupus Erythematosus
Chen Niu[1], Xiangliang Tan[2], Meiqi Niu[1], Kai Han[3], Jiabao Lin[1], Jun Xu[4], Ling Zhao[1], Feng Deng[1], Yikai Xu[2], Ruiwang Huang[1]
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1211 Force Modulation of Motor Functions in Multiple Sclerosis: A DCM Study
Adnan Alahmadi[1,2], Peter Zeidman[3], Arman Eshaghi[1], Rebecca Samson[1], Egidio D'Angelo[4,5], Ahmed Toosy[1], Karl Friston[3], Claudia Gandini Wheeler-Kingshott[1,5]
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1212 Developmental Dyslexia (DD) – a critical review of imaging-genetics studies
Agnieszka Reid[1]
[1]Independent Researcher, Cambridge, United Kingdom

1213 **Subcortical brain volume reductions in South African children prenatally exposed to alcohol**
Stevie Biffen[1], Christopher Warton[1], Steven Randall[1], Christopher Molteno[1], Sandra Jacobson[2,1], Joseph Jacobson[2,1], Ernesta Meintjes[1,3]
[1]University of Cape Town, Cape Town, South Africa, [2]Wayne State University, Detroit, MI, [3]MRC/UCT Medical Imaging Research Unit, Cape Town, South Africa

1214 **Age-Related Delay in Visual/Auditory Evoked Responses are Mediated by White and Grey Matter Changes**
Darren Price[1], Lorraine Tyler[2], Rafael Henriques[1], Karen Campbell[2], Matthias Treder[2], Cam-Can[2], Richard Henson[1]
[1]MRC Cognition and Brain Sciences Unit (CBU), Cambridge, United Kingdom, [2]Cambridge Centre for Ageing and Neuroscience (Cam-CAN), University of Cambridge, Cambridge, United Kingdom

1215 **Subcortical brainstem changes in patients with spinal cord injury using quantitative MRI protocols**
Patrick Grabher[1], Claudia Blaiotta[2], Armin Curt[1], John Ashburner[2], Patrick Freund[1,2,3]
[1]University of Zurich, Zurich, Switzerland, [2]UCL Institute of Neurology, London, United Kingdom, [3]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

1216 **Reorganization of the somatosensory cortex in cerebral palsy children due to impaired sensory tracts**
Christos Papadelis[1], Erin Butler[2], Madelyn Rubenstein[1], Banu Ahtam[1], Brian Snyder[3], Patricia Ellen Grant[1]
[1]Division of Newborn Medicine, Boston Children's Hospital, Harvard Medical School, Boston, MA, [2]Thayer School of Engineering, Dartmouth College, Hanover, NH, [3]Department of Orthopedic Surgery, Boston Children's Hospital, Harvard Medical School, Boston, MA

1217 **Voxel-wise Texture Analysis of Diffusion MRI Reveals Changes in Amyotrophic Lateral Sclerosis**
Abdullah Ishaque[1], Dennell Mah[1], Herb Yang[1], Sanjay Kalra[1]
[1]University of Alberta, Edmonton, Canada

1218 **Hippocampal volume changes in relation to migraine frequency and prognosis**
Liang-Chun Lin[1], Hung-Yu Liu[2,3], Kun-Hsien Chou[4], Pei-Lin Lee[5], Wei-Ta Chen[1,2,4,3], Chen-Yuan Kuo[5], Shuu-Jiun Wang[1,2,4,3], Ching-Po Lin[6,7]
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1219 **Subcortical Tau Imaging in Neurodegeneration – Advantages of Multimodal Spatial Normalization**
Kathrin Giehl[1], Kathrin Reetz[2,3], Jochen Hammes[1], Gérard Bischof[1,3], Alexander Drzezga[1,4], Thilo van Eimeren[1,3,4]
[1]Multimodal Imaging Group, Department of Nuclear Medicine, University Hospital of Cologne, Cologne, Germany, [2]RWTH Aachen University, Aachen, Germany, [3]Institute of Neuroscience and Medicine (INM 3/11), Research Center Jülich, Jülich, Germany, [4]German Center for Neurodegenerative Diseases (DZNE), Germany, Germany

1220 **Investigating Cerebrovascular Reactivity in MS with BOLD, ASL and EEG**
Mark Lowe[1], Wanyong Shin[1], Balu Krishnan[1], Andreas Alexopoulos[1]
[1]Cleveland Clinic, Cleveland, OH

1221 **Resting State fMRI at 7T in ALS indicates Decreased Connectivity With Disease Progression**
Mark Lowe[1], Katherine Koenig[1], Sehong Oh[1], Ken Sakaie[1], Stephen Jones[1], Erik Pioro[1]
[1]Cleveland Clinic, Cleveland, OH

1222 **Combined Anatomic and Functional Connectivity Metric for Tracking Disease Progression in MS**
Mark Lowe[1], Katherine Koenig[1], Erik Beall[1], Jian Lin[1], Ken Sakaie[1], Lael Stone[1], Micheal Phillips[1]
[1]Cleveland Clinic, Cleveland, OH

1223 **Symptom-associated change of motor-related neuromagnetic fields in multiple sclerosis: a case report**
Ji Hee Kim[1]
[1]Hallym University Sacred Heart Hospital, Anyang, Korea, Republic of

1224 **Gray matter preservation is associated with improved PASAT scores in estriol-treated MS patients**
Florian Kurth[1], He-Jing Wang[2], Rhonda Voskuhl[1], Allan MacKenzie-Graham[1]
[1]Department of Neurology, UCLA, Los Angeles, CA, [2]Department of Biomathematics, UCLA, Los Angeles, CA

1225 **The Interhemispheric Structural and Functional Coordination of Sensori-motor System in Cerebral Pals**
Lin Chen[1], Xuebing Chang[1], Rui Peng[1], Jinnan Gong[1], Yunchuan Peng[2], Chengyan Sun[2], Cheng Luo[1], Dezhong Yao[1]
[1]University of Electronic Science and Technology of China, Chengdu, China, [2]Rehabilitation Center in Sichuan Province, Chengdu, China

1226 **Exploring grey matter correlates of improvements in a motor sequence task in multiple sclerosis**
Ilona Lipp[1], Catherine Foster[1], Rachael Stickland[1], Alison Davidson[1], Neil Robertson[1], Derek Jones[1], Richard Wise[1], Valentina Tomassini[1]
[1]Cardiff University, Cardiff, United Kingdom

1227 **Cortico-cerebellar dysfunctions underlying executive deficits in Friedreich's ataxia**
Imis Dogan[1,2], Eugenie Tinnemann[1], Sandro Romanzetti[1,2], Shahram Mirzazade[1,2], Ana Costa[3], Cornelius Werner[1,2], Stefan Heim[1,2,4], Kathrin Fedosov[1], Stefanie Schulz[1], Dagmar Timman-Braun[5], Ilaria Giordano[6,7], Thomas Klockgether[6,7], Jörg Schulz[1,2,4], Kathrin Reetz[1,2,4]
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1228 **Forward connections originating in the frontal lobe increase in patients with multiple sclerosis**
Vinzenz Fleischer[1], Muthuraman Muthuraman[1], Abdul Rauf Anwar[2], Rene-Maxime Gracien[3], Amgad Droby[1], Sarah Reitz[3], Frauke Zipp[1], Sergiu Groppa[1]
[1]Neurology and Neuroimaging Center Mainz, Mainz, Germany, [2]Bio-medical Engineering Department, University of Engineering & Technology, Lahore, Pakistan, [3]Department of Neurology and Brain Imaging Center, Frankfurt, Germany

1229 **High resolution fMRI of CRPS associated reorganization in Brodmann Area 3b**
Jörg Pfannmöller[1], Flavia Di Pietro[2], Mukund Balasubramanian[3], James McAuley[4], Martin Lotze[5]
[1]University Medicine Greifswald, Greifswald, Germany, [2]University of Sydney, Sydney, Australia, [3]Boston Children's Hospital, Boston, MA, [4]Neuroscience Research Australia, Sydney, Australia, [5]University Medicine Greifswald, Greifswald, Germany

1230 **The Williams syndrome gene LIMK1 impacts the trajectory of cortical development in healthy children**
Shane Kippenhan[1], Grace Hansen[1], Jay Giedd[2], Michael Gregory[1], Bhaskar Kolachana[1], Judy Rapoport[1], Karen Berman[1]
[1]NIMH/NIH, Bethesda, MD, [2]UCSD, La Jolla, CA

1231 **Advanced resting state fMRI network analysis shows widespread brain impairment in Gulf War Illness**
Kaundinya Gopinath[1], Binod Thapa-Chetry[2], Lou Ouyang[2], Lisa Krishnamurthy[2], Venkatagiri Krishnamurthy[1], Aman Goyal[2], Parina Gandhi[2], Richard Briggs[2], Robert Haley[2], Yan Fang[2]
[1]Emory University, Atlanta, GA, [2]University of Texas Southwestern Medical Center, Dallas, TX

1232 **The In-vivo Dynamics of Axon Diameter in Multiple Sclerosis**
Assaf Horowitz[1], Ido Tavor[2], Chen Hoffmann[2], Shmuel Miron[3], Anat Achiron[4], Yaniv Assaf[5]
[1]Tel-Aviv University, Tel Aviv, Israel, [2]Department of Diagnostic Imaging, Sheba Medical Center, Ramat-Gan, Israel, [3]Multiple Sclerosis Center,Sheba Medical Center, Ramat-Gan, Israel, [4]Multiple Sclerosis Center, Sheba Medical Center, Ramat-Gan, Israel, [5]Tel Aviv University, Tel Aviv, Israel

1233 **Apathy modulates prefrontal activity and connectivity with basal ganglia during cognition**
Leonardo Fazio[1], Giancarlo Logroscino[1], Paolo Taurisano[1], Graziella Amico[1], Tiziana Quarto[1], Linda Antonucci[1], Maria Barulli[1], Marina Mancini[1], Barbara Gelao[1], Laura Ferranti[2], Teresa Popolizio[3], Alessandro Bertolino[1], Giuseppe Blasi[1]
[1]University of Bari 'A. Moro', Bari, Italy, [2]University of Perugia, Perugia, Italy, [3]IRCSS 'Casa Sollievo della Sofferenza', San Giovanni Rotondo - FG, Italy

1234 **Reduced parietal gyrification in organophosphate-exposed South African farmers**
Frances Robertson[1], Kimberly Sullivan[2], Zelda Holtman[1], Ernesta Meintjes[1], Patricia Janulewicz[2], Leslie London[1]
[1]University of Cape Town, Cape Town, South Africa, [2]Boston University, Boston, MA

1235 **Plasticity mapping of the visual system in multiple sclerosis**
Beatrice Kirsch[1], Joachim Havla[2], Olivier Outteryk[3], Daniel Keeser[4], Valerie Kirsch[5], Frank Padberg[1], Tania Kümpfel[2], Reinhard Hohlfeld[2], Birgit Ertl-Wagner[6]
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1236 **Disease severity is associated with functional connectivity changes in amyotrophic lateral sclerosis**
Kristian Loewe[1], Judith Machts[1], Joern Kaufmann[1], Susanne Petri[2], Hans-Jochen Heinze[1], Christian Borgelt[3], Stefan Vielhaber[1], Mircea Schoenfeld[1]
[1]Otto-von-Guericke Universität, Magdeburg, Germany, [2]Medizinische Hochschule Hannover, Hannover, Germany, [3]European Centre for Soft Computing, Mieres, Spain

1237 **An fMRI study of spatial natigation in children with prenatal alcohol exposure**
Keri Woods[1], Sandra Jacobson[2], Kevin Thomas[1], Chris Molteno[3], Joseph Jacobson[2], Ernesta Meintjes[3]
[1]University of Cape Town, Cape Town, Western Cape, [2]Wayne State University, Detroit, MI, [3]University of Cape Town, Cape Town, South Africa

1238 **Distal Effects of Hypothalamic Tumors on Grey and White Matter Volumes in Fronto-Limbic Brain Areas**
Jale Özyurt[1], Hermann Müller[2], Monika Warmuth-Metz[3], Christiane Thiel[1,4]
[1]Biological Psychology Lab, Department of Psychology, Carl von Ossietzky Universität, Oldenburg, Germany, [2]Department of Pediatrics and Pediatric Hematology and Oncology, Klinikum Oldenburg gGmbH, Oldenburg, Germany, [3]Department of Neuroradiology, University Hospital, Würzburg, Germany, [4]Research Center Neurosensory Science and Cluster of Excellence "Hearing4all", Carl von Ossietzky Universität, Oldenburg, Germany

1239 **Neural correlates of optic flow motion deficits in cortical/cerebral visual impairment**
Corinna Bauer[1], Peter Bex[2], Kathryn Devaney[3], David Somers[3], Lotfi Merabet[1]
[1]Massachusetts Eye and Ear Infirmary, Boston, MA, [2]Northeastern University, Boston, United States, [3]Boston University, Boston, United States

1240 **Resting state connectivity in C9ORF72 mutation carriers**
Rachel Smallwood[1], Mary Kay Floeter[1]
[1]National Institutes of Health, Bethesda, MD

1241 **Blindsided by Imaging**
Anastasia Pavlidou[1], Robert Marvit[1]
[1]Robert C. Marvit INC, Honolulu, HI

1242 **Disability-Specific Atlases of Gray Matter Atrophy in Relapsing-Remitting Multiple Sclerosis**
Allan MacKenzie-Graham[1], Florian Kurth[1], Yuichiro Itoh[1], He-Jing Wang[2], Michael Montag[1], Robert Elashoff[1], Rhonda Voskuhl[2]
[1]UCLA, Los Angeles, CA, [2]UCLA, Los Angeles, United States

1243 **Resting state functional connectivity before rTMS can predict tinnitus improvement**
Eunkyung Kim[1], Hyejin Kang[2], Tae-Soo Noh[3], Yu Kyeong Kim[1], Seung-Ha Oh[3], Dong Soo Lee[1], Myung-Whan Suh[3]
[1]Seoul National University College of Medicine, Seoul, Korea, Republic of, [2]Seoul National University, Seoul, Korea, Republic of, [3]Department of Otolaryngology-Head and Neck Surgery, Seoul National University Hospital, Seoul, Korea, Republic of

1244 **Structural evidence of the central nervous system involvement by Charcot-Marie-Tooth disease genes**
Chang-Hyun Park[1], Mina Lee[1], Yun Seo Choi[1], Jeong Hyun Yoo[1], Young Bin Hong[2], Ki Wha Chung[3], Byung-Ok Choi[2], Hyang Woon Lee[1]
[1]Ewha Womans University School of Medicine, Seoul, Korea, Republic of, [2]Sungkyunkwan University School of Medicine, Seoul, Korea, Republic of, [3]Kongju National University College of Natural Science, Gongju, Korea, Republic of

1245 **Cross-sectional and longitudinal diffusion MRI and MRS of the spinal cord in Friedreich's Ataxia**
Christophe Lenglet[1], James Joers[1], Pramod Pisharady[1], Dinesh Deelchand[1], Diane Hutter[1], Khalaf Bushara[2], Gülin Öz[1], Pierre-Gilles Henry[1]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, [2]Department of Neurology, University of Minnesota, Minneapolis, MN

1246 **Fornix as an Imaging Marker for Prognosis in Disorder of consciousness**
Yi Yang[1], Pan Lin[2], Jianghong He[1], Xiaoyu Xia[1], Hui Jiao[1], Yiwu Dai[1], Ruxiang Xu[1], Hao Song[2]
[1]Department of Neurosurgery, Beijing Army General Hospital, Beijing, China, [2]Key Laboratory of Biomedical Information Engineering of Education Ministry, Institute of Biomedical, Xi'an, China

1247 **Assessment of Metabolic Changes in the Normal Appearing White Matter within Multiple Sclerosis**
Hao Song[1], JuBao Sun[2], Yi Yang[3], Pan Lin[1]
[1]Institute of Biomedical Engineering, Xi'an Jiaotong University, Xi'an, China, [2]MRI Center, The First Affiliated Hospital of Henan University of Science and Technology, Luoyang, China, [3]Department of Neurosurgery, Beijing Army General Hospital, Beijing, China

1248 **Basal Ganglia Network Functional Connectivity in HIV Infection**
Thomas Zeffiro[1], Erin O'Connor[2]
[1]Neurometrika, Potomac MD, [2]Temple University, Philadelphia, PA

DISORDERS OF THE NERVOUS SYSTEM

Medical Illness with CNS Impact (e.g. chemotherapy, diabetes, hypertension)

1249 **Compensatory brain mechanisms to maintain cognitive function in Systemic Lupus Erythematosus**
Michelle Barraclough[1], Ian Bruce[1], Shane McKie[2], Ben Parker[1], Rebecca Elliott[2]
[1]ARUK, CfMR, MAHSC, The University of Manchester & NIHR Manchester Musculoskeletal BRU, Manchester, United Kingdom, [2]NPU, MAHSC, The University of Manchester & NIHR Manchester Musculoskeletal BRU, Manchester, United Kingdom

1250 **Functional MRI Responses in Pediatric Sickle Cell Anemia Patients**
Ping Zou[1], Matthew Scoggins[1], Jane Hankins[1], Kathleen Helton[1], Robert Ogg[1]
[1]St. Jude Children's Research Hospital, Memphis, TN

1251 **Integrity of Executive / Salience Networks and Impact on Neurocognitive Performance in Childhood ALL**
Wilburn Reddick[1], John Glass[1], Heather Conklin[1], Yimei Li[1], Jung Hyun[1], Lisa Jacola[1], Ching-Hon Pui[1], Sima Jeha[1], Robert Ogg[1]
[1]St. Jude Children's Research Hospital, Memphis, TN

1252 **The ENIGMA-HIV Group: Association of CD4 Levels with Brain Structure in HIV-positive Adults**
Jean-Paul Fouche[1], Neda Jahanshad[2], Adam Woods[3], Andrew Levine[4], Beau Ances[5], Beau Nakamoto[6], Bruce Brew[7], Cecilia Shikuma[6], Charles Hinkin[8], Christopher Ching[2], Eric Porges[3], Jackie Hoare[1], Jaroslaw Harezlak[9], Jintanat Ananworanich[10], Jodi Heaps[11], Joga Chaganti[12], Kalpana Kallianpur[6], Kanchana Pruksakaew[13], Katherine Clifford[14], Lauren Wendelken[14], Robert Paul[11], Taylor Kuhn[8], Victor Valcour[14], Wasana Prasitsuebsai[13], John Joska[1], Paul Thompson[2], Bradford Navia[15], Ronald Cohen[16], Dan Stein[1]
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1253 **Default Mode Network differences in patients with non-specific digestive tract diseases**
Patrycja Naumczyk[1], Katarzyna Skrobisz[2], Agnieszka Sabisz[2], Anna Glinska[2], Grazyna Piotrowicz[3], Krzysztof Jodzio[1], Edyta Szurowska[2]
[1]University of Gdansk, Gdansk, Poland, [2]Medical University of Gdansk, Gdansk, Poland, [3]7th Navy Hospital, Gdansk, Poland

1254 **Chemotherapy-Induced Functional Connectivity Changes in Breast Cancer Patients**
Dorothee Vercruysse[1], Thibo Billiet[1], Charlotte Sleurs[1], Stefan Sunaert[1], Mathieu Vandenbulcke[1], Ronald Peeters[2], Ann Smeets[3], Amant Frederic[1], Sabine Deprez[2]
[1]KU Leuven, Leuven, Belgium, [2]Leuven University Hospital, Leuven, Belgium, [3]UZ Leuven, Leuven, Belgium

1255 **Alterations in the Salience Network and Psychiatric Symptoms in Postural Tachycardia Syndrome**
Satoshi Umeda[1], Neil Harrison[2], Marcus Gray[3], Christopher Mathias[4], Hugo Critchley[5]
[1]Keio University, Tokyo, Japan, [2]University of Sussex, Brighton, United Kingdom, [3]The University of Queensland, St. Lucia, Australia, [4]Imperial College London at St. Mary's Hospital, London, United Kingdom, [5]Sackler Centre for Consciousness Science, University of Sussex, Brighton, United Kingdom

1256 **Neuroimaging evidence for impaired working memory in HIV+ patients**
Agnieszka Pluta[1], Emilia Łojek[2], Tomasz Wolak[1], Mateusz Rusiniak[1], Ewa Burkacka[3], Andrzej Horban[3], Marta Sobanska[2], Natalia Gawron[2], Anna Ambroziak[2], Bogna Szymanska[3], Mateusz Choinski[2], Adela Desowska[2], Przemyslaw Bienkowski[4], Halina Jarosz[4], Anna Scinska[4], Daniel Borek[2], Stephen Rao[5], Robert Bornstein[6]
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1257 **An fMRI study of the Numerical Stroop Task in HIV-infected individuals**
Marta Sobanska[1], Agnieszka Pluta[2], Emilia Łojek[1], Tomasz Wolak[2], Mateusz Rusiniak[2], Natalia Gawron[1], Ewa Burkacka[3], Andrzej Horban[3], Anna Ambroziak[1], Bogna Szymanska[3], Mateusz Choinski[1], Adela Desowska[1], Przemyslaw Bienkowski[4], Halina Jarosz[4], Anna Scinska[4], Daniel Borek[1], Stephen Rao[5], Robert Bornstein[6]
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1258 **Graph Theoretical Analysis of Resting State Functional Connectivity in Irritable Bowel Syndrome**
Michiko Kano[1], Patrick Dupont[2], Joe Morishita[1], Tomohiko Muratsubaki[1], Huynh Giao Ly[3], Lukas Van Oudenhove[3], Shin Fukudo[1]
[1]Tohoku University, Sendai, Japan, [2]University of Leuven, Leuven, Belgium, [3]Univ. Psychiatric Center Louvain, Louvain, Belgium

1259 **Grey Matter Alternation in Primary Sjögren's Syndrome: An Optimized Voxel-Based Morphometry study**
Siyi Li[1], Wenjing Zhang[1], Li Yao[1], Su Lui[1]
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1260 **Impact of normal variations in liver metabolism on brain structure in older adults**
Christian Masur[1,2], Christiane Jockwitz[1,2], Susanne Moebus[3], Karl Zilles[1,4,5], Katrin Amunts[1,2], Svenja Caspers[1,2]
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1261 **Changes in Cerebral Perfusion in Acute and Chronic Stages of Complex Regional Pain Syndrome**
Mahsa Shokouhi[1,2], Collin Clarke[3], Patricia Morley-Forster[3], Dwight Moulin[4], Keith St. Lawrence[1,2]
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1262 **Association of vitamin B1 and B6 metabolism with cortical structure in older adults**
Kai Jannusch[1,2], Christiane Jockwitz[1,2], Susanne Moebus[3], Svenja Caspers[1,2]
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1263 **Differential Effects of Vascular Risk Factors on Cortical Thickness in Cardio-metabolic Syndrome**
Nicolette Schwarz[1,2,3,4], Leslie Nordstrom[1,2,3,4], David Salat[1,2,3,5], William Milberg[1,2,3,4], Regina McGlinchey[1,2,3,4], Elizabeth Leritz[1,2,3,4]
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1264 **Growth rate reveal changes in phenotype resulting from chemoradiation in recurrent glioblastoma**
Corbin Rayfield[1], Andrea Hawkins-Daarud[2], Sandra Johnston[3], Anthony Rosenberg[4], Erika Kokkinos[4], Brijal Desai[4], Jeff Bruce[5], Peter Canoll[5], Andrew Trister[6], Alfred Rademaker[4], Luis Gonzalez-Cuyar[3], Kristin Swanson[7]
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1265 **The Effects of HIV and ART on Subcortical Volumes in Preschool Children**
Steven Randall[1], Christopher Warton[1], Martha Holmes[1], Mark Cotton[2], Barbara Laughton[2], Andre van der Kouwe[3], Ernesta Meintjes[1]
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DISORDERS OF THE NERVOUS SYSTEM

Obsessive-Compulsive Disorder and Tourette Syndrome

1266 **Distinct subcortical volume alterations in pediatric and adult Obsessive-Compulsive Disorder (OCD)**
Premika Boedhoe[1], Lianne Schmaal[1], Derrek Hibar[2], Neda Jahanshad[2], Dan Stein[3], Paul Thompson[4], ENIGMA-OCD Working Group[5], Odile van den Heuvel[1]
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1267 **Electric Neuronal Activity Signatures of Symptom Provocation in OCD**
Masafumi Yoshimura[1], Roberto Pascual-Marqui[1,2], Keiichiro Nishida[1], Yuichi Kitaura[1], Hiroshi Mii[1], YUKIKO SAITO[1], Shunichiro Ikeda[1], Satsuki Ueda[1], Toshiaki Isotani[3,1], Toshihiko Kinoshita[1]
[1]Kansai Medical University, Osaka, Japan, [2]The KEY Institute for Brain-Mind Research, Zurich, Switzerland, [3]Shikoku University, Tokushima, Japan

1268 **Subgrouping Obsessive-Compulsive Disorder Using Profile of Strategic Visuospatial Performance**
Je-Yeon Yun[1], Na Young Shin[2], Wi Hoon Jung[2], Jun Soo Kwon[3]
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1269 **Brain network dysfunction in Obsessive-Compulsive Disorder during simple visuo-motor integration**
Amy Friedman[1], Ashley Burgess[1], Karthik Ramaseshan[1], Phil Easter[1], David Rosenberg[1], Vaibhav Diwadkar[1]
[1]Wayne State University School of Medicine, Detroit, MI

1270 **Discriminative approach for Tourette syndrome combining morphometry and structural connectivity**
Pietro Gori[1], Olivier Colliot[1], Yulia Worbe[2], Cyril Poupon[3], Andreas Hartmann[2], Nicholas Ayache[4], Stanley Durrleman[1]
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1271 **Response Inhibition in Obsessive Compulsive Disorder (OCD): An fMRI Study**
Goi Khia Eng[1], Bhanu Gupta[2], Roger Chun Man Ho[3], Cyrus Su Hui Ho[3], Melvyn Weibin Zhang[3], Rathi Mahendran[3], Kang Sim[4], Shen-Hsing Annabel Chen[1,5]
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1272 **Abnormal Structural Networks Revealed by Probabilistic Tractography in Tourette Syndrome Children**
Hongwei Wen[1,2], Yue Liu[3,4], Jishui Zhang[3,4], Yun Peng[3,4], Huiguang He[1,2]
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1273 **Graph Theory Analysis Reveals Alterations of Functional Connectivity in Tourette Syndrome Children**
Hongwei Wen[1,2], Yue Liu[3,4], Jishui Zhang[3,4], Yun Peng[3,4], Huiguang He[1,2]
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1274 **Symptom Relevant Changes of Functional Connectivity Strength in Obsessive-Compulsive Disorder**
Xinyu Hu[1], Xi Yang[2], Yanchun Yang[2], Qiyong Gong[1], Xiaoqi Huang[1]
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1275 **Alterations in cerebral volume and gyrification in obsessive-compulsive disorder**
Oana Rus[1], Tim Reess[2], Katharina Zech[3], Gerd Wagner[4], Michael Zaudig[5], Claus Zimmer[2], Kathrin Koch[2]
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1276 **Increased thalamic modulation of cortical circuitry in obsessive-compulsive disorder**
Harsh Parekh[1], Dhanushya Battepati[2]
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1277 **Metacognition in msevere resistant obsessive-compulsive disorder treated by deep-brain stimulation**
Karim N'diaye[1], William Haynes[1], Joao Santos[2], Luc Mallet[1]
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1278 **Changes of Brain Connectome Profile Across Pharmacotherapy in Obsessive-Compulsive Disorder**
Je-Yeon Yun[1], Jun Soo Kwon[2]
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DISORDERS OF THE NERVOUS SYSTEM

Other Psychiatric Disorders

1279 **Socio-demographics and Brain Correlates of Stress due to the 2011 Great East Japan Earthquake**
Lionel Landré[1], Benjamin Thyreau[1], Kentaro Oba[1], Mitsunari Abe[1], Atsushi Sekiguchi[1], Yasuyuki Taki[1]
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1280 **Part-dependent attentional bias: An eye-tracking study of dissociative identity disorder**
Yolanda Schlumpf[1,2], Simona Seidmann[1], Ellert Nijenhuis[3], Lutz Jäncke[1]
[1]University of Zurich, Zurich, Switzerland, [2]Privat Clinic Clienia Littenheid, Littenheid, Switzerland, [3]GGZ Drenthe, Drenthe, Netherlands

1281 **Structural and functional neural substrates of delirium using complex network analysis**
Sunghyon Kyeong[1], Jung Eun Shin[2], Won Suk Lee[3], Kyu Hyun Yang[3], Tae-Sub Chung[4], Jae-Jin Kim[1,5]
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1282 **Altered subcortical, but not cortical processing of emotions in adult ADHD**
Lena Schwarz[1], Katrin Kutscheidt[1], Katharina Koch[1], Thomas Ethofer[2,1]
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1283 **White matter correlates of psychopathic traits in women**
Philip Lindner[1], Meenal Budhiraja[1], Johan Westerman[2], Ivanka Savic[1], Jussi Jokinen[1], Jari Tiihonen[1], Sheilagh Hodgins[3]
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1284 **Cortical thickness abnormalities in body dysmorphic disorder**
Sally Grace[1], Ben Buchanan[2], Jerome Maller[3], Wei Lin Toh[3], David Castle[2], Susan Rossell[4]
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1285 **Returning to Normalcy: The Superficial White matter in Anti-NMDA Receptor Encephalitis**
Owen Phillips[1], Shantanu Joshi[2], Katherine Narr[2], David Shattuck[2], Manpreet Singh[1], Christoph Ploner[3], Prüss Harald[3], Friedemann Paul[3], Margherita Di Paola[4], Carsten Finke[5]
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1286 **The effects of ADHD, ODD, and CD symptoms on cortical thickness and white matter connectivity**
Yaling Yang[1], Eric Kan[1], Natasha Lepore[1], Matteen Maroofian[1]
[1]Children Hospital Los Angeles, Los Angeles, United States

1287 **Disturbed fronto-striatal abnormalities in children with ADHD and their unaffected siblings**
Yaling Yang[1], Eric Kan[1], Yi Lao[1], Natasha Lepore[1], Vivek Shelke[1]
[1]Children Hospital Los Angeles, Los Angeles, United States

1288 **Investigating ADHD-related connectivity changes in the functional architecture of reward processing**
Marianne Oldehinkel[1,2], Christian Beckmann[1,2,3], Daniel von Rhein[1,2], Jan Buitelaar[1,2,4], Maarten Mennes[2]
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1289 **Resting State Functional Connectivity is Inversely Related to Global Neurocognitive Status in HIV**
Lindie Du Plessis[1,2], Ernesta Meintjes[1,2], Paul Taylor[1,2,3,4], Robert Paul[5], Beau Ances[6], Jackie Hoare[7], Dan Stein[7,8], John Joska[9]
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1290 **Abnormal Amygdala Connectivity at Rest and During Task in Adolescents with Non-Suicidal Self-Injury**
Melinda Westlund Schreiner[1], Bonnie Klimes-Dougan[1], Kathryn Cullen[1]
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1291 **Early differences in brain myelin, cognition, and behavior in children before diagnosis of ADHD**
Andrea Miele[1], Emily Mercer[2], Sarah Joelson[2], Holly Dirks[2], Sean Deoni[1]
[1]Children's Hospital Colorado, Aurora, CO, [2]Brown University, Providence, RI

1292 **Intent attribution and social laughter processing in children and adolescents with conduct disorder**
Anne Martinelli[1], Benjamin Kreifelts[2], Dirk Wildgruber[2], Anka Bernhard[1], Katharina Ackermann[1], Christine Freitag[1], Christina Schwenck[3,1]
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1293 **Connectome-wide network analysis of youth with ADHD and their unaffected siblings**
Hsiang-Yuan Lin[1], Wen-Yih Isaac Tseng[2], Susan Shur-Fen Gau[1]
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1294 **Gray matter alterations in typically-developing youths with callous-unemotional traits**
Nora Raschle[1], Willeke Menks[1], Lynn Fehlbaum[1], Iyad El Qirinawi[1], Martin Prätzlich[1], Linda Kersten[1], Christina Stadler[1], FemNAT-CD Consortium[2]
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1295 **Subclinical non-emotional ADHD symptoms are related to smaller cACC volume and higher impulsiveness**
Frida Bayard[1], Charlotte Nymberg[1], Christoph Abé[1], Roberto Toro[2], Sylvane Desrivieres[3], Tobias Banaschewski[4,5], Arun Bokde[6], Christian Büchel[7], Patricia Conrod[3,8], Herta Flor[4], Vincent Frouin[9], Hugh Garavan[10,11], Penny Gowland[12], Andreas Heinz[13], Bernd Ittermann[14], Karl Mann[15], Jean-Luc Martinot[16,17], Frauke Nees[18], Tomas Paus[19,20,21], Zdenka Pausova[22], Trevor Robbins[23], Michael Smolka[24], Andreas Ströhle[25], Gunter Schumann[26], IMAGEN consortium[27], Predrag Petrovic[28]
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1296 **Processing of social situations in patients with self-injury versus borderline personality disorder**
Rebecca Groschwitz[1], Paul Plener[1], Georg Groen[1], Martina Bonenberger[1], Birgit Abler[2]
[1]University of Ulm, Ulm, Germany, [2]Ulm University, Ulm, Germany

1297 **Frontotemporal and limbic gray matter volume reductions in youths with conduct disorder**
Lynn Fehlbaum[1], Willeke Menks[1], Felix Euler[1], Eva Flemming[2], Philipp Sterzer[2], Christina Stadler[1], Nora Raschle[1]
[1]Psychiatric University Clinics Basel, Basel, Switzerland, [2]Charité University Medicine Berlin, Campus Mitte, Berlin, Germany

1298 **A large scaled study of cortical measures in ADHD across the life span: an ENIGMA collaboration**
Martine Hoogman[1], Janita Bralten[1], Marten Onnink[1], Elena Shumskaya[1], Maarten Mennes[2], Marcel Zwiers[3], Derrek Hibar[4], ENIGMA ADHD working group[5], Paul Thompson[6], Barbara Franke[7]
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1299 **Dissociable dopaminergic midbrain contributions to waiting impulsivity and motivation in ADHD**
Arjun Sethi[1], Valerie Voon[2], Hugo Critchley[3], Neil Harrison[1], Mara Cercignani[1]
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1300 **Neural Characteristics of Face Processing in Female and Male Youths with Conduct Disorder**
Willeke Menks[1], Lynn Fehlbaum[1], Iyad El Qirinawi[1], Felix Euler[1], Christina Stadler[1], Nora Raschle[1]
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1301 **White Matter Alterations in Female Youths with Conduct Disorder**
Reto Furger[1], Willeke Menks[1], Claudia Lenz[1], Lynn Fehlbaum[1], Christina Stadler[1], Nora Raschle[1]
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1302 **More Hemispheric asymmetries of frontolimbic cortex in patients with borderline personality disorder**
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1303 **Cerebral Networks Underlying Hypersensitivity to Salient Sounds in Posttraumatic Stress Disorder**
Christoph Naegeli[1], Thomas Zeffiro[2], Marco Piccirelli[1], Assia Jaillard[3], Anina Weilenmann[1], Katayun Hassanpour[1], Matthis Schick[1], Michael Rufer[1], Scott Orr[4], Christoph Mueller-Pfeiffer[5]
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1304 **Aberrant resting-state functional connectivity in functional neurological disorder**
Jennifer Wegrzyk[1,2], Valeria Kebets[3], Jonas Richiardi[1], Dimitri Van De Ville[4,1], Selma Aybek[1,2]
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1305* **Two Brains Coupling in Real Social Interaction: An fMRI Hyperscanning Study with Borderline Patients**
Gabriela Stößel[1], Edda Bilek[1], Matthias Ruf[1], Andreas Meyer-Lindenberg[1], Peter Kirsch[1]
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1306 **Brain cortex thickness alteration in Gilles de la Tourette syndrome in children**
Yi Liao[1], Haibo Qu[1], Yuexin Jiang[1], Huaiqiang Sun[2], Xijian Chen[1], Chuan Fu[1], Wangjing Bai[1], Wenjing Zhang[3], Gang Ning[1]
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1307 **Alterations of functional connectivity with age in attention-deficit/hyperactivity disorder**
Hyejin Kang[1], Youngmin Huh[1], Johanna Inhyang Kim[2], Hyekyoung Lee[1], Dong Soo Lee[1], Bung-Nyun Kim[2]
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DISORDERS OF THE NERVOUS SYSTEM

Parkinson's Disease and Movement Disorders

1308 **Characterizing neurodegeneration in progressive supranuclear palsy using VBM and SVM classification**
Karsten Mueller[1], Robert Jech[2,3], Cecilia Bonnet[2,3], Jaroslav Tintera[4], Harald Möller[1], Klaus Fassbender[6], Jan Kassubek[6], Markus Otto[6], Evžen Ružicka[2,3], Matthias Schroeter[1,7]
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1309 **Abnormalities in structural covariance of cortical gyrification in Parkinson's disease**
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1310 **Pain in Parkinson's Disease: White Matter Microstructural Changes and Insights into Mechanism**
Ru-Jen Lin[1], Pin-Yu Chen[2], Yu-Jen Chen[3], Yung-Chin Hsu[3], Yu-Chun Lo[3], Wen-Yih Tseng[3], Ruey-Meei Wu[4]
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1311 **Superior Colliculus Processing of Luminance Contrast in Elderly and Parkinson Patients**
Emmanuelle Bellot[1], Véronique Coizet[1], Kenneth Knoblauch[2], Elena Moro[3], Michel Dojat[1]
[1]INSERM U1216, Grenoble, France, [2]INSERM U1208, Lyon, France, [3]CHU de Grenoble, Grenoble, France

1312 **Functional network connectivity in motor timing circuits in prodromal Huntington's disease**
Maria Misiura[1], Betul Kara[1], Jessica Turner[1], Vince D. Calhoun[2], Jeremy Bockholt[3], Jane Paulsen[3], Hans Johnson[3], Jeffrey Long[3], Spencer Lourens[3]
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1313 **Regional cerebral volumetric changes are correlated with oculomotor disturbances in Parkinsonism**
Olga Vintonyak[1], Martin Gorges[1], Hans-Peter Müller[1], Elmar Pinkhardt[1], Albert Ludolph[1], Hans-Jürgen Huppertz[2], Jan Kassubek[3]
[1]University of Ulm, Dept. of Neurology, Ulm, Germany, [2]Swiss Epilepsy Center, Zurich, Switzerland, [3]Clinic and Polyclinic for Neurology, University of Ulm, Ulm, Germany

1314 **Optimizing the TMS target for Tourette syndrome by resting-state functional connectivity**
Gong-Jun Ji[1], Wei Liao[2], Yang Yu[3], Huan-Huan Miao[4], Yi-Xuan Feng[3], Kai Wang[1], Jian-Hua Feng[3], Yu-Feng Zang[4]
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1315 **White matter demyelination in human Huntington's disease**
Claudia Metzler-Baddeley[1], Jose de Bourbon Teles[1], Sonya Bells[1], Elizabeth Coulthard[2], Derek Jones[1], Anne Rosser[1]
[1]Cardiff University, Cardiff, United Kingdom, [2]Bristol University, Bristol, United Kingdom

1316 **Brain Activity Mapping to Evaluate the Effect of Sleep Quality and Cognition in Parkinson's Disease**
Jong-Geun Seo[1]
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1317 **Towards a preclinical functional imaging marker for apraxia in Parkinson's disease**
Eva Matt[1,2], Thomas Foki[1,2], Florian Fischmeister[1,2], Walter Pirker[1], Dietrich Haubenberger[1,3], Jakob Rath[1,2], Johann Lehrner[1], Eduard Auff[1], Roland Beisteiner[1,2]
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1318* **Parkinson's disease: diagnostic utility of large-scale human brain structural covariance networks**
Kun-Hsien Chou[1], Pei-Lin Lee[2], Ai-Ling Hsu[3], Cheng-Hsien Lu[4], Wei-Che Lin[5], Ching-Po Lin[1,2,6]
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1319 **Neural mechanisms underlying step initiation failure in Parkinson's disease**
Moran Gilat[1], Matthew Georgiades[1], Mac Shine[2], Kaylena Ehgoetz Martens[1], Courtney Walton[1], Julie Hall[1], Simon Lewis[1]
[1]University of Sydney, Sydney, NSW, [2]Stanford University, Palo Alto, CA

1320 **Reorganization of structural and functional modular network architecture in Parkinson's disease**
Sule Tinaz[1], Peter Lauro[2], Pritha Ghosh[3], Codrin Lungu[2], Silvina Horovitz[4]
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1321 **Subthalamic nucleus activity during virtual reality freezing in a Parkinson's disease patient**
Matthew Georgiades[1,2], Moran Gilat[1], James Shine[3,1], Jacqueline McMaster[4], Neil Mahant[4], Simon Lewis[1,2]
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1322 **Bicycling suppresses subthalamic beta power more strongly than walking in Parkinsonian patients**
Lena Storzer[1], Markus Butz[1], Jan Hirschmann[1], Omid Abbasi[2,1], Maciej Gratkowski[3], Dietmar Saupe[3], Alfons Schnitzler[1], Sarang Dalal[3]
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1323 **Striatal grey matter asymmetries occur at the manifest stage of Huntington's disease**
Lora Minkova[1,2,3], Jessica Peter[1,2], Ahmed Abdulkadir[4], Christoph Kaller[2,5,6], Raymund Roos[7], Alexandra Durr[8], Blair Leavitt[9], Sarah Tabrizi[10], Stefan Klöppel[1,2,5]
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1324 **Does Apolipoprotein A1 Predict Microstructural Changes in Subgenual Cingulum in Early Parkinson?**
Farzaneh Rahmani[1], Mohammad Hadi Aarabi[1,2], Maani Beigy[1]
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1325 **Altered functional connectivity of the nucleus basalis – hippocampal network in Parkinson's disease**
Fatma Gargouri[1,2], Cécile Gallea[1,2,3], Marie Mongin[1,2,3], Nadya Pyatigorskaya[1,2,3,4], Romain Valabregue[1,2], Marie Vidailhet[2,3], Stéphane Lehéricy[1,2,3,4]
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1326 **Exploring structural covariance networks of gray matter in Parkinson's disease**
Laura de Schipper[1], Jeroen Van der Grond[1], Johan Marinus[1], Jacobus van Hilten[1]
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1327 **Metabolic impairment and changes of cognitive networks in Parkinson's disease Patient with Fatigue**
Sang Soo Cho[1], Kelly Aminian[1], Crystal Lee[1], Sylvian Houle[1], Anthony Lang[1], Antonio Strafella[2]
[1]University of Toronto, Toronto, On, [2]Toronto Western Hospital & Research Institute, UHN, Research Imaging Centre, CAMH, Univ. of Toronto, Toronto, Canada

1328 **Mean diffusivity of white matter tracts correlate with ataxia severity in SCA7**
Carlos Hernandez-Castillo[1], Israel Vaca-Palomares[2], Rosalinda Diaz[2], Fernando Barrios[3], Juan Fernandez-Ruiz[2]
[1]Conacyt, Xalapa, Mexico, [2]Universidad Nacional autonoma de Mexico, Mexico DF, Mexico, [3]UNAM, Queretaro, QRO

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Seong A Shin[1], Jee Young Lee[2], Seongho Seo[3], Yoon Sang Lee[4], Beom S Jeon[5], Jae Sung Lee[4], Jae Min Jung[6], Yu Kyeong Kim[7]
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Nela Elfmarkova[1,2], Martin Gajdoš[1], Radek Marecek[1,2], Steven Rapcsak[3], Irena Rektorova[1,2]
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1332 **Microstructural Abnormalities in Patients with Paroxysmal Kinesigenic Dyskinesia**
Lei Li[1], Xiaoqi Huang[2], Qiyong Gong[3]
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Marja Broersma[1], Madelein van der Stouwe[1], Arthur Buijink[2], Bauke de Jong[1], Marina Tijssen[1], Anne-Fleur van Rootselaar[2], Natasha Maurits[1]
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1334 **Altered corticostriatal connectivity in Parkinson's disease is related to cognitive impairment**
Lubomira Anderkova[1,2], Marek Barton[1,2], Irena Rektorova[1,2]
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1335 **Priming volitional action in Tourette Syndrome: the impact of affective processing on motor activity**
Charlotte Rae[1,2], James Parkinson[1,3], Sarah Garfinkel[1,2], Cassandra Gould[1,2], Anil Seth[1,4], Hugo Critchley[1,2,5]
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1336 **Plasma DNA mediate autonomic dysfunctions and white matter injuries in Parkinson's disease**
Meng-Hsiang Chen[1], Pei-Chin Chen[1], Cheng-Hsien Lu[2], Wei-Che Lin[1]
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1337 **Functional deficits during response inhibition improve after dopaminergic medication for Parkinson**
Chris Vriend[1], James Trujillo[2], Niels Gerrits[1], Henk Berendse[1], Ysbrand van der Werf[1], Odile van den Heuvel[1]
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1338 **Parkinson's Disease Cognition-Related Pattern Characterized with Resting State Functional MRI**
An Vo[1], Koji Fujita[1], Shichun Peng[1], Paul Mattis[1], Yilong Ma[1], David Eidelberg[1]
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1339 **Altered Spontaneous Brain Activity in Parkinson's Disease: A Meta-Analysis and an Independent Study**
Jue Wang[1], Yu-Feng Zang[1], Tao Wu[2]
[1]Hangzhou Normal University, Hangzhou, China, [2]Xuanwu Hospital, Capital Medical University, Beijing, China

1340 **Altered praxis network underlying impaired dexterity in Parkinson's disease – an fMRI study**
Stefanie Kübel[1], Katharina Stegmayer[2], Manuela Wapp[3], Eugenio Abela[4], Tim Vanbellingen[1], Bruno Weder[4], Sebastian Walther[2], Stephan Bohlhalter[1]
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1341 **A Whole-brain Voxel-wise R2* Map Analysis of Spinocerebellar Ataxia Patients vs. Normal Controls**
Witaya Sungkarat[1,2], Mathupanee Oonsivilai[1], Yosawadee Visoottiviseth[2], Teeratorn Pulkes[3], Chonticha Prasartsakulchai[3], Chutima Papsing[3], Thirawat Suparatpriyakon[1], Mattana Pongsopon[1], Pavinee Jaturapisanukul[1], Sopa Potikanya[1], Annop Kobhirun[1], Jom Bhumitrakul[1], Jiraporn Laothamatas[1]
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1342 **Whole-brain Voxel-wise DTI Group Analyses of Spinocerebellar Ataxia Patients vs. Normal Controls**
Jiraporn Laothamatas[1], Yosawadee Visoottiviseth[2], Teeratorn Pulkes[3], Chonticha Prasartsakulchai[3], Chutima Papsing[3], Thirawat Suparatpriyakon[1], Mattana Pongsopon[1], Sopa Potikanya[1], Annop Kobhirun[1], Pavinee Jaturapisanukul[1], Jom Bhumitrakul[1], Witaya Sungkarat[1,2]
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1343 **A Mirror Neuron System fMRI Group Analysis of Spinocerebellar Ataxia vs. Normal Controls**
Witaya Sungkarat[1,2], Yosawadee Visoottiviseth[2], Teeratorn Pulkes[3], Chonticha Prasartsakulchai[3], Chutima Papsing[3], Thirawat Suparatpriyakon[1], Mattana Pongsopon[1], Annop Kobhirun[1], Pavinee Jaturapisanukul[1], Sopa Potikanya[1], Jom Bhumitrakul[1], Jiraporn Laothamatas[1]
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1344 **Cognitive and Psychiatric Profile of Hydrocephalus: Before and After Shunt Operation**
Omer Ozdemir[1], Deniz Buyukgok[2], Yavuz Aras[1], Isin Baral-Kulaksizoglu[2], Orhan Barlas[1]
[1]Istanbul University Faculty of Medicine Neurosurgery Department, Istanbul, Turkey, [2]Istanbul University Faculty of Medicine Psychiatry Department, Istanbul, Turkey

1345 **Event-related Potentials as Potential Biomarkers for Cognitive Impairment in Parkinson's Disease**
Emel Erdogdu[1], Elif Kurt[2,3], Seda Buker[2], Basar Bilgic[4], Hasmet Hanagasi[4], Tamer Demiralp[5], Canan Basar-Eroglu[1]
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1346 **Structural connectivity network differences in prodromal and clinical Huntington's disease**
Cristina Sanchez-Castañeda[1,2], Hugo Baggio[1], Umberto Sabatini[3], Ferdinando Squitieri[4], Carme Junque[1]
[1]University of Barcelona, Barcelona, Spain, [2]Fondazione Santa Lucia, Rome, Italy, [3]Fondazione Santa Lucia, Radiology Department, Rome, Italy, [4]IRCSS Casa Sollievo della Sofferenza, San Giovani Rotondo, Italy

1347* **Derivation of a Levodopa-related pattern from metabolic brain images in Parkinson's disease**
Christian Dresel[1], Chris Tang[1], Martin Niethammer[1], David Eidelberg[1]
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1348 **Resting-state functional connectivity of cognitive phenotypes in Parkinson's disease**
Renaud Lopes[1], Christine Delmaire[1], Luc Defebvre[1], Anja Moonen[2], Annelien Duits[2], Paul Hofman[2], Albert Leentjens[2], Kathy Dujardin[1]
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1349 **The influence of beta-amyloid on intrinsic brain network adaptation in Parkinson's disease**
Leigh Christopher[1,2], Marion Criaud[1], Aaron Kucyi[3,4], Yuko Koshimori[1], Pablo Rusjan[1], Nancy Lobaugh[1], Anthony Lang[5], Sylvain Houle[1], Antonio Strafella[1,5]
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1350 **Longitudinal relationship of verbal fluency to connectivity of the cingulum bundle in MS**
Katherine Koenig[1], Erik Beall[1], Jian Lin[1], Ken Sakaie[1], Lael Stone[1], Stephen Rao[1], Micheal Phillips[1], Mark Lowe[1]
[1]The Cleveland Clinic, Cleveland, OH

1351 **Gray matter network contributions to clinical-functioning changes in prodromal Huntington's disease**
Jennifer Ciarochi[1], Vince Calhoun[2], Jeremy Bockholt[3], Hans Johnson[3], Jeffrey Long[3], Sergey Plis[4], Jessica Turner[5], Jane Paulsen[6]
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Oleksii Omelchenko[1], Zinayida Rozhkova[2], Iryna Karaban[3]
[1]Taras Shevchenko National University of Kyiv, Kyiv, Ukraine, [2]Medical Clinic BORIS, Kyiv, Ukraine, [3]D. F. Chebotarev Institute of Gerontology, Kyiv, Ukraine

1353 **Abnormal functional and structural connectivity of the motor network in Huntington's disease**
Clara Garcia-Gorro[1,2], Estela Càmara[1,2], Adrià Vilà-Balló[1], Nadia Rodríguez-Dechichá[3], Saül Martinez-Horta[4], Irene Vaquer[3], Matilde Calopa[5], Jesús Pérez[4], Esteban Muñoz[6,7], Pilar Santacruz[6], Jesús Ruiz[8], Celia Mareca[8], Núria Caballol[9], Jaime Kulisevsky[4], Susana Subirá[3], Ruth de Diego-Balaguer[1,2,10]
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1354 **Cerebrospinal Fluid Biomarkers and Structural Network Efficiency in Parkinson Disease**
Nooshin Abbasi[1,2], Bahram Mohajer[1,2], Amirhussein Abdolalizadeh[1,2]
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Ian Harding[1], Louise Corben[2], Elsdon Storey[1], Gary Egan[1], Monique Stagnitti[1], Martin Delatycki[2], Nellie Georgiou-Karistianis[1]
[1]Monash University, Melbourne, Australia, [2]Murdoch Childrens Research Institute, Melbourne, Australia

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Katherine Koenig[1], Mark Lowe[1], Darlene Stough[1], Lisa Gallagher[1], Dwyer Conklyn[2], Francois Bethoux[1]
[1]The Cleveland Clinic, Cleveland, OH, [2]DBC3 Music Therapy, Independence, OH

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Yvonne Yau[1], Yashar Zeighami[1], Kevin Larcher[1], Alain Dagher[1]
[1]Montreal Neurological Institute, McGill University, Montreal, Canada

1359 **A time-frequency analysis of resting-state BOLD fMRI activity in Parkinson's disease**
Katherine Baquero[1], Maud Rouillard[1], Frédérique Depierreux-Lahaye[1], Pieter Guldenmund[1], Mohamed Bahri[1], Evelyne Balteau[1], Gaëtan Garraux[1]
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Jeehyun Kim[1], Kai Zhang[1], Matthew Ua Cruadhlaoich[1], Sophie YorkWilliams[2], Vinod Menon[1], Kathleen Poston[1]
[1]Department of Neurology and Neurological Sciences, Stanford University School of Medicine, Palo Alto, CA, [2]University of Colorado Boulder, Boulder, CO

1361 **Alteration of metabolic network activity and association with clinical features in idiopathic RBD**
Eun Jin Yoon[1,2], Jee-Young Lee[3], Jae-Sung Lim[3], Jae Min Jeong[4], Yu Kyeong Kim[1,4]
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1362 **An fMRI Investigation of Working Memory Deficits in Parkinson's disease**
Kai Zhang[1], Elena Sherman[2], Matthew Ua Cruadhlaoich[3], Sophie YorkWilliams[4], Vinod Menon[5], Kathleen Poston[3]
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1363 **Effect of dopaminergic therapy on stimulus-response learning in Parkinson's disease using fMRI**
Penny MacDonald[1], Nole Hiebert[1], Ken Seergobin[1], Adrian Owen[2]
[1]University of Western Ontario, London, Ontario, [2]University of Western Ontario, London, Canada

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1365 **Dissociation between midbrain nuclei atrophy and distinct Parkinson's disease symptoms using 7T MRI**
Kathleen Poston[1], Geoffrey Kerchner[1], Matthew A. I. Ua Cruadlaoich[1], Laura Santoso[1], Sudarshan Ranganathan[1], Brian Rutt[1], Michael Zeineh[1]
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DISORDERS OF THE NERVOUS SYSTEM

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1367 **A Magnetic Resonance Spectroscopy Study of repetitive subconcussive hits in female athletes**
Emilie Chamard[1], Geneviève Lefebvre[1], Sebastien Proulx[2], Hugo Theoret[1,3]
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1369 **Structural Connectivity in Pediatric mTBI with Persistent Symptoms and Response to Aerobic Training**
Weihong Yuan[1], Shari Wade[1], Catherine Quatman-Yates[2], Jason Hugentobler[2], Paul Gubanich[2], Brad Kurowski[2]
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1370 **Partial functional and structural recovery after mild traumatic brain injury: a longitudinal study**
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1371 **Microstructural integrity of hippocampal subregions is impaired after mild traumatic brain injury**
Sandra Leh[1], Clemens Schroeder[1], Jen-Kai Chen[2], Min Tae Park[3], Jürgen Germann[2], Mallar Chakravarty[4], Bob Cheung[5], Michael Petrides[2], Sonja Huntgeburth[2], Nadia Gosselin[6], Christoph Hock[1], Alain Ptito[2]
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1372 **Relation between memory impairment and injury of fornix in patients with mild traumatic brain injury**
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1373 **Traumatic axonal injury of the cingulum in patients with mild traumatic brain injury: a DTT study**
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1374 **Resting state functional connectivity in the orbitofrontal cortex in competitive football players**
Jadwiga Rogowska[1], Jennifer DiMuzio[1], Elliott Bueler[1], Charlie Hicks-Little[2], Erin McGlade[1,3], Deborah Yurgelun-Todd[1,3,4]
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1375 **Abnormal corpus callosum connectivity in patients with diffuse axonal injury**
Shiho Ubukata[1], Naoya Oishi[1,2], Genichi Sugihara[1], Walid Yassin[1], Toshihiko Aso[2], Hidenao Fukuyama[2,3], Toshiya Murai[1], Keita Ueda[1]
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1376 **Tract-Based MR Spectroscopy Reveals White Matter Damage in Moderate/Severe Pediatric TBI**
Emily Dennis[1], Talin Babikian[2], Jeffry Alger[3], Julio Villalon Reina[1], Faisal Rashid[1], Richard Mink[4], Christopher Babbitt[5], Jeffrey Johnson[6], Christopher Giza[7], Robert Asarnow[2], Paul Thompson[8]
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1377 **MR Spectroscopic Changes in Asymptomatic High School Soccer Athletes due to Repetitive Head Trauma**
Sumra Bari[1], Kausar Abbas[1], Emily McCuen[1], Larry Leverenz[1], Eric Nauman[1], Thomas Talavage[1]
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1378 **Resilience of Functional Brain Networks to Focal Damage in Asymptomatic Football Athletes**
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1379 **Longitudinal Characterization of Brain Iron Deposition in Patients with Cerebral Microhemorrhages**
Wei Liu[1,2], Ping-Hong Yeh[1,3], Dominic Nathan[1,2], Elyssa Sham[1,2], John Morissette[1], John Ollinger[1], Grant Bonavia[1], Gerard Riedy[1]
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1380 **Volumetric and Shape Analyses of Brain Structure in Military Service Members with Mild Brain Trauma**
Benjamin Wade[1,2], Carmen Velez[3], Ann Marie Drennon[4], Jacob Bolzenius[3], Paul Thompson[5], Jeffrey Lewis[6], John Ritter[4], Gerald York[4], David Tate[3,7]
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1381 **Effects of methylphenidate on response inhibition after Traumatic Brain Injury**
Laura Moreno-Lopez[1], Anne Manktelow[1], Barbara Sahakian[1], David Menon[1], Emmanuel Stamatakis[1]
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1382 **Assessing neurometabolism after traumatic brain injury: insights from multimodal neuroimaging**
Avnish Bhattrai[1], Andrei Irimia[1], John Van Horn[1]
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1383 **Multimodal Neuroimaging of Brain Structure Alterations in Adolescents With Anatomic Hemispherectomy**
Carinna Torgerson[1], Avnish Bhattrai[1], Zachary Jacokes[1], Meng Law[1], Saman Hazany[1], Andrei Irimia[1], John Van Horn[1]
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1384 **Spatiotemporal profiles of post-traumatic epileptiform discharges initiated via recurrent excitation**
Andrei Irimia[1], Paul Vespa[2], John Van Horn[3]
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1385 **Prefrontal brain connectivity re-organization after traumatic axonal injury**
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1386 **Cognitive Deficits' Association with Injury Severity & Gray Matter Volume in Traumatic Brain Injury**
Abigail Livny[1], Anat Biegon[2], Tammar Kushnir[1], Sagi Harnof[1], Chen Hoffmann[1], Eyal Fruchter[3], Mark Weiser[1]
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1387 **Alterations in corticostriatal functional networks in traumatic brain injury**
Sara De Simoni[1], Peter Jenkins[1], Jessica Fleminger[1], Amy Jolly[1], James Cole[1], Robert Leech[1], David Sharp[2]
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1388 **The Semantic Memory Deficits after Traumatic Brain Injury: An fMRI Study**
Fan-Pei Yang[1], Chiung-Yu Chang[2], Sara LaHue[3], Shelly Cooper[3], Tracy Luks[3], Pratik Mukherjee[3,4,5]
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1389 **Impact of Repeated Subconcussive Blows to the Head in Male Athletes using MR Spectroscopy**
Genevieve Lefebvre[1], Emilie Chamard[1], Sebastien Proulx[2], Hugo Theoret[1]
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1390 **Cortical Thickness Differences in Retired Athletes with a History of Concussion**
Peter Molfese[1,2], Patrick Ledwidge[3], Joshua Zosky[3], Caitlin Masterson[3], Jo Shattuck[3], Judith Burnfield[3], Dennis Molfese[3]
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1391 **The cancellation of brain responses during memory retrieval in combined mild brain injury and PTSD**
Yang Jiang[1], Sabrina McIlwrath[1], David Powell[1], Benjamin Wagner[1], Lucas Broster[1], Megan Stout[1], Shonna Jenkins[1], Fabio Leonessa[2], Geoffrey Ling[2], Jamie Grimes[2], James Ecklund[3], Robert Lipsky[3], Walter High[4]
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1392 **A prospective DTI study assessing white matter integrity after sports-related concussion (SRC)**
Valerie Cubon[1], Murali Murugavel[2], Annegret Dettwiler[2]
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1393 **Collision-Sports and Axonal Impairment: DWI Assessment in High School Football Athletes**
Ikbeom Jang[1], Thomas Talavage[1], Eric Nauman[1], Larry Leverenz[1]
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1394 Understanding Post Traumatic Stress Symptom effects on the DMN in a Military Chronic Mild TBI sample
Dominic Nathan[1,2,3], Jonathan Wolf[1], Wei Liu[1,2], Louis French[1,4], Terrence Oakes[5], Elyssa Sham[1,2], John Ollinger[1], Grant Bonavia[1], Gerard Riedy[1]
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1395 Metabolic Profiles after Severe Brain Injury Predict Recovery
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1396 Patients with traumatic brain injury show aberrant connectivity in the amygdala's circuitry
Kevin Bickart[1], Keith Main[2,3], Anna-Clare Milazzo[2], Megan Newsom[1], Chandler Sours[4], Rao Gullapalli[4], Maheen Adamson[1,2,5]
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1397 Assessing the effects of sport concussion via multivariate fusion of functional and structural MRI
Nathan Churchill[1], Michael Hutchison[2], General Leung[3], Simon Graham[4], Tom Schweizer[5]
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HIGHER COGNITIVE FUNCTIONS

Decision Making

1398 Intertemporal Choices and Striatal Reward Prediction Errors are Susceptible to the Attraction Effect
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1399* Neural Mechanisms underlying Bayesian Model Averaging
Philipp Schwartenbeck[1], Thomas FitzGerald[2], Christoph Mathys[3], Ray Dolan[2], Martin Kronbichler[4], Karl Friston[5]
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1400 Sequential decision-making in noisy environments
Lilla Horvath[1], Loreen Mamerow[2], Rui Mata[2], Ralph Hertwig[3], Dirk Ostwald[1,3]
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1401 Differential Brain Responses to Active and Passive Risk Taking: An ERP Study
Yu Pan[1], Sihua Xu[2], Li Gao[1], Hengyi Rao[2]
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1402 Neurobiological Correlates of Aversive and Appetitive Choices: Two Functional Neuroimaging Studies
Julia Bosch[1], Tanja Dolpp[1], Lisa Dommes[2], Philipp Fiessinger[2], Petra Beschoner[2], Julia Stingl[3], Roberto Viviani[4,1]
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1403 Neural mechanisms of intergroup bias in conformity
Hesun Erin Kim[1], Il Ho Park[2], Ji-Won Chun[3], Hae-Jeong Park[4], Jeonghun Ku[5], Jae-Jin Kim[6,1]
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1404 Choosing between human values and food: the Pavlovian substrates of intrinsic preferences
Roberto Viviani[1,2], Lisa Dommes[3,2], Petra Beschoner[3], Julia Stingl[4,5], Tatjana Schnell[1]
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1405 Does choice really affect preferences? New evidence from a controlled fMRI experiment
Catharina Probst[1], Oliver Granert[1], Stefan Wolff[2], Roberto Cilia[3], Thilo van Eimeren[4,5]
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1406* The neurocognitive mechanisms of learning to expend effort
Tobias Hauser[1,2], Eran Eldar[1], Ray Dolan[2]
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1407 The Role of Uncertainty in Social Learning
Andreea Diaconescu[1], Christoph Mathys[2], Lars Kasper[3], Lilian Aline Weber[4], Klaas Stephan[5]
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1409 Spatiotemporal Characterisation of Decision Confidence in the Human Brain
Sabina Gherman[1], Marios Philiastides[2]
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1410 **Nostalgia Modulates Neural Responses to Outcome Processing in Decision Making: An ERP Investigation**
Huajian Cai[1], Yuqi Wang[1], Yuanyuan Shi[1], Yu L.L. Luo[1], Ruolei Gu[1]
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1411 **Think and Think again: Deeper Processing of unexpected Feedback**
Inga-Lisa Stürkat[1,2], Ronald Sladky[1], Daniela Pfabigan[2], Andreas Hahn[3], Nicole Geissberger[1], Martin Tik[1], Bastian Auer[2], Christoph Kraus[3], Katharina Paul[2], Georg Kranz[3], Claus Lamm[2], Rupert Lanzenberger[3], Christian Windischberger[1]
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1412 **Structural and functional plasticity underlying non-reinforced behavioral change and maintenance**
Rotem Botvinik Nezer[1,2], Ido Tavor[2,3], Yaniv Assaf[2,1], Tom Schonberg[2,1]
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1413 **Evidence accumulation during value-based decision making in humans through simultaneous EEG/fMRI**
M. Andrea Pisauro[1], Elsa Fouragnan[1], Chris Retzler[2], Marios Philiastides[1]
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1414 **Pre-task Directed Connectivity Predicts Poor Performance in a Target Detection Task**
Antony Passaro[1], Stephen Gordon[2], Jean Vettel[3]
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1415 **Striatal and cingulate fMRI responses to unexpected taste reflect behavioral effects of expectations**
Olga Davidenko[1,2], Jean-Marie Bonny[3], Gil Morrot[4], Betty Jean[5], Béatrice Claise[5], Abdlatif Benmoussa[6], Gilles Fromentin[1], Daniel Tomé[1], Nachiket Nadkarni[7,8], Nicolas Darcel[1]
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1416 **The role of the frontoparietal network in decision-making across child and adolescent development**
Nadia Gonzalez[1], Rodrigo Pineda[2], Julio Flores-Lázaro[3], Roberto Velasco-Segura[4], Pablo Rendón[5], Pablo Padilla[6]
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1417 **A neurocomputational basis for premature responding impulsivity in humans**
David Cole[1], Lionel Rigoux[2], Andreea Diaconescu[1], Christoph Mathys[3], Tina Wentz[1], Zoltan Nagy[4], Boris Quednow[5], Klaas Stephan[1]
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1418 **Mesolimbic brain responses to the modulation of salience during decision making**
Anja Richter[1,2], Oliver Gruber[3,2]
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1420 **If I had chosen differently! EEG correlates of comparison between received and alternative outcomes**
Deborah Marciano-Romm[1], Sacha Bourgeois-Gironde[2,3], Leon Deouell[4]
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1421 **Functional connectivity of dopaminergic midbrain and striatum changes over probabilistic learning**
William Lloyd[1], Anastasia Christakou[1], Tiffany Reed[1]
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1422 **Neural and psychological individual differences in probabilistic reinforcement learning**
Tiffany Bell[1], Michael Lindner[1], Angela Langdon[2], Ying Zheng[1], Anastasia Christakou[1]
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1423 **Oscillatory correlates of postponed somatosensory decisions**
Simon Ludwig[1,2], Jan Herding[1,3], Felix Blankenburg[1,2,3]
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1424 **Imaging the Neural Correlates of Surprise**
Leyla Loued-Khenissi[1], Vasiliki Liakoni[2], Antoine Lutti[3], Ferath Kherif[4], Bogdan Draganski[4], Kerstin Preuschoff[5]
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1425* **The Role of Dopamine during Learning under Uncertainty**
Andreea Diaconescu[1], Jessica Dafflon[2,3], Lars Kasper[4], Christoph Mathys[5], Klaas Stephan[6]
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1426 **Distinct Neural Correlates of Risk-Taking in Emerging Adulthood**
Sophie YorkWilliams[1], Rachel Thayer[1], L. Cinnamon Bidwell[1], Sarah Hagerty[1], Kent Hutchison[1]
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1427 **Neural basis of differential anxieties under interrogation**
Sungjae Yun[1], Sol Yoo[2], Seulki Kim[2], Shin-ae Yoon[3], Heesong Kim[4], Hyunki Hong[4], Hae-Jeong Park[1,5]
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1428 **Food choice in a contamination setting: effects of calories on risk attitudes**
Paolo Garlasco[1], Corrrado Corradi-Dell'Acqua[2], Francesco Foroni[1], Raffaella Rumiati[1]
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HIGHER COGNITIVE FUNCTIONS

Executive Function

1429 **Sex and Error Processing: Electrophysiological and Behavioral Differences**
Adrian Fischer[1], Claudia Danielmeier[2], Arno Villringer[3], Tilmann Klein[3], Markus Ullsperger[4]
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1430 **Distinct activation patterns in a selective stopping task depending on strategy**
Alexandra Sebastian[1], Kora Rößler[1], Michael Wibral[2], Patrick Jung[1], Tüscher Oliver[1]
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1431 **Brief mindfulness training improves brain activity at self-control network and reduces depression**
Yi-Yuan Tang[1], Rongxiang Tang[2]
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1432 **The Effect of Aging on the Brain Activation during Task Switching Paradigms**
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1433 **FNIRS: Prefrontal activation during social vs. non-social intentions in a naturalistic setting**
Paul Burgess[1], Clarisse Aichelburg[1], Paola Pinti[2], Frida Lind[1], Sarah Power[1], Elizabeth Swingler[1], Arcangelo Merla[2], Sam Gilbert[1], Ilias Tachtsidis[1], Antonia Hamilton[1]
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1434 **Identifying the Neural Substrates of the Aggression-Humor Interaction: An fMRI study**
Mei-Hsuan Wu[1], Yi-Jun Liao[1], Yu-Chen Chan[1]
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1435 **Longitudinal development of error monitoring during adolescence**
Sarah Jurk[1], Michael Smolka[1]
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1436 **Involvement of prefrontal cortex in prospective memory: An fNIRS study**
Clarisse Aichelburg[1], Paola Pinti[2], Arcangelo Merla[3], Antonia Hamilton[1], Ilias Tachtsidis[1], Paul Burgess[1], Sam Gilbert[1]
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1437 **Distinct Neural Substrates for Enhancing and Inhibiting Task-Driven Functional Connectivity Patterns**
Kai Hwang[1], Ruoying Yang[1], Akshay Jagadeesh[1], Mark D'Esposito[1]
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1438 **Meta-analysis reveals common and distinct brain networks for processing of different conflicts**
Guochun Yang[1], Yanyan Qi[1], Zhenghan Li[1], Weizhi Nan[1], Qi Li[1], Xun Liu[1]
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1439 **One or many error-processing systems in the human brain?**
Ivan Zubarev[1], Lauri Parkkonen[1]
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1441 **Cognitive control modulates EEG and EMG of selective inhibition**
Liisa Raud[1], René Huster[1]
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1442 **Different Nicotine Effects on Cognitive Stability and Flexibility in Thalamocorticostriatal Networks**
Stefan Ahrens[1], Sebastian Puschmann[1,2], Christiane Thiel[1,2]
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1443 **Interhemispheric signal propagation in complex cognition: Combined TMS-EEG over bilateral mid-dlPFC**
Charlotte Schmidt[1], Lena Köstering[1], Marco Reisert[1], Kassandra Graebner[1], Leonie Luzay[1], Horst Urbach[1], Cornelius Weiller[1], Janine Reis[1], Christoph Kaller[1]
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1444 **BDNF-Genotype modulates connectivity during cognitive control in humans**
Janina Schweiger[1], Axel Schäfer[1], Phillip Post[1], Maria Zangl[1], Marcella Rietschel[1], Jochen Utikal[2], Heike Tost[1], Andreas Meyer-Lindenberg[1]
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1445 **Executive functions performance correlates with fronto-parietal functional connectivity in children**
Edna Navarrete[1], Zeus Gracia[1], Beatriz Moreno[1], Liliana García[1], Juan José Ortiz[1], Fernando Barrios[1], Sarael Alcauter[1]
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1446 **The effect of BDNF Val66Met polymorphism on relational reasoning with and without emotional content**
Melanie Stollstorff[1], Alejandro Hermida[1], Stephanie Bean[2], Lindsay Anderson[2], Chandan Vaidya[3]
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1447 **Altered Emotion Regulation of Negative Affect in Recreational Cannabis Users**
Kaeli Zimmermann[1], Christina Walz[2], Raissa Derckx[1], Helmut Nebl[3], Rene Hurlemann[1], Benjamin Becker[3,4]
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1448 **Norepinephrine alpha-2a receptor activation increases prefrontal connectivity during working memory**
Andrew Breeden[1], Charles Lynch[1], Peter Turkeltaub[1], Chandan Vaidya[1]
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1449 **Neural correlates of the trail making test with improved ecological validity**
Mahta Karimpoor[1], Fred Tam[2], Nathan Churchill[3], Corinne Fischer[3], Tom Schweizer[3], Simon Graham[1]
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1450 **Increased stop-related M300 in people who stutter: An MEG study of vocal response inhibition**
Paul Sowman[1,2,3], Andrew Etchell[1,2,3]
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1451 **Parametric manipulations during response selection reveal specificity of network neural mechanisms**
Sobanawartiny Wijeakumar[1], Vincent Magnotta[2], Eliot Hazeltine[2], Joseph Ambrose[3], Michelle Voss[2], John Spencer[1]
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1452 **The role of the frontal executive network in rapid automatized naming (RAN)**
Savio Wong[1,2], Jason Lo[3,2], Henry Mak[4], Kevin Chung[5,2]
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1453 **Post-error neuronal adjustments and their correlations to behavioral adjustments**
Guofa Shou[1], Lei Ding[2]
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1454 **Eye-Movements and Decreased Connectivity in Cognitive-control Regions during Rest in Children**
Tzipi Horowitz-Kraus[1,2], Adam Kiefer[1], Christopher DiCesare[1], Dana Dorrmann[1]
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1455 **Seasonal variation in human executive brain responses**
Christelle Meyer[1], Mathieu Jaspar[1], Vincenzo Muto[1], Caroline Kusse[1], Sarah Chellappa[1], Christian Degueldre[1], Evelyne Balteau[2], André Luxen[1], Fabienne Collette[1], Benita Middleton[3], Simon Archer[3], Gilles Vandewalle[1], Pierre Maquet[1], Christophe Phillips[1]
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HIGHER COGNITIVE FUNCTIONS

Higher Cognitive Functions Other

1456 **Does infant-directed television pump mental iron in the prefrontal cortex?**
Michelle Tran[1], Rhodri Cusack[1]
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1457 **Recruitment of the Ventral and Dorsal Streams in Statistical Graph Comprehension: An fMRI Study**
Mi Li[1], Shengfu Lu[2], Ning Zhong[2]
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1458 **White matter fiber tract integrity and intelligence in typically developing children**
Susumu Yokota[1], Hikaru Takeuchi[1], Kohei Asano[2], Michiko Asano[3], Yuko Sassa[1], Yasuyuki Taki[4], Ryuta Kawashima[1]
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1459 **Characterizing Task-General Changes in Functional Connectivity**
Taylor Bolt[1], Lucina Uddin[1], Jason Nomi[1]
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1460 **Gamma-band synchrony while perceiving gaze direction during face-to-face interaction**
Sunao Iwaki[1]
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1461 **Neural Correlates of Hypnotically Induced Thermal Alterations**
Don Vaughn[1], Maureen Pisani[1], Mark Cohen[1], Pamela Douglas[1]
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1462 **Default mode network deactivation related to a cue indicating the difficulty of the task**
Miek de Dreu[1], Irena Schouwenaars[1], Geert-Jan Rutten[1], Nick Ramsey[2], Martijn Jansma[1]
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1463 **Spirituality and the Ability to Gain Control Over the Own Brain Activity: A Multimodal Imaging Study**
Silvia Kober[1], Matthias Witte[2], Manuel Ninaus[2], Christa Neuper[3], Guilherme Wood[3]
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1464 **Involvement of pre-SMA in selecting ecologically valid voluntary actions**
Steffen Angstmann[1,2], Anna Hansen[1], Konrad Stanek[1,3], Kristoffer Madsen[1,3], Hartwig Siebner[4,1]
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1465 **Focus-related brain activity**
Irena Schouwenaars[1], Miek de Dreu[1], Geert-Jan Rutten[1], Nick Ramsey[2], J Martijn Jansma[1]
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1466 **Aha, I got it! Engagement of dopaminergic pathways during insight moments**
Ronald Sladky[1], Martin Tik[1], Caroline Di Bernardi Luft[2,3], David Willinger[1], André Hoffmann[1], Michael Banissy[3], Joydeep Bhattacharya[3], Christian Windischberger[1]
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1467 **Lesion-Symptom Mapping of a Complex Figure Copy Task: A large-Scale PCA Study of the BCoS Trial**
Haobo Chen[1], Xiaoping Pan[2], Johnny King L Lau[3], Wai-Ling Bickerton[3], Boddana Pradeep[4], Maliheh Taheri[3], Glyn Humphreys[5], Pia Rotshtein[6]
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1468 **Cortical Haemodynamic Changes associated with High and Low Cognitive Demand in Surgeons**
Hemel Modi[1], Harsimrat Singh[1], Felipe Orihuela-Espina[2], Guang-Zhong Yang[1], Ara Darzi[1], Daniel Leff[1]
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1469 **Does Cognitive Fatigue correlate with Brain Iron Deposition in Basal Ganglia in Multiple Sclerosis?**
Sarah Wood[1], Ekaterina Dobryakova[1], Zhiguo Jiang[1], Emilyrose Havrilla[2], Bing Yao[1]
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1470 **The dynamics of intelligence at rest**
Diego Vidaurre[1], Mark Woolrich[1], Anderson Winkler[2], Karla Miller[1], Stephen Smith[3]
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1471 **EEG Spectral Power Changes during Mental Task Fulfillment under Experimental Hypoxia**
Natalia Shemyakina[1], Zhanna Nagornova[1], Eduard Burykh[1], Svyatoslav Soroko[1]
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1472 **Multiple Cognitive Networks Anchored in the Visual Word Form Area**
Tanya Evans[1], Daniel Abrams[1], John Kochalka[1], Lang Chen[1], Shivani Kaushal[1], Christian Battista[1], Vinod Menon[1]
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1473 **The Role of Default Mode Network in Mediating Processing Speed Function**
Clive Wong[1], Bolton Chau[1], Chetwyn Chan[1]
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1474 **Efficiency of functional brain networks and intellectual performance in discordant monozygotic twins**
Juko Ando[1], Yoshiaki Someya[1]
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1475 **Hindsight bias and self:an fMRI study**
Yin-Hua Chen[1], Hsu-Po Cheng[1], Yu-Wen Lu[1], Pei-Hong Lee[1], Georg Northoff[2,1,3,4,5,6], Nai-Shing Yen[1,7]
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1476 **"Cancer-Brain": Network centrality insights into brain connectivity in breast cancer patients**
Adriana Banozic[1], Fatima Nasrallah[2], Jing Wen Goh[3], Alexander Schaefer[1], Edward Koo[4], Sing Huan Tan[5]
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1477 **Gender differences in Neurobehavioral index and Brain connectivity in Human Connectome Project (HCP)**
Soyong Eom[1], Chongwon Pae[2], Hae-Jeong Park[2,3]
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1478 **Alteration of Brain Network in subjects exposed to High altitude**
Tapan Kumar Gandhi[1], Satish Chouhan[2]
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1479 **Missing the mark: Task-based functional mapping tends to reveal overlap between functional regions**
Rodrigo Braga[1,2], Eyal Soreq[2], William Trender[2], Adam Hampshire[2]
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1480 **Modification of the pyramid and palm trees test for Japanese; evaluated by functional MRI**
Miyako Futamura[1], Satoshi Maesawa[2,3], Masazumi Fujii[4], Epifanio Bagarinao[3]
[1]Fukushima Medical University, Fukushima, Japan, [2]Department of Neurosurgery, Nagoya University, Nagoya, Japan, [3]Brain and Mind Research Center, Nagoya University, Nagoya, Japan, [4]Department of Neurosurgery, Fukushima University, Fukushima, Japan

1481 **Brain morphometry predicts individual creative abilities**
David Bendetowicz[1], Marika Urbanski[1], Clarisse Aichelburg[2], Richard Lévy[1], Emmanuelle Volle[1]
[1]ICM - Brain and Spine Institute, Paris, France, [2]UCL (University College London), London, United Kingdom

1483 **The "Small-World" of Creative Artists: A Graph Theory Approach to Creativity Process**
Divya Sadana[1], Jamuna Rajeswaran[2], Rajanikant Panda[1], Sanjeev Jain[3], Senthil Kumaran[4], Rajnish Gupta[5]
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HIGHER COGNITIVE FUNCTIONS

Imagery

1484 **Motor imagery engages an insula-centered tactile network more than action observation – a fMRI study**
Stefan Vogt[1], Satomi Higuchi[2], Michael Ziessler[3], Katrin Sakreida[4]
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1485 **Visual creativity imagery modulates local spontaneous activity amplitude of resting-stating brain**
Cai Yuxuan[1], Delong Zhang[2,3], Bishan Liang[4], Zengjian Wang[5], Junchao Li[5], Zhenni Gao[5], Mengxia Gao[5], Ruiwang Huang[5], Ming Liu[5]
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1486 **Mental rotation task modulates degree centrality of rest brain network using MLDA method**
Mengxia Gao[1], Delong Zhang[2], Junchao Li[1], Zhenni Gao[1], Cai Yuxuan[1], Ruiwang Huang[1], Ming Liu[1]
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1487 **Cortical Activation Measured by EEG after Motor Imagery Training in Congenitally Amputated Patient**
Katarzyna Kisiel-Sajewicz[1], Jaroslaw Marusiak[1], Joanna Mencel[1], Artur Jaskólski[1], Łukasz Kaminski[1], Marek Kurzynski[2], Andrzej Wołczowski[3], Anna Jaskólska[1]
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1488 **Aha! Moments Inside: Self-arising creative solutions specified**
Martin Tik[1], Ronald Sladky[1], Caroline Di Bernardi Luft[2], André Hoffmann[1], David Willinger[1], Michael Banissy[2], Joydeep Bhattacharya[2], Christian Windischberger[1]
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1489 **Connectivity and Network Dynamics During Imagined and Overt Movement of an Ecologically Valid Task**
Christopher Friesen[1], Tony Ingram[1], Alicia Gionfriddo[1], Timothy Bardouille[2], Shaun Boe[1]
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1490 **Revising the concept of functional equivalence between motor imagery and execution via MVPA and RSA**
Adam Zabicki[1], Benjamin de Haas[2], Rudolf Stark[3], Karen Zentgraf[4], Jörn Munzert[1], Britta Krüger[1]
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1491 **A Step in Mind: Neural Signatures of Motor Imagery and Imitation of Gait in Healthy Elderly**
Lucia Maria Sacheli[1], Carlo De Santis[1], Laura Zapparoli[2], Catia Pelosi[2], Bruno Bodini[2], Nicola Ursino[2], Alberto Zerbi[2], Giuseppe Banfi[2], Eraldo Paulesu[1]
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1492 **Simultaneous EEG-fMRI and EEG-fNIRS reveal differences between movement execution and imagination**
Catharina Zich[1], Maarten De Vos[2], Cornelia Kranczioch[1], Ling-Chia Chen[1], Stefan Debener[1]
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1493 **Degrees of Separation: Differential Default Mode Engagement When Mentalizing About Others**
Deniz Vatansever[1], David Menon[1], Emmanuel Stamatakis[1]
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1494 **Imagery as a proxy to the study of complex human behavior using fMRI**
Grega Repovs[1], Vida Ana Politakis[1], Maja Bresjanac[1]
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1495 **Decoding visual mental imagined symbols using high-field fMRI**
Max van den Boom[1], Mariska Vansteensel[1], Nick Ramsey[1]
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HIGHER COGNITIVE FUNCTIONS

Music

1496 **Intrinsic Connectivity of Ventral Auditory Pathway Correlates with the Acuity of Absolute Pitch**
Seung-Goo Kim[1], Thomas Knösche[1]
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1497 **Dynamics of Functional Connectivity in Human Brains Modulated by (Un)pleasantness of Music**
Seung-Goo Kim[1], Jöran Lepsien[1], Thomas Fritz[1], Karsten Mueller[1]
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1498 **How does expertise modulate the Default Mode Network? Evidence from musicians**
Miriam Albusac-Jorge[1,2], Robert Zatorre[3,4], Juan Verdejo-Román[1], Oren Contreras-Rodríguez[5], Francisco Giménez-Rodríguez[2], Miguel Pérez-García[1]
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1499 **Investigating the role of the dPMC in the formation of auditory-motor associations: a TMS study**
Carlotta Lega[1], Marianne Stephan[2,3], Robert Zatorre[4], Virginia Penhune[3]
[1]University of Milano-Bicocca, Milan, Italy, [2]Brain Mind Institute, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland, [3]Department of Psychology, Concordia University, Montreal, Canada, [4]McGill University, Montreal, Quebec

1500 **Musical training induces functional neuroplasticity in left auditory and parietal cortex**
Julia Reinhardt[1], Jan Benner[1], Christoph Stippich[1], Elke Hofmann[2], Peter Schneider[3,4], Maria Blatow[1]
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1501 **Retention of Perceived vs Imagined Pitch: Brain Oscillations of Musical Imagery**
Rebeca Gelding[1,2], William Thompson[3,2], Blake Johnson[4,2]
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1502 **Investigating corticomotor excitability during melody listening: a TMS study**
Marianne Stephan[1,2], Carlotta Lega[3], Virginia Penhune[2]
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1503 **How the brain responses to the same chord within or without a defined scale?**
Shu-Chi Pai[1], Pu-Yeh Wu[1], Jo-Fu Lotus Lin[1], Fa-Hsuan Lin[1]
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1504 **Electrical Neuroimaging of Music Processing in Pianists with Absolute versus Relative Pitch**
Clara James[1,2], Sélim Coll[2,3], Noémie Vuichoud[2], Didier Grandjean[3]
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1505 **Where the rhythm plays: Machine learning decodes rhythm-sensitive cortices**
Michael Notter[1,2,3], Michael Hanke[4], Micah Murray[1,2,3,5,6], Eveline Geiser[1,2,7]
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1506 **Functional Network Connectivity Study on Resting States of Musical Composers**
Jing Lu[1], Changyue Hou[1], Hua Yang[1], Cheng Luo[1], Dezhong Yao[1]
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1507 **Effects of musical training on functional connectivity at rest between auditory and motor regions**
María-Ángeles Palomar-García[1], Robert J. Zatorre[2], Noelia Ventura-Campos[3], Elisenda Bueichekú[1], César Ávila[1]
[1]Universitat Jaume I, Castellón, Spain, [2]McGill University, Montreal, Québec, Canada, [3]Mathematics Teaching, Faculty of Teacher Training. Universidad de Valencia, Valencia, Spain

1508 **Ventral striatum activation is associated with hedonic responses to music and monetary rewards**
Neomi Singer[1], Shlomi Nemni[2], Alain Dagher[3], Robert J. Zatorre[4], Talma Hendler[5]
[1]Tel Aviv Sourasky Medical Center & Tel Aviv University, Tel Aviv, Israel, [2]Sagol School of Neuroscience, Tel Aviv University, Tel-Aviv, Israel, [3]Montreal Neurological Institute, McGill University, Montreal, Canada, [4]Montreal Neurological Institute, McGill University & BRAMS, Montreal, Canada, [5]Sagol School of Neuroscience, Tel-Aviv University & Tel Aviv Sourasky Medical Center, Tel-Aviv, Israel

1509 **From Beats to Music: Neural Entrainment in Theta Band**
Laura Ferreri[1], Joaquin Moris-Fernandez[2], David Cucurell[3], Antoni Rodriguez-Fornells[4]
[1]Cognition and brain plasticity group-University of Barcelona, Barcelona, Spain, [2]University of Oviedo, Oviedo, Spain, [3]Cognition and brain plasticity group-Universitat Barcelona, Barcelona, Spain, [4]Cognition and brain plasticity group(IDIBELL)-Universitat Barcelona-ICREA, Barcelona, Spain

1511 **The effects of early musical training on brain organization and foreign phoneme perception**
Lucía Vaquero[1,2], Paul-Noel Rousseau[3], Diana Vozian[3], Denise Klein[4], Virginia Penhune[5]
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1512 **Basal ganglia activity is modulated by tapping and rhythm complexity during a beat maintenance task**
Tomas Matthews[1,2], Joseph Thibodeau[1], Virginia Penhune[1,2]
[1]Department of Psychology, Concordia University, Montreal, Canada, [2]International Laboratory for Brain, Music, and Sound Research, Montreal, Canada

1513 **Breaking the silence: The role of predictive neuronal processes in entrainment to music**
Matthias Witte[1], Jan Stupacher[1], Silvia Kober[1], Guilherme Wood[1]
[1]Department of Psychology, University of Graz, Graz, Austria

1514 **Sensory-motor integration and music imagery in expert cellists**
Indiana Wollman[1,2,3], Melanie Segado[1,2,3], Virginia Penhune[4,2,3], Robert J. Zatorre[1,2,3]
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1515 **The language of music: Common neural codes for hierarchical structures in music and natural language**
Jeffrey Chiang[1], Matthew Rosenberg[1], Martin Monti[1]
[1]UCLA, Los Angeles, United States

1516 **Effects of familiarity and genre on music listening: using intersubject correlations with fMRI**
Jo-Fu Lotus Lin[1], Juan Silva-Pereyra[2], Shang-Yueh Tsai[3], Wen-Jui Kuo[4], Fa-Hsuan Lin[1]
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1517 **Processing of irregular and difficult harmonies enhances connectivity in frontotemporal areas**
Chan Hee Kim[1], Chun Kee Chung[2,1,3], Seung-Hyun Jin[3], June Sic Kim[2]
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1518 **Musical Whorfian effect: Musical expertise influences shape perception**
Jie Yuan[1], Wen Xiong[2], Xiaoqing Hu[3], Shimin Fu[4]
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1520 **The neural mechanism of dialectical problem solving: an fMRI study**
Yukako Sasaki[1], Takayuki Nozawa[1], Kelssy Hitomi Kawata[1], Shigeyuki Ikeda[1], Kohei Sakaki[1], Tatsuro Kikuchi[1], Ryuta Kawashima[1]
[1]Tohoku University, Sendai, Japan

1521 **Change of Effective Connectivity during the Process of Rule Acquisition in Problem Solving**
Haiyan Zhou[1], Zhijiang Wang[2], Chuan Li[1], Yulin Qin[1], Ning Zhong[1]
[1]Beijing University of Technology, Beijing, China, [2]Peking University Sixth Hospital, Beijing, China

1522 **The superior parietal lobe is active in spatial, visual, and visuo-spatial reasoning: A meta-analysis**
Julia Wertheim[1], Simon Maier[2], Marco Ragni[1]
[1]Universität Freiburg, Brain-Links-Brain-Tools, Technische Fakultät, Freiburg, Germany, [2]Uniklinik Freiburg, Freiburg, Germany

1523 **Physics Classroom Learning Promotes Posterior Medial Cortex Activity During Problem-Solving**
Jessica Bartley[1], Michael Riedel[1], Karina Falcone[1], Kailey MacNamara[1], Shannon Pruden[1], Eric Brewe[1], Matthew Sutherland[1], Angie Laird[1]
[1]Florida International University, Miami, FL

1524 **Reorienting-related Core Regions and Networks for Fluid Intelligence**
Zhencai Chen[1], Xu Wang[1], Siyuan Hu[2], Jia Liu[2]
[1]State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, [2]School of Psychology, Beijing Normal University, Beijing, China

1525 **Neural Correlates of Decision Making in Social Dilemmas of Strong Affective Content**
Isabel Duarte[1,2], Sónia Afonso[1,2], Carlos Ferreira[1], Ricardo Cayolla[3], Miguel Castelo-Branco[2]
[1]Institute for Nuclear Sciences Applied to Health, Coimbra, Portugal, [2]Institute for Biomedical Imaging and Life Sciences, Coimbra, Portugal, [3]University of Aveiro, Aveiro, Portugal

1526 **Meta-Analytic Co-Activation Modeling of Posterior Medial Cortex: Beyond the Default Mode**
Emily Boeving[1], Jessica Bartley[1], Michael Riedel[1], Matthew Sutherland[1], Angie Laird[1]
[1]Florida International University, Miami, FL

1527 **Indistinct Neural Representations for Arithmetic Problems in Children with Mathematical Disabilities**
Teresa Iuculano[1], Ting-Ting Chang[1,2], Arron Metcalfe[1], Christian Battista[1], Vinod Menon[1]
[1]Stanford University School of Medicine, Stanford, CA, [2]National Chengchi University, Taipei, Taiwan

1528* **Flexibility in brain module topology supports active reasoning and fluid intelligence**
Luke Hearne[1], Luca Cocchi[1], Jason Mattingley[1,2]
[1]Queensland Brain Institute, Brisbane, Australia, [2]School of Psychology, The University of Queensland, Brisbane, Australia

HIGHER COGNITIVE FUNCTIONS

Space, Time and Number Coding

1529 **Steady-state visual evoked potential index of the approximate number system**
Joonkoo Park[1]
[1]University of Massachusetts, Amherst, MA

1530 **Predictive timing: Implicit learning of non-rhythmic temporal structure**
Chase Sherwell[1,2], Marta Garrido[3,4,1], Ross Cunnington[1,2,5]
[1]Queensland Brain Institute, University of Queensland, Brisbane, QLD, Australia, [2]Science of Learning Research Centre, University of Queensland, Brisbane, QLD, Australia, [3]Centre for Advanced Imaging, University of Queensland, Brisbane, QLD, Australia, [4]Centre for Integrative Brain Function, University of Queensland, Brisbane, QLD, Australia, [5]School of Psychology, University of Queensland, Brisbane, QLD, Australia

1531 **Neuronal Oscillations Reflect Processes Underlying Time Estimation**
Shrikanth Kulashekhar[1,2], Matias Palva[1], Satu Palva[1]
[1]Neuroscience Center, University of Helsinki, Helsinki, Finland, [2]BioMag Laboratory, Helsinki University Central Hospital, Helsinki, Finland

1532 **What's behind an arithmetic sign? Neural bases and development of automated calculation procedures**
Romain Mathieu[1], Justine Epinat-Duclos[1], Monica Sigovan[2], Michel Fayol[3], Catherine Thevenot[4], Jérôme Prado[1]
[1]CNRS & University Lyon 1, Lyon, France, [2]CREATIS-HCL, Lyon, France, [3]CNRS & University Blaise Pascal, Clermont-Ferrand, France, [4]University Lausanne, Lausanne, Switzerland

1533 **Math achievement is associated with behavioral and brain measures of logical reasoning in children**
Flora Schwartz[1], Justine Epinat-Duclos[2], Jessica Leone[2], Jérôme Prado[1]
[1]CNRS & Université Lyon 1, BRON, France, [2]CNRS, BRON, France

1534 **The Contingent Negative Variation and Duration Categorization**
Zhenna Lu[1], Kwun Kei Ng[2], Trevor Penney[1]
[1]National University of Singapore, Singapore, Singapore, [2]Duke-NUS Medical School, Singapore, Singapore

1535 **Cortical Network for Internal Representation of Time**
Eduardo Rojas-Hortelano[1], Ana Marina Jimenez-Santiago[1], Víctor de Lafuente[1]
[1]Neurobiology Institute, UNAM, Querétaro, Mexico

1536 **Common and Different Brain Regions in Time Perception and Working Memory**
Sertaç Üstün[1], Emre Kale[2], Metehan Cicek[1,2]
[1]Ankara University Faculty of Medicine, Department of Physiology, Ankara, Turkey, [2]Ankara University, Brain Research Center, Ankara, Turkey

1537 **Prefrontal-parietal Cytoarchitectonic's Connectivity Pattern in Developmental Dyscalculia**
Eduardo González-Alemañy[1], Yasser Iturria-Medina[2], Pedro Valdes-Hernandez[3], Nancy Estevez[3], Vivian Reigosa[3]
[1]Cuban Neuroscience Center, La Habana, Cuba, [2]Montreal Neurological Institute, Montreal, Canada, [3]Cuban Neuroscience Center, Havana, Cuba

1538 **An FMRI Investigation of the Malleable Numerical Representations under Hypnotic Suggestions**
Mei-Jing Lin[1], Erik Chihhung Chang[2]
[1]Institute of Cognitive Neuroscience, National Central University, Chungli, Taiwan, [2]Institute of Cognitive Neuroscience, National Central University, Chungli, Taiwan

IMAGING METHODS

Anatomical MRI

1539 **Regional cortical thinning is associated with cognitive decline in Parkinson's disease**
Mustafa Almuqbel[1], Tracy Melzer[1], Daniel Myall[2], Michael MacAskill[1], Leslie Livingston[2], Kyla Wood[3], Toni Pitcher[1], Ross Keenan[2], John Dalrymple-Alford[3], Tim Anderson[1]
[1]University of Otago, Christchurch, New Zealand, [2]New Zealand Research Institute, Christchurch, New Zealand, [3]University of Canterbury, Christchurch, New Zealand

1540 **Quantification of Fetal Cortical Folding using Slice-to-Volume Reconstructed MRI and FreeSurfer**
Sebastien Tourbier[1,2,3], Marie Schaer[4,5], Simon Warfield[3], Reto Meuli[2], Ali Gholipour[3], Meritxell Bach Cuadra[1,2,6]
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1541 **Variation of Surface Area Asymmetry: A Re-examination of Galaburda et al. (1987)**
Christine Chiarello[1], Adam Felton[1], David Vazquez[1], Alessandra McDowell[1]
[1]University of California, Riverside, Riverside, CA

1542 **Correlations between personality and brain structure: A crucial role of gender**
Alessandra Nostro[1,2], Veronika Müller[2,1], Andrew Reid[2], Simon Eickhoff[1,2]
[1]Institute of Clinical Neuroscience and Medical Psychology, Düsseldorf, Germany, [2]Research Centre Jülich, Jülich, Germany

1543 **Optimized spatial normalization of brain MR images from elderly individuals**
Azzurra Invernizzi[1,2], Dante Mantini[1,2,3]
[1]University of Oxford, Oxford, United Kingdom, [2]KU Leuven, Leuven, Belgium, [3]ETH, Zurich, Switzerland

1544 **Cortical thickness and cerebral blood flow relate to language ability in preschool children**
Matthew Walton[1], Deborah Dewey[1], Catherine Lebel[1]
[1]University of Calgary, Calgary, Alberta

1545 **Comparison Between Quantitative R1 Mapping and T1w/T2w Approaches for Revealing Cortical Myelination**
Zahra Shams[1], Diana Khabipova[2], David Norris[1,3], José Marques[1]
[1]Donders Centre for Cognitive Neuroimaging, Radboud University, Nijmegen, Netherlands, [2]Laboratory for Functional and Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland, [3]Erwin L Hahn Institute for MRI, University Duisburg-Essen, Essen, Germany

1546 **Executive cognitive impairments in ALS correlate with MRI brain structure**
Joe Senda[1,2], Yoshiki Niimi[1], Naoki Atsuta[1], Hirohisa Watanabe[1,3], Epifanio Bagarinao[3], Yasuhiro Tanaka[1], Kazunori Imai[1], Yuichi Riku[1], Michihito Masuda[1], Ryoichi Nakamura[1], Hazuki Watanabe[1], Yoshinari Kawai[1], Mizuki Ito[1], Masahisa Katsuno[1], Shinji Naganawa[3,4], Gen Sobue[1,3]
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1547* **Spiral Acquisition for High-Speed Structural MRI at 7 T**
Lars Kasper[1,2], Christoph Barmet[2,3], Maria Engel[2], Maximilian Haeberlin[2], Bertram Wilm[2], Benjamin Dietrich[2], Thomas Schmid[2], David Brunner[2], Klaas Stephan[1,4,5], Klaas Pruessmann[2]
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1548 **Brain volume fluctuations within 30 hour interval – clinical biomarker evaluation**
Mikolaj Pawlak[1], Łukasz Przybylski[2], Piotr Styrkowiec[3], Magdalena Reuter[2], Agnieszka Nowik[2], Gregory Kroliczak[2]
[1]Poznan University of Medical Sciences, Poznan, Poland, [2]Institute of Psychology, Adam Mickiewicz University in Poznan, Poznan, Poland, [3]University of Wroclaw, Wroclaw, Poland

1549 **Reliability of volume measurement for the hippocampus and cerebellum using the BRAINS software**
Gaku Okugawa[1], Katsunori Takase[1], Yukiko Saito[1], Toshihiko Kinoshita[1]
[1]Kansai Medical University, Osaka, Japan

1550 **Automated Segmentation of the Human Hippocampus Longitudinal Axis**
Garikoitz Lerma-Usabiaga[1], Juan Eugenio Iglesias[1], Ricardo Insausti[2], Douglas Greve[3], Pedro M. Paz-Alonso[1]
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1551 **Overlapping communities in structural covariance and transcriptomic networks**
Rafael Romero Garcia[1], Petra Vértes[1], Kirstie Whitaker[1], František Váša[1], Edward Bullmore[1]
[1]University of Cambridge, Cambridge, United Kingdom

1552 **Are there structural differences between major depressive disorder and bipolar disorder-I? A meta**
Qiang Luo[1], Ziqi Chen[1], Xinyu Hu[1], Qiyong Gong[1]
[1]Huaxi MR Research Center (HMRRC), Department of Radiology, West China Hospital of Sichuan University, Chengdu, China

1553 **Convergent structural, phylogenetic and network associations between the cerebellum and intelligence**
Min Tae Park[1,2], Jason Lerch[3], Armin Raznahan[4], Mallar Chakravarty[2,5]
[1]Schulich School of Medicine and Dentistry, London, Ontario, [2]Douglas Mental Health University Institute, Montreal, Canada, [3]University of Toronto/Hospital for Sick Children, Toronto, Ontario, [4]Child Psychiatry Branch, National Institute of Mental Health, Bethesda, MD, [5]Department of Psychiatry and Biomedical Engineering, McGill University, Montreal, Canada

1554 **Could the Hippocampus Grow in Alzheimer's Disease? Caveats of Automated Hippocampal Volumetry**
Tejas Sankar[1], Min Tae Park[2], Raihaan Patel[3], Aristotle Voineskos[4], Andres Lozano[4], Mallar Chakravarty[5], (ADNI) for the Alzheimer's Disease Neuroimaging Initiativ[6]
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1555 **Single-subject morphological brain networks: topological organization and test-retest reliability**
Hao Wang[1], Jinhui Wang[1]
[1]Department of Psychology, Hangzhou Normal University, Hangzhou, China

1556 Whole-brain mapping of QMRI parameters in post-mortem brains: towards histological validation in MND
Feng Qi[1], Sean Foxley[1], Adam Thomas[2,1], Menuka Pallebage-Gamarallage[3], Olaf Ansorge[3], Martin Turner[3], Ricarda Menke[3], Samuel Hurley[1,4], Karla Miller[1,4]
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1557 Implications of tractography algorithm class on Arcuate Fasciculus laterality
Jonathan Bain[1], Jason Yeatman[2], Ariel Rokem[2], Aviv Mezer[1]
[1]The Hebrew University of Jerusalem, Jerusalem, Israel, [2]University of Washington, Seattle, WA

1558 Comparing methods to compute and analyse cortical area and volume
Anderson Winkler[1], Douglas Greve[2], Knut Bjuland[3], Donald Hagler[4], Mert Sabuncu[5], Asta Håberg[3], Jon Skranes[3], Lars Rimol[3]
[1]University of Oxford, Oxford, United Kingdom, [2]MGH, Somerville, MA, [3]Norwegian University of Science and Technology, Trondheim, Norway, [4]University of California, San Diego, La Jolla, CA, [5]Martinos Center for Biomedical Imaging, Massachusetts General Hospital/Harvard Medical School, Charlestown, MA

1559 Revealing the Structural Network of Intelligence and Neurocognition
Bryan Yoon[1], Ye Seul Shin[1], Tae Young Lee[2], Ji-Won Hur[1], Seung-Goo Kim[3], Jun Soo Kwon[2]
[1]Seoul National University, Seoul, Korea, Republic of, [2]Seoul National University Hospital, Seoul, Korea, Republic of, [3]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

1560 Correcting Effects of Magnetic Resonance Field Strength on Brain Volumetry
Pavel Falkovskiy[1,2,3], Bénédicte Maréchal[2,1,3], Philippe Maeder[1], Tobias Kober[2], Jean-Philippe Thiran[3], Reto Meuli[1], Alexis Roche[1,2,3]
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1561 Altered cortical gyrification in adults who were born very preterm
Chiara Papini[1,2], Lena Palaniyappan[3,4], Sarina Iwabuchi[4], Chieh-En Tseng[5], Robin Murray[5], Chiara Nosarti[5]
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1562 Reliable structural markers of depressed mood — preliminary findings of a longitudinal MRI study
Christine Wiebking[1], Cristiano Cellini[2], Pia Wippert[1]
[1]University of Potsdam, Potsdam, Germany, [2]Justus-Liebig-University of Giessen, Giessen, Germany

1563 Subtype specific effect of gender on volume of grey matter in ADHD
Negin Zariei[1], Reza Khosrowabadi[1]
[1]Institute for Cognitive and Brain Science, Tehran, Iran, Islamic Republic of

1564 False positives estimation in parametric and non parametric single case Voxel Based Morphometry
Cristina Scarpazza[1], Thomas Nichols[2], Camille Maumet[3], Andrea Mechelli[4], Giuseppe Sartori[1]
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1565 Comparison of Brain Surface Positional Asymmetry in Humans and Chimpanzees
Lily Xiang[1], Timothy Crow[2], William Hopkins[3], Qiyong Gong[4], Neil Roberts[1]
[1]University of Edinburgh, Edinburgh, United Kingdom, [2]University of Oxford, Oxford, United Kingdom, [3]Georgia State University, Atlanta, GA, [4]Huaxi MR Research Center (HMRRC), Chengdu, China

1566 Prenatal Stress Associates with Volume Changes of the Amygdala and Hippocampus in Infants
Satu Lehtola[1], Jetro Tuulari[2,3], Harri Merisaari[4], Riitta Parkkola[5], Linnea Karlsson[6,7], Hasse Karlsson[8,9], Noora Scheinin[2,7,10]
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1567 Global and local grey matter alterations in individuals born very preterm: a longitudinal study
Slava Karolis[1], Sean Froudist-Walsh[1], Philip Brittain[1], Jasmin Kroll[1], Chiara Nosarti[1]
[1]King's College London, London, United Kingdom

1568 Measurement of Brain Asymmetry on 3D MR Images Obtained for 16 Subjects with Situs Inversus
Lily Xiang[1], Neil Roberts[1], Mike Perrins[1], Guy Vingerhoets[2]
[1]University of Edinburgh, Edinburgh, United Kingdom, [2]Ghent University, Ghent, Belgium

1569 MRI in Multiple Sclerosis: Relationship between diffusivity measures and quantitative MRI measures
Karthik Sreenivasan[1], Virendra Mishra[1], Xiaowei Zhuang[1], Zhengshi Yang[1], Le Hua[1], Dietmar Cordes[1,2]
[1]Cleveland Clinic Lou Ruvo Center for Brain Health, Las Vegas, NV, [2]University of Colorado, Boulder, CO

1570 Impaired associative learning and decreased structural coherence in schizophrenia & bipolar disorder
Rizwan Ahmed[1], Marcella Bellani[2], Gianluca Rambaldelli[2], Karthik Ramaseshan[1], Paolo Brambilla[3], Vaibhav Diwadkar[1]
[1]Wayne State University, Detroit, MI, [2]University of Verona, Verona, Italy, [3]University of Milan, Milan, Italy

1571 Neuropsychological Measures of Parietal Lobe Integrity
Christopher Bird[1], Dietmar Cordes[1], Sarah Banks[1]
[1]Cleveland Clinic Lou Ruvo Center for Brain Health, Las Vegas, NV

1572 Structural MRI as a biomarker of treatment success in neurodevelopmental disorders
Rylan Allemang-Grand[1], Leigh Spencer-Noakes[1], Jacob Ellegood[1], Brian Nieman[1], Jason Lerch[1]
[1]Hospital for Sick Children, Toronto, Canada

1573 **Fast ex vivo quantitative multiparameter mapping (MPM) of R1, R2* & MT with 100µm resolution at 9.4T**
Kerrin Pine[1], Mohamed Tachrount[1], Luke Edwards[1], Martina Callaghan[1], Xavier Golay[1], Nikolaus Weiskopf[1,2]
[1]UCL Institute of Neurology, London, United Kingdom, [2]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

1574 **Cortical and subcortical grey matter shrinkage in alcohol-use disorders: a voxel based meta-analysis**
Xun Yang[1,2], Jianguang Zeng[3], Yin Tan[4], Fangfang Tian[2], Handi Zhang[1], Zhiyun Jia[5], Qiyong Gong[2]
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1575 **Gray matter volume associated with the discrepancy between empathizing and systemizing in children**
Akiko Kobayashi[1], Susumu Yokota[2], Hikaru Takeuchi[3], Benjamin Thyreau[2], Kohei Asano[4], Michiko Asano[5], Yuko Sassa[6], Ryuta Kawashima[2], Yasuyuki Taki[2]
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1576 **The effects of intracranial volume estimation methods on group difference in Alzheimer's disease**
BoHyun Kim[1], Kichang Kwak[1], Jong-Min Lee[1]
[1]Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of

1577 **XKR4 and ADHD Interaction on Cerebellar Grey Matter Structure**
Devon Shook[1], Patrick de Zeeuw[1], Rachel Brouwer[1], Bob Oranje[1], Sarah Durston[1]
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1578 **The pattern distribution of alterations caused by brain disorders in the cingulate cortex**
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1579 **Lesion-based prediction of tactile object recognition performance in patients with ischemic stroke**
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1580 **Anatomical Networks of the Brain Tissue Properties Covariance**
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1581 **Predicting response to cognitive training by structure and function of the cholinergic system in MCI**
Jessica Peter[1], Jacob Lahr[1], Lora Minkova[1], Lena Köstering[1], Christoph Kaller[1], Michel Grothe[2], Stefan Teipel[3], Claus Normann[1], Christoph Nissen[1], Stefan Klöppel[4]
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1582 **A structural volumetric connectome in infants – An MRI study within the FinnBrain Birth Cohort study**
Olli Rajasilta[1], Jetro Tuulari[1,2], Harri Merisaari[1,3], Riitta Parkkola[4], Linnea Karlsson[1,5], Noora Scheinin[1,3], Hasse Karlsson[1,6]
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1583 **Reliability of voxel-based morphometry and cortical thickness: Effects of head position inside coil**
Elisabeth Wenger[1], Ulman Lindenberger[1,2], Simone Kühn[1,3]
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1584 **Grey matter structural and connectivity changes in blepharospasmus and hemifacial spasm**
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1585 **Investigating the morphometry and diffusion properties of cortical layers in human brain**
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1586 **Automated Quality Assessment of Structural Brain MRI Scans in a Population-Based Study of Children**
Tonya White[1], Philip Jansen[2], Ryan Muetzel[3]
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1587 **Correlation between intracranial volume and cortical thickness. Effect of the gender**
Angeliki Tsapanou[1], Dan Liu[1], Qolamreza Razlighi[2]
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1588 **Motion-robust 3D MRI Without the Use of Navigators or External Tracking Hardware**
Gregory Lee[1,2]
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1589 **Brain structural correlates of multilingualism**
Alexis Hervais-Adelman[1], Carola Tuerk[2], David Green[3], Cathy Price[4], Narly Golestani[1]
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1590 **Brain Asymmetries of Two Language-related Areas Homologs in Baboon Structural MRI**
Damien Marie[1], Konstantina Margiotoudi[2], Olivier Coulon[3], Muriel Roth[4], Romain Lacoste[5], Bruno Nazarian[4], Alice Bertello[6], Jean-Luc Anton[4], William Hopkins[7], Scott Love[8], Adrien Meguerditchian[9]
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1591 **Sex matters: Preliminary findings on grey matter volume in youths with conduct disorder**
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1592 **A clustering based approach for white matter lesion detection in Multiple Sclerosis**
Karthik Sreenivasan[1], Virendra Mishra[1], Xiaowei Zhuang[1], Zhengshi Yang[1], Le Hua[1], Dietmar Cordes[1,2]
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1593 **Independent Component Analysis of Atrophy Patterns in Alzheimer's Disease**
Yashar Zeighami[1], Vladimir Fonov[1], D. Louis Collins[2], Alain Dagher[2]
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1594 **Quantifying the test-retest reliability of visualizing the locus coeruleus in vivo in humans**
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1595 **Evaluation of the Robustness for the Rich-Club Organization in Brain White Matter Networks**
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1596 **Lesion-behavior mapping of treatment effects on naming ability in chronic post-stroke aphasia**
Joseph Griffis[1], Jennifer Vannest[2], Amber Martin[1], Jane Allendorfer[1], Rodolphe Nenert[1], Victor Mark[1], Jerzy Szaflarski[1]
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1597 **Brain Structural Abnormalities in Bipolar Disorder and Schizophrenia**
Nailin Yao[1], Anderson Winkler[2], Gregory Book[3], Michael Stevens[4], Michal Assaf[4], Godfrey Pearlson[5], David Glahn[6]
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IMAGING METHODS

BOLD fMRI

1598 **Training local brain activity using real-time fMRI neurofeedback impacts a distributed set of brain**
Rotem Kopel[1,2], Kirsten Emmert[2], Frank Scharnowski[3,4,5], Sven Haller[6,7,8], Dimitri Van De Ville[1,2]
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1599* **Distortion-matched T1-maps and unbiased T1w-images as anatomical reference for sub-millimetre fMRI**
Wietske van der Zwaag[1], Pieter Buur[1], Maarten Versluis[2], Kamil Uludag[3], José P. Marques[4]
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1600 **High spatial and temporal resolution in fMRI using 3D-EPI-CAIPI with cylindrical excitation**
Wietske van der Zwaag[1], Mayur Narsude[2], Olivier Reynaud[3], daniel Gallichan[3], José P. Marques[4]
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1601 **Disentangling functions in the semantic network: An fMRI study**
Maya Visser[1], Paul Hoffman[2], Ana Sanjuán[3], Matthew Lambon Ralph[4], César Ávila Rivera[1]
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1602 **Multi-echo fMRI for rapid event related fMRI experiments**
Javier Gonzalez Castillo[1], Puja Panwar[1], Cesar Caballero Gaudes[2], Daniel Handwerker[1], David Jangraw[1], Valentinos Zachariou[1], Peter Bandettini[1]
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1603 **Modulation of Simon interference-inhibition fMRI activity in autism: 5-HT and 5-HTTLPR polymorphism**
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1604 **Correction of physiological noise in functional susceptibility mapping at 7 Tesla**
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1605 **Cluster failure: why parametric statistical methods for fMRI have inflated false positive rates**
Anders Eklund[1], Thomas Nichols[2], Hans Knutsson[1]
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1606 **Using Digital Reference Objects to Understand the Effect of Head Motion on fMRI**
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1607 **Interaction of resting-state functional networks and creative behavior creativity in human brain**
Zhenni Gao[1], Delong Zhang[2,3], Xiaojin Liu[1], Junchao Li[1], Cai Yuxuan[1], Mengxia Gao[1], Zengjian Wang[1], Bishan Liang[4], Ruiwang Huang[1], Ming Liu[1]
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1608 **Neural Correlates of Acupuncture Effect on Chronic and Acute Low Back Pain: fMRI Study**
Meena Makary[1], Jeungchan Lee[2], Seulgi Eun[1], Geonho Jahng[3], JunHwan Lee[4], Eunyoung Lee[4], JaeYoung Shin[4], Vitaly Napadow[2], Kyungmo Park[1]
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1609 **Partial Fourier imaging anisotropically reduces spatial independence of BOLD signal time courses**
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1610 **Resting-state fMRI detects hypometabolic brain areas in therapy-refractory focal epilepsy patients**
Christian Kimmig[1], Julia Jacobs-LeVan[2], Burak Akin[3], Lars Frings[4], Philipp Meyer[4], Andreas Schulze-Bonhage[2], Jürgen Hennig[3], Pierre Levan[3]
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1611 **Sources of Reliable fMRI Responses to Natural Movie Stimuli**
Kun-Han Lu[1], Shao-Chin Hung[1], Haiguang Wen[1], Lauren Marussich[1], Zhongming Liu[1]
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1612 **The dissociable effects of APOE4 on the HCN and FPN in cognitive impairment no dementia**
Yingwei Qiu[1], Siwei Liu[1], Saima Hilal[2], Mohammad Kamran Ikram[3], Xin Xu[2], Boon Yeow Tan[4], Narayanaswamy Venketasubramanian[5], Christpher Li-Hsian Chen[3], Juan Zhou[1]
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1613 **Somatosensory cortical activation patterns by visuotactile stimulation: functional MRI study**
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1614 **Flavor pleasantness processing in the ventral emotion network**
Jelle Dalenberg[1], Liselore Weitkamp[1], Remco Renken[1], Luca Nanetti[1], Gert ter Horst[1]
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1615 **Spontaneous activity related to primary visual cortex during eyes-closed and eyes-open states**
Zheng Zhang[1], Delong Zhang[2,3], Junchao Li[1], Yuxuan Cai[1], Zhenni Gao[1], Yuting Lin[1], Siying Xie[1], Ruiwang Huang[1], Ming Liu[1]
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1616 **Resting State Functional Connectivity And Intelligence In Very Preterm Born Adults**
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1617 **Local and distant functional connectivity density in patients with disorder of consciousness**
Xiaoyan Wu[1], Qiuyou Xie[2], Miao Zhong[1], Qing Ma[2], Xiaojin Liu[1], Ronghao Yu[2], Huan Wang[1], Yuan He[1], Yanbin He[2], Ruiwang Huang[1]
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1618 **Association between functional network efficiency and vividness of visual mental imagery**
Yuting Lin[1], Delong Zhang[2,3], Mengxia Gao[1], Junchao Li[1], Bingqing Jiao[1], Yuxuan Cai[1], Zheng Zhang[1], Siying Xie[1], Ruiwang Huang[1], Ming Liu[1]
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1619 **Detecting time-varying functional connectivity states in patients with disorders of consciousness**
Xiaoyan Wu[1], Qiuyou Xie[2], Junchao Li[1], Qing Ma[2], Ling Weng[1], Ronghao Yu[2], Feng Deng[1], Yuan He[1], Yan Chen[2], Ruiwang Huang[1]
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1620 **Effects of Levodopa on the brain degree centrality in Parkinson's disease**
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1621 **Dynamics of Correlated Brain Activity Between Chess Players Revealed by MR Hyper-scanning**
Kevin Tsai[1,2], Pu-Yeh Wu[3], Ying-Hua Chu[3], Wen-Jui Kuo[2], Claire Hui-Chuan Chang[4], Jo-Fu Lotus Lin[3], Hsin-Ju Lee[2], Fa-Hsuan Lin[3]
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1622 **The new balance of within- vs. between-system connectivity after sleep deprivation**
Xinqi Zhou[1], Hong Yuan[1], Jing Yu[1], Xu Lei[1]
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1623 **The hub regions of resting-state network of creativity brain**
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1624 **Neural correlates underlying proactive and reactive inhibitory control in two oculomotor tasks**
Tobias Talanow[1], Anna Kasparbauer[1], Bernd Weber[2], Ulrich Ettinger[1]
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1625 **Percent amplitude of fluctuation: a simple measure for resting-state fMRI signal**
Xi-Ze Jia[1,2], Gong-Jun Ji[3], Wei Liao[1,2], Yating Lv[1,2], Jue Wang[1,2], Ze Wang[1,2], Han Zhang[1,2], Dong-Qiang Liu[1,2], Yu-Feng Zang[1,2]
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1627 **Functional connectivity of the centromedial-amygdala predicts its activation in response to fear**
Elisabeth Caparelli[1], Thomas Ross[1], Hong Gu[1], Xia Liang[1], Elliot Stein[1], Yihong Yang[1]
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1628 **Mapping of "Horizontal" Striatal Intrinsic Networks and their Extra-striatal "Vertical" Connectivity**
Mihai Avram[1], Lorenzo Pasquini[1], Josef Baeuml[1], Valentin Riedl[1], Christian Sorg[1]
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1629 **Region Based Event-Related Time-course Analysis for improved estimation of the haemodynamic response**
David Vaughan[1,2], Amir Omidvarnia[1], Chris Tailby[1,3], David Abbott[1], Graeme Jackson[1,2]
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1630 **The influence of language and default mode functional connectivity on handedness and family history**
Michihiko Koeda[1], Yuki Takahashi[2], Moe Kidoguchi[2], Tokuhiro Kawara[2], Hiroyuki Karibe[3], Yoshiro Okubo[1]
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1631 **Encoding of dynamic ripple mixtures in human auditory cortex using 7T fMRI**
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1632 **Neural Mechanism underlying Prediction of Different Binocular Disparities using fMRI**
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1633 **Evaluation of cerebral perfusion in transient ischemic attack: a resting-state fMRI study**
Yating Lv[1,2], Yu-Feng Zang[1,2], Xiujie Han[3], Yulin Song[3], Chengshu Zhou[3], Fuding Zhang[3], Lijuan Zhao[3], Dan Zhou[3], Cairong Zhang[3], Yu Han[4]
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1634 **Decreased Resting-State Interhemispheric Functional Connectivity in Amblyopia**
Peng Zhou[1,2], Jing Li[3], Jieqiong Wang[1,2], Junfang Xian[4], Likun Ai[3], Huiguang He[1,2]
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1635 **Functional segment of entorhinal cortex**
Junchao Li[1,2,3], Xiaojin Liu[1,2,3], Junjing Wang[1,2,3], Delong Zhang[4,5], Bishan Liang[6], Ming Liu[1,2,3], Ruiwang Huang[1,2,3]
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1636 **Embodied Morality: Neural Resonance for Pain Predicts Harm Aversion During Moral Judgments**
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1637 **Amygdala subdivisions associated with explicit and implicit fearful face recognition**
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1638 **Hemisphere-dependent Network Alterations in Major Depressive Disorder: A Combined DTI and FMRI Study**
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1639 **Neuronal/Metabolic Origins of Negative BOLD Within/Across Sensory Cortices: EEG-fMRI Investigation**
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1640 **Spatial specificity of the functional MRI blood oxygenation response relative to metabolic activity**
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1641 **Validation of inter-subject VasA calibration with calibrated BOLD parameter M**
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1642 **Correlations of picture-brightness with brain activation during encoding**
Leo Gschwind[1], David Coynel[1], Andreas Papassotiropoulos[1], Dominique de Quervain[1]
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1643 **Brain functional remodeling extends beyond sensorimotor network in peripheral nerve injury patients**
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1644 **Distinct emotional processing patterns in two depressive disorders: evidence from a meta-analysis**
Shuyu Han[1], Kun Wu[1], Hongke You[1], Junjing Wang[1], Ying Wang[2], Huiqing Hu[1], Linlin Gong[1], Meiqi Niu[1], Ningxuan Zhang[1], Xiaoqing Xu[3], An Yan[1], Ruiwang Huang[1]
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1645 **Cortical Reorganization after Motor Stroke: Differences between the Upper and Lower Limbs**
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1646 **Positive and negative BOLD and CBF responses across the early visual regions**
Rebecca Williams[1], Erin Mazerolle[1], M. Ethan MacDonald[1], Wen-Ming Luh[2], G. Bruce Pike[1]
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1647 **Neuronal Origin of the Negative BOLD response: a TMS-EEG-MRS Investigation**
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1648 **A Pilot fMRI and Interleaved TMS-fMRI Study of Mindfulness-Oriented Recovery Enhancement in Smokers**
Spencer Bell[1], Amanda Mathew[2], Christie Eichberg[1], Patrick McConnell[1], Logan Dowdle[1], Eric Garland[3], Colleen Hanlon[2], Brett Froeliger[1,4,2]
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1649 **Pain activations in patients with Dysmenorrhea – An fmri Study**
Christian Siedentopf[1], Bettina Böttcher[2], Ruth Steiger[1], Michael Verius[1], Sabrina Grabmer[1], Susanne Kurz[1], Anja Ischebeck[3], Julia Schmid[4], Sigrid Elsenbruch[4], Ludwig Wildt[5], Elke Gizewski[1]
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1650 **Investigating Intervention Specific Changes in the Functional Brain Connectome**
Tanveer Talukdar[1], John Capozzo[1], Chris Zwilling[1], Patrick Watson[1], Erick Paul[1], Charles Hillman[1], Arthur Kramer[1], Aron Barbey[1]
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1651 **Type 2 diabetes is associated with increased activation during n-back performance**
Helen Macpherson[1], Robin Daly[1], David White[2], Matthew Hughes[2]
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1652 **Temporal auto-correlation reveals stationarity in spontaneous BOLD within and across subjects at 7T**
Katherine Koenig[1], Wanyong Shin[2], Sehong Oh[1], Mark Lowe[3]
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1653 **Application of Mean-Shift Clustering based on temporal feature in the fMRI analysis**
Rui Zhang[1], Leo Ai[2], Jinhu Xiong[3], Xin Gao[1]
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1654 **Neural Activation during Eye Movements in Convergence Insufficiency Subjects versus Normal Controls**
Chirag Limbachia[1], Tamara Oechslin[2], Nicklaus Fogt[2], Marjean Kulp[2], Andrew Toole[2], Douglas Widmer[2], Nasser Kashou[3]
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1655 **Brian-peripheral Communication in Executive Control Network and Default-mode Network**
Min-Ling Lin[1], Chia-Wei Li[1], Ya-Chih Yu[1], Yi-Ning Tung[1], Tun Jao[2], Jyh-Horng Chen[1,3]
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1656 **The Effect of Task Performance on N-back fMRI among High School Athletes**
Xianglun Mao[1], Trey Shenk[1], Larry Leverenz[1], Thomas Talavage[1]
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1657 **Frequency-specific Alternations of Amplitude Low-frequency Fluctuation in Turner Syndrome**
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1658 **Brain activity is a power function of the cognition load: a meta-analysis on sleep deprivation**
Chao Xie[1], Jing Yu[1], Hong Yuan[1], Xu Lei[1]
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1659 **Optimization of CNR and detection of voxel-wise responses in fMRI of cortical columns**
Denis Chaimow[1,2], Kamil Ugurbil[2], Amir Shmuel[3,2]
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1660 **Drug-resistant Parkinson's disease vs essential tremor: probing tremor network by resting-state fMRI**
Constantin Tuleasca[1,2,3], Elena Najdenovska[4,2], Alessandra Griffa[3], Nadine Girard[5], Jerome Champoudry[6], Antoine Dorenlot[6], Romain Carron[6], Tatiana Witjas[7], Francois Vingerhoets[8,2], Jean-Philippe Thiran[3,4,2], Jean Regis[9,6], Meritxell Bach Cuadra[4,2], Dimitri Van De Ville[10,11], Marc Levivier[1,2]
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1661 **The "Brain Program" of the Programmer's Brain: Is it Language or Math that matters?**
Joao Castelhano[1,2], Isabel Duarte[1], Joao Duraes[3], Henrique Madeira[4], Miguel Castelo-Branco[5]
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1662 **Global-scale network analysis on the effects of different anaesthesia agents using mice rs-fMRI**
Tong Wu[1,2], Joanes Grandjean[3], Simone Bosshard[2], Markus Rudin[3], David Reutens[2], Tianzi Jiang[4,1,2]
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1663 **A comprehensive evaluation of short-TR multiband sequences for fMRI, on two scanner platforms**
Matthew Wall[1], Lysia Demetriou[1], Olivia Kowalczyk[2], Gabriella Tyson[2], Thomas Bello[3], Rexford Newbould[1]
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1664 **FMRI as a new fertility monitor? Influence of sex hormones on brain organization revealed by MVPA**
Peer Herholz[1], Verena Schuster[1], Stefan Frässle[1], Marc Coutanche[2], Andreas Jansen[1]
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1665 **Neural Correlates in Adolescent Anorectic Patients**
Ruth Steiger[1,2], Manuela Gander[3], Christian Siedentopf[4], Martin Fuchs[3], Ender Seba[3], Elke Gizewski[1,2], Kathrin Sevecke[3]
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1666 **Intermittent versus continuous neurofeedback in real-time fMRI for a clinical setup**
Kirsten Emmert[1], Rotem Kopel[2], Yury Koush[3], Dimitri Van De Ville[2], Sven Haller[4]
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1667 **BDNF Val66Met polymorphism is associated with an increased functional connectivity in fibromyalgia**
Juan Gea[1], Ignacio Cifre[2], Mercedes Martínez-Jauand[3], Francisca Rosselló[1], Pedro Montoya[1]
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1668 **Learning Chinese influences brain activities for speech processing in native English speakers**
Yi Wang[1], Yun Liu[1], Jianqiao Ge[1], Jia-Hong Gao[1]
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1669 **Real-time fMRI neurofeedback: How is it mediated and what determines successful regulation?**
Kirsten Emmert[1], Rotem Kopel[2], Markus Breimhorst[3], Dimitri Van De Ville[2], Sven Haller[4]
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1670 **Whole-brain mapping of state-dependent cortical responses to electrical stimulation**
Andre Marreiros[1], Oxana Eschenko[1], Nikos Logothetis[2]
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1671 **The Cortical Response to "Phantom Taste"**
Sally Eldeghaidy[1], Martha Skinner[2], Rebecca Ford[2], Joanne Hort[2], Susan Francis[1]
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1672 **Neural Mechanisms Underlying Time Perception and Reward Prospect in Major Depressive Disorder**
Nihal Apaydin[1,2], Emre Kale[3,4], Ipek Çelikag[5,2], Sertac Ustun[5,2], Bora Baskak[6,2], Halise Devrimci Ozguven[6,2], Metehan Cicek[5,2]
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1673 **The human habenula is responsive to changes in luminance in high-resolution 7T fMRI**
Christian Kaiser[1], Christian Kaufmann[1], Tobias Leutritz[2], Oliver Speck[2], Markus Ullsperger[1,3,4]
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1674* **Functional interhemispheric connectivity in fetuses with corpus callosum agenesis**
Andras Jakab[1], Veronika Schöpf[2], Gregor Kasprian[3], Ernst Schwartz[3], Daniela Prayer[3], Georg Langs[3]
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1675 **Whole-brain fMRI activity at a high temporal resolution**
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1676 **Investigation of localized resting-state signatures of instantaneous focal background EEG activity**
Dengfeng Huang[1], Burak Akin[1], Jürgen Hennig[1], Pierre Levan[1]
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1677 **Pathological Hemodynamics in Epilepsy Imaged With Multi-Band Multi-Echo BOLD Functional MRI at 7T**
Prantik Kundu[1], Rebecca Feldman[2], Bradley Delman[1], Madeline Fields[1], Lara Marcuse[1], Priti Balchandani[1]
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1678 **Differential brain activations in adult ADHD subtypes: a counting Stroop functional MRI study**
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1679 **Co-activation Patterns in patients with disorders of consciousness**
Carol Di Perri[1], Enrico Amico[1], Charlotte Martial[1], Lizette Heine[1], Daniele Marinazzo[2], Steven Laureys[1]
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1680 **Long-term brain effects of N-back training: an fMRI study**
Anna Miró Padilla[1], Elisenda Bueichekú[2], Noelia Ventura-Campos[3], María Jesús Flores Compañ[2], Cesar Avila[4]
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1681 **Position Information in Human Visual Cortex**
Zvi Roth[1], Ehud Zohary[1]
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1682 **Predicting Vulnerability to Sleep Deprivation by Integrating an Accumulator Model with fMRI**
Amiya Patanaik[1], Jia-Hou Poh[1], Ju Lynn Ong[1], Kian Foong Wong[1], Vinod Shanmugam[1], Michael Chee[1]
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1683 **Effect of facial emotion expression on face processing:An fMRI study using a masked priming paradigm**
Zoellner Rebecca[1,2], Andreas Jansen[2], Bruno Dietsche[1], Miriam Bauer[2], Thomas Suslow[3], Carsten Konrad[4], Tilo Kircher[1], Axel Krug[1]
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1684 **Atypical emotion regulation in anorexia nervosa: fMRI study of natural responses to emotional faces**
Jenni Leppanen[1], Valentina Cardi[1], Owen O'Daly[2], Andy Simmons[1], Kate Tchanturia[1], Janet Treasure[1]
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1685 **Effects of long-term aerobic exercise on local and global restingstate activity**
Coraline Metzger[1,2,3], Andreas Becke[4], Katja Neumann[2], Arturo Cardenas-Blanco[5], David Berron[1], Claus Tempelmann[6], Thomas Wolbers[2], Emrah Düzel[4,2]
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1686 **The amygdala during memory formation: Effects of emotion dysregulation and depressive symptoms**
Megha Jagannathan[1], Karthik Ramaseshan[1], Paul Soloff[2], Vaibhav Diwadkar[1]
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1687 **Do words stink? Causal involvement of the insula in processing disgust in reading**
Johannes Ziegler[1], Marie Montant[1], Benny Briesemeister[2], Tila Brink[2], Bruno Wicker[3], Mireille Bonnard[4], Arthur Jacobs[2], Mario Braun[5]
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1688 **Optimal resolution for searchlight classification of BOLD fMRI data?**
Hendrik Mandelkow[1], Jacco de Zwart[1], Catie Chang[1], Jeff Duyn[1]
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1689 **Pattern search and probing analysis parameters for resting state fMRI of patients with brain lesions**
Zoltán Klimaj[1], Gyula Gyebnár[1], László Entz[2], Ádám György Szabó[1], Gábor Rudas[1], Lajos Kozák[1]
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1690 **Reliability in adolescent longitudinal fMRI using an emotional, a reward, and a cognitive task**
Nora Vetter[1,2], Julius Steding[1], Stephan Ripke[1], Eva Mennigen[3,1], Sarah Rodehacke[1], Michael Smolka[1]
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1691 **Fat and carbohydrate interact to potentiate reinforcement independently of calories**
Alexandra DiFeliceantonio[1,2], Geraldine Coppin[3,4], Lionel Rigoux[1], Sharmili Edwin Thanarajah[1,5], Alain Dagher[6], Jens Brüning[1], Marc Tittgemeyer[1], Dana Small[7,8]
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1692 **Investigating Functional Organization of the Auditory Pathway with High-Resolution fMRI**
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1693 **Physiological Signals Modulate Dynamic Functional Connectivity in Resting-State fMRI**
Foivia Nikolaou[1], Christina Orphanidou[1], Pavlos Papakyriakou[2], Kevin Murphy[3], Richard Wise[3], Georgios Mitsis[4]
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1694 **Self-regulation of the dopaminergic reward system via real time fMRI neurofeedback in cocaine users**
Matthias Kirschner[1], Philipp Stämpfli[2], Elisabeth Jehli[2], Martina Hodel[2], Etna Engeli[1], Lea Hulka[3], Frank Scharnowski[4], James Sulzer[5], Erich Seifritz[2], Boris Quednow[6], Marcus Herdener[3]
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1695 **Unique intrinsic functional connectivity of the BNST vs. Amygdala CeA at ultra-high field imaging**
Monique Ernst[1], Adam Gorka[2], Salvatore Torrisi[2], Christian Grillon[2]
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1696 **Quality Assurance for functional Magnetic Resonance Imaging**
Christoph Vogelbacher[1], Miriam H. A. Bauer[1,2], Jens Sommer[3], Andreas Jansen[1,3]
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1697 **Towards an optimal analysis of laminar-resolved fMRI**
Martin Havlicek[1], Kamil Uludag[1]
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1698 **Effects of Gardening on the Brain: a Preliminary fMRI Study**
Song Lai[1], Jingfeng Ma[1], Christine Perman[1], Natalie Ebner[1], Craig Tisher[1], Sara Jo Nixon[1], Charlie Guy[1]
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1699 **Tracking systemic low frequency oscillation of fMRI signals from arteries to veins**
Yunjie Tong[1], Lia Hocke[2], Kimberly Lindsey[3], Sinem Erdogan[3], Gordana Vitaliano[3], Blaise Frederick[4]
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1700 **Brain activation during a cognitive control task in youth with high externalizing behavior**
Katherine Karlsgodt[1], Angelica Bato[2], Toshikazu Ikuta[3], Bart Peters[4], Pamela DeRosse[2], Philip Szeszko[5], Anil Malhotra[4]
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1701 **Correlations of Hippocampal Activation During Successful Face-Name Associative Memory Test**
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1702 **Brain connectivity underlying inter-sessional pain fluctuations and placebo/nocebo effects**
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1703 **Functional connectivity of the amygdala in children related to outcomes associated with trauma**
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1704 **A within-subject comparison of Siemens Prisma and TimTrio scanners**
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1705 **Comparison of different methods for brain decoding from fMRI beta**
Juan E. Arco[1], Carlos González[1], Javier Ramírez[1], María Ruz[1]
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1706 **Estimation of single subject reliability of fMRI task activity**
Johan Jansma[1], Geert-Jan Rutten[1]
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1707 **Stress effects on the brain of female leaders during an attention task**
Bruna Portes[1], Joana Balardin[2], Shirley Lacerda[1], Fernanda Pires[1], Patricia Tobo[3], Carla Barrichello[4], Plinio Oliveira[1], Liana Sanches-Rocha[5], Jeffrey Peterson[6], Edson Amaro Jr.[1], Elisa Kozasa[1]
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1708 **Neural mechanisms of conflict in social and non-social contexts**
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1709 **Sustained and transient control mechanisms during the implementation of novel instructions**
Ana F. Palenciano[1], Juan E. Arco[1], Carlos González[1], Maria Ruz[1]
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1710 **FMRI study of Memantine and Donepezil effect on cerebral activation in WM task and sleep deprivation**
Abdelkader Boulanouar[1], Jean-Philippe Ranjeva[2], Renaud Lopes[3], J. Micaleff[4], D. Delplanque[5], Deborah Meligne[6], Régis Bordet[3], Jorge Guterriez[6], David Bartrés-Faz[7], Pierre Payoux[8]
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1711 **Intrinsic Areal Organization in the Individual Brain: Unique and Reliable**
Ting Xu[1,2,3], Alexander Opitz[4,2], Cameron Craddock[2,3], Xi-Nian Zuo[1], Michael Milham[2,3]
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1712 **Prayers diminish depression symptoms: increased prefrontal cortex activity during traumatic memories**
Philip Baldwin[1], Kenia Velasquez[1], Ramiro Salas[1], Peter Boelens[2]
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1713 **RESTplus: A Toolkit for Functional Magnetic Resonance Imaging Data Processing**
Xi-Ze Jia[1], Jue Wang[1], Wei Liao[2], Han Zhang[1], Dong-Qiang Liu[1], Gong-Jun Ji[3], Yating Lv[1], Ze Wang[1], Chao-Gan Yan[4], Xiaowei Song[5,6,7], Yu-Feng Zang[1]
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1714 **Effects of GBM on motor functional signal and connectivity strength: studied by fMRI and DSC**
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1715 **Effectiveness of passive video-watching tasks for clinical fMRI mapping of eloquent language areas**
James Voyvodic[1], Moeko Nagatsuka[1]
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1716 **Characterization of functional diversity of human brain based on intrinsic connectivity networks**
Congying Chu[1], Lingzhong Fan[1], Simon Eickhoff[2], Tianzi Jiang[1]
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1717 **Region of Interests in Local EPI Space for Real-time fMRI**
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1718 **Intrinsic cerebral functional abnormalities in Violent Offenders with Schizophrenia**
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1719 **Comparison of multi-array coils and simultaneous multi-slice/multiband protocols on a Siemens Prisma**
Stephanie McMains[1], Ross Mair[1]
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1720 **Short-term radiological experience alters intern radiologists' baseline brain activity**
Chenwang Jin[1], Minghao Dong[2]
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1721 **Assessment of mind-wandering frequency using experience sampling during fMRI**
Joseph Keller[1], Jennifer Minas[1], Anne Park[2], Adam Horowitz[2], John Gabrieli[1]
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1722 **Cognitive flexibility is associated with BOLD variability and mean BOLD signal during imagination**
Reece Roberts[1], Rachael Sumner[1], Kristina Wiebels[1], Valerie van Mulukom[2], Cheryl Grady[3], Daniel Schacter[4], Donna Rose Addis[1,5]
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1723 **Spatial specificity of BOLD and CBV signals in pial vessels: implications for high-resolution fMRI**
ZeShan Yao[1], Martin Villeneuve[2], Alexandre Hutton[2], Pascal Kropf[2], Alexander Peplowski[2], Amir Shmuel[3]
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1724 **Time-perception training modulates fMRI activity in the cortical basal ganglia circuit**
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1725 **The functional brain architecture of own- and other-race face processing in children and adults**
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1726 **Human Emotion Decoding using Eye Tracking and fMRI**
Sun Mi Park[1], Dae-Shik Kim[1]
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1727 **Functional and structural neurobiological impact of mindfulness meditation: An ALE meta-analysis**
Karina Falcone[1], Ranjita Poudel[1], Angie Laird[1], Matthew Sutherland[1]
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1728* **Improved tSNR of high-resolution fMRI with surface-based cortical ribbon smoothing**
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1729 **Fusion of Multiple Functional Connectivity Networks for Autism Spectrum Disorder Diagnosis**
Huifang Huang[1,2], Xingdan Liu[1], Chong-Yaw Wee[2,3], Yan Jin[2], Dinggang Shen[2]
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1731 **Neural correlates of auditory artificial grammar learning**
Dariya Goranskaya[1], Jens Kreitewolf[1], Jutta Mueller[2], Angela Friederici[3], Gesa Hartwigsen[4]
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IMAGING METHODS

EEG

1730 **Exhaustive modeling of neural responses to continuous, naturalistic stimuli in language processing**
Jona Sassenhagen[1], Christian Fiebach[1]
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1732 **Decoding differential brain responses to lexical association strength and conceptual implausibility**
Jona Sassenhagen[1], Alexander Dröge[2], Matthias Schlesewsky[3], Ina Bornkessel-Schlesewsky[3]
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1733 **Depression-related Differences in Oscillatory Dynamics of Conscious and Unconscious Perception**
Andrey Bocharov[1,2], Gennady Knyazev[1], Alexander Savostyanov[1,2], Jaroslav Slobodskoj-Plusnin[3]
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1734 **The effects of the EEG reference on scalp connectivity estimation**
Federico Chella[1], Vittorio Pizzella[1], Filippo Zappasodi[1], Laura Marzetti[2]
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1735 **Upregulation of resting-state cortico-cerebellar functional connectivity after motor training**
Saeid Mehrkanoon[1], Tjeerd Boonstra[2], Michael Breakspear[3], Jeffery Summers[4]
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1736 **Reproducibility of EEG Power Spectral Density**
David Soltysik[1], Eugene Civillico[1]
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1737 **Functional connectivity of the Cingulo-opercular Network during the Subjective Experience of Flow**
Elena Patricia Nunez Castellar[1], Frederik Van de Steen[1], Jan-Niklas Antons[2], Jan Van Looy[3], Daniele Marinazzo[1]
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1738 **Theta phase synchronization for Communication between Medial Frontal Cortex and Parietal Cortex**
Peng Liu[1,2], Shudan Gao[1], Jialu Guo[3], Jinbo Sun[1], Wei Qin[1]
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1739 **Information flow in Human EEG network Varied with Memory Load during Visual Working Memory Task**
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1740 **Quantifying nonlinear connectivity in the human stretch reflex**
Yuan Yang[1], Alfred Schouten[1], Jun Yao[2], Teodoro Solis-Escalante[1], Julius Dewald[2], Frans van der Helm[1]
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1741 **Repetition suppression to faces in Fragile X patients and matched controls: evidence from ERPs**
Simon Rigoulot[1], Inga Knoth[1], Marc-Philippe Lafontaine[1], Phetsamone Vannasing[2], Jacques Michaud[2], Sarah Lippé[1]
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1742 **Effect of Modality of Auditory Stimulus on Stimulus-Preceding Negativity**
Yoshimi Ohgami[1], Yasunori Kotani[1], Jun-ichiro Arai[2], Shigeru Kiryu[3], Yusuke Inoue[4]
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1743 **An ERP Study on the Time Course of Guilt and Shame Processing**
Ruida Zhu[1], Zhenhua Xu[2], Xiaoqin Mai[2], Chao Liu[1]
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1744 **The Impact of Social Comparison on Outcome Evaluation: Evidence from an ERP Study**
Zhenhua Xu[1], Chao Liu[2], Xuejiao Zhang[1], Xiaoqin Mai[1]
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1745 **Brightness of bathroom and bathtub size affects activity of the prefrontal cortex during bathing**
Akitake Kanno[1], Ryoichi Yokoyama[1], Takayuki Nozawa[2], Hiroyoshi Mathushita[3], Tomohisa Kato[3], Minoru Sato[3], Ryuta Kawashima[4]
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1746 **Neural Mechanisms of Audiovisual Cue Weighting**
Stephanie Boyle[1], Stephanie Kayser[1], Christoph Kayser[1]
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1747* **Preceding working memory task may influence rational decision making: an EEG source imaging study**
Jeong-Youn Kim[1], Kun-Il Kim[1], Miseon Shim[1], Chang-Hwan Im[1]
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1748 **Aging Effect of Perceptual Processing on Face Encoding: An Event-related Potential Study**
Sam Chi Chung Chan[1], Tom Lok Hang Lam[1], Irene Sha Foon Eliza Hui[2]
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1749 **A Novel Soft Dry Electrode with Advanced Ag/AgCl Composite Coating for High-Quality EEG Recording**
Byunggik Kim[1], Jongmin Jang[1], Kisun Kim[1]
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1750 **Change of rhythmic brain activity during rest in mild cognitive impairment patients with diabetes**
Yue Gu[1], Yang Bai[1], Shimin Yin[2], Xiaoli Li[3]
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1751 **An EEG Study on Human Trust in Machine**
Suh-Yeon Dong[1], Bo-Kyeong Kim[1], Kyeongho Lee[1], Soo-Young Lee[1]
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1752 **Rapid gaze processing in the human fusiform gyrus: An ERP study**
Cristina Berchio[1], Tonia Rihs[1], Camille Piguet[1,2], Alexandre Dayer[1,2], Jean-Michel Aubry[2], Christoph Michel[1]
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1753 **Intracranial EEG Signatures of the Sound-Induced Double Flash Illusion**
Erin Yeagle[1], Pierre Mégevand[2], Manuel Mercier[3], Matthew Kaufman[4], Lital Chartarifsky[4], Sashank Pisupati[4], Anne Churchland[4], Ashesh Mehta[1]
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1754 **Alpha band event-related spectral perturbation is coupled with visual feedback in gait training**
Wenkang An[1], Kin-Hung Ting[1], Ivan P.H. Au[1], Janet H. Zhang[1], Zoe Y.S. Chan[1], Irene S. Davis[2], Roy T.H. Cheung[1]
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1755 **Is Handedness Important for 40Hz Auditory Steady-State Responses?**
Inga Griskova-Bulanova[1], Aleksandras Voicikas[1], Sigita Melynyte[1], Osvaldas Ruksenas[1], Tonia Rihs[2], Vaida Genyte[1]
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1756 **Dynamical Hurst analysis of EEG signal discriminates between PTSD and healthy controls**
Bahareh Rahmani[1], Chung Ki Wong[2], Payam Norouzzadeh[3], Jerzy Bodurka[2], Brett McKinney[1]
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1757 **Covert 'yes' and 'no' Intentions are Differentiated in Alpha-band Neural Synchronies**
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1758 **Correlation between loudness dependence of auditory evoked potentials and response inhibition**
Sungkean Kim[1], Do-Won Kim[2], Seung-Hwan Lee[3], Chang-Hwan Im[1]
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1759 **Hybrid EEG – eye tracker: automatic detection and reduction of ocular artifacts from EEG signal**
Malik Muhammad Naeem Mannan[1], Shinjung Kim[1], Myung Yung Jeong[1], Muhammad Ahmad Kamran[1], Seung-Boo Jung[2]
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1760 **Error monitoring during gait training modulates theta band oscillation: an EEG study**
Winko W. An[1], Kin-Hung Ting[1], Ivan P.H. Au[1], Janet H. Zhang[1], Zoe Y.S. Chan[1], Irene S. Davis[2], Roy T.H. Cheung[1]
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1761 **Bridging the 'gap' between Recognition Potential and N170**
Canhuang Luo[1], Carl Gaspar[1], Wei Chen[1], Ye Zhang[1]
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1762 **Abnormal cortical source activities in patients with restless legs syndrome during a oddball task**
Kwang Su Cha[1], Jeong Woo Choi[1], Min Hee Jeong[1], Byeung Uk Lee[2], Jun-Sang Sunwoo[2], Ki-Young Jeong[3], Kyung Hwan Kim[1]
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1763 **Combined EEG-fMRI reveals neural timing deficits in ADHD but not in Borderline Personality Disorder**
Lena Schmüser[1], Alexandra Sebastian[1], Bernd Feige[2], Oliver Tuescher[1]
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1764 **Seizure onset zone localization from ictal high-density EEG in refractory focal epilepsy**
Willeke Staljanssens[1], Gregor Strobbe[2], Roel Van Holen[2], Gwenaël Birot[3], Margitta Seeck[3], Stefaan Vandenberghe[2], Serge Vulliemoz[4], Pieter van Mierlo[2]
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1765 **Neurophysiological markers of conscious detection of (partial) errors and their correction**
Stefania Ficarella[1], Nicolas Rochet[1], Boris Burle[1]
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1766 **Suppression of task and region specific alpha rhythms in human parietal cortex**
Paolo Capotosto[1], Antonello Baldassarre[1], Carlo Sestieri[1], Sara Spadone[1], Gian Luca Romani[1], Maurizio Corbetta[2]
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1767 **Neural correlates of the Feeling of Presence**
Fosco Bernasconi[1], Marco Solcà[1], Giullio Rognini[1], Andrea Serino[1], Olaf Blanke[2]
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1768 **Prenatal maternal anxiety and auditory event-related potentials in newborn infants**
Jetro Tuulari[1], Maria Keskinen[1], Paula Virtala[2], Minna Huotilainen[2], Linnea Karlsson[3,4], Noora Scheinin[4,5], Hasse Karlsson[5,4]
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1769 **Top-down influences on perceptual networks: EEG-based Granger causality and fMRI results**
David Pascucci[1], Alexis Hervais-Adelman[2], Christoph Michel[3], Gijs Plomp[1]
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1770 **Electrocortical correlates of training face recognition in older adults**
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1771* **Timing of prediction error signaling in reward learning: A computational trial-by-trial EEG analysis**
Sara Tomiello[1], Dario Schöbi[1], Lilian Aline Weber[1], Katharina Wellstein[1], Gabor Stefanics[1], Helene Haker[1], Sandra Iglesias[1], Klaas Enno Stephan[1,2,3]
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1772 **A dynamic causal modeling view on the pathopsysiology of epilepsy**
Margarita Papadopoulou[1], Gerald Cooray[2], Karl Friston[3], Daniele Marinazzo[4]
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1773 **Cortical brain dynamics in response to balance perturbation - a pilot study**
Didier Allexandre[1], Armand Hoxha[1], Patrick Dwyer[1,2], Guang Yue[1]
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1774 **Effects of Quranic and broadband therapy among tinnitus on N100 and p300 evoked residual potential**
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1775 **An ERP study on mental rotation of 3D objects in men and women**
Ramune Griksiene[1], Rasa Monciunskaite[1], Aurina Arnatkeviciute[1], Thomas Koenig[2], Osvaldas Ruksenas[1]
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1776 **EEG-Neurofeedback allows modulating the auditory evoked N100 potential in healthy subjects**
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1777 **Thought Chart: Charting the Wandering Mind**
Mengqi Xing[1], Olusola Ajilore[1], Annmarie MacNamara[1], Ouri Wolfson[1], Reza Tadayonnejad[1], Christopher Abbott[2], K. Luan Phan[1,3], Heide Klumpp[1], Alex Leow[1]
[1]University of Illinois at Chicago, Chicago, IL, [2]University of New Mexico, Albuquerque, NM, [3]Jesse Brown VA Medical Center, Chicago, IL

1778 **The NY Head - A highly detailed volume conductor model for EEG source localization and tES targeting**
Stefan Haufe[1], Yu Huang[2], Lucas Parra[2]
[1]Technische Universität Berlin, Berlin, Germany, [2]City College of New York, New York, NY

1779 **Prediction the preparation of steering in a driving car using electroencephalography**
Muthuraman Muthuraman[1], Pau Caldero[2], Xiong Longfei[2], Sven Jaschke[2], Sergiu Groppa[1], Günther Deuschl[2], Gerhard Schmidt[3]
[1]Department of Neurology, Johannes Gutenberg University, Mainz, Germany, [2]Department of Neurology, Christian Albrechts University, Kiel, Germany, [3]Digital signal processing and system theory, Christian Albrechts University, Kiel, Germany

1780 **Subsegregation within the Auditory 'What' Stream**
Chrysa Retsa[1], Pawel Matusz[2], Jan Schnupp[3], Micah Murray[4]
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1781 **Functional and effective connectivity analyses on parallel high gamma synchronization during isometr**
Muthuraman Muthuraman[1], Gertrúd Tamás[2], Anwar AR[3], Groppa Sergiu[1], Raethjen J[3], Günther Deuschl[3]
[1]Department of Neurology, Johannes Gutenberg University, Mainz, Germany, [2]Department of Neurology, Semmelweis University, Budapest, Hungary, [3]Department of Neurology, Christian Albrechts University, Kiel, Germany

1782 **Evaluation of techniques for EEG artefact removal due to subtle movements during fMRI scanning**
Kees Hermans[1,2], Jan de Munck[2], Rudolf Verdaasdonk[2], Paul Boon[1], Gunther Krausz[3], Robert Prueckl[3], Pauly Ossenblok[1]
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1783 **Towards an electrophysiological indicator of contextual orientation for dementia and brain injury**
Sujoy Ghosh Hajra[1], Careesa Liu[1], Teresa Cheung[2], Shaun Fickling[1], Xiaowei Song[3], Ryan D'Arcy[1]
[1]Simon Fraser University, Surrey, BC, [2]Simon Fraser University, Burnaby, BC, [3]Surrey Memorial Hospital, Fraser Health Authority, Surrey, BC

1784 **Effect of number of EEG electrodes on the performance of multivariate pattern analysis**
Hamidreza Jamalabadi[1,2], Harjot Singh[1,3], Sarah Alizadeh[1,2], Monika Schönauer[1,2], Steffen Gais[1,2]
[1]University of Tübingen, Tübingen, Germany, [2]Ludwig-Maximilians-Universität, München, Germany, [3]Indian Institute of Technology Kharagpur, Kharagpur, India

1785 **Frequency-dependent Modulation to Endogenous EEG by rTMS treatment in Mal de Debarquement Syndrome**
Guofa Shou[1], Han Yuan[2], Diamond Urbano[3], Yoon-Hee Cha[3], Lei Ding[1,2]
[1]School of Electrical and Computer Engineering, University of Oklahoma, Norman, OK, [2]Stephenson School of Biomedical Engineering, University of Oklahoma, Norman, OK, [3]Laureate Institute of Brain Research, Tulsa, OK

1786 **MyFractal: An EEGLab plugin for the fractal analysis of electroencephalography data**
Rami Saab[1], Saurabh Shaw[2], Louis Schmidt[3], Michael Noseworthy[1]
[1]Electrical and Computer Engineering, McMaster University, Hamilton, Ontario, [2]McMaster School of Biomedical Engineering, McMaster University, Hamilton, Ontario, [3]Department of Psychology, Neuroscience & Behaviour, McMaster University, Hamilton, Ontario

1787 **Comparison of ERP and fMRI exploration of concreteness effects**
Chaleece Sandberg[1], Haoyun Zhang[1]
[1]Penn State University, State College, PA

1788 **Scale-free brain dynamics: Insights from simultaneously recorded scalp-level and intracranial EEG**
Younes Zerouali[1], Jean-Marc Lina[2], Tarek Lajnef[3], Etienne Combrisson[4], Raphael Vallat[5], Perrine Ruby[5], Jean-Philippe Lachaux[6], Philippe Kahane[7], Dang Nguyen[8], Karim Jerbi[9]
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1789 **Real-Time Unsupervised Artifact Removal Algorithm Using Wearable Dry EEG System**
Che-Lun Chang[1], Chih-Sheng Huang[1], Shao-Wei Lu[2], Chin-Teng Lin[1]
[1]Brain Research Center at National Chiao Tung University, Hsinchu, Taiwan, [2]Brain Rhythm Inc, Hsinchu, Taiwan

1790 **EEG Patterns Related to Basketball Shooting Performance in High Pressure environment**
Li-Wei Ko[1], Yang Chang[2], Chiang-Chung Chen[3], Wei-Gang Liang[4]
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1791 **Assessing the functional connectome in the preterm brain**
Azeez Adebimpe[1], Ardalan Aarabi[1], Laura Routier[2], Mahdi Mahmoudzadeh[2], Guy Kongolo[3], Sabrina Goudjil[3], Fabrice Wallois[1,2,3]
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1792 **Sleep Deprivation Affects Brain Global Cortical Responsiveness**
Giulia Gaggioni[1], Sarah Chellappa[1], Julien Ly[1], Dorothée Coppieters[1], Simone Sarasso[2], Mario Rosanova[2], Simon Archer[3], Pierre Maquet[1], Derk-Jan Dijk[3], Marcello Massimini[4], Adenauer Casali[5], Gilles Vandewalle[1], Christophe Phillips[1]
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1793 **Intracerebral event-related responses to empathy-eliciting stimuli within the cingulate cortex**
Jakub Chromec[1], Jan Chladek[2], Robert Roman[3], Claus Lamm[4], Milan Brazdil[3]
[1]Masaryk University, BRNO, Czech Republic, [2]ISI ASCR, Brno, Czech Republic, [3]CEITEC MU, Brno, Czech Republic, [4]University of Vienna, Vienna, Austria

1794 **Localizing EEG resting-state activity based on simulated data of fMRI-informed network patterns**
Anna Custo[1,2], Dimitri Van De Ville[3,4,5], Miralena Tomescu[2], Christoph Michel[2,1,6]
[1]Center for Biomedical Imaging, University of Lausanne and Geneva, Geneva, Switzerland, [2]Department of Fundamental Neuroscience, University of Geneva, Geneva, Switzerland, [3]Institute of Bioengineering, Swiss Federal Institute of Technology, Lausanne, Switzerland, [4]Department of Radiology and Medical Informatics, University of Geneva, Geneva, Switzerland, [5]Center for Biomedical Imaging, University of Lausanne and Geneva, Lausanne, Switzerland, [6]Department of Neurology, Geneva University Hospital, Geneva, Switzerland

1795 **Assessing Residual Cognitive Processing in Critically Ill Patients with Disorders of Consciousness**
Adianes Herrera Díaz[1], Valia Rodriguez[1], Adonisbel Valero[1]
[1]Cuban Neuroscience Center, Havana, Cuba

IMAGING METHODS

Imaging Methods Other

1796 **Analysis of the Uncertainty in T1 Mapping for In-Vivo MR Neuroimaging**
Yoojin Lee[1,2], Martina Callaghan[3], Zoltan Nagy[2]
[1]ETH Zürich, Zürich, Switzerland, [2]University of Zürich, Zürich, Switzerland, [3]University College London, London, United Kingdom

1797 **Functional Sensitivity of Dual-Echo ASL in Localizing Active and Imagery Hand Movements**
Silvia Francesca Storti[1], Ilaria Boscolo Galazzo[2,3], Francesca Pizzini[2], Gloria Menegaz[1]
[1]Department of Computer Science, University of Verona, Verona, Italy, [2]Department of Neuroradiology, University Hospital Verona, Verona, Italy, [3]Institute of Nuclear Medicine, University College London, London, United Kingdom

1798 **In vivo myelin mapping using 3D ultrashort echo time cones (3D UTE Cones) sequences**
Shujuan Fan[1], Yajun Ma[1], Michael Carl[2], Graeme Bydder[1], Jiang Du[1]
[1]University of California, San Diego, San Diego, CA, [2]GE Healthcare, San Diego, CA

1799 **Anatomical location of the STT at the subcortical white matter in the human brain: a DTI study**
Jeong Pyo Seo[1], Su Min Son[1], Sung Ho Jang[2]
[1]College of Medicine, Yeungnam University, Daegu, Korea, Republic of, [2]College of Medicine, Yeungnam University, Deagu, Korea, Republic of

1800 **Anatomical fidelity in compressed sensing accelerated structural 3D-T1-TFE imaging is maintained**
Liesbeth Geerts[1], Marco Nijenhuis[1], Elwin Weerdt, de[1], Fabian Wenzel[2]
[1]Philips Healthcare, Best, Netherlands, [2]Philips Research, Hamburg, Germany

1801* **Looping Star: A new multi-gradient-echo, self-refocusing zero TE imaging technique**
Ana Beatriz Solana[1], Anne Menini[1], Nicolas Hehn[2,1], Florian Wiesinger[1]
[1]GE Global Research, Garching bei Muenchen, Germany, [2]Technical University Muenchen, Garching bei Meunchen, Germany

IMAGING METHODS

Imaging of CLARITY

1802* **Fiber orientation measurement using diffusion MRI and CLARITY on the same human brain tissue**
Christoph Leuze[1], Maged Goubran[1], Markus Aswendt[1], Qiyuan Tian[1], Brian Hsueh[1], Michael Zeineh[1], Karl Deisseroth[1], Jennifer McNab[1]
[1]Stanford University, Stanford, CA

IMAGING METHODS

Multi-Modal Imaging

1803* **Effective Connectivity Measured with Layer-Dependent Resting-State Blood Volume fMRI in Humans**
Laurentius Huber[1], Daniel Handwerker[2], Javier Gonzalez Castillo[1], David Jangraw[1], Dimo Ivanov[3], Benedikt Poser[3], Jozien Goense[4], Peter Bandettini[1]
[1]National Institute of Mental Health, Bethesda, United States, [2]NIMH, Bethesda, MD, [3]Maastricht University, Maastricht, Netherlands, [4]University of Glasgow, Glasgow, United Kingdom

1804* **Caveats of miscalibration of myelin metrics for g-ratio imaging**
Jennifer Campbell[1], Ilana Leppert[1], Mathieu Boudreau[1], Sridar Narayanan[1], Julien Cohen-Adad[2], G. Bruce Pike[3], Nikola Stikov[2]
[1]McGill University, Montreal, Quebec, [2]Polytechnique Montreal, Montreal, Quebec, [3]University of Calgary, Calgary, Alberta

1805 **MultiXplore: Multimodal Exploration Platform for Collocated Functional and Structural Connectivity**
Saeed Mahdizadeh Bakhshmand[1], Sandrine de Ribaupierre[1], Roy Eagleson[1]
[1]Western university, London, Canada

1806 **Multi-modal imaging of neural correlates of motor speed performance in the Trail Making Test**
Julia Ann Camilleri[1,2], Andrew Reid[1], Veronika Müller[1,2], Christian Grefkes[3], Katrin Amunts[1], Simon Eickhoff[2,1]
[1]Institute of Neuroscience and Medicine (INM-1), Jülich, Germany, [2]Institute of Clinical Neuroscience and Medical Psychology, Duesseldorf, Germany, [3]University of Cologne, Department of Neurology, Cologne, Germany

1807 **The multimodal brain: towards a unifying framework to combine EEG, fMRI and dMRI connectivity**
Jonathan Wirsich[1], Pierre Besson[1], Elisabeth Soulier[1], Sylviane Confort-Gouny[1], Christian-G. Bénar[2], Jean-Philippe Ranjeva[3], Guye Maxime[3]
[1]Aix-Marseille Université, CNRS, CRMBM UMR 7339, Marseille, France, [2]INSERM, Aix-Marseille Université, Marseille, France, [3]Aix-Marseille Université, CNRS, CRMBM UMR 7339, Marsielle, France

1808 **Mapping of the most correlated functional and anatomical changes in Alzheimer's disease**
Ali-Reza Mohammadi-Nejad[1], Gholam-Ali Hossein-Zadeh[1], Hamid Soltanian-Zadeh[2]
[1]University of Tehran, Tehran, Iran, Islamic Republic of, [2]Henry Ford Health System, Detroit, MI

1809 **Higher Hippocampal Choline Level Associated with Altered Functional Connectivity in Depressive Women**
Yingying Tang[1,2], Xiaoliu Zhang[3], Jianhua Sheng[2], Jianye Zhang[2], Yajing Zhu[3], Junjie Wang[1], Tianhong Zhang[2,1], Shanbao Tong[3,4], Yao Li[3,4], Jijun Wang[1,2]
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1810 **White matter connectivity and cortical functional connectivity changes over the adult lifespan**
Adrian Tsang[1,2,3], Catherine Lebel[1,4], Signe Bray[1,4], Brad Goodyear[1,2,3], Roberto SoteroDiaz[1], Cheryl McCreary[1,3], Richard Frayne[1,2,3]
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1811 **Support vector machine classification of head motion independent components from EEG-fMRI**
Chung-Ki Wong[1], Vadim Zotev[1], Masaya Misaki[1], Raquel Phillips[1], Qingfei Luo[1], Jerzy Bodurka[1,2]
[1]Laureate Institute for Brain Research, Tulsa, OK, [2]University of Oklahoma, Tulsa, OK

1812 **Fronto-parietal correlates of awareness during binocular rivalry: evidence from multimodal EEG-fMRI**
Abhrajeet Roy[1], Keith Jamison[1], Sheng He[1], Stephen Engel[1], Bin He[1]
[1]University of Minnesota, Minneapolis, MN

1813 **Searching Joint Neuromarkers in Schizophrenia by Supervised Multimodal Fusion**
Shile Qi[1], Jing Sui[1,2], Theo G. M. van Erp[3], Eswar Damaraju[2], Juan Bustillo[4], Jiayu Chen[2], Yuhui Du[2], Qingbao Yu[2], Jessica A. Turner[2,4], Daniel H. Mathalon[5,6], Judith M. Ford[5,6], James Voyvodic[7], Bryon A. Mueller[8], Aysenil Belger[9], Sarah McEwen[10], Steven G. Potkin[3], Adrian Preda[3], F BIRN[3,5], Tianzi Jiang[1], Vince D. Calhoun[2,4,11]
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1814 **EEG signature of default mode network impairment in temporal lobe epilepsy**
Radek Marecek[1], Martin Lamos[1], Michal Mikl[1], Milan Brazdil[1,2], Ivan Rektor[1,2]
[1]Central European Institute of Technology, Masaryk University, Brno, Czech Republic, [2]Brno Epilepsy Center, First Department of Neurology, St. Anne's University Hospital and Faculty of Medicine, Masaryk University, Brno, Czech Republic

1815 **Impact of a Short Breath Holding Task on Spontaneous Brain Activity: Simultaneous EEG-fMRI Study**
Qingfei Luo[1], Chung-Ki Wong[1], Vadim Zotev[1], Sahib Khalsa[1,2], Jerzy Bodurka[1,3]
[1]Laureate Institute for Brain Research, Tulsa, OK, [2]Faculty of Community Medicine, The University of Tulsa, Tulsa, OK, [3]College of Engineering, Center for Biomedical Engineering, University of Oklahoma, Norman, OK

1816 **Studying dynamic spatiotemporal variability of alpha-BOLD coupling during resting-state EEG-fMRI**
Stephen Mayhew[1], Andrew Bagshaw[1]
[1]Birmingham University Imaging Centre (BUIC), School of Psychology, University of Birmingham, Birmingham, United Kingdom

1817 **Real-Time ICA-Based Artifact Removal from EEG Data Recorded during Functional MRI**
Ahmad Mayeli[1,2], Vadim Zotev[1], Hazem Refai[2], Jerzy Bodurka[1,3]
[1]Laureate Institute for Brain Research, Tulsa, OK, [2]Department of Electrical and Computer Engineering, University of Oklahoma, Tulsa, OK, [3]College of Engineering, University of Oklahoma, Tulsa, OK

1818 **A new tool for automatic detection of intracranial electrodes on subject cortical surface space**
Anna Gaglianese[1,2], Mariana Branco[2], Ziad Saad[3], Dora Hermes[4], Daniel Glen[3], Nick Ramsey[2], Natalia Petridou[1]
[1]Department of Radiology/Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands, [2]Brain Center Rudolf Magnus, University Medical Center Utrecht, Utrecht, Netherlands, [3]Scientific and Statistical Computing Core; NIMH/NIH, Bethesda, MD, USA, [4]Department of Psychology, New York University, New York, NY, USA

1819* **Exploring the functional sensitivity of concurrent EEG-fMRI at 7T using simultaneous multislice EPI**
João Jorge[1,2], Frédéric Grouiller[3], Patricia Cotic[4], Wietske van der Zwaag[5], Patrícia Figueiredo[2], Rolf Gruetter[1,3,6]
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1820 **Multimodal neuroimaging biomarkers predicting movement recovery after stroke**
Firdaus Hannanu[1], Thomas Zeffiro[2], Laurent Lamalle[1], Félix Renard[1], Alexandre Krainik[1], Olivier Detante[1], Marc Hommel[1], Assia Jaillard[3]
[1]University Hospital of Grenoble, Grenoble, France, [2]Neurometrika, Potomac, MD, [3]University Hospital of Grenoble, Grenoble, France

1821 **A combined microstructural and neurochemical characterization of binge alcohol consumption**
Laurel Morris[1], Nicholas Dowell[2], Mara Cercignani[2], Stephen Sawiak[1], Marius Mada[1], Neil Harrison[2], Valerie Voon[1]
[1]University of Cambridge, Cambridge, United Kingdom, [2]Brighton and Sussex Medical School, Brighton, United Kingdom

1822 **Quality of single trial EEG gamma and alpha/beta power acquired with multiband BOLD**
Russell Butler[1], Kevin Whittingstall[2]
[1]University of Sherbrooke, Sherbrooke, Canada, [2]Université de Sherbrooke, Sherbrooke, Canada

1823 **Complex reward sensations elicited by stimulation of the Nucleus Accumbens**
Victor Du[1], Erin Yeagle[1], Jose Herrero Rubio[1], Miklos Argyelan[2], Ashesh Mehta[1]
[1]Hofstra North Shore LIJ School of Medicine, Manhasset, NY, [2]Center for Psychiatric Neuroscience at the Feinstein Institute for Medical Research, New York, NY

1824 **Common OXTR gene variant impacts structure and function of default mode network in healthy humans**
Junping Wang[1,2], Meredith Braskie[3], George Hafzalla[3], Joshua Faskowitz[3], Katie McMahon[4], Greig de Zubicaray[5], Nicholas Martin[6], Margaret Wright[7], Chunshui Yu[2], Paul Thompson[1]
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1825 **Anatomical Connectivity Patterns Predict Motor Function on Functionally-Parcellated Cortical Regions**
Demian Wassermann[1], Rachid Deriche[2], Jean-Philippe Ranjeva[3,4], Guye Maxime[3,4], Bertrand Thirion[5]
[1]Athena, Inria, Sophia Antipolis CEDEX, France, [2]Athena, INRIA, Sophia Antipolis, France, [3]Aix Marseille University, CNRS, CRMBM UMR 7339, Medical School of Marseille, Marsielle, France, [4]AP-HM, CHU Timone, Pôle d'Imagerie Médicale, CEMEREM, Marseille, France, [5]Parietal, Inria, Saclay, France

1826 **Detecting White Matter Determinants of the EEG Alpha Rhythm by Tensor Partial Least Squares**
Maria L. Bringas[1,2], Pedro Ariel Rojas-Lopez[2], Esin Karahan[1], Pedro Valdes-Sosa[1,2], Pedro Valdes-Hernandez[2]
[1]University of Electronic Science and Technology, Chengdu, China, [2]Cuban Neuroscience Center, Havana, Cuba

1827 **Analysis of Resting State Networks Dynamics and Quantification using simultaneous EEG-fMRI**
Rajanikant Panda[1], Rose Bharath[1]
[1]National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore, India

1828 **Harmonizing Clinical Connectomics: Adapting the Human Connectome for Multisite Clinical Neuroimaging**
Alan Anticevic[1], Charles Schleifer[1], Matthew Glasser[2], David Van Essen[3], Sophia Frangou[4], David Glahn[5], Grega Repovs[6], Stamatios N. Sotiropoulos[7], Junqian Xu[4]
[1]Yale University, New Haven, CT, [2]Washington University in St. Louis, St. Louis, MO, [3]Washington University in St Louis, St Louis, MO, [4]Icahn School of Medicine at Mount Sinai, New York, NY, [5]Yale University, Hartford, CT, [6]University of Ljubljana, Ljubljana, Slovenia, [7]Oxford Centre for Functional MRI of the Brain, University of Oxford, Oxford, United Kingdom

1829 **Simultaneous EEG-fMRI study of BOLD Signal Variability in the Visual Cortex**
Nasim Shams[1], Claude Alain[2], Stephen Strother[3]
[1]University of Toronto, Toronto, Ontario, [2]Rotman research institute, Baycrest, Toronto, ontario, [3]Baycrest & U. of Toronto, Toronto, Canada

1830 **Neurovascular Coupling in normal and pathologic premature infants, A multimodal neuroimaging approach**
Mahdi Mahmoudzade[1], Ghislaine Dehaene-Lambertz[2], Guy Kongolo[3], Sabrina Goudjil[3], Fabrice Wallois[4]
[1]INSERM U1105,EFSN Pédiatriques, CHU Sud, Amiens, France, [2]INSERM, CEA, NeuroSpin, U992, Gif-sur-Yvette, France, [3]INSERM U 1105,Neonatal Care Unit, CHU Sud, Amiens, France, [4]INSERM U 1105,EFSN Pédiatriques, CHU Sud, Amiens, France

1831 **Brain perfusion and venous drainage in Multiple Sclerosis: a multimodal approach**
Maria Marcella Laganà[1], Francesca Baglio[1], Laura Pelizzari[2,1], Ottavia Dipasquale[1,2], Isa Costantini[1,2], Giuseppe Baselli[2], Niels Bergsland[1,2,3], Pietro Cecconi[1], Mario Clerici[1], Mark Haacke[4], Laura Mendozzi[1], Raffaello Nemni[1]
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INFORMATICS

Brain Atlases

1832 **A Modern Online Digital Dejerine Atlas**
Odile Plaisant[1], Alexis Guédon[2], Chloé Vaniet[3], Lydie Frère[1], Concepción Reblet[4], Jose Luis Bueno Lopez Bueno Lopez[4], Diogo Pais[5], Bernard Moxham[6]
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1833 **Individual Brain Charting: high-resolution normative fMRI database**
Ana Luísa Pinho[1,2,3], Bertrand Thirion[1,2,3]
[1]INRIA, Saclay, France, [2]Neurospin, CEA, Saclay, France, [3]Paris-Saclay University, Paris, France

1834 **Using gene expression atlases in animal imaging to develop hypotheses on transcriptomic changes**
Thomas Nickl-Jockschat[1], Vinod Kumar[2], Nicola Grissom[3], Sarah McKee[3], Hannah Schoch[4], Robbert Havekes[4], Manoj Kumar[5], Stephen Pickup[5], Harish Poptani[5], Teresa Reyes[4], Ted Abel[4]
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1835 **The construction of a Chinese study-specific diffusion tensor template based on T1 weighted image**
Junya Mu[1], Jixin Liu[1]
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1836 **MarsAtlas: a cortical parcellation atlas for functional mapping**
Andrea Brovelli[1], Olivier Coulon[2,1], Guillaume Auzias[1]
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1837 **Haiko89: a Population-Average Baboon Brain Template and Tissue Probability Maps From 89 Individuals**
Scott Love[1], Damien Marie[2], Muriel Roth[3], Romain Lacoste[4], Bruno Nazarian[3], Alice Bertello[5], Olivier Coulon[6], Jean-Luc Anton[3], Adrien Meguerditchian[2]
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1838* **Efficient Population-Representative Whole-Cortex Parcellation Based on Tractography**
Guillermo Alejandro Gallardo Diez[1], Rachid Deriche[1], Demian Wassermann[2]
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1839 **Cortical surface and brain volume atlases of high-resolution diffusion and structural MRI in macaque**
Takuya Hayashi[1], Matthew Glasser[2], Shin-ichi Urayama[3], Takayuki Ose[1], Hiroshi Watabe[4], Kayo Onoe[1], Nobuyoshi Tanki[1], Joonas Autio[1], Yumi Murata[5], Noriyuki Higo[5], Hirotaka Onoe[1], David Van Essen[6], Hui Zhang[7]
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1840 **Paracingulate Sulcus Asymmetry in Human Brain: Gender, Handedness and Race Effects**
Xuehu Wei[1], Jiaojian Wang[2], yan Yin[3], Qing Cai[4], Chunshui Yu[5], Tianzi Jiang[6]
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1841 **VonEconomo3D – Constructing a Virtual 3D Model of the Von Economo and Koskinas Atlas**
Rene Werner[1], Dennis Säring[1,2], Julia Michel[1], Sarah Beul[1], Alexandros Goulas[1], Claus Hilgetag[1]
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1842* **The Human Brainnetome Atlas: A New Brain Atlas Based on Connectional Architecture**
Hai Li[1], Lingzhong Fan[2], junjie zhuo[3], Yu Zhang[1], Jiaojian Wang[4], Liangfu Chen[1], Zhengyi Yang[5], Congying Chu[1], Sangma Xie[1], Angie Laird[6], Peter Fox[7], Simon Eickhoff[8], Chunshui Yu[9], Tianzi Jiang[10]
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1843* **Age-specific Gray and White Matter DTI Atlas for Human Brain at 33, 36 and 39 Postmenstrual Weeks**
Lei Feng[1,2], Hang Li[1,3], Kenichi Oishi[4], Virendra Mishra[5], Minhui Ouyang[1], Tina Jeon[1], Lizette Lee[6], Roy Heyne[6], Lina Chalak[6], Yun Peng[3], Shuwei Liu[2], Hao Huang[1,7]
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1844 **Mapping information from histology to in vivo MRI in the human medial temporal lobe**
Laura Wisse[1], Daniel Adler[2], Ranjit Ittyerah[2], John Pluta[2], John Robinson[2], Theresa Schuck[2], John Trojanowski[2], Murray Grossman[2], John Detre[1], Mark Elliott[2], Jon Toledo[2], Weixia Liu[2], Stephen Pickup[3], Sandhitsu Das[2], David Wolk[2], Paul Yushkevich[1]
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1845 **Standardizing neuroimaging atlas formats**
Jean-Baptiste Poline[1], Jason Bohland[2], Alan Evans[3], Davind Feng[4], Guillaume Flandin[5], Vladimir Fonov[6], Satra Ghosh[7], Andrew Janke[8], Mark Jenkinson[9], David Kennedy[10], Jason Lerch[11], Lydia Ng[4], Jason Tourville[12], Robert Vincent[13], Lilla Zollei[14]
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1846 **The Brain Hierarchical Atlas**
Ibai Diez[1,2], Paolo Bonifazi[1,2,3], Inaki Escudero[1], Beatriz Mateos[1], Miguel Angel Munoz[4], Lola Boyano[5], Sebastiano Stramaglia[6,7], Jesus Cortes[1,3]
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1847 **MNI-HISUB25: A novel submillimetric 3t hippocampal subfield segmentation protocol and dataset**
Boris Bernhardt[1], Jessie Kulaga-Yoskovitz,[1], Seok-Jun Hong[1], Kevin Liang[1], Andrea Bernasconi[1], Neda Bernasconi[1]
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1848 **Brain parcellation choice affects disease-related topology differences**
Anton Lord[1], Stefan Ehrlich[2], Viola Borchardt[3], Daniel Geisler[4], Maria Seidel[5], Stefanie Huber[6], Julia Murr[7], Martin Walter[8]
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Databasing and Data Sharing

1849 **Sharing Data and Image Processing Pipelines: The Information Analysis & Management initiative**
Michel Dojat[1], Bénédicte Batrancourt[2], Yann Cointepas[3], Olivier Coulon[4], Tristan Glatard[5], Fabrice Heitz[6], Michael Kain[7], Christian Barillot[7]
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1850 **UK Biobank: Brain imaging in 100,000 subjects**
Karla Miller[1], Neal Bangerter[2], Fidel Alfaro-Almagro[1], David Thomas[3], Essa Yacoub[4], Junqian Xu[5], Andreas Bartsch[6], Saad Jbabdi[1], Stamatios Sotiropoulos[1], Mark Jenkinson[1], Jesper Andersson[1], Ludovica Griffanti[1], Peter Weale[7], Iulius Dragonu[7], Steve Garratt[8], Sarah Hudson[8], Rory Collins[8,9], Paul Matthews[10], Stephen Smith[1]
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1851 **NIDM-Results: Standardized reporting of mass univariate neuroimaging results in SPM, FSL and AFNI**
Camille Maumet[1], B Nichols[2], Guillaume Flandin[3], Karl Helmer[4], Tibor Auer[5], Alex Bowring[1], Vanessa Sochat[6], Samir Das[7], Tristan Glatard[8,9], Richard Reynolds[10], Robert Cox[10], Gang Chen[10], Mark Jenkinson[11], Matthew Webster[11], Jason Steffener[12], Krzysztof Gorgolewski[6], Jessica Turner[13], Thomas Nichols[14], Satra Ghosh[15], Jean-Baptiste Poline[16], David Keator[17]
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1852 **SchizConnect: Flexible, Dynamic Platform for Mediating Multiple Schizophrenia Neuroimaging Databases**
Lei Wang[1], Kathryn Alpert[1], Vince D. Calhoun[2], David Keator[3], Margaret King[2], Alexandr Kogan[1], Drew Landis[2], Steven Potkin[3], Jessica Turner[4], Jose Luis Ambite[5]
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1853 **The Brain Images of Normal Subjects (BRAINS) Imagebank for data sharing and reference atlases**
Dominic Job[1], David Dickie[1], David Rodriguez[1], Samuel Danso[1], Andrew Robson[1], Cyril Pernet[1], James Boardman[1], Susan Shenkin[1], Joanna Wardlaw[1]
[1]The University of Edinburgh, Edinburgh, United Kingdom

1854* **The Brain Imaging Data Structure: a format for organizing and describing neuroimaging data**
Krzysztof Gorgolewski[1], Tibor Auer[2], Vince D. Calhoun[3], Cameron Craddock[4], Samir Das[5], Eugene Duff[6], Guillaume Flandin[7], Satra Ghosh[8], Tristan Glatard[9], Yaroslav Halchenko[10], Daniel Handwerker[11], Michael Hanke[12], David Keator[13], Xiangrui Li[14], Zachary Michael[15], Camille Maumet[16], B Nichols[17], Thomas Nichols[18], Jean-Baptiste Poline[19], Ariel Rokem[20], Gunnar Schaefer[1], Vanessa Sochat[21], Jessica A. Turner[22], Gael Varoquaux[23], Russell Poldrack[1]
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1855* **DataLad – decentralized data distribution for consumption and sharing of scientific datasets**
Yaroslav Halchenko[1], Benjamin Poldrack[2], Michael Hanke[2]
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1856 **MR Graph with Rich attribUTEs DataBase (Mr. GruteDB)**
Gregory Kiar[1], William Gray Roncal[1], Disa Mhembere[1], Eric Bridgeford[1], Shangsi Wang[1], Carey Priebe[1], Randal Burns[1], Joshua Vogelstein[1]
[1]Johns Hopkins University, Baltimore, MD

1857 **Behavior, Sensitivity, and power of ALE meta-analyses characterized by large-scale simulation**
Claudia Eickhoff[1], Thomas Nichols[2], Angie Laird[3], Felix Hoffstaedter[4], Danilo Bzdok[5], Katrin Amunts[6], Peter Fox[7], Simon Eickhoff[8]
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1858 **Global Alzheimer's Association Interactive Network: Connecting Scientists Worldwide**
Priya Bhatt[1], Karen Crawford[1], Naveen Ashish[1], Arthur Toga[1]
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1859 **A Semantic Cross-Species Derived Data Management Application Powered by NIDM**
David Keator[1], Jinran Chen[1], B Nichols[2], Fariba Fana[3], Steven Small[1]
[1]University of California, Irvine, Irvine, CA, [2]Center for Health Sciences, SRI International, Menlo Park, CA, [3]University of California, San Diego, San Diego, CA

1860 **Quality Control Tools and Best Practices for Neuroimaging Data Management**
MacIntyre Leigh[1,2,3], Samir Das[4], Carolina Makowski[5], Tristan Glatard[6], Christine Rogers[1], Jordan Stirling[4], Zia Mohades[4], Penelope Kostopoulos[7], Dave MacFarlane[4], Cécile Madjar[8], Vladimir Fonov[9], D. Louis Collins[9], Alan Evans[10]
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1861 **From neuroimaging database to neuroinformatics resource: Evolution of the LONI Image & Data Archive**
Karen Crawford[1], Scott Neu[1], Arthur Toga[1]
[1]University of Southern California, Los Angeles, CA

1862 **Brainspell: an open web portal for the annotation of the neuroimaging literature**
Roberto Toro[1]
[1]Institut Pasteur, Paris, France

1863 **COINSTAC: A privacy enabled model for leveraging and processing decentralized brain imaging data**
Sergey Plis[1], Anand Sarwate[2], Dylan Wood[3], Christopher Dieringer[1], Drew Landis[4], Cory Reed[1], Sandeep Panta[1], Jessica Turner[5], Jody Shoemaker[3], Kim Carter[3], Paul Thompson[6], Vince Calhoun[7]
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Informatics Other

1864 **Big Data approaches for the analysis of large-scale fMRI data using Apache Spark and GPU processing**
Roland Boubela[1], Klaudius Kalcher[1], Wolfgang Huf[1], Christian Nasel[2], Ewald Moser[1]
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1865 **DicAT - A Multi-platform DICOM Anonymization Tool**
Cécile Madjar[1], Samir Das[2], Ayan Sengupta[3], Daniel Krötz[4], Pierre-Emmanuel Morin[5], Zia Mohades[2], Dave MacFarlane[2], Rathi Gnanasekaran[2], Karolina Marasinska[2], Jordan Stirling[2], John Breitner[6], Alan Evans[7]
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1866 **Writing high parallel medical image computation software with Mozilla's Rust**
Patrick Schiffler[1], Jan-Gerd Tenberge[1], Julia Krämer[1], Michael Deppe[1]
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1867 **Large-scale interactive graphical visualization of brain surfaces using INVIZIAN**
Sumiko Abe[1], Andrei Irimia[1], John Van Horn[1]
[1]University of Southern California, Los Angeles, CA

1868 **Neuro-Imaging in the Browser with 'MedView': Interacting with and Collaborating on Medical Images**
Rudolph Pienaar[1]
[1]Boston Children's Hospital, Boston, MA

1869 **Naturalistic paradigms in fMRI research: An ALE meta-analysis**
Katherine Bottenhorn[1], Matthew Sutherland[1], Angie Laird[1]
[1]Florida International University, Miami, FL

1870 **DueCredit – automagically collect citations for software, methods, and data you use**
Yaroslav Halchenko[1], Matteo Visconti di Oleggio Castello[2]
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Workflows

1871 **Towards detecting brainstem connectivity in single-subject: An optimized fMRI analysis pipeline**
Tawfik Moher Alsady[1], Patrick Stahl[1], Florian Beissner[1]
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1872 **DPABI: Data Processing & Analysis for (Resting-State) Brain Imaging**
Chao-Gan Yan[1], Xin-Di Wang[2], Xi-Nian Zuo[1], Yu-Feng Zang[3]
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1873 **GRETNA 1.2.1/BrainNet Viewer 1.53: Connectome Toolkits for Brain Network Analysis and Visualization**
Xindi Wang[1], Mingrui Xia[1], Jinhui Wang[2], Zhengjia Dai[3], Xuhong Liao[1], Alan Evans[4], Yong He[1]
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1874 **LONI QC: a system for the quality control of structural, functional and diffusion brain images**
Petros Petrosyan[1], Samuel Hobel[1], Andrei Irimia[1], John Van Horn[2], Arthur Toga[1]
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1875 **Automation and Parallelization of a 3D Polarized Light Imaging Workflow**
Oliver Bücker[1], Stefan Köhnen[2], Anh-Minh Huynh[2], Giuseppe Tabbi[2], Anna Lührs[1], André Giesler[1], Björn Hagemeier[1], Katrin Amunts[2,3], Thomas Lippert[1,4], Markus Axer[2]
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1876 **Nilearn: Machine Learning for Neuro-Imaging in Python**
Alexandre Abraham[1], Loïc Estève[1], Elvis Dohmatob[2], Danilo Bzdok[3], Kamalakar Reddy[4], Arthur Mensch[1], Philippe Gervais[5], Virgile Fritsch[5], Salma Bougacha[6], Ben Cipollini[7], Mehdi Rahim[8], Martin Perez-Guevara[6], Krzysztof Gorgolewski[9], Óscar Nájera[5], Michael Eickenberg[10], Alexandre Abadie[5], Yannick Schwartz[11], Andrés Andrés Hoyos Idrobo[12], Konstantin Shmelkov[5], Fabian Pedregosa[5], Andreas Mueller[13], Jean Kossaifi[14], Jaques Grobler[5], Alexandre Gramfort[15], Michael Hanke[16], Bertrand Thirion[17], Gael Varoquaux[18]
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1877* **UK Biobank Brain Imaging: Automated Processing Pipeline and Quality Control for 100,000 subjects**
Fidel Alfaro-Almagro[1], Mark Jenkinson[1], Neal Bangerter[2], Jesper Andersson[1], Ludovica Griffanti[1], Gwenaëlle Douaud[1], Stamatios Sotiropoulos[1], Saad Jbabdi[1], Moises Hernandez-Fernandez[1], Emmanuel Vallee[1], Diego Vidaurre[3], Iulius Dragonu[4], Paul Matthews[5], Karla Miller[1], Stephen Smith[1]
[1]FMRIB Centre, University of Oxford, Oxford, United Kingdom, [2]Brigham Young University, Provo, UT, [3]OHBA Centre, University of Oxford, Oxford, United Kingdom, [4]Siemens Healthcare UK, Frimley, United Kingdom, [5]Imperial College London, London, United Kingdom

1878 **PAGANI Toolkit: Parallel Computing Package for Fast Network Analyses of Brain Connectomes**
Kang Zhao[1], Haixiao Du[1], Mingrui Xia[2], Huazhong Yang[1], Yu Wang[1], Yong He[2]
[1]Department of Electronic Engineering, Tsinghua University, Beijing, China, [2]State Key Laboratory of Cognitive Neuroscience and Learning and IDG/McGovern Institute for Brain Res, Beijing, China

1879 **Integration between PSOM and CBRAIN for distributed execution of neuroimaging pipelines**
Tristan Glatard[1], Pierre-Olivier Quirion[2], Reza Adalat[3], Natacha Beck[3], Remi Bernard[3], Bryan Caron[4], Quan Nguyen[4], Pierre Rioux[3], Marc-Etienne Rousseau[3], Alan Evans[3], Pierre Bellec[2]
[1]CNRS & McGill Centre for Integrative Neuroscience, Montreal Neurological Institute,McGill University, Montreal, Quebec, Canada, [2]Centre de Recherche de l'Institut de Gériatrie de Montréal CRIUGM, Montreal, Quebec, Canada, [3]McGill Centre for Integrative Neuroscience, Montreal Neurological Institute, McGill University, Montreal, Quebec, Canada, [4]McGill High Performance Computing Centre, McGill University & Calcul Québec and Compute Canada, Montreal, Quebec, Canada

1880 **Android SurveyAPK, mobile digital capture for neuropsychological data**
Albert Berman[1], Okan Erant[2], Ulrike Kumpf[3], Temmuz Karali[4], Beniamin Keeser[1], Daniel Keeser[4]
[1]LMU, Munich, Germany, [2]Tu-Graz, Graz, Austria, [3]Department of Psychiatry and Psychotherapy, Ludwig-Maximilians-University, Munich, Munich, Germany, [4]Ludwig-Maximilians-University, Munich, Munich, Germany

LEARNING AND MEMORY

Implicit Memory

1881* **Spatial and Temporal Signatures of Memorability in the Brain**
Wilma Bainbridge[1], Seyed-Mahdi Khaligh-Razavi[1], Dimitrios Pantazis[1], Aude Oliva[1]
[1]Massachusetts Institute of Technology, Cambridge, MA

1882 **Ongoing regularities detection assessed by MEG frequency-tagged responses**
Juliane Farthouat[1,2], Ana Franco[3,2], Alison Mary[1,2], Vincent Wens[4,2], Xavier De Tiège[4,2], Philippe Peigneux[1,2]
[1]Neuropsychology and Functional Neuroimaging Research Unit at CRCN, Center for Research in Cognition, Brussels, Belgium, [2]UNI - ULB Neurosciences Institute, Université libre de Bruxelles, Brussels, Belgium, [3]Unité de Recherche en Neurosciences Cognitives at CRCN, Center for Research in Cognition and Neurosc, Brussels, Belgium, [4]LCFC - Laboratoire de Cartographie Fonctionnelle du Cerveau, Brussels, Belgium

1883 **Short fMRI for evaluation of minute range cerebral activity dynamics during association learning**
Goran Vucurevic[1], Svenja Spiegel[1], Peter Stoeter[2]
[1]Institute of Neuroradiology, Mainz, Germany, [2]CEDIMAT, Santo Domingo, Dominican Republic

LEARNING AND MEMORY

Learning and Memory Other

1884 **Study of the Transfer Functions of Hippocampal Subfields during a Spatial Memory Task**
Xiaowei Zhuang[1], Zhengshi Yang[1], Tim Curran[2], Dietmar Cordes[1,2]
[1]Cleveland Clinic Lou Ruvo Center for Brain Health, Las Vegas, NV, [2]Department of Psychology and Neuroscience, University of Colorado, Boulder, CO

1885 **Initial learning induces more distinct segregation of large-scale networks than reversal learning**
Holger Mohr[1], Uta Wolfensteller[1], Hannes Ruge[1]
[1]Technische Universität Dresden, Dresden, Germany

1886 **Cortical plasticity and interaction during auditory perceptual learning**
Serin Atiani[1,2], Robert Zatorre[1,2], Marc Schönwiesner[3,1,2]
[1]Montreal Neurological Institute, McGill University, Montreal, Canada, [2]International Laboratory for Brain Music and Sound Research (BRAMS), Montreal, Canada, [3]Université de Montréal, Montreal, Canada

1887 **Mapping of Time and Space Spatial Preferences in the Hippocampus**
Shir Hofstetter[1], Yaniv Assaf[2]
[1]Sagol school of neuroscience, Tel Aviv University, tel aviv, Israel, [2]Tel Aviv University, Tel Aviv, Israel

1888 **Intermittent regime of spontaneous EEG alpha activity in perceptual learning**
Andrey Nikolaev[1], Sergei Gepshtein[2], Cees van Leeuwen[1]
[1]KU Leuven - University of Leuven, Leuven, Belgium, [2]Salk Institute for Biological Studies, La Jolla, CA

1890 **The neural mechanisms of habitualization of approach and avoidance behavior**
Katharina Zwosta[1], Hannes Ruge[1], Uta Wolfensteller[1]
[1]Technische Universität Dresden, Dresden, Germany

1891 **Instantaneous limbic control of memory encoding and retrieval**
Raphaël Thézé[1], Aurélie Manuel[1], Louis Nahum[1], Adrian G. Guggisberg[1], Armin Schnider[1]
[1]Lab. Cognitive Neurorehabilitation, Fac. of Medicine, University Hospital and University of Geneva, Geneva, Switzerland

1892 **FMRI evidence for the neural representation of novel objects associated with olfactory experience**
Marta Ghio[1], Patrick Schulze[2], Kirsten Sucker[3], Boris Suchan[2], Christian Bellebaum[4]
[1]Institute of Experimental Psychology, Heinrich Heine University, Düsseldorf, Germany, [2]Institute of Cognitive Neuroscience, Ruhr University Bochum, Bochum, Germany, [3]Institute for Prevention and Occupational Medicine of the German Social Accident Insurance (IPA), Bochum, Germany, [4]Institute of Experimental Psychology, Heinrich Heine University, Düsseldorf, Germany

1893 **Cortical-hippocampal Network Dynamics: Distinct Coherence During Memory Encoding and Retrieval**
Rita Elias[1], Karthik Ramaseshan[2], Ashley Burgess[3], Dalal Khatib[3], Jeffrey Stanley[3], Vaibhav Diwadkar[3]
[1]Michigan State University College of Osteopathic Medicine, Detroit, MI, [2]Wayne State University, Detroit, MI, [3]Wayne State University School of Medicine, Detroit, MI

1894 **Neural pattern of anterior cingulate cortex activity in the feedback-based learning - an fMRI study**
Aleksandra Domagalik-Pittner[1], Ewa Beldzik[1,2], Magda Gawlowska[1], Justyna Mojsa-Kaja[1,2], Tadeusz Marek[1,2]
[1]Neurobiology Department, Malopolska Centre of Biotechnology, Jagiellonian University, Krakow, Poland, [2]Department of Cognitive Neuroscience and Neuroergonomics, Institute of Applied Psychology, Jagiellonian University, Krakow, Poland

1895 **The human cortical-hippocampal dialogue in wake and slow wave sleep**
Anish Mitra[1], Abraham Snyder[2], Carl Hacker[1], Enzo Tagliazucchi[3], Helmut Laufs[4], Eric Leuthardt[2], Marcus Raichle[1]
[1]Washington University School of Medicine, St. Louis, MO, [2]Washington University School of Medicine, Saint Louis, MO, [3]Institute for Medical Psychology, Christian Albrechts University, Kiel, Germany, [4]Christian-Altrechts-University, Kiel, Schleswig-Holstein

1896 **Evidence of Hippocampal Modulation of Glutamate during Learning Using in vivo ^{1}H functional MRS**
Jeffrey Stanley[1], Ashley Burgess[1], Dalal Khatib[1], Karthik Ramaseshan[1], Vaibhav Diwadkar[1]
[1]Wayne State University School of Medicine, Detroit, MI

LEARNING AND MEMORY

Long-Term Memory (Episodic and Semantic)

1897 **Human brain's structural connectome linked to memory performance**
David Coynel[1], Leo Gschwind[1], Matthias Fastenrath[1], Virginie Freytag[1], Annette Milnik[1], Klara Spalek[1], Andreas Papassotiropoulos[1], Dominique de Quervain[1]
[1]University of Basel, Basel, Switzerland

1898 **Reversal of the Old/New Effect and the Positivity Bias in Older Adult's Emotional Recognition**
Lionel Landré[1], Alina-Alexandra Sava[2], Hanna Chainay[2]
[1]Tohoku university, Sendai, Japan, [2]Université Lyon 2 Lumière, Lyon, France

1899 **Neural correlates of own age bias for facial memory in young adults**
Naoki Chiba[1], Rui Nouchi[2], Yuki Yamamoto[3], Yukako Sasaki[3], Shu Umezawa[1], Shuichi Tanifuji[1], Ryuta Kawashima[3]
[1]Tohoku University, Sendai, Japan, [2]Frontier Research Institute for Interdisciplinary Science, Sendai, Japan, [3]Department of Functional Brain Imaging, Institute of Development, Aging and Cancer, Sendai, Japan

1900 **Subsequent memory-dependent BOLD activation during the natural reading of literature**
Naoyuki Sato[1], Hiroaki Mizuhara[2]
[1]Future University Hakodate, Hakodate, Japan, [2]Kyoto University, Kyoto, Japan

1901 **Memory consolidation reconfigures neural pathways involved in the suppression of emotional memories**
Yunzhe Liu[1], Wanjun Lin[1], Shaozheng Qin[1]
[1]Beijing Normal University, Beijing, China

1902 **Effects of dopaminergic modulation on recognition memory – a pharmacological fMRI study**
Mareike Clos[1], Nico Bunzeck[2], Tobias Sommer[1]
[1]Medical Center Hamburg-Eppendorf, Hamburg, Germany, [2]University of Lübeck, Lübeck, Germany

1903 **Item-specific pattern reinstatement during encoding and retrieval**
Xiaoqian Xiao[1,2], Gui Xue[1,2]
[1]State Key Laboratory of Cognitive Neuroscience and Learning & IDG/McGovern Institute for Brain Resea, Beijing, China, [2]Center for Collaboration and Innovation in Brain and Learning Sciences, Beijing Normal University, Beijing, China

1904 **Associative memory for emotional words in communicative context**
Monika Riegel[1], Marek Wypych[1], Malgorzata Wierzba[1], Michal Szczepanik[1], Katarzyna Jednoróg[2], Patrik Vuilleumier[3,4], Artur Marchewka[1]
[1]Laboratory of Brain Imaging, Nencki Institute of Experimental Biology of Polish Academy of Sciences, Warsaw, Poland, [2]Laboratory of Psychophysiology, Nencki Institute of Experimental Biology, Polish Academy of Sciences, Warsaw, Poland, [3]Swiss Centre for Affective Sciences, University of Geneva, CH-1211 Geneva, Switzerland, Geneva, Switzerland, [4]Laboratory for Neurology and Imaging of Cognition, Department of Neurosciences and Clinic of Neurology, University Medical Centre, Geneva, Switzerland

1905 **The effect of physical exercise on associative memory, a NIRS study**
Kinga Igloi[1,2,3], Blanca Marin Bosch[1], Guido Ferretti[1], Aurélien Bringard[1], Sophie Schwartz[1,2,3]
[1]University of Geneva, Geneva, Switzerland, [2]Swiss Center for Affective Sciences, Geneva, Switzerland, [3]Geneva Neuroscience Center, Geneva, Switzerland

1906* **Long-term memory scores in mild cognitive impairment can be predicted from resting-state fMRI**
Djalel-Eddine Meskaldji[1], Maria Giulia Preti[2], Thomas Bolton[3], Marie-Louise Montandon[4], Cristelle Rodriguez[5], Stephan Morgenthaler[1], Panteleimon Giannakopoulos[5], Sven Haller[6], Dimitri Van De Ville[1]
[1]EPFL, Lausanne, Switzerland, [2]Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland, [3]Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland, [4]Geneva University Hospitals, Geneva, Switzerland, [5]University Hospitals of Geneva, Geneva, Switzerland, [6]University Hospital Freiburg, Freiburg, Switzerland

1907 **Influence of disgust and fear on long-term memory – fMRI study using using NAWL**
Monika Riegel[1], Małgorzata Wierzba[1], Katarzyna Jednoróg[2], Anna Grabowska[3,4], Artur Marchewka[5]
[1]Laboratory of Brain Imaging, Nencki Institute of Experimental Biology of Polish Academy of Sciences, Warsaw, Poland, [2]Laboratory of Psychophysiology, Nencki Institute of Experimental Biology, Polish Academy of Sciences, Warsaw, Poland, [3]Laboratory of Psychophysiology, Nencki Institute of Experimental Biology Polish Academy of Sciences, Warsaw, Poland, [4]University of Social Sciences and Humanities, Warsaw, Poland, [5]Laboratory of Brain Imaging, Nencki Institute of Experimental Biology, Polish Academy of Sciences, Warsaw, Poland

1909 **Bodily Self-Consciousness Overlaps in Angular Gyrus with Episodic Autobiographical Memory**
Lucie Bréchet[1], Petr Grivaz[1], Andrea Serino[1], Roy Salomon[2], Olaf Blanke[1]
[1]Ecole Polytechnique Fédérale de Lausanne, Geneva, Switzerland, [2]UNIGE, Geneva, Switzerland

1910 **Multimodal imaging of alterations in structure and function following hippocampal lesions in monkeys**
Paula Croxson[1], James Young[1], Kathy Murphy[2], Lazar Fleysher[1], Philip Browning[3]
[1]Icahn School of Medicine at Mount Sinai, New York, United States, [2]University of Oxford, Oxford, United Kingdom, [3]National Institute of Mental Health, Washington, DC, United States

1911 **Temporal changes in hippocampal-neocortical connectivity predict memory performance in children**
Rachel Rehert[1], Shaozheng Qin[1], Sandhya Prathap[1], Vinod Menon[1]
[1]Stanford University, Stanford, CA

1912 **Structural changes resulting from specific cognitive training in monkeys**
Joseph Simon[1], Christienne Damatac[1], Sean Froudist-Walsh[1], Jamie Nagy[1], Lazar Fleysher[1], Rafael O'Halloran[2], Paula Croxson[2]
[1]Icahn School of Medicine at Mount Sinai, New York, United States, [2]Icahn School of Medicine at Mount Sinai, New York, NY

1913 **Hippocampal-cortical connectivity in memory consolidation predicts memory performance**
Hyeongrae Lee[1], Woorim Jeong[2,3], June Sic Kim[4], Chun Kee Chung[1,2,3,4]
[1]Neuroscience Research Institute, Seoul National University Medical Research Center, Seoul, Korea, Republic of, [2]Department of Neurosurgery, Seoul National University Hospital, Seoul, Korea, Republic of, [3]Interdisciplinary Program in Neuroscience, Seoul National University College of Natural Science, Seoul, Korea, Republic of, [4]Department of Brain and Cognitive Sciences, Seoul National University College of Natural Sciences, Seoul, Korea, Republic of

1914* **Pre-stimulus theta power in the dorsomedial thalamic nucleus predicts human memory formation**
Catherine Sweeney-Reed[1], Tino Zaehle[1], Juergen Voges[1], Friedhelm Schmitt[1], Lars Buentjen[2], Klaus Kopitzki[1], Alan Richarson-Klavehn[1], Hermann Hinrichs[1], Hans-Jochen Heinze[3], Robert Knight[4], Michael Rugg[5]
[1]Otto-von-Guericke University, Magdeburg, Germany, [2]Otto-von-Guericke University, Magdeburhg, Germany, [3]Otto-von-Guericke Universität, Magdeburg, Germany, [4]University of California at Berkeley, Berkeley, United States, [5]University of Texas, Dallas, United States

LEARNING AND MEMORY

Neural Plasticity and Recovery of Function

1915 **Increase of motor gain and changes in neural representation after tactile primed hand training**
Martin Lotze[1], Aija Marie Ladda[1], Sybille Roschka[2], Thomas Platz[2], Hubert Dinse[3]
[1]Functional Imaging Unit, Diagnostic Radiology, Greifswald, Germany, [2]BDH-Klinik Greifswald, Neurorehabilitation centre and Spinal Cord Injury Unit, Greifswald, Germany, [3]Neural Plasticity Lab, Institute for Neuroinformatics, Ruhr-University Bochum, Bochum, Germany

1916 **MRI-derived short-term brain tissue changes are mainly caused by cerebral blood flow alterations**
Qiu Ge[1], Wei Peng[2], Yong Zhang[3], Xuchu Weng[2], Thomas Liu[4], Yu-Feng Zang[1], Ze Wang[1]
[1]Hangzhou Normal University, Hangzhou, Zhejiang Province, China, [2]Hangzhou Normal University, Hangzhou, Zhejiang Province, China, [3]GE Healthcare Beijing, Beijing, China, [4]University of California San Diego, La Jolla, CA

1917 **DTI of corticospinal tracts pre and post physical therapy in children with cerebral palsy**
Erika Hsu[1,2], Eileen Fowler[3], Loretta Staudt[3], Marcia Greenberg[3], David Shattuck[1], Shantanu Joshi[4]
[1]Ahmanson Lovelace Brain Mapping Center, Dept. of Neurology UCLA, Los Angeles, CA, [2]David Geffen School of Medicine UCLA, Los Angeles, CA, [3]Center for Cerebral Palsy, Dept. of Orthopedic Surgery UCLA, Los Angeles, CA, [4]UCLA, Los Angeles, CA

1918 **Effect of Robot-assisted Gait Training on White Matter Integrity and Locomotion in Subacute Stroke**
Dae Hyun Kim[1], Sunghyon Kyeong[2], Hea-Eun Yang[1], Chang Soon Kang[1], One Min Lee[1]
[1]Department of Physical Medicine and Rehabilitation, Veterans Health Service Medical Center, Seoul, Korea, Republic of, [2]Brain Korea 21 PLUS Project for Medical Science, Yonsei University College of Medicine, Seoul, Korea, Republic of

1919 **Functional and structural mechanisms of proportional motor recovery after stroke**
Adrian Guggisberg[1], Pierre Nicolo[1]
[1]University Hospital Geneva, Geneva, Switzerland

1920 **Effects of learning and memory deficits on changes in brain structure volume following maze training**
Dulcie Vousden[1], Ariane Metcalf[1], Elizabeth Cox[1], Christina Corre[1], Shoshana Spring[1], Leigh Spencer-Noakes[1], Matthijs van Eede[1], Adelaide Yiu[1], Brian Nieman[1], Mark Henkelman[1], Sheena Josselyn[1], Paul Frankland[1], Mark Palmert[1], Jason Lerch[1]
[1]Hospital for Sick Children, Toronto, Canada

1921 **Long-term Chinese Calligraphy Handwriting Reshapes the Cingulate Gyrus: A VBM Study**
Wen Chen[1,2], Chuansheng Chen[1], Yong He[2], Yiwen Wang[2], Wenjing Wang[2]
[1]University of California Irvine, Irvine, CA, [2]Beijing Normal University, Beijing, China

1922 **Alterations to memory-related white matter tracts in adults who were born very preterm**
Chiara Caldinelli[1], Sean Froudist-Walsh[1], Slava Karolis[1], Philip Brittain[1], Jasmin Kroll[1], Chieh-En Tseng[1], Marcello Tesse[1], Chiara Nosarti[1]
[1]King's College London, London, United Kingdom

1923 **Exploring the link between multi-scale functional dynamics & objective measures of neural plasticity**
Peter Hellyer[1,2], Erica Barry[2], Alberto Pellizzon[3], Mattia Veronese[2], Gaia Rizzo[3], Matteo Tonietto[3], Alessandra Bertoldo[3], Federico Turkheimer[2]
[1]Imperial College London, London, United Kingdom, [2]King's College London, London, United Kingdom, [3]University of Padova, Padova, Italy

1924 **Functional connectivity reveals early cortical reorganization following peripheral nerve change**
Florian Fischmeister[1,2,3], Eva Matt[1], Ahmad Amini[1], Robert Schmidhammer[2], Roland Beisteiner[1]
[1]Department of Neurology, Medical University of Vienna, Vienna, Austria, [2]Ludwig Boltzmann Institute for Experimental and Clinical Traumatology, Vienna, Austria, [3]MR Centre of Excellence, Medical University of Vienna, Vienna, Austria

1925 **FMRI activation and connectivity of the ventral premotor cortex in a longitudinal stroke study**
Ulrike Horn[1], Sybille Roschka[2], Andrea-Daniela Walz[1], Thomas Platz[2], Martin Lotze[1]
[1]Functional Imaging Unit, Diagnostic Radiology, Greifswald, Germany, [2]BDH-Klinik Greifswald, Neurorehabilitation centre and Spinal Cord Injury Unit, Greifswald, Germany

1926 **Is cortical reorganization following a congenital absence of sensory inputs necessarily beneficial?**
Avital Hahamy[1], Scott Macdonald[2], Fiona van den Heiligenberg[3], Paullina Kieliba[3], Rafael Malach[1], Uzay Emir[3], Jody Culham[2], Heidi Johansen-Berg[3], Tamar Makin[3]
[1]Weizmann institute of Science, Rehovot, Israel, [2]Western University, London, Ontario, [3]University of Oxford, Oxford, United Kingdom

1927 **Modulation of motor-task related brainstem activation by sustained manual pressure stimulation**
Petr Hlustik[1], Pavel Hok[2,1], Jaroslav Opavsky[3], Miroslav Kutin[4], Zbynek Tudos[1], Petr Kanovsky[1]
[1]Palacky University School of Medicine, Olomouc, Czech Republic, [2]Brain Imaging Center and Department of Neurology, Goethe University Frankfurt, Frankfurt am Main, Germany, [3]Palacky University School of Physical Culture, Olomouc, Czech Republic, [4]KM KINEPRO PLUS s.r.o., Olomouc, Czech Republic

1928 **Modification of native language as a consequence of learning new vocabulary**
María-Ángeles Palomar-García[1], Ana Sanjuán[2], Elisenda Bueichekú[1], Noelia Ventura-Campos[3], César Ávila[1]
[1]Universitat Jaume I, Castellón, Spain, [2]Computational Neuroscience Group, Universitat Pompeu Fabra, Barcelona, Spain, [3]Mathematics Teaching, Faculty of Teacher Training. Universidad de Valencia, Valencia, Spain

1929 **Functional Reorganizations of Sensorimotor Network following Stroke Rehabilitation**
Shang-Hua Lin[1], Po-Ting Lin[2], Si-Huei Lee[3], Yi-Yun Yang[3], Ching-Po Lin[1], Changwei Wu[2]
[1]National Yang-Ming University, Taipei, Taiwan, [2]National Central University, Taoyuan, Taiwan, [3]Taipei Veterans General Hospital, Taipei, Taiwan

1930 **Neuroplasticity dynamics and localization of motor cognitive function in mouse brain using DTI**
Maya Faraggi[1], William D. Richardson[2], Derek Jones[3], Yaniv Assaf[1,4]
[1]The Sagol School of Neuroscience, Tel-Aviv University, Tel-Aviv, Israel, [2]Wolfson Institute for Biomedical Research, University College London, London, United Kingdom, [3]Cardiff University Brain Research Imaging Centre, Cardiff University School of Psychology, Cardiff, United Kingdom, [4]Department of Neurobiology, The George S. Wise Faculty of Life Sciences, Tel-Aviv, Israel

1931 **Extrapyramidal changes after acute spinal cord injury**
Eveline Huber[1], Raihaan Patel[2], Armin Curt[1], Mallar Chakravarty[3], Patrick Freund[1]
[1]University Hospital Balgrist, Zurich, Switzerland, [2]McGill University, Montreal, Canada, [3]Douglas Mental Health University Institute/McGill University, Montreal, Canada

1932 **Changes in structural connectivity show a novel type of primary cortex reorganization**
Ahmad Amini[1,2,3], Wolfgang Bogner[2,4], Florian Fischmeister[1,2], Eva Matt[1,2], Roland Beisteiner[1,2]
[1]Study Group Clinical fMRI, Department of Neurology, Medical University of Vienna, Vienna, Austria, [2]High-Field MR Center of Excellence, Medical University of Vienna, Vienna, Austria, [3]TU-BioMed Association for Biomedical Engineering, Vienna University of Technology, Vienna, Austria, Vienna, Austria, [4]Department of Biomedical Imaging and Image-guided Therapy, Medical University Vienna, Vienna, Austria

1933 **The Effect of Aerobic Exercise Training on Hippocampal Integrity: a Pilot Study**
Chao Suo[1], Lauren Ouden[1], Aaron Kandola[1], Joshua Hendrikse[1], Richardo Da Costa[1], Valentina Lorenzetti[1], Murat Yücel[1]
[1]Monash University, Melbourne, Victoria

LEARNING AND MEMORY

Skill Learning

1934 **Visual Task Learning of Familiar vs Non-Familiar Objects: An fMRI Study**
Mohd Usmani[1], Ion Juvina[1], Matt Sherwood[2], Priya Ganapathy[3], Gautam Kunapuli[3], Tejaswi Tamminedi[3], Nasser Kashou[1]
[1]Wright State University, Dayton, OH, [2]Wright State Research Institute, Dayton, OH, [3]UtopiaCompression Corporation, Los Angeles, CA

1935 **Short-Term Effects of Verbal Training on Resting State Network Activation in Older Adults**
Toshiharu Nakai[1], Sachiko Kiyama[2], Atsunobu Suzuki[3]
[1]National Center for Geriatrics & Gerontology, Ohbu, Archie, [2]NCGG, Ohbu, Aichi, [3]Graduate School of Nagoya University, Nagoya, Aichi

1936 **Time-course of auditory and motor learning for skilled and novice performers**
Rachel Brown[1], Virginia Penhune[2]
[1]Maastricht University, Maastricht, Netherlands, [2]Department of Psychology, Concordia University, Montreal, Canada

1937 **Motivational characteristics of expert performance**
Nicola Neumann[1], Martin Lotze[1]
[1]Functional Imaging Unit, Center for Diagnostic Radiology and Neuroradiology, Greifswald, Germany

1938 **Changes in the intracortical inhibition in response to balance training**
Audrey Mouthon[1], Philippe Weissbaum[1], Loic Bunetti[1], Jan Ruffieux[1], Wolfgang Taube[1]
[1]University of Fribourg, Fribourg, Switzerland

1939 **Reward and punishment differentially impact motor performance and alter connectivity after learning**
Adam Steel[1], Ed Silson[2], Charlotte Stagg[3], Chris Baker[2]
[1]NIH/University of Oxford, Bethesda, MD, [2]NIMH, Bethesda, MD, [3]University of Oxford, Oxford, United Kingdom

1940 **Brain areas involved in different aspects of learning in a real-time fMRI neurofeedback training**
Renate Schweizer[1], Jens Frahm[1], Tibor Auer[2]
[1]Biomedizinische NMR Forschungs GmbH, Max Planck Institute for biophysical Chemistry, Goettingen, Germany, [2]MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom

1941 **Functional plasticity during de novo acquisition of laparoscopic surgical skills**
Anke Karabanov[1], Friederike Irmen[2], Thue Bisgaard[3], Kristoffer Madsen[4], Hartwig Siebner[3]
[1]Danish Research Centre for Magnetic Resonance, Hvidovre, Denmark, [2]Berlin School of Mind and Brain, Berlin, Germany, [3]Copenhagen University Hospital Hvidovre, Hvidovre, Denmark, [4]DTU, Lyngby, Denmark

1942 **Training-induced neuroplasticity in baseball players with different skill levels**
Chang Chih-Yen[1], Chen Yin-Hua[1], Nai-Shing Yen[2]
[1]Research Center for Mind, Brain, and Learning, Taipei, Taiwan, [2]Research Center for Mind, Brain, and Learning/Department of Psychology, National Chengchi University, Taipei, Taiwan

1943 **Short-term motor skill training relates to striatal and hippocampal grey matter increase in humans**
Zhenxiang Zang[1], Lena Geiger[1], Maria Zangl[1], Axel Schaefer[1], Carolin Moessnang[1], Mirjam Melzer[1], Matthias Ruf[1], Janine Reis[2], Andreas Meyer-Lindenberg[1], Heike Tost[1]
[1]Central Institute of Mental Health, University of Heidelberg/Medical Faculty Mannheim, Mannheim, Germany, [2]Albert-Ludwigs-University, Freiburg, Germany

1944 **Tracing finger-specific motor reorganization: effects of training combined with immobilization**
Estelle Raffin[1,2], Hartwig Siebner[3]
[1]INSERM U1416, Grenoble Institute of Neurosciences, La Tronche, France, [2]Danish Research Centre for Magnetic Resonance, Hvidovre, Denmark, [3]Copenhagen University Hospital Hvidovre, Hvidovre, Denmark

1945 **The effect of high-intensity interval exercise on GABA and motor learning**
James Coxon[1], Ellen Stavrinos[1], Chao Suo[1], Murat Yücel[1]
[1]Monash Institute of Cognitive and Clinical Neurosciences, Monash University, Melbourne, Victoria

1946 **Motor learning induces modulations of resting-state alpha oscillations: a MEG study**
Fanny Barlaam[1], Jordan Alves[1], Franck Di Rienzo[2], Sébastien Daligault[3], Claude Delpuech[1,3], Karim Jerbi[4], Christina Schmitz[1]
[1]Lyon Neuroscience Research Center, Lyon, France, [2]Université de Lyon, Centre de Recherche et d'Innovation sur le Sport, Lyon, France, [3]CERMEP - MEG department, Lyon, France, [4]Université de Montréal, Montreal, Canada

LEARNING AND MEMORY

Working Memory

1947 **The role of superior longitudinal fascicule and cingulum in working memory**
Riho Nakajima[1], Masashi Kinoshita[2], Hirokazu Okita[3], Yahata Tetsutaro[3], Mitsutoshi Nakada[2]
[1]Pharmaceutical and Health Sciences, Kanazawa University, Kanazawa, Japan, [2]Department of Neurosurgery, Kanazawa University, Kanazawa, Japan, [3]Kanazawa University Hospital, Kanazawa, Japan

1948 **Identification of distinct networks related to working memory in healthy young adults**
Tobias Egli[1], David Coynel[1], Eva Loos[1], Virginie Freytag[1], Andreas Papassotiropoulos[1], Dominique de Quervain[1], Annette Milnik[1]
[1]University of Basel, Basel, Switzerland

1949 **Quantitative susceptibility mapping of striatum and its association with working memory performance**
Fahimeh Darki[1], Federico Nemmi[1], Annie Möller[1], Rouslan Sitnikov[2], Torkel Klingberg[1]
[1]Department of Neuroscience, Karolinska Institutet, Stockholm, Sweden, [2]MRI Research Center, Department of Neuroradiology, Karolinska University Hospital, Stockholm, Sweden

1950 **Oscillatory activity to maintain spatial, temporal and item information in a working memory task**
Yee Ying Yick[1], Fumihiko Taya[2], Joshua Souza[2], Jasmine Lim[1], Kai Xin Chia[1], Karyen Chai[2], Anastasios Bezerianos[2], Shen-Hsing Annabel Chen[1]
[1]Nanyang Technological University, Singapore, Singapore, [2]National University of Singapore, Singapore, Singapore

1951* **Neural Basis of Working Memory as Revealed by Voxel-Based Lesion Symptom Mapping**
Maria Ivanova[1], Olga Dragoy[1], Svetlana Kuptsova[2], Yulia Akinina[1], Alexey Petrushevskiy[2], Oksana Fedina[2], Nina Dronkers[3]
[1]National Research University Higher School of Economics, Moscow, Russian Federation, [2]Center for Speech Pathology and Neurorehabilitation, Moscow, Russian Federation, [3]Center for Aphasia and Related Disorders, VA Northern California Health Care System, Martinez, CA

1952 **Information flow in Hippocampal-Prefrontal Network during a Working Memory Task**
Tiaotiao Liu[1], Wenwen Bai[2], Xin Tian[2]
[1]Tianjin Medical University, Tianjin, China, [2]Tianjin Medical University, Tianjin, China

1953* **Sequential activation in sub-second range during working memory task: A simultaneous EEG-fMRI study**
Kengo Mizuno[1], Epifanio Bagarinao[2], Satoshi Maesawa[2], Saea Tohira[3], Hirohisa Watanabe[2], Toshiharu Nakai[4], Haruo Isoda[2,1]
[1]Department of Radiological Sciences, Nagoya University Graduate School of Medicine, Nagoya, Japan, [2]Brain & Mind Research Center, Nagoya University, Nagoya, Japan, [3]Center for General Education, Aichi Institute of Technology, Toyota, Japan, [4]National Center for Geriatrics & Gerontology, Ohbu, Japan

1954 **Brain activity during working memory indicate the top-down regulation by a core control system**
Xiaotong Wen[1], Changhua Liu[1], Li Yao[2], Xia Wu[3]
[1]Renming University of China, Beijing, China, [2]Beijing Normal University, Beijing, China, [3]School of Information Science and Technology, Beijing Normal University, Beijing, China

1955 **Decoding selection-specific activity during the control of visual and auditory working memory**
Thomas Christophel[1], Chang Yan[1], Stefan Hetzer[2], John-Dylan Haynes[3]
[1]BCCN Berlin, Berlin, Germany, [2]Berlin Center for Advanced Neuroimaging, Charité - Universitätsmedizin Berlin, Berlin, Germany, [3]Charité – Universitätsmedizin Berlin / Bernstein Center for Computational Neuroscience, Berlin, Germany

1956 **COMT Genotype and Working Memory in Postmenopausal Women**
Julie Dumas[1], Jenna Makarewicz[1], Joshua Nickerson[2], Elizabeth McGee[1], Janice Bunn[1]
[1]University of Vermont, Burlington, VT, [2]University of Vermont Medical Center, Burlington, VT

1957 **The Influence of Working Memory Updating Training on Children with Learning Disabilities**
Hongxia Zhang[1], Renlai Zhou[2]
[1]School of Psychology, Beijing Normal Univ, Beijing, Beijing, [2]Department of Psychology, Nanjing University, Nanjing, Jiangsu

1958 **Oscillatory Mechanisms Mediates Interference from Emotional Distraction in Visual Working Memory**
Bo-Cheng Kuo[1], Yei-Yu Yeh[1]
[1]National Taiwan University, Taipei, Taiwan

1959 **Effects of Long-term Dual-mode Noninvasive Brain Stimulation in Stroke with Cognitive Impairment**
Yun-Hee Kim[1,2], Ahee Lee[2], Eunhee Park[1], Hee Goo Kim[2], Won Hyuk Chang[1]
[1]Department of Physical and Rehabilitation Medicine, Center for Prevention and Rehabilitation, Heart Vascular and Stroke Institute, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, Republic of, [2]Department of Health Sciences and Technology, Sungkyunkwan University, Seoul, Korea, Republic of

1960 **The neurophysiological correlates of attentional selection, salience processing and working memory**
Lara Rösler[1], Michael Schaum[2], Benjamin Peters[3], Michael Wibral[4], Andreas Reif[5], Robert Bittner[5]
[1]Department of Psychiatry, Psychosomatic Medicine and Psychotherapy, University Hospital Frankfurt, Frankfurt am Main, Germany, [2]Brain Imaging Center, Goethe University, Frankfurt am Main, Germany, [3]Institute of Medical Psychology, Goethe University, Frankfurt am Main, Germany, [4]Brain Imaging Center, MEG Unit, Goethe University, Frankfurt/Main, Germany, [5]Department of Psychiatry, University Hospital Frankfurt, Frankfurt, Germany

1961 **Influence of acute bouts of exercise on effective connectivity within the working memory network**
Karl Koschutnig[1], Gernot Reishofer[2], Guilherme Wood[1], Andreas Fink[1], Christa Neuper[1]
[1]University of Graz, Graz, Austria, [2]Medical University Graz, Graz, Austria

1962 **Distinct brain networks underlie individual differences in human spatial working memory capacity**
Siwei Liu[1], Jia-Hou Poh[1], Hui Li Koh[1], Eric Kwun-Kei Ng[1], Yng Miin Loke[1], Joseph Kai Wei Lim[1], Joanna Suxian Chong[1], Juan Zhou[1]
[1]Duke-NUS Medical School, Singapore, Singapore

1963 **Striatal contributions to the processing of novelty revealed in a longitudinal working memory study**
Lena Geiger[1], Maria Zangl[1], Zhenxiang Zang[1], Carolin Moessnang[1], Mirjam Melzer[1], Axel Schaefer[1], Tamar van Raalten[2], Andreas Meyer-Lindenberg[1], Heike Tost[1]
[1]Central Institute of Mental Health, University of Heidelberg/Medical Faculty Mannheim, Mannheim, Germany, [2]Rudof Magnus Institute, University Medical Center Utrecht, Utrecht, Netherlands

1964 **A functional MRI investigation of working memory of face and face-name associations**
Arun Bokde[1], Ciara Molloy[1]
[1]Trinity College Dublin, Dublin, Ireland

1965 **Testing a neural dynamic account of working memory with theory-derived fMRI**
John Spencer[1], Aaron Buss[2]
[1]University of East Anglia, Norwich, UK, [2]University of Tennessee, Knoxville, TN

1966 **Maintenance of color, position and their integration in working memory**
Anka Slana[1], Martina Starc[1], Grega Repovš[1]
[1]Mind & Brain Lab, University of Ljubljana, Ljubljana, Slovenia

1967 **The left premotor cortex is involved in the updating of pictorial and abstract working memory**
Timo Schmidt[1], Felix Blankenburg[1]
[1]Freie Universität Berlin, Berlin, Germany

1968 **A Set of Tools for Statistical Analysis of Combined EEG and Behavioral Data**
Ruben Perellón Alfonso[1], Indre Pileckyte[1], Blaž Koritnik[2], Grega Repovš[3], Jure Bon[1]
[1]Department of Neurology, University Medical Centre Ljubljana, Slovenia, [2]Institute of Clinical Neurophysiology, University Medical Centre Ljubljana, Slovenia, [3]Department of Psychology, Faculty of Arts, University of Ljubljana, Slovenia

1969 **The development of filtering for working memory**
Jennifer Minas[1], Julia Leonard[1], Calvin Goetz[1], Margaret Sheridan[2], John Gabrieli[1], Amy Finn[3]
[1]Massachusetts Institute of Technology, Cambridge, MA, [2]Harvard Medical School, Boston, MA, [3]University of Toronto, Toronto, Ontario

1971 **Magnetoencephalography Slow Resting State Oscillations Predicts Working Memory Performance**
Victor Oswald[1], Younes Zerouali[1], Aubrée Boulet-Craig[1], Maja Krajinovic[2], Caroline Laverdière[2], Daniel Sinnett[2], Pierre Jolicoeur[1], Sarah Lippé[1], karim Jerbi[1], Philippe Robaey[1]
[1]Université de Montréal, Montréal, Canada, [2]Sainte-Justine Hospital, Montréal, Canada

LIFESPAN DEVELOPMENT

Lifespan Development Other

1972 **A Effect of Childhood Maltreatment on Hippocampal and Amygdala Development - A Longitudinal Study**
Casey Paquola[1], Maxwell Bennett[1], Jim Lagopoulos[1]
[1]University of Sydney, Sydney, Australia

1973 **Pediatric Peculiarities in the clinical application of advanced MR methods**
Marko Wilke[1], Samuel Groeschel[1], Sabine Rona[2], Martin Schuhmann[2], Ulrike Ernemann[3], Ingeborg Kraegeloh-Mann[1]
[1]University Children's Hospital, Tuebingen, Germany, [2]Department of Neurosurgery, University Hospital, Tuebingen, Germany, [3]Department of Neuroradiology, University Hospital, Tuebingen, Germany

1974 **Lifestyle risk and the cortical surface in brains of older adults**
Nora Bittner[1,2], Christiane Jockwitz[2,1], Susanne Moebus[3], Noreen Pundt[3], Ute Bayen[4], Karl Zilles[1,5,6], Katrin Amunts[1,2,5], Svenja Caspers[2,1]
[1]Institute of Neuroscience and Medicine (INM-1), Research Centre Juelich, Juelich, Germany, [2]C. and O. Vogt Institute for Brain Research, Heinrich-Heine-University, Duesseldorf, Germany, [3]Institute of Medical Informatics, Biometry and Epidemiology, University of Duisburg-Essen, Essen, Germany, [4]Institute of Experimental Psychology, Heinrich-Heine-University, Duesseldorf, Germany, [5]JARA-BRAIN, Juelich-Aachen Research Alliance, Juelich, Germany, [6]Department of Psychiatry, Psychotherapy, and Psychosomatics, RWTH Aachen University, Aachen, Germany

1975 **Maturation of cerebellar afferent and efferent tracts in typically developed brains**
Kaoru Amemiya[1], Tomoyo Morita[2], Daisuke Saito[3], Midori Ban[4], Koji Shimada[3], Yuko Okamoto[3], Hirotaka Kosaka[3], Hidehiko Okazawa[3], Minoru Asada[2], Eiichi Naito[1]
[1]CiNet, NICT, Osaka, Japan, [2]Graduate School of Engineering, Osaka University, Osaka, Japan, [3]University of Fukui, Fukui, Japan, [4]Doshisha University, Kyoto, Japan

1976 **Sex Differences in White Matter Microstructure over the Lifespan**
Chih-Chin Hsu[1], Chun-Yi Zac Lo[2], Yong He[3], Ching-Po Lin[4]
[1]Department of Biomedical Imaging and Radiological Sciences, National Yang-Ming University, Taipei, Taiwan, [2]Institute of Neuroscience, National Yang-Ming University., Taipei, Taiwan, [3]State Key Laboratory of Cognitive Neuroscience and Learning and IDG/McGovern Institute for Brain Res, Beijing, China, [4]Brain research center, National Yang-Ming University, Taipei, Taiwan

1977* **Different cortical morphologies in datasets of fetuses and preterm newborns at comparable ages**
Julien Lefèvre[1], David Germanaud[2], Jessica Dubois[3], François Rousseau[4], Ines De Macedo Santos[5], Hugo Angleys[6], Jean-François Mangin[7], Petra Huppi[8], Nadine Girard[9], François De Guio[10]
[1]Aix-Marseille Université, Marseille, France, [2]INSERM, U1129, Paris; CEA, NeuroSpin, UNIACT, Gif-sur-Yvette, France, [3]Inserm, Gif-sur-Yvette, France, [4]Institut Mines-Telecom, Telecom Bretagne, INSERM U1101 LaTIM, Brest, France, [5]CEA, NeuroSpin Center, UNATI, Gif-sur-Yvette, France, [6]Department of Clinical Medicine - Center of Functionally Integrative Neuroscience, Aarhus, Denmark, [7]Neurospin, CEA, Gif-sur-Yvette, France, [8]Hopitaux Universitaires de Genève, Genève, Switzerland, [9]Service de Neuroradiologie, Hôpital de La Timone, Marseille, France, [10]Université Paris Diderot, Sorbonne Paris Cité, UMR-S 1161 INSERM, Paris, France

1978 **Low family income during childhood is predictive of white matter microstructure in adulthood**
Kendra Hinton[1], Victoria Villalta-Gil[1], Brian Boyd[1], Katherine Werts[2], Scott Perkins[1], Kevin Anderson[3], Benjamin Yvernault[1], Neil Woodward[1], Bennett Landman[1], Benjamin Lahey[4], David Zald[1]
[1]Vanderbilt University, Nashville, TN, [2]Virginia Commonwealth University, Richmond, VA, [3]Yale University, New Haven, CT, [4]University of Chicago, Chicago, IL

1979 **Trajectories of brain system maturation from childhood to young adulthood**
Raluca Petrican[1], Cheryl Grady[2], Margot Taylor[3]
[1]Rotman Research Institute, Toronto, Ontario, [2]University of Toronto & Rotman Research Institute, Toronto, Canada, [3]University of Toronto & The Hospital for Sick Children, Toronto, Canada

1980 **Longitudinal Mapping of Subcortical Brain Morphometry in Perinatally Infected HIV+ Children**
Benjamin Wade[1,2], Victor Valcour[3], Wasana Prasitsuebsai[4], Kanchana Pruksakaew[4], Katherine Clifford[3], Sukalya Lerdlum[5], Pannee Visrutaratna[6], Pope Kosalaraksa[7], Arvin Saremi[2], Boris Gutman[2], Talia Nir[8], Christa Watson[9], Thanyawee Puthanakit[4], Linda Aurpibul[10], Mantana Pothisri[5], Neda Jahanshad[11], Jintanat Ananworanich[12], Paul Thompson[13]
[1]UCLA, Los Angeles, CA, [2]University of Southern California, Los Angeles, CA, [3]Memory and Aging Center, UCSF, Neurology, San Francisco, CA, [4]HIV-NAT, Thai Red Cross AIDS Research Center, Bangkok, Thailand, [5]Chulalongkorn University, Bangkok, Thailand, [6]Chiang Mai University, Chiang Mai, Thailand, [7]Department of Pediatrics, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand, [8]Imaging Genetics Center, University of Southern California, Los Angeles, CA, [9]Memory and Aging Center, Department of Neurology University of California, San Francisco, CA, [10]RIHES, Chiang Mai, Thailand, [11]University of Southern California, Marina del Rey, CA, [12]Henry M. Jackson Foundation for the Advancement of Military Medi, Bethesda, MD, [13]University of South California, Los Angeles, CA

1981 **Larger age-related thinning in grey matter cortical thickness in early than mid adulthood**
Sophie Maingault[1], Tzourio-Mazoyer Nathalie[1], Marc Joliot[1], Gaël Jobard[1], Emmanuel Mellet[1], Laurent Petit[1], Laure Zago[1], Bernard Mazoyer[1], Fabrice Crivello[1]
[1]Groupe d'Imagerie Neurofonctionnelle, IMN, UMR5293 CNRS, CEA Univ. Bordeaux, Bordeaux, France

1982 **Smaller cingulate and hippocampal volumes after child trauma: meta-analysis of 26 adult VBM studies**
Nynke Groenewold[1], Shareefa Dalvie[1], Sarah Heany[1], Anne Uhlmann[1], Dan Stein[1], Samantha Brooks[1]
[1]University of Cape Town, Cape Town, South Africa

1983 **Prenatal methamphetamine exposure is associated with white matter changes in neonates**
Fleur Warton[1], Paul Taylor[2], Christopher Warton[3], Chris Molteno[1], Pia Wintermark[4], Nadine Lindinger[1], Lilla Zollei[5], Andre van der Kouwe[6], Joseph Jacobson[7], Sandra Jacobson[7], Ernesta Meintjes[1]
[1]University of Cape Town, Cape Town, South Africa, [2]National Institutes of Health, Bethesda, MD, [3]University of Cape Town, Cape Town, Western Cape Province, [4]McGill University, Montreal, Canada, [5]Massachusetts General Hospital, Boston, United States, [6]Massachusetts General Hospital, Charlestown, MA, [7]Wayne State University, Detroit, MI

1984 **FinnBrain Cohort Neuroimaging –unraveling mechanisms between early stress and brain development**
Noora Scheinin[1,2,3,4], Linnea Karlsson[2,5], Jetro Tuulari[2,4], Eeva-Leena Kataja[2,6], Minna Huotilainen[7], Ilkka Nissilä[8], Katja Tervahartiala[2], Riitta Parkkola[9], Hasse Karlsson[2,3], FinnBrain Research Group[2]
[1]University of Turku, Turku, Finland, [2]FinnBrain Birth Cohort Study, Turku Brain and Mind Center, University of Turku, Turku, Finland, [3]Department of Psychiatry, Turku University Hospital and University of Turku, Turku, Finland, [4]Turku PET Centre, University of Turku and Turku University Hospital, Turku, Finland, [5]Department of Child Psychiatry, Turku University Hospital and University of Turku, Turku, Finland, [6]Department of Behavioural Sciences, University of Turku, Turku, Finland, [7]Institute of Behavioural Sciences, University of Helsinki, Helsinki, Finland, [8]Aalto University, Helsinki, Finland, [9]Department of Radiology, Turku University Hospital and University of Turku, Turku, Finland

1985 **Gender trajectories of EEG microstates temporal dynamics across brain development and ageing**
Miralena Tomescu[1], Tonia Rihs[1], Brunet Denis[1], Vincent Rochas[1], Juliane Britz[1], Giles Allali[2], Stéphan Eliez[3], Christoph Michel[1]
[1]Department of Fundamental Neurosciences, Univement of fundamental neuroscience, University of Geneva, Geneva, Switzerland, [2]Department of Neurology, University Hospital of Geneva, Geneva, Switzerland, [3]Office Médico-Pédagogique, Department of Psychiatry University of Geneva School of Medicine, Geneva, Switzerland

1986 **Age Related Changes of EEG Connectivity in Children and Adolescents Living in the Russian North**
Zhanna Nagornova[1], Natalia Shemyakina[1], Vladimir Rozhkov[1], Sergey Bekshaev[1], Svyatoslav Soroko[1]
[1]I.M. Sechenov Institute of Evolutionary Physiology and Biochemistry, Russian Academy of Sciences, St.Petersburg, Russian Federation

1987 **Mapping Variation in Local Transition of Functional Network Boundaries Across the Lifespan**
Ting Xu[1,2,3], Cameron Craddock[1,3], Alexander Opitz[3,1], Xi-Nian Zuo[2], Michael Milham[1,3]
[1]Child Mind Institute, New York, United States, [2]Institute of Psychology, Chinese Academy of Sciences, Beijing, China, [3]Nathan Kline Institute for Psychiatric Research, Orangeburg, United States

1988 **Age-related morphological changes of medial temporal lobe across the human lifespan**
Ning Yang[1,2], Xi-Nian Zuo[1]
[1]Institute of Psychology, Chinese Academy of Sciences, Beijing, China, [2]University of Chinese Academy of Sciences, Beijing, China

1989 **A Pediatric Population-Based Resting State Study of Connectivity Dynamics in Typical Development**
Barnaly Rashid[1], Ryan Muetzel[2], Laura Blanken[2], Robyn Miller[1], Eswar Damaraju[1], Mohammad Arbabshirani[1], Erik Erhardt[3], Frank Verhulst[2], Aad van der Lugt[2], Vincent Jaddoe[2], Henning Tiemeier[2], Tonya White[2], Vince D. Calhoun[1]
[1]The Mind Research Network, Albuquerque, NM, [2]Erasmus MC, Rotterdam, Netherlands, [3]The University of New Mexico, Albuquerque, NM

LIFESPAN DEVELOPMENT

Normal Brain Development: Fetus to Adolescence

1990 **Structural and functional thalamo-cortical connectivity in healthy newborn infants**
Silvina Ferradal[1], Borjan Gagoski[1], Camilo Jaimes[2], Thea Francel[1], Alana Matos[1], Ryan Larsen[3], Brad Sutton[3], Ellen Grant[1], Lilla Zollei[2]
[1]Boston Children's Hospital, Boston, MA, United States, [2]Massachusetts General Hospital, Boston, MA, United States, [3]Beckman Institute, Urbana, IL, United States

1991 **Microstructural features during early brain development and later neurodevelopmental outcome**
Dafnis Batalle[1], Andrew Chew[1], Hui Zhang[2], Jonathan O'Muircheartaigh[1], Emer Hughes[1], Nora Tusor[1], Paul Aljabar[1], Daniel Alexander[2], Joseph Hajnal[1], A David Edwards[1], Serena Counsell[1]
[1]Centre for the Developing Brain, King's College London, London, United Kingdom, [2]University College London, London, United Kingdom

1992* **Identification of cortical generators of spontaneous activity in the preterm brain with EEG-fMRI**
Tomoki Arichi[1,2], Giovanni Barone[3,1], Kimberly Whitehead[4], Amy Lee[4], Francesco Padormo[1], A David Edwards[1,2], Lorenzo Fabrizi[4]
[1]King's College London, London, United Kingdom, [2]Imperial College London, London, United Kingdom, [3]Catholic University of Sacred Heart, Rome, Italy, [4]University College London, London, United Kingdom

1993 **Topography and function of spontaneous EEG transients in neonates is organised by vigilance state**
Kimberley Whitehead[1], Maria Pureza Laudiano-Dray[1], Judith Meek[2], Lorenzo Fabrizi[1]
[1]University College London, London, United Kingdom, [2]University College London Hospitals, London, United Kingdom

1994 **Personality traits predict cortical development across adolescence: A longitudinal MRI study**
Lia Ferschmann[1], Anders Fjell[1], Margrete Vollrath[2], Kristine Walhovd[1], Christian Tamnes[1]
[1]Department of Psychology, University of Oslo, Oslo, Norway, [2]Norwegian Institute off Public Health, Oslo, Norway

1995 **Decreased gyrification in 7-year-old HIV-infected children on early antiretroviral therapy**
Emmanuel Nwosu[1], Frances Robertson[1], Martha Holmes[1], Mark Cotton[2], Els Dobbels[2], Francesca Little[1], Barbara Laughton[2], Ernesta Meintjes[1], Andre van der Kouwe[3]
[1]University of Cape Town, Cape Town, South Africa, [2]Stellenbosch University, Cape Town, South Africa, [3]Massachusetts General Hospital, Charlestown, MA

1996 **Relation between Cortical Maturity and White Matter Connectivity**
Cecilia Maeder[1], Alessandra Griffa[1,2], Juliane Schneider[1], Petra Huppi[3], Anita Truttmann[1], Patric Hagmann[1,2]
[1]Centre Hospitalier Universitaire Vaudois (CHUV), Lausanne, Switzerland, [2]Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland, [3]Hopitaux Universitaires de Genève, Genève, Switzerland

1997 **Measuring Growth Patterns during Neonatal Brain Development with Surface Strain Analysis**
Kara Garcia[1], Emma Robinson[2], Dimitrios Alexopoulos[1], Cynthia Rogers[1], Christopher Smyser[1], Larry Taber[1], Philip Bayly[1]
[1]Washington University in St. Louis, St. Louis, MO, [2]Imperial College London, London, United Kingdom

1998 **Mapping the Critical Gestational Age at Birth to White Matter Development in Preterm-born Infants**
Dan Wu[1], Linda Chang[2], Robyn Yamakawa[3], Sara Hayama[3], Steven Buchthal[3], Daniel Alicata[3], Tamara Andres[3], Kumiko Oishi[4], Jon Skranes[5], Thomas Ernst[3], Kenichi Oishi[1]
[1]Johns Hopkins University School of Medicine, Baltimore, MD, [2]University of Hawaii, Honolulu, HI, [3]University of Hawaii at Manoa, Honolulu, HI, [4]Johns Hopkins University, Baltimore, MD, [5]Norwegian University of Science and Technology, Trondheim, Norway

1999 **Thalamic brain iron differences associated with body mass index in adolescents**
Erika Raven[1,2], Peter van Gelderen[2], Valerie Darcey[1], Diana Fishbein[3], Jeff Duyn[2], John VanMeter[1]
[1]Georgetown University, Washington, DC, [2]Advanced MRI Section, LFMI, NINDS, National Institutes of Health, Bethesda, MD, [3]Pennsylvania State University, University Park, PA

2000 **Immature cerebro-cerebellar interaction for timing motor control in children**
Eiichi Naito[1,2], Tomoyo Morita[3], Minoru Asada[3]
[1]CiNet, NICT, Osaka, Japan, [2]Graduate School of Frontier Bioscience and Graduate School of Medicine, Osaka University, Osaka, Japan, [3]Graduate School of Engineering, Osaka University, Osaka, Japan

2001 **Obesity in Pregnancy Influences Postnatal Brain Myelination and Child Cognition**
Allison Shapiro[1], Andrea Miele[1], Holly Dirks[2], Douglas Dean[3], Sean Deoni[4]
[1]University of Colorado Anschutz Medical Campus, Aurora, CO, [2]Brown University, Providence, RI, [3]University of Wisconsin, Madison, WI, [4]Children's Hospital Colorado, Aurora, CO

2002 **Occipital Lobe Subdivision Volumes in Relationship to Neurological Delays in Premature Neonates**
Nicole Riley[1], Mengyuan Liu[1], Raley Rewa[1], Steven Miller[2], Vann Chau[2], Ken Poskitt[3], Ruth Grunau[3], Anne Synnes[3], Dennis Shaw[4], Colin Studholme[1]
[1]Biomedical Image Computing Group, Department of Pediatrics, University of Washington, Seattle, WA, [2]Hospital for Sick Children Research Institute, Toronto, Ontario, [3]Pediatrics, University of British Columbia, Vancouver, British Columbia, [4]Radiology, University of Washington, Seattle, WA

2003 **Parental praise in early adolescence correlates with the rGMV of the auditory area 3 years later**
Izumi Matsudaira[1], Mitsunari Abe[1], Susumu Yokota[1], Hikaru Takeuchi[2], Benjamin Thyreau[1], Kohei Asano[3], Michiko Asano[4], Yuko Sassa[5], Ryuta Kawashima[1], Yasuyuki Taki[1]
[1]Tohoku University, Sendai, Japan, [2]Division of Developmental Cognitive Neuroscience, IDAC, Tohoku University, Sendai, Japan, [3]Kokoro Research Center, Kyoto University, Kyoto, Japan, [4]National Center of Neurology and Psychiatry, Tokyo, Japan, [5]Division of Developmental Cognitive Neuroscience, IDAC, Tohoku University, Sendai, Japan

2004 **Adolescent Consolidation of Association Cortical Hubs of the Human Brain Connectome**
Kirstie Whitaker[1], Petra Vértes[1], Rafael Romero Garcia[1], František Váša[1], Michael Moutoussis[2], Gita Prabhu[2], Nikolaus Weiskopf[2], Martina Callaghan[2], Konrad Wagstyl[1], Timothy Rittman[1], Roger Tait[1], Cinly Ooi[1], John Suckling[1], Becky Inkster[1], Peter Fonagy[2], Ray Dolan[2], Peter Jones[1], Ian Goodyer[1], Edward Bullmore[1]
[1]University of Cambridge, Cambridge, United Kingdom, [2]University College London, London, United Kingdom

2005 **Intra-Infant Homology between Resting and Speech-Stimulated States in Brain Network's Central Nodes**
Fumitaka Homae[1,2], Hama Watanabe[3], Gentaro Taga[3]
[1]Department of Language Sciences, Tokyo Metropolitan University, Tokyo, Japan, [2]Research Center for Language, Brain and Genetics, Tokyo Metropolitan University, Tokyo, Japan, [3]Graduate School of Education, University of Tokyo, Tokyo, Japan

2006 **Infraslow activity transients nest the higher frequency phase synchrony in sleeping neonates**
Anton Tokariev[1], Matias Palva[2], Sampsa Vanhatalo[1]
[1]Helsinki University Central Hospital and University of Helsinki, Helsinki, Finland, [2]Neuroscience Center, University of Helsinki, Helsinki, Finland

2007 **Age influences the relationship between resting-state and task-based functional connectivity**
Roselyne Chauvin[1,2], Maarten Mennes[1], Jan Buitelaar[1,2], Christian Beckmann[1,2,3]
[1]Donders Institute for Brain, Cognition and Behaviour, Radboud University Nijmegen, Nijmegen, Netherlands, [2]Radboud University Medical Center, Department of Cognitive Neuroscience, Nijmegen, Netherlands, [3]FMRIB, Oxford, United Kingdom

2008 **Heritability of volumetric brain changes in adolescence**
Rachel Brouwer[1], Marinka Koenis[1], Suzanne Swagerman[2], Dorret Boomsma[2], Hilleke Hulshoff Pol[1]
[1]Department of Psychiatry, Brain Center Rudolf Magnus, University Medical Center Utrecht, Utrecht, Netherlands, [2]Department of Biological Psychology, Free University, Amsterdam, Netherlands

2009 **Developmental Changes in Resting-State Variability: A Multimodal fMRI + MEG Approach**
Scott Marek[1], Will Foran[1], Avniel Ghuman[1], Beatriz Luna[1]
[1]University of Pittsburgh, Pittsburgh, PA

2010 **Development of Functional Connectivity Asymmetries: Longitudinal effects in Children and Adolescents**
Zeus Gracia[1], Beatriz Moreno[1], Edna Navarrete[1], Fernando Barrios[2], Sarael Alcauter[1]
[1]UNAM, Queretaro, Mexico, [2]UNAM, Queretaro, QRO

2011 **Relationships between age and functional brain measures in preschool children**
Xiangyu Long[1], Alina Benischek[1], Deborah Dewey[2], Catherine Lebel[2]
[1]University of Calgary, Calgary, Canada, [2]University of Calgary, Calgary, Alberta

2012 **Maturation of Functional Brain Networks Throughout Childhood**
Alexandria Jensen[1], Holly Dirks[2], Douglas Dean[3], Sean Deoni[4]
[1]University of Colorado Anschutz Medical Campus, Aurora, CO, [2]Brown University, Providence, RI, [3]University of Wisconsin, Madison, Madison, WI, [4]Children's Hospital Colorado, Aurora, CO

2013 **Ruminative Brooding Is Associated with Salience Network Coherence in Early Pubertal Females**
Sarah Ordaz[1], Joelle LeMoult[1], Natalie Colich[1], Gautam Prasad[2], Maddie Pollak[1], Morgan Popolizio[1], Michael Greicius[1], Ian Gotlib[1]
[1]Stanford University, Stanford, CA, [2]Keck School of Medicine of USC, Los Angeles, CA

2014* **Early Development of Functional Segregation Revealed by Network Analysis of the Preterm Human Brain**
Miao Cao[1], Yong He[1], Zhengjia Dai[1], Xuhong Liao[1], Tina Jeon[2], Minhui Ouyang[2], Lina Chalak[3], Yanchao Bi[1], Nancy Rollins[3], Qi Dong[1], Hao Huang[2]
[1]Beijing Normal University, Beijing, China, [2]Children's Hospital of Philadelphia, Philadelphia, United States, [3]University of Texas Southwestern Medical Center, Dallas, United States

2015 **Anatomo-functional correlates of visual interhemispheric communication throughout infancy**
Parvaneh Adibpour[1], Ghislaine Dehaene-Lambertz[1], Jessica Dubois[1]
[1]INSERM, CEA, NeuroSpin, U992, Gif-sur-Yvette, France

2016 **White matter connections of fusiform areas: A longitudinal study in children learning to read**
Eric Moulton[1], Karla Monzalvo-Zúñiga[1], Florence Bouhali[2], Thomas Hannagan[1], Michel Thiebaut de Schotten[2,3], Jessica Lebenberg[1,4], Cyril Poupon[5], Hui Zhang[6], Stanislas Dehaene[7,1], Ghislaine Dehaene-Lambertz[1], Jessica Dubois[1]
[1]INSERM, CEA, NeuroSpin, U992, Gif-sur-Yvette, France, [2]INSERM, CNRS, ICM, Université Paris Descartes, Sorbonne Paris Cité, Paris, France, [3]King's College, Institute of Psychiatry, Natbrainlab, London, United Kingdom, [4]CEA, NeuroSpin, UNATI, Gif-sur-Yvette, France, [5]CEA, NeuroSpin, UNIRS, Gif-sur-Yvette, France, [6]University College, Department of Computer Science, London, United Kingdom, [7]Collège de France, Paris, France

2017 **Preterm human brain structural connectome with diffusion MRI**
Tengda Zhao[1,2], Virendra Mishra[3], Hao Huang[4], Ni Shu[1,2]
[1]State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, [2]IDG/McGovern Institute for Brain Research, Beijing Normal University, Beijing, China, [3]Cleveland Clinic Lou Ruvo Center for Brain Health, Las Vegas, NV, [4]Children's Hospital of Philadelphia, Philadelphia, United States

2018 **Sulcus-based alignement of infant brains to study cortical maturation with a AAL-like atlas**
Jessica Lebenberg[1,2], Mickaël Labit[3], Guillaume Auzias[4], Claire Kabdebon[2], François Leroy[2], Lucie Hertz-Pannier[5], Cyril Poupon[6], Ghislaine Dehaene-Lambertz[2], Jean-François Mangin[1,3], Jessica Dubois[2]
[1]CEA, NeuroSpin, UNATI, Gif-sur-Yvette, France, [2]INSERM, CEA, NeuroSpin, U992, UNICOG, Gif-sur-Yvette, France, [3]CATI, Multicenter Neuroimaging Platform, cati-neuroimaging.com, France, [4]Institut de Neurosciences de la Timone, Marseille, France, [5]INSERM, CEA, NeuroSpin, U1129, UNIACT, Gif-sur-Yvette, France, [6]CEA, Neurospin, UNIRS, Gif-sur-Yvette, France

2019 **Classifier brain using entropy measure**
Jesús Jiménez[1], Nadia Gonzalez[2], Pablo Padilla[1]
[1]IIMAS-UNAM, Mexico, Mexico, [2]Hospital Infantil de México, México, Mexico

2020 **Growth models of major white matter tract neurite density from infancy through adolescence**
Kirsten Lynch[1], Scott Holland[2], Arthur Toga[1], Kristi Clark[1]
[1]University of Southern California, Los Angeles, CA, [2]Cincinnati Children's Hospital Medical Center, Cincinnati, OH

2021 **Development of spatial orientation skills in children: a task fMRI study**
Kara Murias[1], Edward Slone[1], Sana Tariq[1], Giuseppe Iaria[1]
[1]University of Calgary, Calgary, Alberta

2022 **Sex And Hormones On White Matter Tract Integrity In Healthy Children And Adolescents**
Vanessa Douet[1], Linda Chang[1], Borislava Stoytcheva[1], Thomas Ernst[2]
[1]University of Hawaii at Manoa, Honolulu, HI, HONOLULU, HI, [2]University of Hawaii at Manoa, Honolulu, HI

2023 **Age related changes in brain state expression supporting cognitive flexibility**
Bart Larsen[1], David Montez[1], Brenden Tervo-Clemmens[2], Beatriz Luna[1]
[1]University of Pittsburgh, Pittsburgh, PA, [2]University of Pittsburgh, Pittsburgh, United States

2024 **Cannabis Use and Adolescent Neurocognitive Development: A Prospective fMRI Study**
Brenden Tervo-Clemmens[1], Finnegan Calabro[1], Beatriz Luna[1]
[1]University of Pittsburgh, Pittsburgh, PA

2025 **Stepwise functional connectivity of the developing brain during the first two years of life**
Suzanne Pendl[1], Andrew Salzwedel[1], Weili Lin[2], John Gilmore[3], Wei Gao[1]
[1]Cedars-Sinai Medical Center, Los Angeles, CA, [2]University of North Carolina at Chapel Hill, Chapel Hill, United States, [3]Department of Psychiatry, University of North Carolina, Chapel Hill, United States

2026 **Elevated Amygdala Perfusion Mediates Developmental Sex Differences in Trait Anxiety**
Antonia Kaczkurkin[1], Tyler Moore[1], Kosha Ruparel[1], Monica Calkins[1], Russell Shinohara[1], Mark Elliott[1], Ryan Hopson[1], David Roalf[1], Simon Vandekar[1], Efstathios Gennatas[1], Daniel Wolf[1], J Scott[1], Daniel Pine[2], Ellen Leibenluft[2], John Detre[1], Edna Foa[1], Raquel Gur[1], Ruben Gur[1], Theodore Satterthwaite[1]
[1]University of Pennsylvania, Philadelphia, United States, [2]NIMH, Bethesda, United States

2027 **Gender differences in development of emotional processing networks: a post-task resting fMRI study**
Jeffrey Riley[1], Jessica Winsell[1], Ana Solodkin[1]
[1]University of California Irvine, Irvine, United States

2028 **Dynamic casual modelling of fronto-temporal connectivity in preschool children**
Jon Brock[1], Wei He[1], Yatin Mahajan[2], Blake Johnson[1], Paul Sowman[1], Marta Garrido[3]
[1]Macquarie University, Sydney, Australia, [2]Western Sydney University, Sydney, Australia, [3]The University of Queensland, Brisbane, Australia

2029 **Dynamics of Infant Mu Rhythm in the First Year of Life**
Lei Ding[1], Andy Fagg[1], Thubi Kolobe[2], David Miller[1]
[1]University of Oklahoma, Norman, OK, [2]University of Oklahoma Health Sciences Center, Oklahoma City, OK

2030 **Reasoning and the fronto-parietal network: relating structural and functional connectivity**
Carter Wendelken[1]
[1]UC Berkeley, Berkeley, CA

2031 **Cortical development of children with ADHD: Effects of motion on developmental trajectories**
Kathryn Mills[1], Eric Earl[1], Oscar Miranda-Dominguez[1], Damion Demeter[1], Alexandra Walton Weston[1], Joel Nigg[1], Damien Fair[1]
[1]Oregon Health & Sciences University, Portland, United States

2032 **Clustering on the functional connectivity strength of Preterm Human Brain**
Qinmu Peng[1], Minhui Ouyang[1], Miao Cao[2], Lei Feng[1], He Yong[2], Hao Huang[1,3]
[1]Radiology, Children's Hospital of Philadelphia, Philadelphia, USA, [2]State Key Laboratory of Cognitive Neuroscience and Learning and IDG/McGovern Institute for Brain Res, Beijing, China, [3]Department of Radiology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, USA

2033 **Mother's voice elicits reduced activity in reward circuitry during cross-sectional development**
Daniel Abrams[1], Aarthi Padmanabhan[1], Amanda Baker[1], Paola Odriozola[1], Vinod Menon[2]
[1]Stanford University, Palo Alto, CA, [2]Stanford University, Stanford, CA

MODELING AND ANALYSIS METHODS

Diffusion MRI Modeling and Analysis

2034 **Microscopic Diffusion Anisotropy Imaging**
Enrico Kaden[1], Nathaniel Kelm[2], Robert Carson[2], Mark Does[2], Daniel Alexander[1]
[1]University College London, London, United Kingdom, [2]Vanderbilt University, Nashville, United States

2035 **Microstructure-driven tractography in the human brain**
Gabriel Girard[1], Alessandro Daducci[2], Kevin Whittingstall[1], Rachid Deriche[3], Demian Wassermann[3], Maxime Descoteaux[1]
[1]Université de Sherbrooke, Sherbrooke, Canada, [2]École polytechnique fédérale de Lausanne, Lausanne, Switzerland, [3]Inria, Sophia Antipolis, France

2036 **Longitudinal Diffusion Metrics and WMH in an Elderly Cohort at Risk of Alzheimer's disease**
Chris Steward[1,2], Bernd Merkel[1], Andrew Sanderson[1], Nicola Lautenschlager[3,4], Michelle Lai[5], Elizabeth Cyarto[5], Patricia Desmond[1,2]
[1]Dept of Radiology, University of Melbourne, Parkville, Australia, [2]Dept of Radiology, Royal Melbourne Hospital, Melbourne, Australia, [3]Academic Unit for Psychiatry of Old Age, Dept of Psychiatry, University of Melbourne, Melbourne, Australia, [4]NorthWestern Mental Health, Melbourne Health, Royal Melbourne Hospital, Melbourne, Australia, [5]National Ageing Research Institute, Parkville, Victoria, Parkville, Australia

2037 **Diffusion MR Tractography Clustering with the Sparse Closest Point Transform**
Ryan Cabeen[1], David Laidlaw[1]
[1]Brown University, Providence, RI

2038 **The effect of axon shape and myelination on diffusion signals in a realistic simulation environment**
Michiel Kleinnijenhuis[1], Jeroen Mollink[1], Errin Johnson[1], Vitaly Galinsky[2], Lawrence Frank[2], Saad Jbabdi[1], Karla Miller[1]
[1]University of Oxford, Oxford, United Kingdom, [2]University of California San Diego, La Jolla, CA

2039 **Neurite morphology reveals rich regional microstructural variations in the human brain white matter**
Maira Tariq[1], Jiaying Zhang[1], Hui Zhang[1]
[1]University College London, London, United Kingdom

2040 **Men-Women differences of the dendrite density within cortical areas**
Achille Teillac[1,2,3], Sandrine Lefranc[4,2,3], Edouard Duchesnay[4,2,3,5], Fabrice Poupon[4,2,3], Maite Alaitz Ripoll Fuster[1,2,3], Denis Le Bihan[1,2,3], Jean-François Mangin[6,2,3,5], Cyril Poupon[1,2,3,5]
[1]CEA/NeuroSpin/UNIRS, Gif-sur-Yvette, France, [2]Université Paris-Saclay, Orsay, France, [3]France Life Imaging, Orsay, France, [4]CEA/NeuroSpin/UNATI, Gif-sur-Yvette, France, [5]http://cati-neuroimaging.com/, Gif-sur-Yvette, France, [6]CEA/Neurospin/UNATI, Gif-sur-Yvette, France

2041 **Reducing acquisition time for microstructure imaging with spatially-regularized global optimization**
Anna Auria[1], David Romascano[1], Erick Canales-Rodriguez[2], Tim Dyrby[3], Daniel Alexander[4], Jean-Philippe Thiran[1], Yves Wiaux[5], Alessandro Daducci[1]
[1]École polytechnique fédérale de Lausanne, Lausanne, Switzerland, [2]Centro de Investigación Biomédica en Red de Salud Mental, CIBERSAM, Madrid, Spain, [3]Danish Research Centre for Magnetic Resonance, Copenhagen, Denmark, [4]University College London, London, United Kingdom, [5]Institute of Sensors, Signals, and Systems, Heriot-Watt University, Edimburgh, United Kingdom

2042 **Assessment of bundle-specific axon diameter distributions using diffusion MRI tractography**
Muhamed Barakovic[1], David Romascano[1], Tim Dyrby[2], Daniel Alexander[3], Maxime Descoteaux[4], Jean-Philippe Thiran[1,5], Alessandro Daducci[1,4,5]
[1]Signal Processing Lab (LTS5), École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland, [2]Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital Hvidovre, Hvidovre, Denmark, [3]Department of Computer Science and Centre for Medical Image Computing, University College London, London, United Kingdom, [4]Sherbrooke Connectivity Imaging Laboratory (SCIL), University of Sheerbrooke, Sherbrooke, Canada, [5]University Hospital Center (CHUV) and University of Lausanne (UNIL), Lausanne, Switzerland

2043 **White matter of the cerebellar pathways in Parkinson's disease: A deterministic tractography study**
Jilu Mole[1,2], Leena Subramanian[1], Huw Morris[3], Claudia Metzler-Baddeley[2], David Linden[1,2]
[1]School of Medicine, Institute of Psychological Medicine and Clinical Neurosciences, Cardiff, United Kingdom, [2]CUBRIC, School of Psychology, Cardiff, United Kingdom, [3]University College London, London, United Kingdom

2044 **Tensor-based Morphometry for DTI using Symmetric Normalization**
Christopher Schwarz[1], Matthew Senjem[1], Robert Reid[1], Jeffrey Gunter[1], Scott Przybelski[1], Kejal Kantarci[1], Jennifer Whitwell[1], Keith Josephs[1], David Knopman[1], Ronald Petersen[1], Clifford Jack[1]
[1]Mayo Clinic, Rochester, MN

2045 **Spatial distribution of time delays determines the synchronization of coupled oscillators**
Spase Petkoski[1,2], Andreas Spiegler[1], Jean-Jacques Temprado[2], Viktor Jirsa[1]
[1]Institut de Neurosciences des Systèmes - Aix-Marseille Université, Marseille, France, [2]Université Aix-Marseille, CNRS, UMR 7287, Institut des Sciences du Mouvement, Marseille, France

2046 **Are DW-MRI signals from crossing fibers well represented by sums of signals from single fibers?**
Gaëtan Rensonnet[1], Benoît Macq[1], Maxime Taquet[1,2]
[1]ICTEAM Institute, Université catholique de Louvain, Louvain-la-Neuve, Belgium, [2]Computational Radiology Laboratory, Boston Children's Hospital, Harvard Medical School, Boston, MA

2047 **A Physarum Centrality Measure of the Human Brain Network**
Hunki Kwon[1], Yong-Ho Choi[1], Sang Won Seo[2], Jong-Min Lee[1]
[1]Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of, [2]Samsung Medical Center, Seoul, Korea, Republic of

2048 **Evaluation of diffusion tractography on 3D phantom using laser scanner acquisition as ground truth**
Marouen Sta[1], Barthelemy Serres[2], Ilyess Zemmoura[3], Isabelle Filipiak[4], Frederic Andersson[1], Gilles Venturini[2], Christophe Destrieux[3]
[1]INSERM U930 Imagerie et Cerveau, Université François-Rabelais de Tours, Tours, France, [2]Université François-Rabelais de Tours, Laboratoire d'Informatique, EA6300, Tours, France, [3]INSERM U930 Imagerie et Cerveau, Université François-Rabelais de Tours, CHRU de Tours, Tours, France, [4]Plateforme CIRE, UMR-PRC, Centre INRA Val de Loire, Nouzilly, France

2049 **White matter tract geometry**
Arun Bokde[1], Elizabeth Kehoe[1], Jose Refojo[1]
[1]Trinity College Dublin, Dublin, Ireland

2050 **A new tensor model for the measurement of diffusional anisotropy due to restricted diffusion**
Mauro Zucchelli[1], Gloria Menegaz[2], Evren Ozarslan[3]
[1]Department of Computer Science, University o, Verona, Italy, [2]Department of Computer Science, University of Verona, Verona, Italy, [3]Department of Physics, Bogazici University, Bebek, Istanbul, Turkey, Istanbul, Turkey

2051 **Axonal Radius and Density Indices Estimation in Multiple Fiber Orientations using diffusion MRI**
Hamza Farooq[1], Junqian Xu[2], Essa Yacoub[3], Tryphon Georgiou[1], Christophe Lenglet[4]
[1]University of Minnesota, Minneapolis, MN, [2]Icahn School of Medicine at Mount Sinai, New York, NY, [3]CMRR, University of Minnesota, Minneapolis, MN, [4]Center for Magnetic Resonance Research (CMRR), University of Minnesota, Minneapolis, MN

2052 **Comparison of two different DTI analysis approaches in individuals with major depressive disorder**
Maurizio Bergamino[1], Teresa Victor[1], Rayus Kuplicki[1], Yoon-Hee Cha[1,2], Martin Paulus[1]
[1]Laureate Institute for Brain Research, Tulsa, OK, [2]University of California, Los Angeles, CA

2053 **Group difference Detection and Visualization in Higher Order Diffusion using Low Rank Decomposition**
Steven Baete[1,2], Jingyun Chen[3], Fernando Boada[1,2]
[1]Center for Advanced Imaging Innovation and Research (CAI2R), NYU School of Medicine, New York, NY, [2]Center for Biomedical Imaging, Dept of Radiology, NYU School of Medicine, New York, NY, [3]Steven and Alexandra Cohen Veterans Center for Posttraumatic Stress and Traumatic Brain Injury, Dept, New York, NY

2054 **Power and confounder effects vary among temporal association tracts in early cognitive decline**
Rok Berlot[1], Steve Williams[2], Michael O'Sullivan[2]
[1]University Medical Centre Ljubljana, Ljubljana, Slovenia, [2]King's College London, London, United Kingdom

2055 **Multilevel analysis of DTI data for the classification and diagnosis of Alzheimer's disease**
Josue Luiz Dalboni da Rocha[1,2], Ivanei Bramati[3], Gabriel Coutinho[3], Fernanda Moll[4,3], Ranganatha Sitaram[5,6]
[1]Department of Biomedical Engineering, University of Florida, Gainesville, FL, USA, [2]Centro Universitario Tiradentes, Maceio, Brazil, [3]Instituto D'Or de Pesquisa e Ensino, Rio de Janeiro, Brazil, [4]Instituto de Ciências Biomédicas, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil, [5]Institute for Biological and Medical Engineering, Pontificia Universidad Católica de Chile, Santiago, Chile, [6]Institute for Medical Psychology and Behavioral Neurobiology, University of Tubingen, Tubingen, Germany

2056* **Exploring fibre orientation dispersion in the corpus callosum: Comparison of dMRI, PLI and Histology**
Jeroen Mollink[1,2], Michiel Kleinnijenhuis[1], Stamatios N. Sotiropoulos[1], Michiel Cottaar[1], Anne-Marie van Cappellen van Walsum[2], Menuka Gamarallage[3], Olaf Ansorge[3], Saad Jbabdi[1], Karla Miller[1]
[1]FMRIB centre, University of Oxford, Oxford, United Kingdom, [2]Department of Anatomy, Radboud UMC, Nijmegen, Netherlands, [3]Department of Clinical Neurology, University of Oxford, Oxford, United Kingdom

2057 **3-D Tract-Specific Functional Analysis of White Matter Integrity in Alzheimer's Disease**
Yan Jin[1,2], Chao Huang[1], Madelaine Daianu[2], Liang Zhan[3], Hongtu Zhu[1], Paul Thompson[2]
[1]University of North Carolina at Chapel Hill, Chapel Hill, NC, [2]University of Southern California, Marina del Rey, CA, [3]University of Wisconsin-Stout, Menomonie, WI

2058 **Altered Structural Brain Networks and Arcuate Fasciculus in 16p11.2 Deletion Syndrome**
Banu Ahtam[1], Ellen Grant[1], Kiho Im[1]
[1]Boston Children's Hospital, Harvard Medical School, Boston, MA

2059 **Homogenizing Estimates of Heritability Among SOLAR-Eclipse, OpenMx, APACE, and Per Leopard Software**
Binish Patel[1], Habib Ganjgahi[2], Sung Yu[3], Xu Chen[2], Neda Jahanshad[4], Paul Thompson[4], Bennett Landman[5], Dennis Ent[6], Anouk den Braber[6], Eco de Geus[6], Rachel Brouwer[7], Hilleke Hulshoff Pol[7], Greig de Zubicaray[8], Katie McMahon[8], Nicholas Martin[9], Margaret Wright[9], David Glahn[10], David Van Essen[11], Thomas Nichols[12], Peter Kochunov[1]
[1]University of Maryland School of Medicine, Baltimore, MD, [2]University of Warwick, Warwick, United Kingdom, [3]Maryland University of Maryland School of Medicine, Baltimore, MD, [4]Keck School of Medicine of USC, Marina del Rey, United States, [5]Vanderbilt University, Nashville, TN, [6]VU University, Amsterdam, NH, [7]Department of Psychiatry, Brain Center Rudolf Magnus, University Medical Center Utrecht, Utrecht, Netherlands, [8]Institute of Health and Biomedical Innovation, Queensland University of Technology, Kelvin Grove, Australia, [9]QIMR Berghofer Medical Research Institute, Brisbane, Australia, [10]Yale University, Hartford, CT, [11]Washington University in St Louis, St Louis, MO, [12]Warwick University, Warwick, United Kingdom

2060 **Connectome Registration Via Iterative Spectral Refinement**
Dmitry Isaev[1], Boris Gutman[2], Neda Jahanshad[3], Talia Nir[2], Paul Thompson[4]
[1]University of Southern California, Marina Del Rey, CA, [2]Imaging Genetics Center, University of Southern California, Los Angeles, CA, [3]University of Southern California, Marina del Rey, CA, [4]Imaging Genetics Center, Keck/USC School of Medicine, University of Southern California, Marina del Rey, United States

2061 **Self Organizing Feature Mapping Tractography (SOFMAT): An artificial neural network approach for DTI**
Dilek Göksel Duru[1], Mehmed Özkan[2]
[1]Istanbul Arel University, Istanbul, Turkey, [2]Bogazici University, Istanbul, Turkey

2062 **What is the best method for robust statistical inference on connectomic graph metrics?**
Mark Drakesmith[1], David Linden[1], Anthony David[2], Derek Jones[1]
[1]Cardiff University, Cardiff, United Kingdom, [2]Institute of Psychiatry, Psychology, and Neuroscience. King's College London., London, United Kingdom

MODELING AND ANALYSIS METHODS

Exploratory Modeling and Artifact Removal

2063 **Modal decomposition of spatiotemporal hemodynamic response function**
James Pang[1,2], Peter Robinson[1,2], Kevin Aquino[1,3]
[1]School of Physics, University of Sydney, Sydney, Australia, [2]Center for Integrative Brain Function, University of Sydney, Sydney, Australia, [3]University of Nottingham, Nottingham, United Kingdom

2064 **Shock-like BOLD Responses Induced in the Primary Visual Cortex: Theory and Experiment**
Thomas Lacy[1], Kevin Aquino[2], Peter Robinson[1], Mark Schira[3]
[1]University of Sydney, Sydney, Australia, [2]University of Nottingham, Nottingham, United Kingdom, [3]University of Wollongong, Wollongong, Australia

2065 **Sex Differences in Resting-State Functional MRI Profiles: Signal-to-Noise Ratio and Connectivity**
Xi-Nian Zuo[1], Ning Yang[1], Yin-Shan Wang[1], Chao-Gan Yan[1], Avram Holmes[2], B.T. Thomas Yeo[3]
[1]Institute of Psychology, Chinese Academy of Sciences, Beijing, China, [2]Yale University, New Haven, CT, [3]National University of Singapore, Singapore, Singapore

2066 **Automated rejection and repair of bad data segments in M/EEG**
Mainak Jas[1], Denis Engemann[2], Federico Raimondo[3], Yousra Bekhti[1], Alexandre Gramfort[1]
[1]Télécom ParisTech, CNRS LTCI, Université Paris-Saclay, Paris, France, [2]CEA/INSERM Neurospin, Paris, France, [3]Department of Computer Sciences, FCEyN, University of Buenos Aires, Buenos Aires, Argentina

2067 **A new approach to correct Pulse Artefacts in EEG-fMRI using Non-Local Means filtering**
Giannina Rita Iannotti[1], Matthieu Junod[2], Francesca Pittau[3], Christoph Michel[1], François Lazeyras[4], Michel Kocher[5], Serge Vulliémoz[3], Frédéric Grouiller[4]
[1]Functional Brain Mapping Laboratory, Department of Fundamental Neurosciences, University of Geneva, Geneva, Switzerland, [2]HES-SO, Yverdon-les-Bains, Switzerland, [3]EEG and Epilepsy Unit, Department of Neurology, Geneva University Hospital, Geneva, Switzerland, [4]Department of Radiology and Medical Informatics, University of Geneva, Geneva, Switzerland, [5]Biomedical Imaging Group, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland

2068 **How do the Reference Montage and Electrode Layout affect the Measured Scalp EEG Potentials?**
Shiang Hu[1], Yongxiu Lai[1], Esin Karahan[1], Pedro Valdes-Sosa[1,2], Dezhong Yao[1]
[1]University of Electronic Science and Technology of China, Chengdu, China, [2]Cuban Neuroscience Center, Havana, Cuba

2069 **Assessing the effects of cardiorespiratory variation on cerebral blood flow measured by ASL fMRI**
Mahlega Hassanpour[1], Qingfei Luo[1], Maurizio Bergamino[1], Rachel Lapidus[2], W. Kyle Simmons[1], Justin Feinstein[1], Martin Paulus[1], Wen-Ming Luh[3], Jerzy Bodurka[1], Sahib Khalsa[1]
[1]Laureate Institute for Brain Research, Tulsa, OK, [2]University of Tulsa, Tulsa, OK, [3]Cornell University, Ithaca, NY

2070 **Influence of interpolation artifacts on resting-state fMRI functional connectivity**
André Hoffmann[1], Michael Woletz[1], Ronald Sladky[1], Martin Tik[1], Christian Windischberger[1]
[1]MR Center of Excellence, Center for Medical Physics and Biomedical Engineering, Medical University, Vienna, Austria

2071 **The Impact of Physiological Noise on Group Level Statistics in fMRI**
Lars Kasper[1,2], Andreea Diaconescu[1], Steffen Bollmann[3], Saskia Bollmann[3], Klaas Pruessmann[2], Klaas Stephan[1,4,5]
[1]Translational Neuromodeling Unit, IBT, University of Zurich & ETH Zurich, Zurich, Switzerland, [2]Institute of Biomedical Engineering, University of Zurich & ETH Zurich, Zurich, Switzerland, [3]Centre for Advanced Imaging, The University of Queensland, Brisbane, Australia, [4]Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom, [5]Max Planck Institute for Metabolism Research, Cologne, Germany

MODELING AND ANALYSIS METHODS

Methods Development

2072 **Functional MRI Activation Detection Using Mean-Shift Clustering Technique**
Leo Ai[1], Jinhu Xiong[2]
[1]University of Minnesota, Minneapolis, United States, [2]University of Iowa, Iowa City, IA

2073 **High-dimensional Multivariate Mediation: with Application to Neuroimaging Data**
Oliver Chén[1], Ciprian Crainiceanu[1], Elizabeth Ogburn[1], Brian Caffo[1], Tor Wager[2], Martin Lindquist[1]
[1]Johns Hopkins University, Baltimore, MD, [2]University of Colorado Boulder, Boulder, CO

2074 **Comparison of physiological signals characterization efficiency of SMS-EPI and 3D-EPI-CAIPI at 7T**
Olivier Reynaud[1], Mayur Narsude[2], João Jorge[1], José P. Marques[3], Rolf Gruetter[1], Wietske van der Zwaag[4]
[1]EPFL, Lausanne, Switzerland, [2]none, Lausanne, Switzerland, [3]Donders Institute for Brain Behaviour and Cognition, Nijmegen, Netherlands, [4]Spinoza Centre for Neuroimaging, Amsterdam, Netherlands

2075 **Confidence Sets - Going Beyond Voxel-level and Cluster-level Null Hypothesis Testing**
Alex Bowring[1], Armin Schwartzman[2], Max Sommerfeld[3], Thomas Nichols[4]
[1]University of Warwick, Coventry, United Kingdom, [2]North Carolina State University, Raleigh, NC, [3]University of Göttingen, Göttingen, Germany, [4]Warwick University, Warwick, United Kingdom

2076 **Infant brain analysis made simple: versatile tools from DICOMs to volumes**
Harri Merisaari[1,2], Jetro Tuulari[1,2], Satu Lehtola[2], Riitta Parkkola[3], Linnea Karlsson[4], Noora Scheinin[2,5,6], Hasse Karlsson[2,7]
[1]Turku PET Centre, Turku, Finland, [2]FinnBrain Birth Cohort Study, Turku Brain and Mind Center, University of Turku, Turku, Finland, [3]Turku University Hospital, Department of Radiology, Turku, Finland, [4]Turku University Hospital and University of Turku, Department of Child Psychiatry, Turku, Finland, [5]Turku PET Centre, University of Turku, Turku, Finland, [6]Turku University Hospital and University of Turku, Department of Psychiatry, Turku, Finland, [7]Turku University Hospital, Department of Psychiatry, Turku, Finland

2077 **Local EEG dynamics embed global fMRI states**
Satohiro Tajima[1], Joshua Balsters[2], Ryota Kanai[3]
[1]University of Geneva, Genève, Switzerland, [2]ETH, Zürich, Switzerland, [3]Araya Brain Imaging, Tokyo, Japan

2078 **Design of an Experimental Platform for Hybrid EEG-fMRI Neurofeedback Studies**
Marsel Mano[1,2], Elise Bannier[3,2], Lorraine Perronnet[1,2], Anatole Lécuyer[1], Christian Barillot[2]
[1]Inria, Hybrid Team, Rennes, France, [2]Inria, VisAGeS Project-Team, Rennes, France, [3]Service de Radiologie, CHU Pontchaillou, Rennes, France

2079 **Detecting high-density EEG electrodes from structural MR images**
Marco Marino[1,2,3], Quanying Liu[1,2], Silvia Brem[4], Nicole Wenderoth[1,2], Dante Mantini[1,2,3]
[1]ETH Zurich, Zurich, Switzerland, [2]KU Leuven, Leuven, Belgium, [3]University of Oxford, Oxford, United Kingdom, [4]University of Zurich, Zurich, Switzerland

2080 **Quantitative MRI Assessment of Microstructure Properties and Connection of Human Corpus Callosum**
Byeong-Yeul Lee[1], Xiao-Hong Zhu[1], Xiufeng Li[1], Wei Chen[1]
[1]CMRR, Radiology, University of Minnesota, Minneapolis, MN

2081 **Correction of slice artifacts**
Robert Dahnke[1], Christian Gaser[1]
[1]University Hospital Jena, Jena, Germany

2082 **Improved Statistical Testing for FMRI Based Group Studies in AFNI :)**
Robert Cox[1], Richard Reynolds[1]
[1]NIMH, Bethesda, MD, United States

2083 **A simulation study comparing three correlation measures in canonical correlation analysis for fMRI**
Zhengshi Yang[1], Xiaowei Zhuang[1], Tim Curran[2], Dietmar Cordes[1,3]
[1]Cleveland Clinic Lou Ruvo Center for Brain Health, Las Vegas, NV, [2]Department of Psychology and Neuroscience at University of Colorado Boulder, Boulder, CO, [3]Department of Psychology and Neuroscience, University of Colorado, Boulder, CO

2084 **Contribution of cortical layer cytoarchitecture to quantitative susceptibility mapping**
Surabhi Sood[1], Javier Urriola[1], Steffen Bollmann[1], Markus Barth[1], Kieran O'Brien[2], David Reutens[1], Viktor Vegh[1]
[1]Centre for Advanced Imaging, The University of Queensland, Brisbane, Australia, [2]Siemens Ltd., Brisbane, Australia

2085 **Connectivity-based identification of venous voxels in resting-state fMRI**
Klaudius Kalcher[1], Roland Boubela[1], Wolfgang Huf[1], Christian Nasel[2], Ewald Moser[1]
[1]Medical University of Vienna, Vienna, Austria, [2]Tulln Hospital, Karl Landsteiner University of Health Sciences, Tulln, Austria

2086 **Distinguishing EEG Activity in Visual Short Term Memory Tasks using Modular Dirichlet Energy**
Keith Smith[1], Benjamin Ricaud[2], Nauman Shahid[2], Mario Parra[3], Javier Escudero[1], Pierre Vandergheynst[2]
[1]University of Edinburgh, Edinburgh, United Kingdom, [2]Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland, [3]Heriot Watt University, Edinburgh, United Kingdom

2087 **FMRI analysis: To ISC or GLM?**
Teresa De Sanctis[1], Rajat Thomas[1], Christian Keysers[1], Valeria Gazzola[1]
[1]Netherlands Institute for Neuroscience, Amsterdam, Netherlands

2088 **Data driven estimation of imputation error -A strategy for imputation with a reject option**
Nikolaj Bak[1,2], Lars Kai Hansen[3]
[1]Center for Neuropsychiatric Schizophrenia Research (CNSR), Mental Health Services, Glostrup, Denmark, [2]Center for Clinical Intervention and Neuropsychiatric Schizophrenia Research (CINS), Glostrup, Denmark, [3]Technical University of Denmark, Kongens Lyngby, Denmark

2089 **Controlling for Behavioural Confounds in Partial Least Squares Analyses**
Kristina Wiebels[1,2], Reece Roberts[1,2], Donna Rose Addis[1,2,3]
[1]School of Psychology, University of Auckland, Auckland, New Zealand, [2]Centre for Brain Research, University of Auckland, Auckland, New Zealand, [3]Brain Research New Zealand, Auckland, New Zealand

2090 **Applying a non-arbitrary initial threshold, the relevance boundary, in fMRI data analysis**
Remco Renken[1], Reinder Vos de Wael[2], Natasha Maurits[3]
[1]Neuroimaging center, University Medical Center Groningen, Groningen, Netherlands, [2]Neuroimaging Center, University Medical Center Groningen, Groningen, Netherlands, [3]University Medical Center Groningen, University of Groningen, Groningen, Netherlands

2091 **Assessing publication bias in coordinate-based meta-analysis techniques?**
Freya Acar[1], Ruth Seurinck[1], Simone Kühn[2], Beatrijs Moerkerke[1]
[1]Ghent University, Ghent, Belgium, [2]Max Planck Institute for Human Development, Berlin, Germany

2092 **Comparing parametric, non-parametric and pattern recognition methods using pharmacological ASL data**
Donal Hill[1], Owen O'Daly[1], Orla Doyle[1], Yannis Paloyelis[1], Henk-Jan Mutsaerts[2], Fernando Zelaya[1]
[1]King's College, London, United Kingdom, [2]Department of Medical Biophysics, Faculty of Medicine, University of Toronto, Toronto, Canada

2093 **Multivariate Hurst exponent estimation in fMRI. Application to brain decoding of perceptual learning**
Philippe Ciuciu[1,2], Hubert Pellé[1,2], Mehdi Rahim[1,2], Elvis Dohmatob[1,2], Patrice Abry[3], Virginie van Wassenhove[1,4]
[1]CEA/NeuroSpin, Gif-sur-Yvette, France, [2]INRIA, Parietal, Gif-sur-Yvette, France, [3]CNRS (UMR 5672), ENS Lyon, Lyon, France, [4]INSERM (U992), Unicog, Gif-sur-Yvette, France

2094 **Reconstructing full brain electromagnetic property maps (conductivity, permittivity, susceptibility)**
Zikuan Chen[1], Vince D. Calhoun[1,2]
[1]The Mind Research Network, Albuquerque, NM, [2]University of New Mexico, Albuquerque, NM

2095 **Modelling Growth and Tangential Expansion in the Brain Surface. A Practical Framework**
Antonietta Pepe[1,2], Hamed Rabiei[1,2], Jussi Tohka[3], Ivo DInov[4], Julien Lefèvre[5,2]
[1]Aix-Marseille Universitè, Marseille, France, [2]Institut de Neurosciences de la Timone, Marseille, France, [3]Universidad Carlos III de Madrid, Leganes, Spain, [4]University of Michigan School of Nursing, Ann Arbor, United States, [5]Aix-Marseille Université, Marseille, France

2096 **Embedding task-based neural models into a connectome-based model of the cerebral cortex**
Antonio Ulloa[1], Barry Horwitz[2]
[1]Neural Bytes LLC, Washington, DC, [2]Brain Imaging and Modeling Section, NIDCD, National Institutes of Health, Bethesda, MD

2097 **A novel optimization approach for kernel canonical correlation analysis in activation detection**
Zhengshi Yang[1], Xiaowei Zhuang[1], Tim Curran[2], Dietmar Cordes[1,3]
[1]Cleveland Clinic Lou Ruvo Center for Brain Health, Las Vegas, NV, [2]Department of Psychology and Neuroscience at University of Colorado Boulder, Boulder, CO, [3]Department of Psychology and Neuroscience, University of Colorado, Boulder, CO

2098 **Ultrafast multiband rs-fMRI using full spectral analysis improves signal-noise separation**
Hesamoddin Jahanian[1], Samantha Holdsworth[1], Thomas Christen[1], Michael Moseley[1], Greg Zaharchuk[1]
[1]Stanford University, Stanford, CA

2099 **Unsupervised recognition of short-term brain activity patterns in fMRI experiments**
Michele Allegra[1], Shima Seyed-Allaei[2], Fabrizio Pizzagalli[3], Carlo Reverberi[2], Fahimeh Baftizadeh[4], Marta Maieron[5], Alessandro Laio[1], Daniele Amati[1]
[1]Scuola Internazionale Superiore di Studi Avanzati, Trieste, Italy, [2]Università di Milano Bicocca, Milan, Italy, [3]Imaging Genetics Center Mark and Mary Neuroimaging and Informatics Institute, Los Angeles, CA, [4]Massachusetts Institute of Technology, Cambridge, MA, [5]Università di Udine, Udine, Italy

2100 **Comparison of Brain MRI Voxel-Based Morphometry with and without Normalization Procedures**
Hsian-Min Chen[1], Jyh-Wen Chai[2], Clayton Chi-Chang Chen[2], Chu-Jing Song[1], Hung-Chieh Chen[2], Yi-Ying Wu[2], Yung-Chieh Chang[2], Tsuo-Hung Lan[3], San-Kan Lee[4], Chein-I Chang[5]
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2101 **An analytical study of the steady states and global dynamics of the corticothalmic system**
Paula Sanz-Leon[1,2], P Robinson[1]
[1]School of Physics, University of Sydney, Sydney, Australia, [2]Center for Integrative Brain Function, University of Sydney, Sydney, Australia

2102 **Quantification of Proton Density**
Dietmar Cordes[1,2], Zhengshi Yang[1], Xiaowei Zhuang[1], Karthik Sreenivasan[1], Le Hua[1]
[1]Cleveland Clinic Lou Ruvo Center for Brain Health, Las Vegas, NV, [2]University of Colorado, Boulder, CO

2103 **Demonstration of Effectiveness of a Novel Data-adaptive Method for fMRI Time-series Drift Removal**
Muhammad Farhat Kaleem[1], Dietmar Cordes[2]
[1]Ryerson University, Toronto, Canada, [2]Cleveland Clinic Lou Ruvo Center, Las Vegas, United States

2104 **Meta-Analysis for Detecting Activation Regions in fMRI Studies**
Summit Suen[1], Kayako Matsuo[2], Shen Da Chang[1], Philip Cheng[1], Wen-Yih Tseng[3], Michelle Liou[1]
[1]Institute of Statistical Science, Academia Sinica, Taipei, Taiwan, [2]Hamamatsu University School of Medicine, Shizuoka, Japan, [3]Center for Optoelectronic Medicine, College of Medicine, National Taiwan University, Taipei City, Taiwan

2105 **Scan Length, Shrinkage and Reliability of Resting-State Functional Connectivity in the HCP**
Amanda Mejia[1], Mary Beth Nebel[2], Anita Barber[3], Ann Choe[2], Martin Lindquist[4]
[1]Johns Hopkins Department of Biostatistics, Baltimore, MD, [2]Kennedy Krieger Institute, Baltimore, MD, [3]Feinstein Institute for Medical Research, Manhasset, NY, [4]Johns Hopkins University, Baltimore, MD

2106 **Stimulation Artifact Correction Method for Estimation of Early Cortico-Cortical Evoked Potentials**
Lena Trebaul[1], David Rudrauf[1], Anne-Sophie Job[1,2], Mihai Dragos Maliia[3], Irina Popa[3], Olivier Montigon[1], Andrei Barborica[4,5], Lorella Minotti[1,6], Ioana Mîndruta[7], Philippe Kahane[1,6], Olivier David[1]
[1]Grenoble Institut des Neurosciences, Grenoble, France, [2]Laboratoire de Neurophysiopathologie de l'Epilepsie, Centre Hospitalier Universitaire Grenoble-Alpes, Grenoble, France, [3]Neurology Department, University Emergency Hospital, Bucharest, Romania, [4]Physics Department, University of Bucharest, Bucharest, Romania, [5]FHC Inc, Bowdoin, ME, [6]Laboratoire de Neurophysiopathologie de l'Epilepsie, Centre Hospitalier Universitaire Grenoble-Alpes, Grenoble, France, [7]Neurology Department, Carol Davila University of Medicine and Pharmac, Bucharest, Romania

2107 **Testing Dissociations in Lesion-Symptom Mapping: A Tool for Non-Parametric Interaction Effects (NIX)**
Kai Nitschke[1], Charlotte Schmidt[1], Markus Martin[1], Karl Egger[1], Cornelius Weiller[1], Christoph Kaller[2]
[1]University Medical Center Freiburg, Freiburg, Germany, [2]Freiburg Brain Imaging Center, University Medical Center Freiburg, Freiburg, Germany

2108 **Toolbox for enhanced fMRI activation mapping using anatomically adapted graph wavelets**
Hamid Behjat[1], Leif Sörnmo[1], Dimitri Van De Ville[2]
[1]Lund University, Lund, Sweden, [2]EPFL, Lausanne, Switzerland

2109 **Simulating Laminar Neuroimaging Data for a Delayed Match to Sample Task**
Paul Corbitt[1], Antonio Ulloa[2], Barry Horwitz[1]
[1]Brain Imaging and Modeling Section, NIDCD, National Institutes of Health, Bethesda, MD, [2]Neural Bytes LLC, Washington, DC

2110 **All for one and one for all: a novel approach to single case studies with VBM**
Carlo De Santis[1], Manuela Berlingeri[2], Marco Tettamanti[3], Gabriella Bottini[4], Maurizio Sberna[5], Eraldo Paulesu[6]
[1]University of Milano-Bicocca, Milan, Italy, [2]Department of Humanistic Studies (DISTUM) University of Urbino Carlo Bo, Urbino, Italy, [3]Department of Nuclear Medicine and Division of Neuroscience, San Raffaele Scientific Institute, Milan, Italy, [4]Department of Brain and Behavioral Sciences, University of Pavia, Pavia, Italy, [5]Neuroradiology Department, Niguarda Ca' Granda Hospital, Milan, Italy, [6]Psychology Department, University of Milano-Bicocca, Milan, Italy

2111 **Momentum – a new method for detecting causal interactions in fMRI**
Natalia Bielczyk[1,2], Alberto Llera[1,2], Jan Buitelaar[2,1], Jeffrey Glennon[1,2], Christian Beckmann[2,1]
[1]Donders Institute for Brain, Cognition and Behavior, Nijmegen, Netherlands, [2]Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands

2112 **Untangling Relatedness among Correlations: New Methods of Inter-Subject Correlation Group Analysis**
Gang Chen[1], Yong-Wook Shin[2], Paul Taylor[1], Robert Cox[3]
[1]National Institutes of Health, Bethesda, MD, [2]University of Ulsan College of Medicine, Seoul, Korea, Republic of, [3]NIMH Intramural Program, Bethesda, MD

2113 **Estimating Phase-Amplitude Coupling in Transient Brain States with HMM-MAR**
Andrew Quinn[1], Diego Vidaurre[1], David Dupret[1], Mark Woolrich[1]
[1]University of Oxford, Oxford, United Kingdom

2114 **Using Multimodal Neuroimaging to Characterize the Brains of Baseball Hitters**
Jordan Muraskin[1], Jason Sherwin[1], Gregory Lieberman[2], Javier Garcia[2], Timothy Verstynen[3], Jean Vettel[2], Paul Sajda[1]
[1]Columbia University, New York, NY, [2]U.S. Army Research Laboratory, Aberdeen, MD, [3]Carnegie Mellon University, Pittsburgh, PA

2115 **Nonlinear neural mediation of the effects of adversity on adolescent competence**
Nicholas Allgaier[1], Scott Mackey[1], Philip Spechler[1], Keith Burt[1], Hugh Garavan[1], IMAGEN consortium[2]
[1]University of Vermont, Burlington, VT, [2]IMAGEN consortium, London, United Kingdom

2116 **Unified Estimation of Between- and Within-Network Relationships in High-Dimensional fMRI Time Series**
Zachary Fisher[1], Ken Bollen[1], Cameron Doyle[1], Kristen Lindquist[1], Kathleen Gates[1]
[1]University of North Carolina at Chapel Hill, Chapel Hill, NC

2117 **Identifying Biomarker Signatures using Large-Scale Network-structured Neuroimaging Measures**
Yuanjia Wang[1], Xiang Li[1], Donglin Zeng[2], Karen Marder[1]
[1]Columbia University, New York, United States, [2]UNC Chapel Hill, Chapel Hill, United States

2118 **A surface-based diffeomorphic method for calculating cortical thickness**
Tilak Ratnanather[1], Sylvain Arguillère[1], Laurent Younes[1]
[1]Johns Hopkins University, Baltimore, MD

2119 **Time-Course Consistency (TCC): An alternative to model based approaches to fMRI analysis**
Matan Mazor[1], Roy Mukamel[2]
[1]Tel Aviv University, Tel-aviv, Israel, [2]Tel Aviv University, Tel Aviv, Israel

2120 **Appraisal of endolymphatic space 3D-MR-Imaging in view of different contrast agent applications**
Albert Berman[1], Valerie Kirsch[2], Daniel Keeser[1], Ulrike Kumpf[3], Sandra Becker-Bense[2], Marianne Dieterich[2], Birgit Ertl-Wagner[1]
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2121 **The Bhattacharyya distance describes White-Matter microstructure in Alzheimer's disease**
Gyula Gyebnár[1], Benjamin Powell[1], Zoltán Klimaj[1], Gábor Rudas[1], Lajos Kozák[1]
[1]Semmelweis University MR Research Center, Budapest, Hungary

2122 **Graph-theoretical Analysis for Quantification of Differences in Music Genres and Spoken Language**
Christof Karmonik[1], Julie Lytle[2], Anthony Brandt[3], Jeff Frazier[4]
[1]Houston Methodist Research Institute, Houston, United States, [2]Center for Performing Arts Medicine, Houston Methodist Hospital, Houston, United States, [3]Shepard School of Music, Rice University, Houston, United States, [4]Center for Performing Arts, Houston Methodist Hospital, Houston, United States

2123 **Does the adaptive algorithm in the stop signal task introduce a confound in neuroimaging studies?**
Nicholas D'Alberto[1], Bader Chaarani[1], Philip Spechler[1], Kelsey Hudson[1], Scott Mackey[1], Nicholas Allgaier[1], Mitchell Snowe[1], Alexandra Potter[1], Catherine Orr[1], Matthew Albaugh[1], Robert Althoff[1], Hugh Garavan[1], IMAGEN consortium[2]
[1]University of Vermont, Burlington, VT, [2]IMAGEN consortium, London, United Kingdom

2124 **Simulation, detector and prototype testing of a wearable PET scanner for human brain imaging**
Julie Brefczynski-Lewis[1], Chris Bauer[1], Paul Kinahan[2], Jinyi Qi[3], Sergei Dolinsky[4], Kuang Gong[3], Brian Elston[5], Robert Harrison[5], Stan Majewski[6]
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2125 **SWOT analysis of multiband EPI for task based fMRI**
Ritu Bhandari[1], Teresa De Sanctis[1], Pieter Buur[2], Wietske van der Zwaag[2], Christian Keysers[1], Valeria Gazzola[1]
[1]Netherlands Institute for Neuroscience, Amsterdam, Netherlands, [2]Spinoza Centre for Neuroimaging, Amsterdam, Netherlands

2126 **A new persistent homology test for comparing baseline functional connectivity**
Ben Cassidy[1], Dubois Bowman[1], Daniel Drake[1], Victor Solo[2]
[1]Columbia University, New York, NY, [2]UNSW, Sydney, Australia

2127 **Data-driven examination of white matter helps identifying malformations of cortical development**
Gyula Gyebnár[1], Zoltán Klimaj[1], Laszlo Entz[2], Dániel Fabó[2], Gábor Rudas[1], Péter Barsi[1], Lajos Kozák[1]
[1]Semmelweis University MR Research Center, Budapest, Hungary, [2]National Institute of Clinical Neurosciences, Budapest, Hungary

2128 **Neurofield: computational modeling and simulation of large scale electrical activity of the brain**
Peter Robinson[1], Paula Sanz-Leon[2], P. Drysdale[3], Felix Fung[3], Romesh Abeysuriya[4], Chris Rennie[3], Xuelong Zhao[3]
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2129 **Enhanced Confound Tolerance of Resting fMRI: Combining Regression and Sliding-window Meta-statistics**
Kishore Vakamudi[1], Eswar Damaraju[2], Stefan Posse[1]
[1]University of New Mexico, Albuquerque, NM, [2]The Mind Research Network, Albuquerque, United States

2130 **A phase transition in human brain connectivity?**
Leonardo Gollo[1], Michael Breakspear[1], James Roberts[2]
[1]QIMR Berghofer Medical Research Institute, Brisbane, Australia, [2]QIMR Berghofer Medical Research Institute, Brisbane, QLD

2131 **Testing the economy of brain network organization**
Leonardo Gollo[1], Michael Breakspear[1], James Roberts[2]
[1]QIMR Berghofer Medical Research Institute, Brisbane, Australia, [2]QIMR Berghofer Medical Research Institute, Brisbane, QLD

2132 **Functional Region of Interest Optimization for Small Structures Like the Habenula**
Benjamin Ely[1], Emily Stern[1], David Rosenthal[1], Kyle Lapidus[2], Junqian Xu[1]
[1]Icahn School of Medicine at Mount Sinai, New York, NY, United States, [2]State University of New York at Stony Brook, Stony Brook, NY, United States

2133 **Optimizing Cortical Thickness Measures to Boost Heritability**
Gautam Prasad[1], Marc Harrison[2], Joshua Faskowitz[3], Neda Jahanshad[4], Katie McMahon[5], Greig de Zubicaray[6], Nicholas Martin[7], Margaret Wright[8], Paul Thompson[9]
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2134 **Hyperbolic Power Density Driven Independent Component Approach for fMRI Data**
Arthur Tsai[1], Chii-Shyang Kuo[1], Michelle Liou[1], Kayako Matsuo[2], Philip Cheng[1], Scott Makeig[3]
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MODELING AND ANALYSIS METHODS

Motion Correction and Preprocessing

2135 **Generalized Correction of Distortion and Motion in Phase-based Contrasts – The Case of Elastography**
Andreas Fehlner[1], Sebastian Hirsch[1], Mykola Kadobianskyi[2], Martin Weygandt[2,3], Patric Birr[1], Eric Barnhill[4,5], Jürgen Braun[6], Johannes Bernarding[7], Ingolf Sack[1], Stefan Hetzer[2,3]
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2136 **How to achieve very high resolution quantitative MRI at 3T?**
Karsten Tabelow[1], Chiara D'Alonzo[1], Joerg Polzehl[1], Martina Callaghan[2], Lars Ruthotto[3], Nikolaus Weiskopf[4,2], Siawoosh Mohammadi[5]
[1]WIAS Berlin, Berlin, Germany, [2]University College London, London, United Kingdom, [3]Emory University, Atlanta, GA, [4]Department of Neurophysics, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, [5]University Medical Center Hamburg, Hamburg, Germany

2137 **Automatic EEG-assisted retrospective head motion correction improves rs-fMRI connectivity analysis**
Chung-Ki Wong[1], Vadim Zotev[1], Masaya Misaki[1], Raquel Phillips[1], Qingfei Luo[1], Jerzy Bodurka[1,2]
[1]Laureate Institute for Brain Research, Tulsa, OK, [2]University of Oklahoma, Norman, OK

2138 **Nuisance Regression of High-frequency FMRI Data: De-noising Can Be Noisy**
Jingyuan Chen[1], Hesamoddin Jahanian[1], Gary Glover[1]
[1]Stanford University, Stanford, CA

2139 **Resting State fMRI Signal De-nosing based on Spatio-Temporal Filtering**
Bhushan Patil[1], Mahesh Panicker[1], Suresh Joel[2], Radhika Madhavan[2], Luca Marinelli[3], Rakesh Mullick[2]
[1]GE Global Research, Bangalore, India, [2]General Electric Global Research, Bangalore, India, [3]General Electric Global Research, Niskayuna, NY

2140 **Improving Neighborhood Voxel Correlation in Resting State fMRI using BOLD Signal Decomposition**
Mahesh Panicker[1], Bhushan Patil[1], Suresh Joel[2], Radhika Madhavan[2], Luca Marinelli[3], Rakesh Mullick[2]
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2141 **Motion correction in k-space for pixel-wise fMRI studies**
Guoxiang Liu[1], Takashi Ueguchi[1]
[1]National Institute of Information and Communications Technology, Suita-shi, Osaka, Japan

2142 **CV mapping of BOLD data and gray matter ICA improves detection of FC changes in Alzheimer's disease**
Timo Tuovinen[1,2], Riikka Rytty[2], Anne M Remes[3], Vesa Kiviniemi[1,2]
[1]University of Oulu, Oulu, Finland, [2]Oulu University Hospital, Oulu, Finland, [3]University of Eastern Finland, Kuopio, Finland

2143 **Resting-state test-retest reliability over different preprocessing steps**
Deepthi Varikuti[1,2], Felix Hoffstaedter[1,2], Sarah Genon[1,2], Holger Schwender[3], Andrew Reid[2], Simon Eickhoff[1,2]
[1]Institute of Clinical Neuroscience and Medical Psychology, Duesseldorf, Germany, [2]Institute of Neuroscience and Medicine (INM-1), Jülich, Germany, [3]Mathematical Institute, Heinrich-Heine University Düsseldorf, Duesseldorf, Germany

2144 **Evaluating nuisance correction approaches on motion-related artifacts in resting state using SimPACE**
Arielle Tambini[1], Courtney Gallen[1], Kai Hwang[1], Daniel Sheltraw[1], Ben Inglis[1], Mark D'Esposito[1], Jean-Baptiste Poline[2]
[1]UC Berkeley, Berkeley, CA, [2]University of California at Berkeley, Berkeley, CA

2145 **Head motion during fMRI scanning is a stable property associated with personality**
Brian Gordon[1], David Balota[1], Jeffrey Zacks[1]
[1]Washington University in St. Louis, St. Louis, MO

2146 **Preprocessing Interference for Neurite Orientation Dispersion and Density Imaging (NODDI)**
Ting Yi-Cen[1,2], Chou-Ming Cheng[3,2], Jin-Jie Hung[4,2], Tzu-Chen Yeh[5,4,2]
[1]Instituteof Brain Science, National Yang-Ming University, Taipei, Taiwan, [2]Integrated Brain Research Unit, Division of Clinical Research, Department of Medical Research, Taipei Veterans General Hospital, Taipei, Taiwan, [3]Department of Medical Research and Education, Taipei Veterans General Hospital, Taipei, Taiwan, [4]Institute of Brain Science, National Yang-Ming University, Taipei, Taiwan, [5]Department of Radiology, Taipei Veterans General Hospital, Taipei, Taiwan

2147 **Fast and flexible 3D-EPI fat navigators for high-resolution brain imaging at 7 Tesla**
Pieter Buur[1], Wietske van der Zwaag[1], José P. Marques[2], daniel Gallichan[3]
[1]Spinoza Centre for Neuroimaging, Amsterdam, Netherlands, [2]Donders Institute for Brain Behaviour and Cognition, Nijmegen, Netherlands, [3]CIBM, EPFL, Lausanne, Switzerland

2148 **Online adjustment of MRI acquisitions for optimal prospective motion correction of neuroimaging data**
Lionel Arn[1,2], Rémi Castella[2], Estelle Dupuis[2], Bogdan Draganski[2,3], Antoine Lutti[2]
[1]Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland, [2]Laboratoire de Recherche En Neuroimagerie, Department of Clinical Neurosciences, CHUV, Lausanne, Switzerland, [3]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

2149 **Predicting the levels of motion artefacts in R1 maps from real-time measures of head motion**
Rémi Castella[1], Estelle Dupuis[1], Bogdan Draganski[1,2], Antoine Lutti[1]
[1]Laboratoire de Recherche en Neuroimagerie, Department of Clinical Neurosciences, CHUV, Lausanne, Switzerland, [2]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

2150 **An Improved Model of Motion-Related Signal Changes in fMRI**
Rasmus Birn[1], Remi Patriat[2], Richard Reynolds[3]
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2151 **Accuracy of Segmentation Results from Prospective Motion Corrected MPRAGE Data of Moving Subjects**
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2152 **Effect of Different Preprocessing Options on Functional Connectivity Studied by Network Analysis**
Eva Vytvarova[1,2], Jan Fousek[1,2], Martin Gajdoš[2], Radek Marecek[2], Marek Barton[2], Martin Lamos[2,3], Tomas Slavicek[2,3], Michal Mikl[2]
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2153 **JumpCor: Reduction of fMRI artifacts resulting from large motion**
Rasmus Birn[1], Douglas Dean[2], Richard Davidson[3]
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2154 **A comparison of ANTs and SPM normalisation on group level activation maps**
Michael Woletz[1], André Hoffmann[1], Nicole Geissberger[1], Ronald Sladky[1], Christian Windischberger[1]
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2155 **Real-time head motion analytics improve functional MRI data quality and reduce acquisition costs**
Nico Dosenbach[1], Jonathan Koller[2], Eric Earl[3], Oscar Dominguez-Miranda[3], Damien Fair[4]
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2156 **Preprocessing with motion parameter regression is detrimental in block-design task-fMRI data**
Pradeep Reddy Raamana[1,2], Nathan Churchill[3], Robyn Spring[1], Stephen Strother[1,2]
[1]Rotman Research Institute, Baycrest, Toronto, ON, Canada, [2]University of Toronto, Toronto, ON, Canada, [3]St. Michael's Hospital, Toronto, ON, Canada

2157 **Entropy and Average Edge Strength for Retrospective Head Motion Estimation on MR T1 Weighted Images**
Domenico Zacà[1], Uri Hasson[1], Jorge Jovicich[1]
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MODELING AND ANALYSIS METHODS

Multivariate Modeling

2158 **Multivariate analysis of multimodal structural MRI data in Mild Cognitive Impairment**
Fabrizio Fasano[1,2], Simona Gardini[1], Chiara Ganazzoli[1], Girolamo Crisi[1], Paolo Caffarra[1,3]
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2159 **Valid population inference for information-based imaging: Information prevalence inference**
Carsten Allefeld[1], Kai Görgen[1], John-Dylan Haynes[1]
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2160 **Towards Mapping Network-Network Architectures of Human Cognition**
Danilo Bzdok[1], Gael Varoquaux[2], Olivier Grisel[3], Michael Eickenberg[3], Bertrand Thirion[4]
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2161 **Spectrally resolved fast transient brain states in electrophysiological data**
Diego Vidaurre[1], Andrew Quinn[1], Adam Baker[1], David Dupret[1], Alvaro Tejero-Cantero[1], Mark Woolrich[1]
[1]University of Oxford, Oxford, United Kingdom

2162 **Markov random fields for the analysis of inter-modal regional associations in Alzheimer's disease**
Martin Dyrba[1], Michel Grothe[1], Thomas Kirste[2], Stefan Teipel[3]
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2163 **FMRI functional connectivity and pattern regression predict number of years of meditation experience**
Roberto Guidotti[1,2], Mauro Gianni Perrucci[1,2], Cosimo Del Gratta[1,2], Gian Luca Romani[1,2], Antonino Raffone[3]
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2164 **A new spatially constrained canonical correlation analysis model in fMRI activation detection**
Xiaowei Zhuang[1], Zhengshi Yang[1], Tim Curran[2], Dietmar Cordes[1,2]
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2165 **Cross-diagnostic Biomarker Discovery in Psychiatry**
Alex Ing[1], Christine Macare[1], Andre Marquand[2], Ralph Brecheisen[3], Ingrid Agartz[4], Ole Andreas Andreassen[5], Gunter Schumann[1]
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2166 **Relating audiogram measures and fMRI tonopic responses in tinnitus with and without hyperacusis**
Naghmeh Ghazaleh[1], Wietske van der Zwaag[2], Raphael Maire[3], Melissa Saenz[4], Dimitri Van De Ville[1]
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2167 **Finding latent effects between neuroimaging and individual items of a clinical exam using Sparse PLS**
João Monteiro[1], Anil Rao[1], John Shawe-Taylor[1], Janaina Mourão-Miranda[1]
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2168 **Enhanced pattern distinctness using support vector coefficients than multi-voxel beta values**
Dong-Youl Kim[1], Jong-Hwan Lee[1]
[1]Korea University, Seoul, Korea, Republic of

2169 **Quantifying Pattern Similarity in Group MVPA Using Functional Anisotropy**
Roee Gilron[1], Jonathan Rosenblatt[2], Oluwasanmi Koyejo[3], Russell Poldrack[3], Roy Mukamel[1]
[1]Tel Aviv University, Tel Aviv, Israel, [2]Ben Gurion University, Beer Sheva, Israel, [3]Stanford University, Stanford, CA

2170 **Multimodal analysis of Alzheimer's disease using diffusion and anatomic MRI**
Vikash Gupta[1], Marc Harrison[2], Gautam Prasad[3], Paul Thompson[4], (ADNI) for the Alzheimer's Disease Neuroimaging Initiativ[5]
[1]University of Southern California, Marina del Rey, CA, [2]USC LONI, Marina del Rey, CA, [3]Keck School of Medicine of USC, Los Angeles, CA, [4]University of South California, Los Angeles, CA, [5]multisite study, across North America, United States

2171 **Multivariate discrimination of subjects with fibromyalgia from controls using an fMRI visual task**
Scott Peltier[1], Eric Ichesco[1], Richard Harris[1]
[1]University of Michigan, Ann Arbor, MI

2172 **Optimal detection, decoding and reconstruction of cortical columns from fMRI pattern responses**
Denis Chaimow[1,2], Kamil Ugurbil[2], Amir Shmuel[3,2]
[1]University of Tübingen, Tübingen, Germany, [2]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, USA, [3]Montreal Neurological Institute, McGill University, Montreal, QC, Canada

2173 **Representational similarity analysis with maximum-likelihood model selection**
Jörn Diedrichsen[1], Nikolaus Kriegeskorte[2]
[1]Western University, London, Ontario, [2]MRC Cognition and Brain Sciences Unit

2174 **Regularized Deep Learning Approach for Nonlinear ICA: Application to Schizophrenia**
Eduardo Castro[1], Devon Hjelm[2], Sergey Plis[2], Jessica Turner[3], Vince D. Calhoun[4]
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MODELING AND ANALYSIS METHODS

Other Methods

2175 **Path Discovery Pipeline for meta-analytic model generation through neuroimaging data**
Jodie Gray[1], Peter Fox[2]
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2176 **Spindle Identification by Human Based on Crowdsourcing – from Theory to Application**
Rui Zhao[1], Jinbo Sun[1], Huanju Wu[1], Xuejuan Yang[1], Wei Qin[1]
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2178 **The influence of study characteristics on coordinate-based fMRI meta-analyses**
Han Bossier[1], Ruth Seurinck[1], Simone Kühn[2], Beatrijs Moerkerke[1]
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2179 **Identification of Growth Seeds in Preterm Brain using Helmholtz Decomposition: A Longitudinal Study**
Antonietta Pepe[1], Guillaume Auzias[2,1], Jessica Dubois[3], François Leroy[3], Nathalie Claessens[4], Pim Moeskops[5], Jean-François Mangin[6], Ivana Isgum[7], Manon Benders[8], Julien Lefèvre[9]
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2180 **Identification of Cortical Morphometry on Adolescents with at Risk Addictive Behaviors**
Poay Hoon Lim[1], Sean Spinney[1], Rachel Sharkey[2], Josiance Bourque[1], Alan Evans[2], Alain Dagher[2], Patricia Conrod[1]
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MODELING AND ANALYSIS METHODS

PET Modeling and Analysis

2181 Improving the Standard Uptake Value Ratio in PET Imaging: A Probablistic Approach
Felix Carbonell[1], Donald McLaren[1], Alex Zijdenbos[1], Barry Bedell[1,2]
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2182 TIP: A diagnostic tool to create 3D deviation maps and brain surface views from F18-AV1451-PET data
Jochen Hammes[1], Gérard Bischof[1,2], Kathrin Giehl[1], Alexander Drzezga[1,3], Thilo van Eimeren[1,2,3,4]
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2183 Surface-based PET analysis of the 5-HT1A serotonin receptor and quantitative assessment of smoothing
Rene Seiger[1], Andreas Hahn[1], Benjamin Spurny[1], Markus Mitterhauser[2], Pia Baldinger-Melich[1], Marie Spies[1], Wolfgang Wadsak[2], Marcus Hacker[2], Siegfried Kasper[1], Rupert Lanzenberger[1]
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Segmentation and Parcellation

2184 In vivo segmentation of layer IV in primary visual cortex using anatomy
Kevin Aquino[1], Rosa Sanchez-Panchuelo[1], Karen Mullinger[1], Simon Hanslmayr[2], Stephen Mayhew[2], Rodika Sokoliuk[2], Susan Francis[1]
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2185 Localization of the Ventro-Intermediate Thalamic Nucleus using Local Diffusion Properties
Elena Najdenovska[1,2,3], Constantin Tuleasca[3,4,5], Xavier Bresson[6], Philippe Maeder[2], Giovanni Battistella[7], Eleonora Fornari[2,1], Jean Regis[8,9], Jean-Philippe Thiran[4,2], Marc Levivier[3,5], Meritxell Bach Cuadra[1,2,4]
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2186 Feasibility of deep learning for automatic parcellation of cortical regions in histological sections
Hannah Spitzer[1], Dennis Stibane[1], Svenja Caspers[1], Karl Zilles[1], Katrin Amunts[1], Timo Dickscheid[1]
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2187 Automated Corpus Callosum Segmentation and feature extraction in neurodegenerative diseases
Jeroen Van Schependom[1], Giorgos Sotiropoulos[2], Dirk Smeets[2], Guy Nagels[1]
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2188 Multimodal evidence of a rostro-caudal and ventro-dorsal organization in the dorsal premotor cortex
Sarah Genon[1], Hai Li[2], Lingzhong Fan[3], Veronika Müller[4], Edna Cieslik[4], Felix Hoffstaedter[5], Andrew Reid[6], Robert Langner[7], Christian Grefkes[8], Peter Fox[9], Susanne Moebus[10], Svenja Caspers[11], Katrin Amunts[12,13], Tianzi Jiang[14], Simon Eickhoff[15]
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2189 Repeatability and Reproducibility of Objective Semi-automated Human Habenula Segmentation
Joo-won Kim[1], Matthew Glasser[2], Sophia Frangou[1], David Glahn[3,4], Alan Anticevic[3], Junqian Xu[1]
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2190 Defining Thalamic Sub-Nuclei and Topographic Connectivity Gradients in vivo
Christian Lambert[1], Henry Simon[1], Jordan Coleman[1], Thomas Barrick[1]
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2191 Bayesian inference to segment corpus callosum in midsagittal
Gilsoon Park[1], Kichang Kwak[1], Sang Won Seo[2], Duk L. Na[2], Jong-Min Lee[1]
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2192 Rapid and accurate automatic whole-brain segmentation in native diffusion space using FA and MD
Christopher Steele[1,2], Arno Villringer[1], Pierre-Louis Bazin[1]
[1]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, [2]Cerebral Imaging Centre, Douglas Mental Health University Institute, McGill University, Montreal, Quebec, Canada

2193 **End-to-End Convolutional Neural Network for the Segmentation of White Matter Hyperintensities in MRI**
Ahmed Abdulkadir[1], Stefan Klöppel[2], Benno Gesierich[3], Marco Düring[3], Olaf Ronneberger[1]
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2194 **Non-local means filtering for cortical parcellation of resting fMRI**
Chitresh Bhushan[1], Minqi Chong[1], Soyoung Choi[1], Anand Joshi[1], Justin Haldar[1], Hanna Damasio[1], Richard Leahy[1]
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2195 **Patient Specific Parcellation of the Subthalamic Nucleus in Parkinson's Disease**
Birgit Plantinga[1,2], Yasin Temel[2,3], Yuval Duchin[4], Kamil Uludag[2], Alard Roebroeck[2], Mark Kuijf[3], Ali Jahanshahi[2], Bart ter Haar Romenij[1,5], Jerrold Vitek[6], Noam Harel[4]
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2196 **Longitudinal Segmentation of Early-stage Multiple Sclerosis Lesions in Magnetic Resonance Images**
Mário João Fartaria[1,2], Guillaume Bonnier[1,2], Alexis Roche[2,1,3], Bénédicte Maréchal[1,2,3], David Rotzinger[2], Myriam Schluep[4], Renaud Du Pasquier[4], Jean-Philippe Thiran[3,2], Gunnar Krueger[2,3,5], Reto Meuli[2], Tobias Kober[1,2,3], Cristina Granziera[6,4,1], Meritxell Bach Cuadra[2,3,7]
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2197 **Multimodal segmentation utilizing FLAIR or R2* images for improved detection of gray matter in VBM**
Roberto Viviani[1,2], Eberhard Pracht[3], Daniel Brenner[3], Julia Stingl[4,5], Stöcker Tony[3,6]
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2198 **Automatic multimodal segmentation of cortical 'myelin content' from FLAIR and MPRAGE images for VBM**
Roberto Viviani[1,2], Stöcker Tony[3,4], Julia Stingl[5,6]
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2199 **White matter parcellation on the basis of probabilistic fiber pathway reconstructions**
Patrick Schiffler[1], Jan-Gerd Tenberge[1], Julia Krämer[1], Michael Deppe[1]
[1]University of Münster, Münster, Germany

2200 **Structural Brain Effects of Cancer Derived From Clinically-Indicated Contrast-Enhanced MRI Scans**
Mark Shiroishi[1,2], Joshua Faskowitz[1], Francesco D'Amore[1], Amir Emami[1], Steven Cen[1], Alexander Lerner[1], Arthur Toga[1], Russell Jacobs[3], Berislav Zlokovic[1], Meng Law[1], Paul Thompson[1], Neda Jahanshad[1]
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2201 **Evaluation of full brain parcellation schemes using the NeuroVault database of statistical maps**
Krzysztof Gorgolewski[1], Arielle Tambini[2], Joke Durnez[1], Vanessa Sochat[3], Joseph Wexler[4], Russell Poldrack[1]
[1]Stanford University, Stanford, CA, [2]UC Berkeley, San Francisco, CA, [3]Department of Psychology, Stanford University, Stanford, CA, [4]Stanford University, Stanford, CA

2202 **Method to functionally parcellate the brain consistently across subjects**
Prasad Sudhakar[1], Radhika Madhavan[1], Rakesh Mullick[1], Ek Tsoon Tan[2], Suresh Joel[1]
[1]General Electric Global Research, Bangalore, India, [2]General Electric Global Research, Niskayuna, NY

2203 **Reproducibility of group spectral clustering of the sensorimotor cortex**
Prasad Sudhakar[1], Radhika Madhavan[1], Rakesh Mullick[1], Ek Tsoon Tan[2], Suresh Joel[1]
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2204 **Multi-Parametric Quantitative MRI Reveals Two Different Kinds of White Matter**
Jack Foucher[1], Daniel Gounot[2], Mathilde Roser[2], Mathieu Santin[3], Alexandre Vignaud[4], Paulo de Sousa[5]
[1]ICube, CNRS UMR 7357, FMTS, CEMNIS, Strasbourg, France, [2]ICube, CNRS UMR 7357, FMTS, HUS, Strasbourg, France, [3]CENIR, ICM, Paris, France, [4]CEA, I2BM, NeuroSpin, Gif-sur-Yvette, France, [5]ICube, CNRS UMR 7357, Strasbourg, France

2205 **Transition subarea in the parahippocampal region that integrates the AT-PM systems**
Junjie Zhuo[1], Lingzhong Fan[2], Yong Liu[2], Yuanchao Zhang[1], Chunshui Yu[3], Tianzi Jiang[2]
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2206 **Steps towards a harmonized protocol for hippocampal subfield segmentation**
Laura Wisse[1], Ana Daugherty[2], Renaud La Joie[3], Ricardo Insausti[4], Michael Yassa[5], Valerie Carr[6], Arne Ekstrom[7], Geoffrey Kerchner[6], Susanne Mueller[8], Craig Stark[5], Lei Wang[9], Paul Yushkevich[1]
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2207 **Impact of ROI coverage on representative signals in atlas based parcellations**
Martin Gajdoš[1], Michal Mikl[1], Eva Vytvarova[2], Jan Fousek[2]
[1]CEITEC, Masaryk University, Brno, Czech Republic, [2]Faculty of Informatics, Masaryk University, Brno, Czech Republic

2208 **Multimodal segmentation of substantia nigra, subthalamic nucleus and red nucleus and effect of age**
Eelke Visser[1], Max Keuken[2], Birte Forstmann[2], Mark Jenkinson[1]
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2209 **Co-activation based parcellation of the human insula**
Michael Riedel[1], Ranjita Poudel[1], Taylor Salo[1], Simon Eickhoff[2], Peter Fox[3], Angie Laird[1], Matthew Sutherland[1]
[1]Florida International University, Miami, FL, [2]Institute of Clinical Neuroscience and Medical Psychology, Duesseldorf, Germany, [3]The University of Texas Health Science Center, San Antonio, TX

2210 **A Cortical Parcellation Framework for Multimodal Analysis**
Sarah Parisot[1], Daniel Rueckert[2]
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2211 **Discovering Genetically Influenced Brain Connectivity Networks Using EPIC**
Marc Harrison[1], Gautam Prasad[1], Neda Jahanshad[1], George Hafzalla[1], Joshua Faskowitz[1], Katie McMahon[2], Greig de Zubicaray[3], Nicholas Martin[4], Margaret Wright[5], Paul Thompson[1]
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2212 **Functional fingerprinting: Fine-grain segregation from activation data**
Bertrand Thirion[1], Danilo Bzdok[2], Gael Varoquaux[3]
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2213 **The influence of brain parcellation resolution on structural connectome**
Romain Viard[1], Pierre Besson[2], Clément Bournonville[1], Julien Dumont[1], Xavier Leclerc[3], Renaud Lopes[1]
[1]INSERM U1171, Lille, France, [2]Aix-Marseille Université, CNRS, CRMBM UMR 7339, Marseille, France, [3]Clinical Imaging Core faCility (CI2C), Lille University Hospital / INSERM U1171, University of Lille, Lille, France

2214 **Individual Performance of Resting fMRI Parcellation with Group Connectivity Priors**
Minqi Chong[1], Chitresh Bhushan[1], Anand Joshi[1], Justin Haldar[1], R. Nathan Spreng[2], Richard Leahy[1]
[1]Univ. of Southern California, Los Angeles, United States, [2]Cornell University, Ithaca, United States

2215 **Boosting segmentation of low quality images by coupled image restoring and labeling**
Yang Xuesong[1], Zheng Qiang[1], Zhu Hancan[2], Fan Yong[3]
[1]Institute of Automation, Chinese Academy of Sciences, BeiJing, China, [2]College of Mathematics Physics and Information, Shaoxing University, Shaoxing, China, [3]Department of Radiology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, United States

MODELING AND ANALYSIS METHODS

Univariate Modeling

2216 **Faster permutation inference in neuroimaging**
Anderson Winkler[1], Gerard Ridgway[1], Gwenaëlle Douaud[1], Thomas Nichols[2], Stephen Smith[1]
[1]FMRIB Centre, University of Oxford, Oxford, United Kingdom, [2]University of Warwick, Coventry, United Kingdom

2217 **Inflated type I errors using robust regression with small sample sizes**
Jeanette Mumford[1], Richard Davidson[2]
[1]University of Wisconsin - Madison, Madison, WI, [2]Waisman Laboratory for Brain Imaging and Behavior, Madison, WI

2218 **A Note On Likelihood Ratio Testing for Average Error Control in fMRI**
Jasper Degryse[1], Ruth Seurinck[1], Beatrijs Moerkerke[1]
[1]Ghent University, Ghent, Belgium

2219 **Highly comparative time-series analysis of fMRI signals with application to schizophrenia**
Ben Fulcher[1], Patricia Tran[1], Alex Fornito[1]
[1]Monash University, Melbourne, Australia

2220 **More powerful neuroimaging through adaptive designs with interim analysis**
Joke Durnez[1], Jean-Baptiste Poline[2], Jeanette Mumford[3], Russell Poldrack[1]
[1]Stanford University, Stanford, CA, [2]University of California, Berkeley, Berkeley, CA, [3]University of Wisconsin - Madison, Madison, WI

2221 **Neuropower: a toolbox for whole brain fMRI sample size and power calculations**
Joke Durnez[1], Jasper Degryse[2], Beatrijs Moerkerke[2], Jean-Baptiste Poline[3], Vanessa Sochat[1], Russell Poldrack[1], Thomas Nichols[4]
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PERCEPTION AND ATTENTION

Attention: Auditory/Tactile/Motor

2222 **Classification of ADHD with wavelet-transform and support vector machine based on resting-state fMRI**
Ying Tan[1,2], Tao Zhang[2], Xun Yang[1], Haibin Zhang[1], Xin Chang[2], Rui Tan[3], Jian Gu[1], Cheng Luo[2]
[1]Southwest University for Nationalities, Chengdu, China, [2]University of Electronic Science and Technology of China, Chengdu, China, [3]Southwest Jiaotong University, Chengdu, China

2223 **Measuring the effects of attention to single fingertips using ultra-high field (7T) fMRI**
Alexander Puckett[1], Saskia Bollmann[2], Markus Barth[2], Ross Cunnington[1]
[1]Queensland Brain Institute, The University of Queensland, Brisbane, Australia, [2]Centre for Advanced Imaging, The University of Queensland, Brisbane, Australia

2224 **Exploring the neurocognitive mechanisms underlying trigger failures in the stop-signal paradigm**
Wouter Boekel[1], Dora Matzke[1], Gilles de Hollander[1], Andrew Heathcote[2], Birte Forstmann[1]
[1]University of Amsterdam, Amsterdam, Netherlands, [2]University of Tasmania, Hobart, Australia

2225 **FMRI Connectivity Outperforms Magnitude in Classifying Attention to Distracting Speech While Reading**
David Jangraw[1], Daniel Handwerker[2], Javier Gonzalez Castillo[1], Puja Panwar[1], Valentinos Zachariou[1], Peter Bandettini[1]
[1]National Institute of Mental Health, Bethesda, MD, [2]NIMH, Bethesda, MD

2226 **The influence of prestimulus oscillatory power in different frequency bands on alertness**
Clio Coste[1], Andreas Kleinschmidt[1]
[1]University Hospital of Geneva, Geneva, Switzerland

2227 **The effects of attention on neural representations of environmental statistics**
Marta Garrido[1], Elise Rowe[1], Veronika Halász[1], Jason Mattingley[1]
[1]The University of Queensland, Brisbane, Australia

2228 **Decoding the target of auditory attention from single-trial MEG**
Dovile Kurmanaviciute[1], Antti Rantala[1], Mainak Jas[2,1], Anne Mandel[1], Lauri Parkkonen[1]
[1]Aalto University, Espoo, Finland, [2]CNRS LTCI, Télécom ParisTech, Université Paris-Saclay, Paris, France

2229 **Modulation of the auditory space representations by prismatic adaptation**
Isabel Tissières[1], Eleonora Fornari[2], Stephanie Clarke[1], Sonia Crottaz-Herbette[1]
[1]Neuropsychology and Neurorehabilitation Service, Lausanne University Hospital, Lausanne, Switzerland, [2]Department of Radiology, Lausanne University Hospital and University of Lausanne, Lausanne, Switzerland

2230 **Investigation of the Neural Correlates of Error Awareness in Experienced Meditators**
Daniela Dentico[1], Robin Goldman[1], David Bachhuber[1], Richard Davidson[1], Antoine Lutz[2]
[1]Waisman Laboratory for Brain Imaging and Behavior, Madison, WI, [2]Lyon Neuroscience Research Center, INSERM U1028, CNRS UMR5292, Lyon, France

PERCEPTION AND ATTENTION

Attention: Visual

2231 **Stimulus-driven reorienting impairs top-down control of attention: Evidence for a common bottleneck**
Fynn-Mathis Trautwein[1], Tania Singer[1], Philipp Kanske[1]
[1]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

2232 **Modulating break length alters time-on-task decline and fMRI activation on task reengagement**
Julian Lim[1], James Teng[1], Kian Foong Wong[1], Michael Chee[1]
[1]Center for Cognitive Neuroscience, Duke-NUS Medical School, Singapore, Singapore

2233 **A neurocomputational approach to feature- and space-based attention systems in the human brain**
Pascasie Dombert[1], Anna Kuhns[1], Paola Mengotti[1], Gereon Fink[2], Simone Vossel[1]
[1]Cognitive Neuroscience, Institute of Neuroscience & Medicine (INM-3), Research Centre Juelich, Juelich, Germany, [2]Department of Neurology, University Hospital Cologne, Cologne, Germany

2234 **Handedness, hemispheric asymmetries, and parietal spatial attention maps**
Summer Sheremata[1], Michael Silver[2]
[1]Florida Atlantic University, Boca Raton, FL, [2]University of California, Berkeley, CA

2235 **EEG functional connectivity in a fronto-parietal network reflects top-down attention in neglect**
Julia Fellrath[1,2], Anaïs Mottaz[1], Armin Schnider[1,2], Adrian G. Guggisberg[1,2], Radek Ptak[1,2,3]
[1]Laboratory of Cognitive Neurorehabilitation, Faculty of Medicine, University of Geneva, Geneva, Switzerland, [2]Division of Neurorehabilitation, Department of Clinical Neurosciences, University Hospitals Geneva, Geneva, Switzerland, [3]Faculty of Psychology and Educational Sciences, University of Geneva, Geneva, Switzerland

2236 **Manipulating the neural network responsible for temporal selective attention using brain stimulation**
Matthew Tang[1], David Badcock[2], James Enns[3], Troy Visser[4]
[1]University of Queensland, St Lucia, Australia, [2]School of Psychology, The University of Western Australia, Crawley, Australia, [3]Department of Psychology, University of British Columbia, West Mall, Canada, [4]School of Psychology, The University of Western Australia, Crawley, Australia

2237 **Effect of Mindfulness Training on Brain Connectivity Segregation**
Junhua Li[1], Zhongxiang Dai[1], Michael W. L. Chee[2], Anastasios Bezerianos[1], Kinjal Doshi[3], Yu Sun[1], Julian Lim[2]
[1]Singapore Institute for Neurotechnology, National University of Singapore, Singapore, Singapore, [2]Center for Cognitive Neuroscience, Duke-NUS Medical School, Singapore, Singapore, [3]Department of Neurology, Singapore General Hospital, Singapore, Singapore

2238 **Neural Substrates of Visual Spatial and Non-spatial Top-down Attentional Process; an MVPA study**
Jinyong Chung[1], Kwangsun Yoo[1], Yong Jeong[1]
[1]KAIST, Daejeon, Korea, Republic of

2239 **Rest after neurofeedback training? Recovery of brain activity following neurofeedback training**
Dimitri Van De Ville[1], Nemanja Masala[1], Frank Scharnowski[2], Yury Koush[1]
[1]EPFL, Lausanne, Switzerland, [2]University of Zürich, Zürich, Switzerland

2240 **Salience network dynamics underlying successful resistance of temptation**
Rosa Steimke[1], Jason Nomi[2], Vince D. Calhoun[3], Christine Stelzel[1], Lena Paschke[1], Henrik Walter[4], Lucina Uddin[2]
[1]Charité Universitätsmedizin Berlin, Berlin, Germany, [2]University of Miami, Coral Gables, FL, [3]The Mind Research Network, Albuquerque, NM, [4]Berlin, Berlin, Germany

2241 **Effects of Mindfulness Meditation on EEG correlates of Psychomotor Vigilance Test performance**
Kian Foong Wong[1], James Teng[1], Kinjal Doshi[2], Michael W. L. Chee[1], Julian Lim[1]
[1]Center for Cognitive Neuroscience, Duke-NUS Medical School, Singapore, Singapore, [2]Department of Neurology, Singapore General Hospital, Singapore, Singapore

2242 **Local and distant intrinsic functional connectivity changes after training in a visual search task**
Elisenda Bueichekú[1], Jorge Sepulcre[2,3], Anna Miró Padilla[1], María-Ángeles Palomar-García[1], Cesar Avila[1]
[1]Universitat Jaume I, Castellón, Spain, [2]Division of Nuclear Medicine and Molecular Imaging, Department of Radiology, Massachusetts General H, Boston, MA, [3]Department of Radiology, Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital and Harvard Medical School, Charlestown, MA

2243 **The Role of the Left Intraparietal Sulcus in Age Related Impairments in Salience Suppresion**
Brandon Ashinoff[1], Stephen Mayhew[1], Carmel Mevorach[1]
[1]University of Birmingham, Birmingham, United Kingdom

2244 **Recapitulating the mind of visual artists by regional homogeneity and functional connectivity**
Tzu-Yi Hong[1,2], Ching-Ju Yang[1,2], Chia-Shu Lin[3,2], Tai-Ying Liu[1,2], Li-Fen Chen[1,2], Jen-Chuen Hsieh[1,2]
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2245 **Characterization of individual viewing behavior: a measure for priority and its neural correlates**
Jan-Bernard Marsman[1], Frans Cornelissen[2], Michael Dorr[3], Eleonora Vig[4], Erhardt Barth[5], Remco Renken[2]
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2246 **NEURAL BASIS OF SPONTANEOUS ATTENTION FLUCTUATIONS**
Mathilde Petton[1], Marcela Perrone-Bertolotti[2], Sylvain Rheims[3], Philippe Kahane[4], Jean-Philippe Lachaux[5]
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2247 **Game-theory lesion inferences to study neural correlates of attentional orienting in the human brain**
Monica Toba[1,2], Melissa Zavaglia[3], Rastelli Federica[1], Pascale Pradat-Diehl[4], Claus Hilgetag[5], Antoni Valero-Cabré[6]
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2248 **Theta Oscillation and the Attentional Networks in Contingent Reorienting**
Chi-Fu Chang[1], Wei-Kuang Liang[1], Chi-Huang Juan[1]
[1]National Central University, Taoyuan, Taiwan

2249 **Reward modulation on attentional selection: a study in right-brain damaged patients with neglect**
Alexia Bourgeois[1], Arnaud Saj[1], Patrik Vuilleumier[1]
[1]Neuroscience Department, Laboratory for Behavioral Neurology and Imaging of Cognition, Universit, Geneva, Switzerland

PERCEPTION AND ATTENTION

Chemical Senses: Olfaction, Taste

2250 **Task-dependent dynamic coding of taste categories**
Kathrin Ohla[1]
[1]German Institute of Human Nutrition, Potsdam, Germany

2251 **Unilateral intranasal chemosensory stimulation activates right olfactory cortex more than left**
Michael Tobia[1], Abdou Thiam[1], Prasanna Karunanayaka[1], Qing Yang[1]
[1]Penn State Center for NMR Research, Hershey, PA

2252 **Reinforcement by reward enhances discrimination of nearly indiscriminable odor stimuli**
Rea Rodriguez-Raecke[1], Helene Loos[2], Rik Sijben[1], Marco Singer[3], Jessica Freiherr[1,2]
[1]Uniklinik RWTH Aachen, Aachen, Germany, [2]Fraunhofer Institute for Process Engineering and Packaging IVV, Freising, Germany, [3]Symrise AG Scent & Care Divison, Holzminden, Germany

PERCEPTION AND ATTENTION

Consciousness and Awareness

2253 **Spontaneous Posteromedial voxel-based connection density in Comatose Patients**
Brigitta Malagurski[1], Patrice Péran[2], Stein Silva[2]
[1]INSERM U825 / Université Toulouse III - Paul Sabatier, Toulouse, France, [2]INSERM U825, Toulouse, France

2254 **Targeted corticocortical information throughput is mediated via alpha frequency tuning**
Afra Wohlschlaeger[1,2], Elmo Sokka[1,3], Christian Sorg[1,2,4], George Mashour[5], Denis Jordan[6]
[1]Dept. of Neuroradiology, TU, Munich, Germany, [2]TUMNIC, TU, Munich, Germany, [3]Aalto University, School of Science, Espoo, Finland, [4]Dept. of Psychiatry, TU, Munich, Germany, [5]Depts of Anesthesiology and Neurosurgery, University of Michigan, Ann Arbor, MI, USA, [6]Dept. of Anesthesiology, TU, Munich, Germany

2255 **Peripersonal space and subjective body ownership: a meta-analytical assessment of neural correlates**
Petr Grivaz[1], Andrea Serino[1], Olaf Blanke[1,2]
[1]Center for Neuroprosthetics, School of Life Science, Ecole Polytechnique Fédérale de Lausanne, Geneva, Switzerland, [2]Department of Neurology, University Hospital of Geneva, Geneva, Switzerland

2256 **Imaging Object-scene Integration in Seen and Unseen Natural Scenes**
Nathan Faivre[1,2], Julien Dubois[3], Naama Schwartz[4], Liad Mudrik[4]
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2257 **Interaction of brain structure and function in different states of consciousness**
Helmut Laufs[1], Nicolas Crossley[2], Edward Bullmore[3], Enzo Tagliazucchi[4]
[1]Christian-Altrechts-University, Kiel, Schleswig-Holstein, [2]Institute of Psychiatry, Psychology and Neurosciences, King's College, London, United Kingdom, [3]University of Cambridge, Cambridge, United Kingdom, [4]Institute for Medical Psychology, Christian Albrechts University, Kiel, Germany

2258 **Assessing Consciousness in Anesthetized Individuals**
Lorina Naci[1], Rhodri Cusack[1], Alex Macdonald[2], Mimma Anello[1], Miguel Arango[1], Christopher Harle[1], Adrian Owen[1]
[1]University of Western Ontario, London, Canada, [2]University of Toronto, Toronto, Canada

2259 **Functional split brain and information integration in a driving/listening paradigm: an fMRI study**
Shuntaro Sasai[1], Melanie Boly[1], Giulio Tononi[1]
[1]Dept. of Psychiatry, University of Wisconsin, Madison, WI

2413 **The role of noradrenaline in visual awareness: a pharmacological fMRI study**
Hagar Gelbard-Sagiv[1], Efrat Magidov[1], Haggai Sharon[1,2,3], Talma Hendler[1,2,4], Yuval Nir[1]
[1]Sagol School of Neuroscience, Sackler School of Medicine, Tel-Aviv University, Tel-Aviv, Israel, [2]Functional Brain Center, Wohl Institute of Advanced Imaging, Tel Aviv Sourasky Medical Center, Tel-Aviv, Israel, [3]Department of Anesthesiology, Critical Care and Pain Medicine, Tel Aviv Sourasky Medical Center, Tel-Aviv, Israel, [4]School of Psychological Sciences, Tel Aviv University, Tel-Aviv, Israel

2261 **Cortical networks for auditory perceptual awareness under informational masking and in silence**
Katrin Wiegand[1], Alexander Gutschalk[1]
[1]University of Heidelberg, Heidelberg, Germany

2262 **Metacognition for visuomotor performance and underlying brain structures**
Indrit Sinanaj[1,2,3], Yann Cojan[4], Patrik Vuilleumier[1]
[1]Department of Fundamental Neuroscience, University of Geneva, Geneva, Switzerland, [2]Department of Mental Health and Psychiatry, University Hospitals of Geneva, Geneva, Switzerland, [3]Swiss Center for Affective Studies, University of Geneva, Geneva, Switzerland, [4]Independent, Mexico, Mexico

2263 **Responses in Mesoscopic Clusters of Human MT+ Reflect the Perceived Direction of Ambiguous Motion**
Marian Schneider[1], Rainer Goebel[2,3], Valentin Kemper[1], An Vu[4], Miguel Castelo Branco[5], Kamil Ugurbil[4], Essa Yacoub[6], Federico de Martino[1]
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2264 **Restoration of Brain Hubs Differentiates the Minimally Conscious State from the Vegetative State**
Tun Jao[1,2], Carol Di Perri[2], Edward Bullmore[3], Steven Laureys[2]
[1]National Taiwan University Hospital, Taipei, Taiwan, [2]Coma Science Group, University of Liège, Liège, Belgium, [3]University of Cambridge, Cambridge, United Kingdom

2265 **Dexmedetomidine disrupts local and global communication in large-scale brain networks**
Javeria Ali Hashmi[1], Marco Loggia[2], Sheraz Khan[3], Rafael Vazquez[4], Jim Rhee[4], Emery Brown[5], Johnson-Akeju Oluwaseun[6]
[1]Department of Anesthesia, Pain Management and Perioperative Medicine, Dahousie University, Halifax, Canada, [2]Department of Radiology, Harvard Medical School, MGH, Boston, US, [3]Department of Neurology, Harvard Medical School, Boston, US, [4]Harvard Medical School, MGH, Boston, US, [5]Department of Anesthesia, Critical Care and Pain Medicine, Massachusetts General Hospital, Boston, US, [6]Department of Anesthesia, Critical Care and Pain Medicine, Harvard Medical School, MGH, Boston, US

2266 **Assessing disorders of consciousness with PCI: a replication study**
Liudmila Legostaeva[1], Elina Zmeykina[1], Silvia Casarotto[2], Matteo Fecchio[2], Elena Kremneva[1], Alexandra Poydasheva[1], Alexander Chervyakov[1], Dmitry Sergeev[1], Julia Ryabinkina[1], Marcello Massimini[2], Natalya Suponeva[1], Michael Piradov[1]
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2267 **Regulation of perceptual processes by Open Presence meditation in response to auditory stimuli**
Oussama Abdoun[1,2], Antoine Lutz[1,2], Richard Davidson[3,4,5]
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2268 **Time-Varying Dynamics of Functional Network Connectivity in Acute Brain Injury Predicts Recovery**
Julia Crone[1], Evan Lutkenhoff[2], John Dell'Italia[2], Paul Vespa[3], Martin Monti[1]
[1]UCLA, Los Angeles, United States, [2]UCLA, Los Angeles, CA, [3]University of California, Los Angeles, Los Angeles, CA

2269 **Mismatch Negativity Processing Under the LSD State: Feed-Forward and Backward Connectivity**
Christopher Timmermann[1], Suresh Muthukumaraswamy[2], Mendel Kaelen[1], Robert Leech[1], Leor Roseman[1], David Nutt[1], Robin Carhart-Harris[1]
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PERCEPTION AND ATTENTION

Perception and Attention Other

2270 **FMRI and simultaneous eye-tracking during prolonged natural stimulation – a studyforrest extension**
Michael Hanke[1], Ayan Sengupta[1], Falko Kaule[1], J. Swaroop Guntupalli[2], Daniel Kottke[1], Vittorio Iacovella[3], Nico Adelhöfer[1], Michael Hoffmann[1], Florian Baumgartner[1], Jörg Stadler[4]
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2271 **Dynamic brain-network correlates of spontaneous fluctuations in attention**
Aaron Kucyi[1], Michael Hove[2], Michael Esterman[3], R.Matthew Hutchison[4], Eve Valera[2]
[1]Harvard Medical School/Massachusetts General Hospital, Cambridge, MA, [2]Harvard Medical School/Massachusetts General Hospital, Boston, United States, [3]Boston University School of Medicine, Boston, United States, [4]Harvard University, Medford, MA

2272 **The dorsal (but not ventral) prefrontal cortex mediates attention to social reward in adolescence**
Bhavika Chepuri[1], Maria Nobile[2], Karthik Ramaseshan[3], Marta Re[4], Paolo Brambilla[5], Vaibhav Diwadkar[3]
[1]Wayne State University School of Medicine, Detroit, MI, [2]IRCCS E. Medea, Polo Bosisio Parini, Italy, [3]Wayne State University, Detroit, MI, [4]University of Udine, Udine, Italy, [5]University of Milan, Milan, Italy

2273 **Brain Responses to Food Viewing are Linked with Intake Motivation and Digestive Hormone Secretion**
Marie-Laure Bielser[1], Claudia Lietti[1], Léonie Egli[2], Vanessa Campos[2], Luc Tappy[2,3], Vittorio Giusti[3], Micah Murray[1,4,5,6], Ulrike Toepel[1]
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2274 **Attentional Performance is Correlated with Specific Nodal Efficiency of Structural Brain Networks**
Min Xiao[1], Haitao Ge[1], Budha Khundrakpam[2], Gleb Bezgin[2], Junhai Xu[1], Alan Evans[2], Shuwei Liu[1]
[1]Research Center for Sectional and Imaging Anatomy, Shandong University School of Medicine, Jinan, Shandong, China, [2]McGill Centre for Integrative Neuroscience, Montreal Neurological Institute, McGill University, Montreal, Quebec, Canada

2275 **Anterior insular cortex plays a critical role in interoception**
Xingchao Wang[1], Qiong Wu[2], Jing Luo[3], Zhixian Gao[4], Yanhong Wu[5], Jin Fan[6]
[1]Department of Neurosurgery, Beijing Tiantan Hospital, Capital Medical University, Beijing, China, [2]Department of Psychology,Peking University, Beijing, China, [3]Department of Psychology, College of Education,Captical Normal University, Beijing, China, [4]Department of Neurosurgery, Beijing Tiantan Hospital, Capital Medical University, Beijing, China, [5]Department of Psychology, Peking University, Beijing, China, [6]Department of Psychology, Queens College, The City University of New York, New York, United States

2276 **Asymmetric effect of preattentive race feature detection: Evidence from visual Mismatch Negativity**
Jie Yuan[1], Wen Xiong[2], Jian Chen[3], Xiaoqing Hu[4], Shimin Fu[1]
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PERCEPTION AND ATTENTION

Perception: Auditory/ Vestibular

2277 **Effect of MRI noise on the lateralization of auditory intensity processing**
Nicole Angenstein[1], Jörg Stadler[1], André Brechmann[1]
[1]Leibniz Institute for Neurobiology, Magdeburg, Germany

2278 **Modulation of the cortical vestibular network by rTMS and its neural correlate**
Peter zu Eulenburg[1], Martina Seidler[2], Marianne Dieterich[1]
[1]Ludwig-Maximilians-University, Munich, Germany, [2]Johannes Gutenberg University Mainz, Mainz, Germany

2279 **Contextual effects on the neural encoding of speech sounds**
Sanne Rutten[1], Roberta Santoro[1], Alexis Hervais-Adelman[1], Elia Formisano[2], Narly Golestani[1]
[1]University of Geneva, Geneva, Switzerland, [2]Maastricht University, Maastricht, Netherlands

2280 **Cortical Morphometry and Microstructure Integrity in Tinnitus: A Combined of VBM and TBSS Study**
Fahad Alhazmi[1], Jamaan Alghamdi[2], Ian Mackenzie[3], Tony Kay[4], Graham Kemp[5], Vanessa Sluming[6]
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2281 **Voxel-based morphometry reveals structural correlate in physiological upbeat nystagmus**
Ria Maxine Ruehl[1], Thomas Stephan[1], Marianne Dieterich[1], Peter zu Eulenburg[1]
[1]Ludwig-Maximilians-University, Munich, Germany

2282 **Frequency following response amplitude correlates with BOLD signal in right auditory cortex**
Emily Coffey[1], Gabriella Musacchia[2], Robert Zatorre[1]
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2283 **Phase-encoding analysis for ILD preferences in the human auditory cortex**
Sandra Da Costa[1], Nathan Higgins[1], G. Christopher Stecker[1]
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2284 **Tonotopy and functional connectivity in the auditory pathway of tinnitus patients: A 7 Tesla study**
Eva Berlot[1], Remo Arts[2], Omer Gulban[1], Federico De Martino[1], Robert Stokroos[2], Elia Formisano[1]
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2285 **Structural connectivity of the auditory cortex changes in unilateral hearing loss**
Ja Hee Kim[1], Jeong-Hye Park[1,2], Sung Kwang Hong[1,2], Hyo-Jeong Lee[1,2]
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2286 **Multi Voxel Pattern Analysis (MVPA) in Temporal Voice Areas (TVAs) predicts voice memory abilities**
Virginia Aglieri[1], Sylvain Takerkart[1], Rebecca Watson[2,3], Pascal Belin[1]
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2287 **Predominance of Heschl's gyrus duplications as an integral part of auditory cortex in musicians**
Jan Benner[1], Martina Wengenroth[2,3], Armin Heinecke[4], Julia Reinhardt[1], Christoph Stippich[1], Peter Schneider[2,5], Maria Blatow[1]
[1]Department of Radiology, Division of Neuroradiology, University of Basel Hospital, Basel, Switzerland, [2]Department of Neuroradiology, University of Heidelberg Medical School, Heidelberg, Germany, [3]Department of Neuroradiology, University of Lübeck, Lübeck, Germany, [4]Brain Innovation, Maastricht, Netherlands, [5]Department of Neurology, Section of Biomagnetism, University of Heidelberg Medical School, Heidelberg, Germany

2288 **Screams roughness and pitch contribute to trigger efficient neural and behavioural responses**
Luc Arnal[1], Anne-Lise Giraud[2], Maria Pefkou[1], Andreas Kleinschmidt[3]
[1]University of Geneva, Geneva, Switzerland, [2]University of Geneva, Geneve, Switzerland, [3]University Hospital of Geneva, Geneva, Switzerland

2289 **A fairytale for the brain – an alternative fMRI stimulation by the auditory natural paradigm**
Mateusz Rusiniak[1], Tomasz Wolak[1], Agnieszka Pluta[1], Monika Lewandowska[1], Katarzyna Ciesla[1], Henryk Skarzynkski[1]
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2290 **Hybrid H215O-PET fMRI measures during galvanic vestibular stimulation**
Thomas Stephan[1], Sandra Becker-Bense[1], Nathalie Albert[1], Matthias Brendel[1], Marcus Unterrainer[1], Guoming Xiong[1], Erik Mille[1], Maximilian Habs[1], Michael Herz[2], Markus Schwaiger[2], Marianne Dieterich[1], Peter Bartenstein[1]
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2291 **Multi-Voxel Pattern Representation of Binaural Cues in Human Auditory Cortex**
Nathan Higgins[1], G. Christopher Stecker[2]
[1]Vanderbilt University, Nashville, TN, [2]Vanderbilt University Medical Center, Nashville, TN

2292 **Auditory rhythmic regularity processing: relating the percept and neural correlates in the EEG**
Manon Grube[1,2], Irene Sturm[1,3], Annike Bekius[1], Thomas Cope[4], Sven Dähne[5], Klaus-Robert Müller[5,6]
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2293 **ECoG Activation Within and Beyond Auditory Cortex During Dialogue-Based Cognitive Testing**
Kirill Nourski[1], Mitchell Steinschneider[2]
[1]The University of Iowa, Iowa City, IA, [2]Albert Einstein College of Medicine, Bronx, NY

2294 **Tinnitus perception activates parietal operculum 3: an fMRI study**
Chantal Delon-Martin[1], Agnes Job[2]
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PERCEPTION AND ATTENTION

Perception: Multisensory and Crossmodal

2295 **Different Neural Mechanisms for Processing Pitch-deviant/Delayed Auditory Feedbacks of Self-action**
Koichi Toida[1,2], Kanako Ueno[1,2], Sotaro Shimada[1,2]
[1]Meiji University, Kanagawa, Japan, [2]JST/CREST, Saitama, Japan

2296 **Neural Correlates of Rapid Recalibration to Audiovisual Asynchrony**
Therese Lennert[1], Sylvain Baillet[2]
[1]McGill University, Montreal, Quebec, [2]McGill University, Montreal, Canada

2297 **Brain activity during image processing in grapheme–color synesthesia: an ERP study**
Midori Shibata[1], Sa-ya Fukuzaki[2], Arisa Sato[3], Satoshi Umeda[2]
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2298 **Structural Reorganization in Early Sensory Areas Supports Long-Range Cross-Modal Plasticity**
Lukasz Bola[1,2], Katarzyna Siuda-Krzywicka[3], Maria Zimmermann[4], Malgorzata Paplinska[5], Ewa Sumera[6], Katarzyna Jednoróg[7], Artur Marchewka[2], Marcin Szwed[1]
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2299 **Visual modulation of auditory discrimination correlates with GABA in parietal multisensory area**
Quoc Vuong[1], Jehill Parikh[2], Mark Laing[2], Andrew Blamire[2], Adrian Rees[2]
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2300 **Neural Responses to Heartbeats Contribute to Anticipatory Auditory Processing**
Christian Pfeiffer[1,2], Serena Caverzasio[1,2], Rupert Ortner[3,4], Christoph Guger[4], Marzia De Lucia[1,2]
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2301 **Layer-specific attentional modulation and multisensory interactions in sensory cortices**
Remi Gau[1,2], Pierre-Louis Bazin[3], Robert Trampel[3], Robert Turner[3], Uta Noppeney[2]
[1]Max Planck Institute for biological cybernetics, Tuebingen, United Kingdom, [2]University of Birmingham, Birmingham, United Kingdom, [3]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

2302 **Sensorimotor finger-specific information in blind occipitotemporal cortex: A 7T fMRI study**
Daan Wesselink[1], James Kolasinski[1], Sanne Kikkert[1], Samuel Hurley[1], Holly Bridge[1], Tamar Makin[1]
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2303 **Decoding perceptual causal inference in the human brain**
Agoston Mihalik[1], Uta Noppeney[1]
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2304 **Neural Correlates of the Face Peripersonal Space Using Ultra High-Field fMRI**
Eva Blondiaux Garcia[1], Petr Grivaz[2], Michel Akselrod[3], Andrea Serino[4], Olaf Blanke[5]
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2305 **Neural Processing of Self-generated and Passively-presented Temporally-deviant Auditory Stimulus**
Tomoyuki Momokawa[1,2], Koichi Toida[1,2], Kanako Ueno[1,2], Sotaro Shimada[1,2]
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2306 **Content-free and content-specific cross-modal predictions in audiovisual speech: computational model**
Itsaso Olasagasti[1], Sevada Hovsepyan[1], Sophie Bouton[1], Anne-Lise Giraud[1]
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2307 **Binding problem 2.0: Multisensory interactions reveal mechanisms of category-bound object processing**
Pawel Matusz[1], Antonia Thelen[2], Jospeh Nour[1], Jean-François Knebel[1], Céline Cappe[3], Micah Murray[1]
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2308 **Neural Correlates and Cross-modal Plasticity for Reading Full Words without Visual Experience**
Shachar Maidenbaum[1], Nadine Sigalov[2], Amir Amedi[3]
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2309 **Faces Selectively Activate the Temporal Voice Area in Early Profound Deafness**
Stefania Benetti[1], Giuseppe Rabini[1], Joshua Zonca[1], Valentina Foa[1], Francesca Baruffaldi[1], Francesco Pavani[1], Olivier Collignon[1,2]
[1]Cimec - University of Trento, Trento, Italy, [2]Institute of research in Psychogy & Institute of Neuroscience - University of Louvain, Louvain, Belgium

2310 **Spatial Representations Formed from Vision and Audition Depend on Task Context**
Máté Aller[1], Uta Noppeney[2]
[1]Computational Neuroscience and Cognitive Robotics Centre, University of Brimingham, Birmingham, United Kingdom, [2]University of Birmingham, Birmingham, United Kingdom

2311 **Individual Differences in Neural Networks Supporting Multisensory Processing**
Sarah Baum[1], Antonia Thelen[1], David Simon[1], Mark Wallace[1]
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PERCEPTION AND ATTENTION

Perception: Pain and Visceral

2312 **Pain Analgesia induced by three Meditation-Based Instructions: Effects of a 9-Month Mental Training**
Pascal Vrticka[1], Joshua Grant[1], Tania Singer[1]
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2313 **Left dorsolateral prefrontal cortex grey matter volume is related to headache frequency and anxiety**
Shana Burrowes[1], Andrew Furman[1], Luma Samawi[1], Michael Keaser[1], Michelle Polley[2], B Peterlin[2], Jennifer Haythornthwaite[2], David Seminowicz[1]
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2314 **Classification of Localized Versus Widespread Pain in Urological Chronic Pelvic Pain Syndrome**
Eric Ichesco[1], Scott Peltier[1], Johnson Hampson[1], Jason Kutch[2], Katherine Martucci[3], Melissa Farmer[4], Jennifer Labus[5], Georg Deutsch[6], Timothy Ness[6], A Apkarian[4], Emeran Mayer[5], Sean Mackey[3], Daniel Clauw[1], Richard Harris[1], The MAPP Research Network[7]
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2315 **Altered functional connectivity with pressure-induced abdominal discomfort in functional dyspepsia**
Jieun Kim[1], Seok-Jae Ko[2], Myounghee Jun[2], Abdalla Mohamed[3], Seulgi Eun[3], Minji Kim[2], Da-Heui Kim[1], Meena Makary[3], Jaehong Lee[2], Jae-Woo Park[2], Kyungmo Park[3], Jun-Hwan Lee[1,4]
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2316 **Augmented Central Pain Processing during Intra-epidermal Electrical Stimulation in Fibromyalgia**
Manyoel Lim[1], Meyke Roosink[1], June Sic Kim[1], Hye Won Kim[2], Eun Bong Lee[2], Kyeong Min Son[3], Hyun Ah Kim[3], Chun Kee Chung[1]
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2317 **Treatment outcomes of a repetitive Transcranial Magnetic Stimulation in chronic tinnitus**
Jeong-Sug Kyong[1,2], Tae-Soo Noh[2], Moo-Kyun Park[2], Jun-Ho Lee[2], Seung-Ha Oh[2], June Sic Kim[1,3], Chun Kee Chung[3,4], Myung-Whan Suh[2]
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2318 **Give me a pain that I am used to: Distinct habituation to painful vs. non-painful stimulation**
Katharina Paul[1,2], Martin Tik[1], Andreas Hahn[3], Ronald Sladky[1], Nicole Geissberger[1], Eva-Maria Seidel[2], Georg Kranz[3], Daniela Pfabigan[2], Christoph Kraus[3], Rupert Lanzenberger[3], Claus Lamm[2], Christian Windischberger[1]
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2319 **An EEG template of nociceptive brain activity in infants – a new approach for testing analgesics?**
Caroline Hartley[1], Eugene Duff[2], Richard Rogers[3], Rebeccah Slater[1]
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2320 **Neural circuits underlying the motivation to avoid pain**
Wiebke Gandhi[1], Cecile de Vos[2,3], Susanne Becker[4,3], Marie-Eve Hoeppli[1], Rick Hoge[1], Petra Schweinhardt[1]
[1]McGill University, Montreal, Quebec, [2]Medisch Spectrum Twente, Enschede, Netherlands, [3]McGill University, Montreal, Canada, [4]Heidelberg University, Mannheim, Germany

2321 **Remembering pain: when the superior temporal gyrus clouds the past**
Francis Houde[1], Marie-Philippe Harvey[1], Marylie Martel[1], Vincent Auclair[2], Kevin Whittingstall[2], Philippe Goffaux[2], Guillaume Léonard[1]
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2322 **Central Processing of Thermal Pain in Young Women With Primary Dysmenorrhea**
Ya-Yun Chen[1,2], Cheng-Hao Tu[1,2], Wei-Chi Li[1], Hsiang-Tai Chao[3,4], Li-Fen Chen[1,2], Jen-Chuen Hsieh[1,2]
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2323 **A model-based approach identifies strong and moderate sensitizers in a longitudinal pain paradigm**
Isabel Ellerbrock[1], Siawoosh Mohammadi[1], Arne May[1]
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2324 **Emotional regulation of mindfulness on pain-afflicted patients-an fMRI study based on Fibromyalgia**
I-Wen Su[1], Fang-Wei Wu[2], Wei-Zen Sun[3], Keng-Chen Liang[2], Kai-Yuan Cheng[4], Sung-Tsang Hsieh[5], Tai-Li Chou[6]
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2325 **Decoding of Endogenous Pain Perception from Resting-state Brain Activity: An MEG Study**
Po-Chih Kuo[1], Yi-Ti Chen[1], Yong-Sheng Chen[1], Li-Fen Chen[2,3]
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2326 **Mapping the Neural Bases of Recalling the Interoceptive Consequences of External Stimuli**
Kaiping Burrows[1], Danielle DeVille[1,2], Jason Avery[1], Kara Kerr[1,2], Casey Mullins[1], Jerzy Bodurka[1,3], W. Kyle Simmons[1,4]
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2327 **Salience processing and intensity coding in the human insula: evidence from intracerebral recordings**
Giulia Liberati[1], Anne Klöcker[1], Marta Safronova[1], Susana Ferrão Santos[2], Jose-Geraldo Ribeiro-Vaz[2], Christian Raftopoulos[2], André Mouraux[1]
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2328 **Brain connectivity related to CRP inflammatory marker levels in ankylosing spondylitis chronic pain**
Kasey Hemington[1,2], Qi Wu[1], Robert Inman[3,4], Karen Davis[1,5]
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2329 **Support Vector Classification of Fibromyalgia Syndrome using Hemodynamic Responses: an fNIRS Study**
Aykut Eken[1], Didem Gökçay[2], Bora Baskak[3], Aysegül Baltaci[4], Murat Kara[5]
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2330 **Distinct neural mechanisms of pain modulation through distraction and placebo**
Choong-Wan Woo[1], Jason Buhle[2], Bradford Stevens[3], Chris Stevens[4], Cait Williamson[5], Tor Wager[1]
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2331 **Orienting attention in somatosensory perception: An event-related potential study**
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2332 **Neural correlates of sex differences in pain**
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2333 **Altered resting state network in fibromyalgia based on persistent network homology**
Mi Kyung Choe[1], Manyoel Lim[2], June Sic Kim[1], Chun Kee Chung[3]
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2334 **Neural Correlates of Pain Catastrophizing in Pain-Related Maladaptive Belief Induction**
Amy Sentis[1], Christine Law[1], John Sturgeon[1], Sean Mackey[1]
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2335 **Neural Dynamics in Cognitive Reappraisal of Pain**
Christine Law[1], Amy Sentis[1], Sean Mackey[1]
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2336 **Holding hands alleviates pain reducing pain-specific and emotional brain responses**
Marina Lopez Sola[1], Tor Wager[1]
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2337 **Cross-modal expectancy effects between Pain and Disgust**
Gil Sharvit[1], Corrrado Corradi-Dell'Acqua[1], Patrik Vuilleumier[2]
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PERCEPTION AND ATTENTION

Perception: Tactile/Somatosensory

2338 **ERP Analysis by Change of Vibration Touch Stimulation**
Mi-Hyun Choi[1], Seon-Young Gim[1], Woo-Ram Kim[1], Hyung-Sik Kim[1], Soon-Cheol Chung[1]
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2339 **Brain processing of gentle skin stroking in early infancy: an fMRI study**
Monika Davidovic[1], Jetro Tuulari[2], Satu Lehtola[2], Isac Sehlstedt[3], Maria Keskinen[2], Håkan Olausson[3], Noora Scheinin[2], Linnea Karlsson[4,2], Hasse Karlsson[2,5], Malin Bjornsdotter[3,6]
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2340* **Revealing the neural fingerprints of a missing hand**
Sanne Kikkert[1], James Kolasinski[1], Saad Jbabdi[1], Irene Tracey[1], Christian Beckmann[2], Heidi Johansen-Berg[1], Tamar Makin[1]
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2341 **Area 3b mirrors touch**
Esther Kühn[1], Patrick Haggard[2], Arno Villringer[3], Burkhard Pleger[4], Martin Sereno[5]
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2342 **High-gamma (>50 Hz) Activitiy is More Dominant in S1 than in M1 During Hand/ Arm Movements**
Seokyun Ryun[1], June Sic Kim[2], Eunjeong Jeon[2], Chun Kee Chung[2]
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2343 **Presentation of Subliminal Stimuli Modulates Tactile Perception Rhythmically**
Thomas Baumgarten[1], Sara Königs[2], Alfons Schnitzler[1], Joachim Lange[1]
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2344 **Illusion of Limb Movement Versus Imposed Limb Movement: Are Similar Brain Areas Activated?**
Jeffrey Kenzie[1,2], Ettie Ben-Shabat[3,4], Gemma Lamp[3], Sean Dukelow[1], Leeanne Carey[3,4]
[1]The University of Calgary, Calgary, AB, [2]Florey Institute of Neuroscience and Mental Health, Melbourne, Australia, [3]Florey Institute of Neuroscience and Mental Health, Melbourne, Victoria, [4]La Trobe University, Melbourne, Australia

2345 **BOLD Responses Induced by Acupuncture involving with GABA Modulation using MEGA-PRESS 1H-MRS**
Jiliang Fang[1], Yanping Zhao[1], Guiyong Liu[1], Xiaoling Wang[1], Bingzhen Lei[2], Yong Zhang[2], Yuanyuan Chen[1], Caixia Fu[3], Tianyi Qian[4], Feng Feng[5]
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2346 **Functional connectivity across body part representations within BAs 3b, 1 and 2 of human S1**
Michel Akselrod[1,2], Roberto Martuzzi[1,2], Andrea Serino[1,2], Wietske van der Zwaag[3,4], Olaf Blanke[1,2,5]
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2347 **Differences in early perceptual processing lead to faster discrimination of textures in early blinds**
Ane Gurtubay-Antolin[1], David Cucurell[2], Antoni Rodriguez-Fornells[3]
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2348 **Gamma-band synchronization of sensory and attention networks in conscious somatosensory perception**
Jonni Hirvonen[1,2], Sheng Wang[1], Matias Palva[1], Satu Palva[1]
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2349 **The relation of perception, prestimulus α and poststimulus γ power in human somatosensory cortex**
Marc Wittenberg[1], Thomas Baumgarten[1], Alfons Schnitzler[1], Joachim Lange[1]
[1]Institute of Clinical Neuroscience and Medical Psychology, Heinrich Heine University, Düsseldorf, Germany

2350 **Neural correlates of passive forefinger kinematics**
Julio Duenas[1], James Sulzer[1,2], Philipp Stämpfli[3], Marie-Claude Hepp-Reymond[4], Spyros Kollias[5], Erich Seifritz[3], Roger Gassert[1]
[1]Rehabilitation Engineering Laboratory, ETH Zurich, Zurich, Switzerland, [2]Department of Robotics, Biomechanics and Neuroscience, University of Texas, Austin, TX, [3]Psychiatric Hospital, University of Zurich, Zurich, Switzerland, [4]Institute of Neuroinformatics, University of Zurich and ETH Zurich, Zurich, Switzerland, [5]Department of Neuroradiology, University Hospital Zurich, Zurich, Switzerland

2351 **Upper limb representations in patients with targeted motor and sensory reinnervation**
Andrea Serino[1], Michel Akselrod[2], Roberto Martuzzi[3], Roy Salomon[4], Maria Laura Blefari[5], Elisa Canzoneri[5], Todd Kuiken[6], Olaf Blanke[7]
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2352 **Categories in the Brain: How Does the Somatosensory System Represent Everyday Objects?**
Raul Hernandez[1], Laura Cuaya[1], Luis Concha[1], Víctor de Lafuente[1]
[1]Institute of Neurobiology, Queretaro, Mexico

2353 **Decoding Spatial Information of Genuine and Phantom Somatosensory Perception using Multi-Voxel Patte**
Won-Mo Jung[1], In-Seon Lee[2], Younbyoung Chae[1]
[1]Kyung Hee University, Seoul, Korea, Republic of, [2]University of Tübingen, Tübingen, Germany

PERCEPTION AND ATTENTION

Perception: Visual

2354 **Posterior distribution of receptive field and hemodynamic parameters using Markov chain Monte Carlo**
Stanislaw Adaszewski[1], David Slater[1], Lester Melie-Garcia[1], Bogdan Draganski[1]
[1]Laboratoire de Recherche en Neuroimagerie, DNC, CHUV, Lausanne, Switzerland

2355 **Function before Prehension: An EEG study on the potentiation of actions during object observation**
Dimitrios Kourtis[1,2], Guy Vingerhoets[2]
[1]Central European University, Budapest, Hungary, [2]Ghent University, Ghent, Belgium

2356 **A fully computable model of bottom-up and top-down processing in high-level visual cortex**
Jason Yeatman[1], Kendrick Kay[2]
[1]University of Washington, Seattle, WA, [2]University of Minnesota, Minneapolis, MN

2357* **High-level scene information is transmitted to V1 & V2 by cortical feedback**
Andrew Morgan[1], Lucy Petro[2], Lars Muckli[1]
[1]University of Glasgow, Glasgow, United Kingdom, [2]University of Glasgow, Glasgow, United Kingdom

2358 **Generation of a Combined Histogram for the Population of Hue-Selective Voxels in Human Visual Cortex**
Ichiro Kuriki[1], Pei Sun[2], Kenichi Ueno[3], Kang Cheng[3]
[1]Tohoku University, Sendai, Japan, [2]Tsinghua University, Beijing, China, [3]RIKEN Brain Science Institute, Wako, Japan

2360 **Functional Brain Development of Optic Flow Perception in Full-Term and Preterm Infants**
Audrey van der Meer[1], Seth Agyei[1], Kenneth Vilhelmsen[1], Ekaterina Zotcheva[1], Frederikus van der Weel[1]
[1]Norwegian University of Science and Technology, Trondheim, Norway

2361* **Selective dynamic maintenance of seen and unseen sensory features in the human brain**
Jean-Rémi King[1], Niccolo Pescetelli[2], Stanislas Dehaene[3]
[1]NYU, New York, NY, [2]Oxford, Oxford, United Kingdom, [3]Collège de France, Paris, France

2362 **Hierarchical Clusters of White-Matter fMRI are Coupled with Cortical Visual Networks**
Lauren Marussich[1], Kun-Han Lu[1], Haiguang Wen[1], Zhongming Liu[1]
[1]Purdue University, West Lafayette, IN

2363 **Individual stimuli only decodable from primary visual cortex with fMRI**
Sanne Schoenmakers[1]
[1]Radboud University, Donders Institute, Nijmegen, Netherlands

2364 **Representing object categories by connections: a mutivariate connectivity pattern analysis**
Xiaosha Wang[1], Yuxing Fang[1], Zaixu Cui[1], Yangwen Xu[1], Yong He[1], Yanchao Bi[1]
[1]State Key Laboratory of Cognitive Neuroscience and Learning and IDG/McGovern Institute for Brain Res, Beijing, China

2365 **Interaction between high and low level areas and the temporal window for repetition suppression**
Yulwan Sung[1], Uk-Su Choi[2], Seiji Ogawa[3]
[1]Tohoku Fukushi University, Sendai, Japan, [2]Neuroscience Research Institute, Gachon University, Incheon, Korea, Republic of, [3]Kansei Fukushi Research Institute, Tohoku Fukushi University, Sendai, Japan

2366 **The tuning of human visual cortex to 1/f-α amplitude spectra**
Zoey Isherwood[1,2], Mark Schira[3,2], Branka Spehar[1]
[1]UNSW Australia, Sydney, Australia, [2]Neuroscience Research Australia, Sydney, Australia, [3]University of Wollongong, Wollongong, Australia

2367 **Predicting BOLD Activity in FFA from the Activity in Other Visual Areas**
Elahe Yargholi[1,2], Gholam-Ali Hossein-Zadeh[1,2], Reza Rajimehr[3]
[1]School of Electrical and Computer Engineering, College of Engineering, University of Tehran, Tehran, Iran, Islamic Republic of, [2]School of Cognitive Sciences, Institute for Research in Fundamental Sciences (IPM), Tehran, Iran, Islamic Republic of, [3]McGovern Institute for Brain Research, Massachusetts Institute of Technology (MIT), Cambridge, United States

2368 **Illusory contour processing in humans: lines, orientation and laterality**
Jacques Anken[1,2], Jean-François Knebel[1,2], Micah Murray[1,2,3,4]
[1]The Laboratory for Investigative Neurophysiology (The LINE), University Hospital Center (CHUV), Lausanne, Switzerland, [2]Universtity of Lausanne (UNIL), Lausanne, Switzerland, [3]Department of Ophthalmology, Jules-Gonin Eye Hospital, Lausanne, Switzerland, [4]Vanderbilt University, Nashville, TN

2369 **Consecutive Repetition Suppression and Repetition Enhancement of ERPs to Unattended Objects**
Gabor Stefanics[1], Jakob Heinzle[2], István Czigler[3], Justin Chumbley[2], Klaas Enno Stephan[1]
[1]Translational Neuromodeling Unit, ETHZ & UZH, Zurich, Switzerland, [2]Translational Neuromodeling Unit (TNU), University of Zurich & ETH Zurich, Zurich, Switzerland, [3]Institute of Cognitive Neuroscience and Psychology, Hungarian Academy of Sciences, Budapest, Hungary

2370 **In-depth investigation of the face selective N170 ERP component in Williams Syndrome**
Louise Ewing[1,2,3], Ines Mares[2], Emily Farran[4], Annette Karmiloff-Smith[2], Marie Smith[2]
[1]University of East Anglia, Norwich, United Kingdom, [2]Birkbeck College, University of London, London, United Kingdom, [3]University of Western Australia, Perth, Australia, [4]UCL Institute of Education, London, United Kingdom

2371 **Involuntary processing of color-inducing graphemes in synesthetes as reflected in EEG oscillations**
Gregor Volberg[1], Mark Greenlee[1]
[1]University of Regensburg, Regensburg, Germany

2372* **Decode Cortical fMRI Activity to Reconstruct Naturalistic Movie via Deep Learning**
Haiguang Wen[1], Junxing Shi[1], Kun-Han Lu[1], Yizhen Zhang[1], Lauren Marussich[1], Zhongming Liu[1]
[1]Purdue University, West Lafayette, IN

2373 **Modulation of Perceptual Learning on Resting-State Connectivity were Overall Stable Over Month**
Fang Wang[1,2], Zhengjia Dai[2], Yaping Lv[2], Yong He[3], Yan Song[2]
[1]Shanghai International Studies University, Shanghai, China, [2]State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, [3]State Key Laboratory of Cognitive Neuroscience and Learning, Beijing, China

2374 **Long-range perceptual integration of visual motion revealed at high resolution 7T fMRI**
Teresa Sousa[1,2,3,4], Valentin G. Kemper[4], Gabriel Costa[1,2], João V Duarte[1,2], Ricardo Martins[1,2], Rainer Goebel[4,5], Miguel Castelo-Branco[1,2]
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2375 **Intrinsic Functional Networks within Visual Cortex Supports Naturalistic Visual Perception**
Haiguang Wen[1], Jun Young Jeong[1], Zhongming Liu[1]
[1]Purdue University, West Lafayette, IN

2376 **Dynamic neural networks of visual contextual process of color, shape and depth: an fMRI study**
Qiong Wu[1], Chunlin Li[2], Shigeko Takahashi[3], Hongzan Sun[4], Qiyong Guo[4], Yoshio Ohtani[5], Yoshimichi Ejima[1], Jinglong Wu[1]
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2377 **Neural Dissociation between the Use of Body-Referenced and World-Referenced Objects – An fMRI Study**
Johnny King L Lau[1], Laura Chatland[1], Pia Rotshtein[2]
[1]University of Birmingham, Birmingham, United Kingdom, [2]University of Birmingham, Birmingham, United Kingdom

2378 **Anatomical connectivity of ventral visual cortex predicts object recognition performance in patients**
Ye Li[1], Yuxing Fang[2], Xiaoying Wang[2], Gaolang Gong[2], Luping Song[3], Ruiwang Huang[4], Zaizhu Han[2], Yanchao Bi[2]
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2379 **The influence of predictability on object representations in the human brain**
Michelle Hall[1], Claire Naughtin[1], Jason Mattingley[1,2], Paul Dux[1]
[1]The University of Queensland, Brisbane, Australia, [2]Queensland Brain Institute, Brisbane, Australia

2380 **From internal signals to visual processing: cardio-visual integration for visual body perception**
Roberta Ronchi[1], Fosco Bernasconi[1], Christian Pfeiffer[2], Javier Bello-Ruiz[1], Mariia Kaliuzhna[1], Olaf Blanke[1]
[1]EPFL, Geneva, Switzerland, [2]Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland

2381 **Binding of ambiguous visual stimuli is associated with changes in beta power but not with synchrony**
Gabriel Costa[1], João Duarte[1], Ricardo Martins[1], Miguel Castelo-Branco[1]
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2382* **Suppressed Image-Flicker Signals in Human Visual Cortex and Perceived Continuity Across Eye Blinks**
Tal Golan[1], Ido Davidesco[2], Meir Meshulam[3], David Groppe[4,5,6], Pierre Mégevand[4,5,7], Matthew Goldfinger[4,5], Erin Yeagle[4,5], Michal Harel[3], Lucia Melloni[8,9,10], Charles Schroeder[11,9], Ashesh Mehta[4,5], Leon Deouell[12,1], Rafael Malach[3]
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2383 **Electrophysiological Correlates of Visual Backward Masking in Schizotypy**
Ophélie Favrod[1], Guillaume Sierro[2], Christine Mohr[2], Céline Cappe[1,3], Michael H. Herzog[1]
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2384 **Volitional Modulation of Functional Connectivity for the Perception of Subliminal Visual Stimuli**
Chiara Fioravanti[1], Diljit Singh Kajal[2], Christoph Braun[3], Niels Birbaumer[4], Pradyumna Sepulveda[5], Sergio Ruiz[5], Ranganatha Sitaram[6]
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2385 **Noninvasive manipulation of fronto-parietal synchrony improves conscious visual perception in humans**
Chloé Stengel[1], Marine Vernet[2], Julian Luis Amengual Roig[3], Antoni Valero-Cabré[4]
[1]Institut du Cerveau et de la Moelle epinière, Paris, France, [2]Institute du Cervau et de la Moelle Epiniere, Paris, France, [3]Institute du Cervau et de la Moelle Epiniere, Maisons-Alfort, France, [4]Cerebral Dynamics, Plasticity and Rehabilitation Group, Institut du Cerveau et de la Moelle Epinière, Paris, France, France

2386 **Swing decisions between skilled and intermediate baseball batters: an fMRI study**
Chen Yin-Hua[1], Chang Chih-Yen[1], Yen Nai-Shing[2]
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2387 **Eye Blinks, Negative Flashes and Prediction: Evidence for Domain Specificity of Blink Suppression**
Shany Grossman[1,2], Tal Golan[3,2], Leon Deouell[4,3], Rafael Malach[1]
[1]Weizmann Institute of Science, Rehovot, Israel, [2]Equal, contribution, [3]The Edmund and Lily Safra Center for Brain Sciences, The Hebrew University of Jerusalem, Jerusalem, Israel, [4]Department of Psychology, The Hebrew University of Jerusalem, Jerusalem, Israel

2388 **Orientation Decoding in V1 During Motion-Induced Blindness**
Lucy Petro[1], Fiona McGruer[1], Lars Muckli[1]
[1]University of Glasgow, Glasgow, United Kingdom

2389 **Investigating Sound Content in Early Visual Areas**
Angus Paton[1], Lucy Petro[2], Lars Muckli[1]
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2390 **Shape Integration during Slit-Viewing Conditions**
Tanya Orlov[1], Ehud Zohary[2]
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2391 **Mapping asymmetries in early visual cortex responses to different spatial frequencies**
Karsten Rauss[1], Laura Herde[1]
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2392 **Mapping temporal dynamics of visual representations by deep neural networks**
Kandan Ramakrishnan[1], Iris Groen[2], Kandan Smeulders[1], H.Steven Scholte[3], Sennay Ghebreab[1]
[1]Intelligent Sensory Information Systems, Informatics Institute, University of Amsterdam, Amsterdam, Netherlands, [2]National Institutes of Health, Bethesda, MD, [3]Department of Psychology, Brain and Cognition, University of Amsterdam, Amsterdam, Netherlands

2393 **The topological organization of the human cortical visual system**
Koen Haak[1], Christian Beckmann[2,3,4]
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2394 **Brief sight deprivation at birth impairs the activity and connectivity of the visual motion network**
Olivier Collignon[1], Giulia Dormal[2], Adelaide De Heering[3], Franco Lepore[4], Terri Lewis[5], Daphne Maurer[5]
[1]University of Trento, Trento, Italy, [2]University of Hamburg, Hamburg, Germany, [3]Universite libre de Bruxelles, Bruxelles, Belgium, [4]University of Montreal, Montreal, Canada, [5]University of McMaster, Hamilton, Canada

2396 **Amygdalar connectivity after destruction of primary visual cortex in early and late lesion onset**
Matteo Diano[1,2], Beatrice de Gelder[3,1], Rainer Goebel[4], Marco Tamietto[2,1,5]
[1]University of Tilburg, Tilburg, Netherlands, [2]University of Torino, Torino, Italy, [3]University of Maastricht, Maastricht, Netherlands, [4]University of Maastricht, Maastricht, Netherlands, [5]University of Oxford, Oxford, United Kingdom

2397 **Retinotopic mapping in patients with retinal dysfunction**
Allan Hummer[1], Anna Ledolter[2], Michael Woletz[1], Markus Ritter[2], Ursula Schmidt-Erfurth[2], Christian Windischberger[1]
[1]MR Center of Excellence, Center for Medical Physics and Biomedical Engineering, Medical University, Vienna, Austria, [2]Department of Ophthalmology and Optometry, Medical University, Vienna, Austria

2398 **CBV fMRI with no large vessel signals rules out decoding of orientation through local irregularities**
ZeShan Yao[1], Mitsuhiro Fukuda[2], Chan-Hong Moon[2], Seong-Gi Kim[2], Amir Shmuel[1]
[1]MNI, McGill University, Montreal, QC, Canada, [2]University of Pittsburgh, Pittsburgh, PA

2399 **Scotoma detection based on population receptive field mapping**
Allan Hummer[1], Martin Tik[1], Michael Woletz[1], Markus Ritter[2], Anna Ledolter[2], Ursula Schmidt-Erfurth[2], Christian Windischberger[1]
[1]MR Center of Excellence, Center for Medical Physics and Biomedical Engineering, Medical University, Vienna, Austria, [2]Department of Ophthalmology and Optometry, Medical University, Vienna, Austria

2400 **Mapping Neural Representation of Hierarchical Visual Features during Natural Movie Stimuli**
Junxing Shi[1], Haiguang Wen[1], Zhongming Liu[1]
[1]Purdue University, West Lafayette, IN

2401* **Explaining high-level visual object representations with weighted representational modeling**
Kamila Maria Jozwik[1], Nikolaus Kriegeskorte[2], Marieke Mur[3]
[1]University of Cambridge, MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom, [2]MRC Cognition and Brain Sciences Unit, N/A, [3]MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom

2402 **Neural Representations of action observation when changing from egocentric to allocentric viewpoint**
Song Chang[1,2,3], Delong Zhang[1,2,3], Yuting Lin[1,2,3], Siying Xie[1,2,3], Junchao Li[1,2,3], Ruiwang Huang[1,2,3], Ming Liu[1,2,3]
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2403 **High-frequency oscillations in retina drive corresponding rhythms in visual cortex**
Sarang Dalal[1], Monika Zeiller[2], Mathis Kaiser[2], Britta Westner[2], Tzvetan Popov[2]
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2404 **Temporal Characteristics of Visual BOLD Responses: Eccentricity and Stimulation Frequency Effects**
Ali Bayram[1], Basar Bilgic[2], Ahmet Ademoglu[3], Tamer Demiralp[4,5]
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PERCEPTION AND ATTENTION

Sleep and Wakefulness

2405 **Regionally specific features of low-frequency EEG oscillations during REM-sleep**
Giulio Bernardi[1,2,3,4], Monica Betta[1,5], Xiaoqian Yu[2], Emiliano Ricciardi[3,4], José Haba-Rubio[1], Raphaël Heinzer[1,6], Pietro Pietrini[7,3,4], Giulio Tononi[2], Francesca Siclari[1,2]
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2406 **Changes of functional brain network in sleep: topology and patterns of connection**
Joong Il Kim[1,2], Tak Youn[3], Jong Doo Lee[1], Hae-Jeong Park[2]
[1]Institute for Integrative Medicine, International St. Mary's Hospital, Catholic Kwandong University, Incheon, Korea, Republic of, [2]BK21 PLUS Project for Medical Science, Yonsei University College of Medicine, Seoul, Korea, Republic of, [3]Department of Psychiatry, Dongguk University Ilsan Hospital, Gyeonggi, Korea, Republic of

2407 **Time-varying Property of Sleep Deprivation**
Ziliang Xu[1], Yuanqiang Zhu[1], lin liu[1], Zhiyan Feng[1], Peng Liu[1], Wei Qin[1]
[1]Sleep and Neuroimage Group, School of Life Sciences and Technology, Xidian University, Xi'an, China

2408 **Effects of Sleep Loss on Brain Function at Rest and during Task: An ASL Perfusion Imaging Study**
Hengyi Rao[1,2], Ning Ma[1,3], Zhuo Fang[1,2], Senhua Zhu[1], Siyuan Hu[1,4], Hui Shi[1,5], Andrea Spaeth[1], Namni Goel[1], Mathias Basner[1], John Detre[1], David Dinges[1]
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2409 **Individual differences in PVT lapse after sleep deprivation are related with white matter integrity**
Yuanqiang Zhu[1], Ziliang Xu[1], Zhiyan Feng[1], wei qin[1], Xuejuan Yang[1], Jinbo Sun[1]
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2410 **Spontaneous, localized EEG activations in REM sleep: a high-density EEG investigation**
Monica Betta[1,2], Giulio Bernardi[3,4,5,2], Danilo Menicucci[6], José Haba-Rubio[2], Raphael Heinzer[2,7], Angelo Gemignani[5,8], Alberto Landi[1], Giulio Tononi[4], Francesca Siclari[2,4]
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2411 **Dynamic changes in brain networks during behavioural microsleeps following sleep restriction**

Govinda Poudel[1], Carrie Innes[2], Richard Jones[2]
[1]Monash Institute of Cognitive and Clinical Neurosciences, Monash University, Melbourne, Australia, [2]New Zealand Brain Research Institute, Christchurch, New Zealand

2412 **Hypothalamus-Derived Sleep and Wake Promoting Networks in the Human Brain**

Aaron Boes[1,2], David Fischer[3], Joel Geerling[1], Clifford Saper[1], Michael Fox[4,2]
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Wednesday, June 29, 2016 and Thursday, June 30, 2016

* Indicates poster will also be presented during an Oral Session.

All Information listed, including author affiliations, appear as submitted during the Call For Abstracts.

BRAIN STIMULATION METHODS

Deep Brain Stimulation

3000 Stimulation of subgenual cingulate cortex and emotional Stroop in treatment resistant depression
Astrid Kibleur[1], Mircea Polosan[2], Pauline Favre[3], David Rudrauf[1], Thierry Bougerol[2], Stéphan Chabardès[2], Olivier David[1]
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3001 Clustered, Connectivity-Based Surgical Planning for Deep Brain Stimulation
Rafael O'Halloran[1], Prantik Kundu[2], Brian Kopell[1]
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3002 Deep Brain Stimulation Both at 130 Hz and 340 Hz Suppresses Cortical Alpha and Beta Band Activity
Omid Abbasi[1,2], Jan Hirschmann[1], Lena Storzer[1], Tolga Özkurt[3], Saskia Elben[1], Jan Vesper[4], Lars Wojtecki[1], Georg Schmitz[2], Alfons Schnitzler[1], Markus Butz[1]
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3003 Mapping natural oscillatory activity within human brain networks with direct electrical stimulation
Julian Luis Amengual Roig[1], Marine Vernet[1], Chloé Stengel[1], Claude Adam[2], Antoni Valero-Cabré[1,3,4]
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3004 Emotional prosody decoding in a STN stimulated OCD patient with auditory vividness: a case study
Damien Benis[1,2], Julie Péron[1,2], João Flores Alves dos Santos[3], Shahan Momjian[4], Karim Ndiaye[5], Colette Boex[6], Pierre Burkhard[6], Luc Mallet[5], Didier Grandjean[7]
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3005 Target Selection Toolbox Development for Deep Brain Stimulation Surgery
Ki Sueng Choi[1], Patricio Riva-Posse[1], Cameron McIntyre[2], Angela Noecker[2], Robert Gross[1], Helen Mayberg[1]
[1]Emory University, Atlanta, GA, [2]Case Western Reserve University, Cleveland, OH

3006* Thalamic stimulation with transcranial focused ultrasound in humans
Leo Ai[1], Jerel Mueller[1], Priya Bansal[1], Wynn Legon[1]
[1]University of Minnesota, Minneapolis, MN

3007 Deep brain stimulation and weight change in Parkinson's disease: a DTI study
Silvina Horovitz[1], Ahmad Omar[1], Ling Huang[1], Nora Vanegas-Arroyave[1], Kareem Zaghloul[1], Codrin Lungu[1]
[1]National Institute of Neurological Disorders and Stroke, Bethesda, MD

3008* Changes in cerebral blood oxygenation induced by Subthalamic Nucleus high frequency stimulation
Michel Lefranc[1], Mahdi Mahmoudzadeh[2], Pierre Krystkowiak[3], Fabrice Wallois[2]
[1]Neurosurgery department, CHU Amiens Picardie, Amiens, France, [2]INSERM U 1105,EFSN Pédiatriques, CHU Sud, Amiens, France, [3]Neurology department, CHU Amiens Picardie, Amiens, France

BRAIN STIMULATION METHODS

Direct Electrical/Optogenetic Stimulation

3009 Inducing ownership of an artificial limb through direct cortical stimulation in humans
Arvid Guterstam[1], Kelly Collins[2], Jeneva Cronin[2], Jared Olson[2], Henrik Ehrsson[3], Jeffrey Ojemann[2]
[1]Department of Neuroscience, Karolinska Institutet, Stockholm, Sweden, [2]University of Washington, Seattle, United States, [3]Karolinska Institutet, Stockholm, Sweden

3010 **Memory enhancement and theta activity in temporal cortex**
Soyeon Jun[1,2], Woorim Jeong[3,2], June Sic Kim[1], Chun Kee Chung[1,2,3]
[1]Dept. Brain and Cognitive Science, Seoul National University College of Natural Science, Seoul, Korea, Republic of, [2]Dept. of Neurosurgery, Seoul National University College of Medicine, Seoul, Korea, Republic of, [3]Interdisciplinary Program in Neuroscience, Seoul National University College of Natural Science, Seoul, Korea, Republic of

3011 **Amygdala preferentially projects to face-processing areas in the monkey**
Adam Messinger[1], Jakob Seidlitz[1], Caleb Sponheim[1], Leslie Ungerleider[1]
[1]NIH, Bethesda, MD

BRAIN STIMULATION METHODS

Invasive Stimulation Methods Other

3012 **Electroconvulsive Therapy Modulates Oscillatory Patterns in Nodes of the Default Mode Network**
Akihiro Takamiya[1,2], Jinichi Hirano[1], Roberto Pascual-Marqui[3,4], Toshiaki Kikuchi[5], Taishiro Kishimoto[1], Shinsuke Kito[6], Masaru Mimura[1]
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3013 **Probabilistic tractography combined with CCEP mapping may reveal epileptogenic cortex**
Laszlo Entz[1], László Halász[1], Emilia Tóth[1], István Ulbert[2], Lajos Kozák[3], Dániel Fabó[1], Loránd Eross[1]
[1]National Institute of Clinical Neurosciences, Budapest, Hungary, [2]MTA TTK Institute of Cognitive Neuroscience and Psychology, Budapest, Hungary, [3]Semmelweis University, Budapest, Hungary

3014 **Assessing the impact of adrenergic interoceptive stimulation on brain activity using ASL fMRI**
Mahlega Hassanpour[1], Qingfei Luo[2], Maurizio Bergamino[2], Rachel Lapidus[3], W. Kyle Simmons[2], Justin Feinstein[2], Martin Paulus[2], Wen-Ming Luh[4], Jerzy Bodurka[2], Sahib Khalsa[2]
[1]Laureate Institute for Brain Research, Tulsa, United States, [2]Laureate Institute for Brain Research, Tulsa, OK, [3]University of Tulsa, Tulsa, OK, [4]Cornell University, Ithaca, NY

3015 **In-vivo measurement of human brain tissue conductivities using intracerebral electrical stimulations**
Laurent Koessler[1,2,3], Sophie Colnat-Coulbois[4], Thierry Cecchin[1,2], Janis Hofmanis[5], Louise Tyvaert[1,2,6], Jacek Dmochowski[7], Anthony Norcia[8], Louis Maillard[1,2,3]
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BRAIN STIMULATION METHODS

Non-invasive Electrical/tDCS/tACS/tRNS

3016 **Repeated measures stability of prefrontal tDCS on functional MRI connectivity in healthy subjects**
Jana Wörsching[1], Konstantin Helbich[1], Ulrike Kumpf[1,2], Beatrice Kirsch[1], Birgit Ertl-Wagner[2], Frank Padberg[1], Daniel Keeser[1,2]
[1]Department of Psychiatry and Psychotherapy, Ludwig-Maximilians-University, Munich, Germany, [2]Institute for Clinical Radiology, Ludwig-Maximilians-University, Munich, Germany

3017 **EEG guided transcranial Electrical Stimulation without models**
Andrea Cancelli[1], Carlo Cottone[1], Franca Tecchio[1], Dennis Truong[2], Jacek Dmochowski[2], Marom Bikson[3]
[1]LET'S-ISTC-CNR, Rome, Italy, [2]Department of Biomedical Engineering, The City College of New York, New York City, United States, [3]City College of New York, New York, NY

3018* **TACS-fMRI yields causal influence of power synchronized neural activity on resting fMRI connectivity**
Marc Bächinger[1], Valerio Zerbi[1], Marius Moisa[2], Rafael Polania[2], Dante Mantini[3], Christian Ruff[2], Nicole Wenderoth[1]
[1]ETH Zurich, Zürich, Switzerland, [2]University of Zurich, Zürich, Switzerland, [3]KU Leuven, Leuven, Belgium

3019 **Distinct Patterns within Resting State Networks between Anode and Cathode tDCS**
Lin Liu[1], Ziliang Xu[1], Jinbo Sun[1], Wei Qin[1]
[1]Sleep and Neuroimage Group, School of Life Sciences and Technology, Xidian University, Xi'an, China

3020 **Effect of bi-focal tACS over M1 in the alpha and beta frequency on bimanual switching behaviour**
Kirstin-Friederike Heise[1], Thiago Santos-Monteiro[1], Valérie Gijbels[1], Inge Leunissen[1], Stephan Swinnen[1]
[1]KU Leuven, Leuven, Belgium

3021 **Transcranial alternating current stimulation in the beta frequency promotes motor inhibition**
Inge Leunissen[1], James Coxon[2], Stephan Swinnen[1]
[1]KU Leuven, Leuven, Belgium, [2]Monash University, Melbourne, Australia

3022 **TDCS does not counteract CF, but leads in an inter-hemispheric switch in cortical frontal activity**
Guillermo Borragan[1], Eleonora Di Ricci[1], Medhi Gilson[1], Carlos Guerrero-Mosquera[1], Hichem Slama[1], Philippe Peigneux[1]
[1]ULB, Brussels, Belgium

3023 **Anodal tDCS over left parietal cortex improves apraxic imitation deficits**
Jana Ant[1], Elisabeth Achilles[1], Eva Niessen[2], Jochen Saliger[3], Hans Karbe[3], Peter Weiss[2], Gereon Fink[1]
[1]Department of Neurology, University Hopsital Cologne, Cologne, Germany, [2]Forschungszentrum Jülich (INM-3), Jülich, Germany, [3]Neurological Rehabilitation Centre Godeshöhe, Bonn, Germany

3024 **Tailoring non-invasive brain stimulation using real-time fMRI and Bayesian optimization**
Romy Lorenz[1], Ricardo Monti[1], Yury Koush[2], Christoforos Anagnostopoulos[1], Aldo Faisal[1], David Sharp[1], Adam Hampshire[1], Giovanni Montana[3,1], Robert Leech[1], Ines Violante[1]
[1]Imperial College London, London, United Kingdom, [2]EPFL, Geneva, Switzerland, [3]King's College London, London, United Kingdom

3025* **Transcranial alternating stimulation (tACS) modulates connectivity in a phase-dependent manner**
Ines Violante[1], Lucia Li[1], David Carmichael[2], Adam Hampshire[1], John Rothwell[3], David Sharp[1]
[1]Imperial College London, London, United Kingdom, [2]Insititute of Child Health, UCL, London, United Kingdom, [3]University College London, London, United Kingdom

3026 **Entrained oscillatory activity modulates long-range neuronal transmission efficacy**
Kristoffer Fehér[1], Yosuke Morishima[1,2]
[1]Translational Research Center, University Hospital of Psychiatry, University of Bern, Bern, Switzerland, [2]Japan Science and Technology Agency, PRESTO, Saitama, Japan

3027 **Direct measurement of electric fields in human and monkeys during transcranial electric stimulation**
Alexander Opitz[1], Arnaud Falchier[2], Chao-Gan Yan[3], Erin Yeagle[4], Gary Linn[5], Pierre Mégevand[6], Axel Thielscher[7], Michael Milham[8], Ashesh Mehta[9], Charles Schroeder[10]
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3028 **Effects of transcranial direct current stimulation on brain dynamics in a brain network model**
Tim Kunze[1], Alexander Hunold[2], Jens Haueisen[2], Viktor Jirsa[3], Andreas Spiegler[4]
[1]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, [2]Institute of Biomedical Engineering and Informatics, Ilmenau University of Technology, Ilmenau, Germany, [3]Institut de Neurosciences des Systèmes - Aix-Marseille Université, Marseille, France, [4]INSERM UMR_S 1106 Institut de Neurosciences des Systèmes, Marseille, France

3029 **TDCS-delivered treatment for schizophrenia with neg. symptoms: A sham controlled neuroimaging study**
Daniel Keeser[1], Ulrich Palm[2], Alkomiet Hasan[3], Michael Kupka[4], Nina Sarubin[4], Peter Falkai[5], Thomas Meindl[6], Birgit Ertl-Wagner[6], Frank Padberg[7]
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3030 **Transcranial alternating current stimulation (tACS) modulates frontal theta power and working memory**
Bankim Subhash Chander[1], Matthias Witkowski[1], Christoph Braun[2], Stephen Robinson[3], Leonardo Cohen[4], Niels Birbaumer[5], Surjo Soekadar[5]
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3031 **Motor network modulation by single-session bihemispheric transcranial direct current stimulation**
Chih-Wei Tang[1], I-Hui Lee[2]
[1]Far Eastern Memorial Hospital, New Taipei City, Taiwan, [2]Institute of Brain Science, National Yang-Ming University, Taipei, Taiwan

BRAIN STIMULATION METHODS

Non-invasive Magnetic/TMS

3032 **Facilitatory Effect of Intermittent Theta Burst Stimulation in Cortical and Subcortical Stroke**
Sungju Jee[1], Min-Kyun Sohn[1], Seung-Chan Ahn[1]
[1]Chungnam National University Hospital, Daejeon, Korea, Republic of

3033 **Repetitive brain stimulation induces long-term plasticity across patients and spatial scales**
Corey Keller[1], Wei Wu[2], Rachael Wright[2], Cammie Rolle[2], Kasra Sarhadi[2], Naho Ichikawa[2], Julia Huemer[2], Melinda Wong[2], Andrew Yee[2], Lisa McTeague[2], Maria Fini[3], Victor Du[3], Christopher Honey[4], Fred Lado[5], Ashesh Mehta[3], Amit Etkin[2]
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3034 **Brain stimulation-induced neuroplasticity underlying therapeutic response to phantom sounds**
Timm Poeppl[1], Berthold Langguth[1], Astrid Lehner[1], Rainer Rupprecht[1], Peter Kreuzer[1], Michael Landgrebe[1], Martin Schecklmann[1]
[1]University of Regensburg, Regensburg, Germany

3035 **Triad-conditioning Transcranial Magnetic Stimulation in Focal Hand Dystonia**
Traian Popa[1], Rachel Hunt[2], Ahmad Omar[1], Karin Mente[1], Rainer Paine[1], Mark Hallett[1]
[1]NINDS, NIH, Bethesda, MD, [2]William Beaumont School of Medicine, Oakland University, Rochester, MI

3036 **EEG source-based analysis of TMS-evoked cortical responses**
Michael Borich[1], Makoto Miyakoshi[2], Scott Makeig[2]
[1]Emory University, Atlanta, GA, [2]Swartz Center for Computational Neuroscience, University of California San Diego, La Jolla, CA

3037 **Effects of Bilateral Repetitive Transcranial Magnetic Stimulation on Post-stroke Dysphagia**
Yun-Hee Kim[1,2,3], Eunhee Park[1], Min su Kim[4], Won Hyuk Chang[1], Su Mi Oh[1], Yoon Kwan Kim[2], Ahee Lee[3]
[1]Department of Physical and Rehabilitation Medicine, Samsung Medical Center Sungkyunkwan University, Seoul, Korea, Republic of, [2]Sungkyunkwan University School of Cognitive Science, Seoul, Korea, Republic of, [3]Department of Health Sciences and Technology, Samsung Advanced Institute for Health Science and Technology, Sungkyunkwan University, Seoul, Korea, Republic of, [4]Department of Rehabilitation Medicine, Wonkwang University, College of Medicine, Iksan, Korea, Republic of

3038 **Paired TMS reduces complexity of resting-state fMRI signal**
Kay Jann[1], Choi Deblieck[2], Allan Wu[3], Marco Iacoboni[4], Danny Wang[1]
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3039 **Cognitive enhancement by means of TMS and video game training: synergistic effects**
Marc Palaus[1], Diego Redolar-Ripoll[1], Raquel Viejo-Sobera[1], Elena Marrón[1]
[1]Open University of Catalonia, Barcelona, Spain

3040 **Effects of a combined rTMS and CIAT intervention on patients with chronic post-stroke aphasia**
Joseph Griffis[1], Jennifer Vannest[2], Jane Allendorfer[1], Rodolphe Nenert[1], Amber Martin[1], Victor Mark[1], Jerzy Szaflarski[1]
[1]University of Alabama at Birmingham, Birmingham, AL, [2]Cincinnati Children's Hospital Medical Center, Cincinnati, OH

3041 **Comparison of nTMS and fMRI for Preoperative Motor Mapping in Cortical Motor Areas Surgery**
Irena Holeckova[1], Jiri Vales[2], Jan Mracek[2], Vladimir Priban[2]
[1]Dep.of Neurosurgery, University Hospital, Faculty of Medicine, Plzen, Czech Republic, [2]Dep. of Neurosurgery, University Hospital, Faculty of Medicine, Plzen, Czech Republic

3042 **Clinical Implications of the Cortical Column Cosine model (C3) for rTMS & Neuronavigated rTMS**
Rustin Berlow[1]
[1]Private Practice, Del Mar, CA

3043 **Effects of ECT and MST on White Matter Integrity in Patients with Major Depression**
Stefan Rowny[1,2], Xiaofu He[1,2], Ran Yang[2], Shangyun Zhou[2], Christina Hoven[1,2,3]
[1]Department of Psychiatry, Columbia University, New York, NY 10032, USA, [2]The New York State Psychiatric Institute, New York, NY 10032, USA, [3]Department of Epidemiology, Columbia University, New York, NY 10032, USA

3044 **Cortical network targets of cerebellar transcranial magnetic stimulation**
Moritz Dannhauer[1,2], Irene Gonsalvez[3], Patrick Horn[3], Rob MacLeod[1,2], Dana Brooks[4,2], Alvaro Pascual-Leone[3], Mark Halko[3]
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3045 **FMRI and EEG Imaging of Real Time Change in Brain Function after Low Field Magnetic Stimulation**
Michael Rohan[1], Rinah Yamamoto[1], Alexis Whitton[1], Clara Wellons[1]
[1]McLean Hospital, Belmont, MA

3046 **Varying the Onset of Concurrent TMS-fMRI during Cognition: A measure of rapid, dynamic conne**
Colin Hawco[1], Jorge Armony[2], Zafiris Daskalakis[3], Marcelo Berlim[4], Mallar Chakravarty[5], G. Bruce Pike[6], Martin Lepage[7]
[1]Centre for Addictions and Mental Health, Toronto, Canada, [2]McGill University, Verdun, Canada, [3]Centre for Addiction and Mental Health, Toronto, Canada, [4]Douglas Mental Health University Institute, Montreal, QC, [5]Douglas Mental Health University Institute/McGill University, Montreal, Canada, [6]University of Calgary, Calgary, Alberta, [7]McGill University, Montreal, QC

BRAIN STIMULATION METHODS

Non-Invasive Stimulation Methods Other

3047 **Transcutaneous Vagus Nerve Stimulation for Anxiety: Retrospective Study of Clinical & EEG Variables**
Monica Chang[1], Rustin Berlow[1]
[1]Private Practice, Del Mar, CA

3048 **Motivational incongruence predicts EEG-resting-state neurofeedback success in healthy subjects**
Laura Diaz Hernandez[1,2], Thomas Koenig[1,2]
[1]Translational Research Center, University Hospital of Psychiatry and Psychothera, University of Bern, Bern, Switzerland, [2]Center for Cognition, Learning and Memory, University of Bern, Bern, Switzerland

3049 **Transcranial random noise stimulation (tRNS) improves temporal acoustic feature processing**
Katharina Rufener[1], Hans-Jochen Heinze[1], Tino Zaehle[1]
[1]Department of Neurology, Otto von Guericke University, Magdeburg, Germany

3050 **Coactivation-based fMRI-neurofeedback can improve cognitive control**
Susanne Bergert[1], Mikhail Zvyagintsev[1], Yury Koush[2], Klaus Mathiak[1]
[1]University Hospital Aachen, Aachen, Germany, [2]EPFL, Geneva, Switzerland

BRAIN STIMULATION METHODS

TDCS

3051 **Probing neural mechanisms of auditory streaming in humans by transcranial direct current stimulation**
Susann Deike[1], Matthias Deliano[1], André Brechmann[1]
[1]Leibniz Institute for Neurobiology, Magdeburg, Germany

3052 **Effects of Cerebellar tDCS on Learning in an Object Detection Paradigm**
Aaron Jones[1,2], Michael Trumbo[1,2], Brian Coffman[2,3], Michael Hunter[1,2], Charles Robinson[1,2], Angela Combs[1,2], Kinsey Steuterman[1,2], Vicky Massey[1,2], Mohamed Aboseria[4], Alexander David[4], Marom Bikson[4], Vincent Clark[1,2]
[1]Psychology Clinical Neuroscience Center, The University of New Mexico, Albuquerque, NM, [2]Department of Psychology, The University of New Mexico, Albuquerque, NM, [3]University of Pittsburgh School of Medicine, Department of Psychiatry, Pittsburgh, PA, [4]Department of Biomedical Engineering, The City College of New York, New York, NY

3053 **Effect of transcranial direct current stimulation of auditory cortex on resting state networks**
Reiko Matsushita[1,2], Jamila Andoh[3], Robert Zatorre[1,2]
[1]Montreal Neurological Institute, McGill University, Montréal, Canada, [2]International Laboratory for Brain, Music, and Sound Research (BRAMS), Montréal, Canada, [3]Central Institute of Mental Health, Medical Faculty Mannheim, Mannheim, Germany

3054 **An fMRI-tDCS study on semantic fluency in young and old adults: a network level approach**
Andrew Martin[1], Marcus Meinzer[2], Robert Lindenberg[3], Agnes Flöel[4]
[1]University of Queensland, Brisbane, Australia, [2]The University of Queensland, Brisbane, Australia, [3]Charité University Medicine, Berlin, Germany, [4]Charite University Medicine, Berlin, Germany

3055 **Emotion regulation induced by electrical brain stimulation**
Kisun Kim[1], Hyunjoo Kim[1], Suji Lee[1], Myeonghoon Ryu[1], Pyungkyu Kim[1], Dohyoung Kim[1]
[1]Ybrain Research Institute, Pangyo, Korea, Republic of

3056* **Polarity-independent effects of tDCS on motor cortex plasticity – a challenging view**
Hanna Faber[1], Alexander Opitz[2], Florian Müller-Dahlhaus[1], Ulf Ziemann[1]
[1]Departement of Neurology & Stroke and Hertie-Institute for Clinical Brain Research, Tuebingen, Germany, [2]Nathan Kline Institute, Orangeburg, NY

3057 **Effects of transcranial direct current stimulation (tDCS) on golf performance and EEG**
Myeonghoon Ryu[1], Suji Lee[1], Kisun Kim[1], Seungwoo Lee[1], Hyungwook Jang[2], Misun Lee[3]
[1]Ybrain Research Institute, Seongnam, Korea, Republic of, [2]Golfzon Convergence Development Office, Daejeon, Korea, Republic of, [3]Golfzon Future Technology Team, Daejeon, Korea, Republic of

3058 **Optimal tDCS electrode montages to stimulate deep cortical regions**
Sangjun Lee[1], Chany Lee[2], Chang-Hwan Im[2]
[1]Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of, [2]Department of Biomedical Engineering, Hanyang Unviersity, Seoul, Korea, Republic of

3059 **Large-scale Brain Network Functional Connectivity Modulated by tDCS in Methamphetamine Dependents**
Alireza Shahbabaie[1,2,3], Ali Hariri[4], Mitra Ebrahimpoor[1], Michael Nitsche[5], Emad Fatemizadeh[6], Mohammad Ali Oghabian[1], Hamed Ekhtiari[1,2,3]
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3060 **Effect of prefrontal and parietal tDCS on recognition of verbal and non-verbal material**
Aurélie Manuel[1], Armin Schnider[2]
[1]Geneva University Hospital, Geneva, Switzerland, [2]Laboratory of Cognitive Neurorehabilitation, Faculty of Medicine, University of Geneva, Geneva, Switzerland

3061 **Enhancing the Effects of Brain Stimulation by Targeting Functional Brain Networks**
David Fischer[1], Peter Fried[2], Giulio Ruffini[3], Oscar Ripolles[3], William Ketchabaw[2], Alvaro Pascual-Leone[2], Michael Fox[4]
[1]Harvard Medical School, Brookline, MA, [2]Beth Israel Deaconess Medical Center, Boston, MA, [3]Neuroelectrics Corporation, Cambridge, MA, [4]Harvard University, Boston, MA

3062 **Comparison of Optimizations and Dense Electrode Configurations for Targeting Cortical ROIs with tDCS**
Seyhmus Guler[1], Moritz Dannhauer[1,2], Michael Fox[3], Dana Brooks[1]
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BRAIN STIMULATION METHODS

TMS

3063 **The Superior Longitudinal Fasciculus and the Effects of Parietal Continuous Theta Burst Stimulation**
Magdalena Chechlacz[1], Dario Cazzoli[2]
[1]Experimental Psychology, University of Oxford, Oxford, United Kingdom, [2]ARTORG Center for Biomedical Engineering Research, University of Bern, Bern, Switzerland

3064 **TMS of primary somatosensory cortex impairs sensations evoked by naturalistic tactile stimuli**
Juha Gogulski[1], Rasmus Zetter[2], Antti Pertovaara[1], Synnöve Carlson[3]
[1]Department of Physiology, Faculty of Medicine, University of Helsinki, Helsinki, Finland, [2]Department of Neuroscience and Biomedical Engineering, Aalto University School of Science, Espoo, Finland, [3]Aalto TMS Laboratory, Aalto NeuroImaging, Aalto University, Espoo, Finland

3065 **Investigating Cortical Responses to TMS Using EEG in Chronic Stroke**
Whitney Gray[1], Steven Wolf[1], Michael Borich[1]
[1]Emory University, Atlanta, GA

3066 **Can we improve motor recovery by applying non-invasive brain stimulation after stroke? An EEG study**
Pierre Nicolò[1], Cécile Magnin[1], Armin Schnider[1,2], Adrian G. Guggisberg[1,2]
[1]Department of Clinical Neurosciences, Laboratory of Cognitive Neurorehabilitation - HUG, Geneva, Switzerland, [2]Division of Neurorehabilitation, Department of Clinical Neurosciences, Geneva University Hospitals, Geneva, Switzerland

3067 **Theta band connectivity is reduced in schizophrenia during working memory & following prefrontal TMS**
Nigel Rogasch[1], Tarek Rajji[2], Alex Fornito[3], Zafiris Daskalakis[2], Paul Fitzgerald[1]
[1]Monash University, Melbourne, Australia, [2]Centre for Addiction and Mental Health, Toronto, Canada, [3]Monash University, Clayton, Australia

3068 **Test-retest fidelity of transcranial magnetic stimulation measures in the elderly**
Francis Houde[1], Sarah Laroche[1], Frédérique Daigle[1], Véronique Thivierge[1], Marie-Philippe Harvey[1], Marylie Martel[1], Ailin Olivares-Marchant[1], Audrey Lemelin[1], Xavier Deslandes[1], Guillaume Léonard[1]
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3069 **Comparison of two Difference Method Transcranial Magnetic Stimulation (rTMS) in Chronic Tinnitus**
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3070 **Causal influence of visual signals on perceptual learning**
Antonello Baldassarre[1], Paolo Capotosto[1], Giorgia Committeri[1], Maurizio Corbetta[2,3]
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3071 **Resting state brain dynamics and its transients explored with combined TMS-EEG**
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3072 **Putting action in context: Facilitatory and inhibitory (in)congruency effects on motor resonance**
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3073 **Shaping short-term reorganization in the parieto-frontal network for semantic word decisions**
Gesa Hartwigsen[1,2], Maren Klein[2], Max Wawrzyniak[2], Katrin Wrede[2], Anika Stockert[2], Dorothee Saur[2]
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3074 **Multimodal Assessment of Local and Remote TMS-induced Effects**
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3075 **The role of ipsilateral motor areas in hand motor function – insights from online TMS**
Caroline Tscherpel[1,2], Lukas Hensel[1], Katharina Lemberg[1], Gereon Fink[1,2], Christian Grefkes[1,2]
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3076 **The Influence of Corticospinal Tract Activation on Cortical Connectivity Evaluation: A TMS-EEG Study**
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3077 **Testing and disturbing communication in functional brain networks using TMS**
Gabriel Castrillon[1,2], Nico Sollman[1], Katarzyna Kurcyus[3], Sandro Krieg[1], Valentin Riedl[3]
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3078 **Precuneus stimulation using cTBS modulates the temporal pole: a graph-theoretical analysis**
Matteo Mancini[1], Chiara Mastropasqua[2], Giacomo Koch[3], Mara Cercignani[4], Marco Bozzali[2], Silvia Conforto[1]
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3079 **Functional connectivity changes in patients with depression after rTMS**
Alexandra Poydasheva[1], Elina Zmeykina[1], Alexander Chervyakov[2], Veronika Sysoeva[2], Kremneva Elena[1], Natalya Suponeva[1], Michael Piradov[1]
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3080 **Effects of Reward and Motivation on GABAergic Cortical Inhibition. A Pilot Study in Adults**
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DISORDERS OF THE NERVOUS SYSTEM

Addictions

3081 **A longitudinal DTI study investigating white matter impairment in cocaine use disorder**
Min Zhu[1], Joel Steinberg[2], Qin Wang[3], Ponnada Narayana[4], F. Gerard Moeller[2], Liangsuo Ma[2]
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3082 **Brain Function is Associated with Inhibitory Control and Implicit Attitude Toward Betelnut in Chewer**
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3083 **Evaluation in Abnormal Structural Connectivity in Betel Nut Chewers using Generalized q-Sampling MRI**
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3084 **Resting state functional connectivity between insula and DMN region in gambling disorder patients**
Kosuke Tsurumi[1], Toshihiko Aso[2], Ryosaku Kawada[1], Masaaki Hazama[1], Genichi Sugihara[1], Jun Miyata[1], Hidenao Fukuyama[2], Toshiya Murai[1], Hidehiko Takahashi[1]
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3085 **Hippocampal volume loss after smoking cessation is linked to negative mood states**
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3086 **Dopamine, right inferior frontal cortex, and problem/pathological gambling**
Andrew Kayser[1], Taylor Vega[2], Dawn Weinstein[1], Jan Peters[3], Jennifer Mitchell[1]
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3087 **Default mode network deactivation to smoking cue predicts treatment outcome in nicotine use disorder**
Claire Wilcox[1], Vince D. Calhoun[2], Eric Claus[3], Rae Littlewood[3], Srinivas Rachaconda[3], Jessica Mickey[3], Pamela Arenella[1], Kent Hutchison[4]
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3088 **Subcortical volumes in alcohol naive youth are associated with DAT1, OPRM1 and later alcohol use**
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3089 **Association between metabolism of fructose and brain reward responses in obese youth**
Jennifer Laurent[1], Mitchell Snowe[1], Paula Deming[1], Jillian Sullivan[1], Richard Watts[2], Joshua Nickerson[2], Hugh Garavan[1]
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3090 **Neuroanatomical underpinnings of Machiavellianism in regular cocaine users**
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3091 **Acute and long-term cannabis effects on brain networks**
Isabelle Berger[1,2], Philippe Maeder[1], Jean Marie Annoni[3], Haithem Chtioui[4], Bernard Favrat[5], Christian Giroud[6], Kim Dao[7], Marie Martin Fabritius[8], Jean-Frédéric Mall[9], Reto Meuli[1], Eleonora Fornari[1,2]
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3092 **A neurobiological pathway to smoking in adolescence: TTC12-ANKK1-DRD2 variants and reward response**
Christine Macare[1], Francesca Ducci[2], Marika Kaakinen[3], Barbara Ruggeri[2], Gursharan Kalsi[2], Pimphen Charoen[4], Filippo Casoni[5], Jan Peters[6], Uli Bromberg[6], Matthew Hill[7], Jessica Buxton[4], Alex Blakemore[4], Juha Veijola[8], Christian Buechel[6], Tobias Banaschewski[9], Arun Bokde[10], Patricia Conrod[11], Herta Flor[9], Vincent Frouin[12], Jurgen Gallinat[13], Hugh Garavan[14], Penny Gowland[15], Andreas Heinz[16], Bernd Ittermann[17], Mark Lathrop[18], Jean-Luc Martinot[19], Tomas Paus[20], Sylvane Desrivieres[21], Marcus Munafò[22], Marjo-Riitta Järvelin[8], Gunter Schumann[23]
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3093 **Impaired Neurocognitive Network Function During Inhibitory Processing in Chronic Marijuana Smokers**
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3094 **Resting connectivity of insular sub regions is differentially modulated by nicotine abstinence**
John Fedota[1], Allison Matous[1], Kim Slater[1], Betty Jo Salmeron[1], Hong Gu[1], Thomas Ross[1], Elliot Stein[1]
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3095 **Coherence of Internet Gaming Disorder: a Resting-State EEG Study**
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3096 **RSFC between the dACC and thalamus is associated with risky decision making in smokers**
Zhengde Wei[1]
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3097 **Distinct Brain Networks of Decision Making Underlie Risk and Effect of Internet Gaming Disorder**
Zha Rujing[1]
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3098 **Higher response of the left frontoparietal network during drug picture processing in cocaine patient**
Victor Costumero[1], Patricia Rosell-Negre[1], Juan Carlos Bustamante[2], Paola Fuentes[1], `Juan Jose Llopis[3], Jesús Adrián-Ventura[1], Alfonso Barros-Loscertales[1], Cesar Avila[1]
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3099 **Neuronal response of electronic cigarette use in comparison to tobacco use: an fMRI study**
Da-Woon Heo[1], Yujin Jang[1], Hyun-Chul Kim[1], Jong-Hwan Lee[1]
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3100 **Effects of smoking status and nicotinic receptor stimulation on probabilistic reversal learning**
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3101 **Genetic risk factor for nicotine dependence is associated with better cognitive control**
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3102 **Habenula Activity Following Positive and Negative Feedback Among Abstinent Cigarette Smokers**
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3103 **Alcohol-related memory dynamics produce discernible plasticity patterns in the brain**
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3104 **Evidence of Subgroups in Smokers as Revealed in Clinical Measures and Evaluated in Neuroimaging Data**
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3105 **Nicotine Abstinence Induced Connectivity Changes in Amygdala and Insular Circuits Predict Relapse**
Hong Gu[1], Ying Cui[1], Yuzheng Hu[1], Caryn Lerman[2], James Loughead[2], Betty Jo Salmeron[1], Elliot Stein[1], Yihong Yang[1]
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3106 **Structural and perfusion changes in cocaine users are associated with recent cocaine consumption**
Marcus Herdener[1], Fabrizio Esposito[2], Jürgen Hänggi[3], Katrin Preller[4], Matthias Kirschner[5], Milan Scheidegger[6], Philipp Staempfli[7], Erich Seifritz[8], Boris Quednow[4]
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3107 **Parametric neural response to delay discounting differs between methamphetamine users and controls**
William Hoffman[1,2], Laura Dennis[2], Britta Tremblay[2], Holly McCready[2], Daniel Schwartz[2], Ryan Lisowski[2]
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3108 **Negligible Effect Sizes of Recent Marijuana Use on Structural and Functional Brain Measures**
Rachel Thayer[1], Sophie YorkWilliams[1], Amithrupa Sabbineni[1], Kent Hutchison[1]
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3109 **Effects of caffeine on emotional face processing and cerebral blood flow**
Jinyao Yi[1], Jennifer Sneider[1], Marisa Silveri[1], Lisa Nickerson[1]
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3110 **White matter integrity in alcohol use disorder: Relations to executive functioning**
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3111 **ENIGMA Addiction Working Group: Comparing Cortical Volume In Addicted and Non-Addicted Individuals**

Scott Mackey[1], Bader Chaarani[1], Nicholas Allgaier[1], Catherine Orr[1], Philip Spechler[1], Nelly Alia-Klein[2], Albert Batalla[3], Samantha Brooks[4], Janna Cousijn[5], Alain Dagher[6], Michiel de Ruiter[7], Sylvane Desrivières[8], Sarah Feldstein-Ewing[9], Nathan Gillespie[10], Rita Goldstein[11], Anna Goudriaan[5], Mary Heitzeg[12], Kent Hutchison[13], Chiang-shan Li[14], Edythe London[15], Valentina Lorenzetti[16], Maartje Luijten[17], Rocio Martin-Santos[3], Angelica Morales[15], Reza Momenan[18], Martin Paulus[19], Tomas Paus[20], Godfrey Pearlson[21], Renée Schluter[22], Lianne Schmaal[23], Gunter Schumann[8], Zsuzsika Sjoerds[24], Dan Stein[25], Elliot Stein[26], Rajita Sinha[21], Nadia Solowij[27], Susan Tapert[28], Anne Uhlmann[4], Dick Veltman[29], Ruth van Holst[22], Henrik Walter[30], Margaret Wright[31], Murat Yücel[32], Deborah Yurgelun-Todd[33], Derrek Hibar[34], Neda Jahanshad[35], Christopher Whelan[36], Paul Thompson[37], David Glahn[38], Hugh Garavan[1], Patricia Conrod[39]
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3112 **Cortical Stimulation Atlas for Treatment of Cocaine Addiction in Humans**

Tommi Raij[1,2], Alberto Terraneo[3,4], Luigi Gallimberti[3,4], Lorenzo Leggio[5,6], Antonello Bonci[5], Aapo Nummenmaa[7,8]
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3113 **Diffusion Tensor Imaging and Impulsivity in Current and Past Methamphetamine Users**

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3114 **Altered corticostriatal circuits in youth and adults with Internet gaming disorder at rest**

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3115 **Time Variant Top-Down Regulation in Fronto-amygdalar Network in Heroin Dependents**

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3116 **Neurobiological Impacts of Long-Term Cannabis Use: An ALE Meta-Analysis of Neuroimaging Studies**

Julio Yanes[1], Michael Riedel[2], Kimberly Ray[3], Jennifer Robinson[4], Angie Laird[2], Matthew Sutherland[2]
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DISORDERS OF THE NERVOUS SYSTEM

Eating Disorders

3118 **Aberrant Resting-State Functional Connectivity in Healthy Sisters of Anorexia Nervosa Patients**

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3119 **Connectome Analysis of Brain Structural Network Alterations in Obese Patients using GQI**

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3120 **Altered Structural and Effective Connectivity in Anorexia and Bulimia Nervosa**

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3121 **Graph Theoretical Analysis of Resting-state Brain Functional Network Abnormalities in Obese Patients**
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3122 **Reduced functional connectivity in resting state networks in adolescents with anorexia nervosa**
Anna Myrvang[1], Torgil Vangberg[2], Kristin Stedal[3], Øyvind Rø[3], Tor Endestad[4], Stalsberg Vibeke[5], Stein Inge Fandrem[5], Torgunn Hansen[5], Per Aslaksen[1]
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3123 **The Costs of Cognitive Control in Patients with Anorexia Nervosa**
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3124 **Multimodal whole-brain connectome analyses in Anorexia nervosa**
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3125 **Extrinsic and Intrinsic Functional Connectivity Changes along the Taste Pathway in Eating Disorders**
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3126 **Altered neural efficiency of decision making during temporal reward discounting in anorexia nervosa**
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3127 **Alterations of Default Mode Network in Integrated Hospital Treatment of Anorexia Nervosa**
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3128 **Altered global and local brain-network properties in patients with anorexia nervosa**
Daniel Geisler[1], Viola Borchardt[2], Anton Lord[3], Ilka Boehm[1], Franziska Ritschel[1], Johannes Zwipp[1], Sabine Clas[1], Joseph King[1], Silvia Wolff-Stephan[1], Veit Roessner[1], Martin Walter[3], Stefan Ehrlich[1]
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3129 **Cortical thinning of inferior frontal regions is associated with symptom severity in bulimia nervosa**
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3130 **Neural correlates of cognitive control in recovered anorexia nervosa patients**
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3131 **Reinforcement learning in anorexia nervosa**
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3132 **Network embeddedness of reward systems and insula in anorexia nervosa and body dysmorphic disorder**
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3133 **Modulating functional connectivity between eating-related brain areas by rtfMRI neurofeedback**
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DISORDERS OF THE NERVOUS SYSTEM

Epilepsy

3134 Medial Temporal Lobe Connectivity is Associated with Memory Performance in Temporal Lobe Epilepsy
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3135* In vivo mapping of gliosis in temporal lobe epilepsy using FLAIR intensity analysis
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3136 Claustrum volume correlates with hippocampal sclerosis in temporal lobe epilepsy
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3137 Detecting Subsecond Activation Changes During Interictal Epileptic Spike Using Simultaneous EEG-fMRI
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3138 Tuberous Sclerosis Complex: Neurodevelopmental Assessment with Diffusion MRI and MEG/MSI
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3139 Interindividual heterogeneity in BOLD signal changes preceding and following generalized spike waves
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3140 Voxel-based Myelinometry in Patients with MRI-negative Temporal Lobe Epilepsy
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3141 Focus detection by resting-state fMRI, EEG-fMRI and MEG, and surgical outcomes in epilepsy surgery
Satoshi Maesawa[1,2], Epifanio Bagarinao[1], Naotaka Usui[3], Daisuke Nakatsubo[2], Masazumi Fujii[4], Miyako Futamura[5], Hirohisa Watanabe[1], Toshihiko Wakabayashi[2]
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3142 A Meta-Analysis of Voxel-Based Morphometric Studies on Idiopathic Generalized Epilepsy
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3143 Effective Connectivity Analysis of ECoG Data Reveals Generator in Multifocal Seizures
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3144 Cognitive network organization changes following surgical seizure control in Lennox-Gastaut Syndrome
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3145 Hypoperfusion patterns independent to cortical atrophy revealed by ASL in Temporal Lobe Epilepsy
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3146 Focus-independent epileptic network associated with neocortical fast ripples in hippocampal epilepsy
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3147 Identification of Seizure Onset Zone Using Phase Locking Value in Electrocorticographic Recording
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3148 Global and local sleep homeostasis in patients with focal epilepsy: a high-density EEG study
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3149* **ENIGMA-Epilepsy: Worldwide brain structural comparisons in 1,738 epilepsy cases and 1,358 controls**
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3150 **Network integration of the anterior and posterior hippocampus in patients with temporal lobe epilesy**
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3151 **Predicting the Minimum Discharges Required from the Discharge Variability: an iEEG-fMRI Study**
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3152 **Interictal discharge correlates with frontal cognitive dysfunction in temporal lobe epilepsy**
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3153 **Reorganization of Functional Hubs and Overlapping Networks in Mesial Temporal Lobe Epilepsy**
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3154 **Resting state brain networks can classify epilepsy patients with different pathology**
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3155 **Network effects of corpus callosotomy in patients with Lennox-Gastaut syndrome**
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3156 **Memory encoding network at least 3 years after medial temporal lobe resection: a fMRI study**
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3157 **Amplitude of Inter-ictal Epileptiform Discharges Couples with the BOLD fMRI Signal**
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3158 **Epileptic networks estimated based on interictal abnormalities of brain functional networks**
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3159 **Thalamic Functional Connectivity During Light Sleep in Idiopathic Generalised Epilepsy**
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3160 **Simultaneous high density EEG and stereo EEG in temporal lobe epilepsy**
Francesca Pittau[1], Ana Coito[2], Laurent Spinelli[3], Karl Schaller[4], Margitta Seeck[1], Christoph Michel[5], Serge Vulliémoz[1]
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3161 **Integrity of the corpus callosum in benign temporal lobe epilepsy: a multimodal MRI study**
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3162 **Brain Morphology in Patients With Newly Diagnosed Epilepsy**
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3163 **Functional Connectivity Networks in Patients with Unilateral and Bilateral Temporal Lobe Epilepsy**
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3164* **Predicting outcome after surgery for temporal lobe epilepsy using Automated Fibre Quantification**
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3165 **Diagnosis of Temporal Lobe Epilepsy and its Lateralization using EEG-based Functional Connectivity**
Thibault Verhoeven[1], Ana Coito[2], Pieter van Mierlo[1], Margitta Seeck[3], Christoph Michel[4], Gijs Plomp[5], Stefaan Vandenberghe[1], Joni Dambre[1], Serge Vulliemoz[6]
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3166 **DTI Analysis of U-fibre density images localises the epileptogenic zone better than FA or MD**
Joanna Goc[1], Elisabeth Hartl[1], Soheyl Noachtar[1], Christian Vollmar[1]
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3167 **Large scale cortico-subcortical functional networks in partial epilepsies: role of the basal ganglia**
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3168 **Single-subject gray matter graph analyses in epilepsies with malformations of cortical development**
Lajos Kozák[1], Gyula Gyebnár[1], Zoltán Klimaj[1], Laszlo Entz[2], Dániel Fabó[2], Gábor Rudas[1], Péter Barsi[1]
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3169 **Right Temporal Lobe Epilepsy Disrupts Fear Induced Modulation of Limbic Functional Connectivity**
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3170 **Spatially independent fMRI components and EEG source imaging for unravelling epileptic networks**
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3171 **Automated morphometry and individualized MRI diagnostics in temporal lobe epilepsy patients**
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3172 **Identification of epileptogenic networks from dense-EEG**
Mahmoud Hassan[1,2], Isabelle Merlet[1,2], Aya Kabbara[1,2,3], Mohamad Khalil[3], Ahmad Mheich[1,2,3], Arnaud Biraben[1,2,4], Anca Nica[4], Fabrice Wendling[1,2]
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3173 **Improving structural parcellation of the thalamus for quantitative investigation of TLE patients**
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3174 **Simultaneous intracranial and scalp EEG reveal concordant directed connectivity in epileptic spikes**
Ana Coito[1], Francesca Pittau[2], Laurent Spinelli[2], Pieter van Mierlo[3], Margitta Seeck[2], Christoph Michel[4], Gijs Plomp[5], Serge Vulliémoz[6]
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3175 **Predictive morphological reorganisation in temporal lobe epilepsy**
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3176 **Post-ictal Hypoperfusion Detected at Suspected Epileptogenic Areas in Focal Epilepsy Patients**
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3177 **Automatic detection and localization of epileptic spikes from longterm EEG monitoring in 18 patients**
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3178 **Topological spectrum of structural network alterations in malformations of cortical development**
Seok-Jun Hong[1], Boris Bernhardt[1], Neda Bernasconi[1], Andrea Bernasconi[1]
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3179 **Graph measures for tracking dynamics of preictal synchrony in partial epilepsy**
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3180 **Do resting-state functional connectivity and task-activation produce concordant results?**
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3181 **Cognitive impairment in epilepsy as a disruption of task-dependent network reconfiguration**
Chris Tailby[1,2], Magdalena Kowalczyk[1], Graeme Jackson[1,3,4]
[1]Florey Institute of Neuroscience and Mental Health, Melbourne, Victoria, Australia, [2]School of Psychological Sciences, University of Melbourne, Melbourne, Victoria, Australia, [3]Department of Medicine, University of Melbourne, Melbourne, Victoria, Australia, [4]Department of Neurology, Austin Health, Melbourne, Victoria, Australia

3182 **Presurgical network centrality predicts postsurgical seizure outcome in temporal lobe epilepsy**
Xiaosong He[1], Gaelle Doucet[2], Ashwini Sharan[1], Michael Sperling[1], Joseph Tracy[1]
[1]Thomas Jefferson University, Philadelphia, PA, [2]Icahn School of Medicine at Mount Sinai, New York, United States

3183 **Cortical thickness analysis in operculo-insular epilepsy**
Sami Obaid[1], Pierre-Marc Jodoin[2], Félix Morency[2], Maxime Descoteaux[2], Alan Tucholka[3], Dang Nguyen[1]
[1]Centre de Recherche du Centre Hospitalier de l'Université de Montréal; Hôpital Notre-Dame, Montréal, Canada, [2]Université de Sherbrooke, Sherbrooke, Canada, [3]Barcelona Beta Brain Research Center, Foundation Pasqual Maragall, Barcelona, Spain

3184 **Changes in attention fMRI in patients taking cannabidiol for poorly controlled epilepsy**
Jane Allendorfer[1], Martina Bebin[1], Jerzy Szaflarski[1]
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3185 **Distinct contribution of hippocampal subfields in verbal memory in temporal lobe epilepsy**
Dorian Pustina[1], Xiaosong He[2], Joseph Tracy[2]
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3186 **Autonomic Dysfunction in TLE is associated with Brainstem Atrophy**
Susanne Mueller[1], Alix Simonson[2], Robert Knowlton[1], Yee-Leng Tan[1], Kenneth Laxer[3]
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3187 **Clinical effectiveness of technologies used to delimit seizure focus in epilepsy surgery candidates**
Agustina Maria Lascano[1], Thomas Perneger[2], Serge Vulliémoz[3], Laurent Spinelli[4], Valentina Garibotto[5], Christian Korff[6], Maria Isabel Vargas[7], Christoph Michel[8], Margitta Seeck[1]
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DISORDERS OF THE NERVOUS SYSTEM

Research Domain Criteria studies (RDoC)

3188 **Neural substrates of trauma-related cognitions (shattered assumptions) in a scrambled sentences task**
Julia Schauer[1], Lisa Dommes[2], Philipp Fießinger[2], Petra Beschoner[2], Zrinka Sosic-Vasic[1], Julia Stingl[3], Roberto Viviani[4,1]
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3189 **Neuroanatomical deficits shared by youth with Autism Spectrum Disorders or First-Episode Psychosis**
Joost Janssen[1], Hugo Schnack[2], Yasser Alemán-Gomez[3], Laura Pina-Camacho[4], Carmen Moreno[4], Kenia Martinez[5], David Fraguas[4], Celso Arango[4], Mara Parellada[4]
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3190 **Functional brain network integrity reflects heterogeneous executive function ability in ASD and ADHD**
Dina Dajani[1], Paola Odriozola[1], Mary Beth Nebel[2], Stewart Mostofsky[2], Lucina Uddin[3]
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3191 **CBT effect on resting-state and task activity in MDD and PTSD: dimensional and categorical analyses**
Zhen Yang[1], Stephen Bruce[2], Theodore Satterthwaite[3], Philip Cook[4], Eli Mikkelsen[4], Russell Shinohara[4], Haochang Shou[4], Desmond Oathes[4], Yvette Sheline[4]
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3192 **Categorical and dimensional connectivity correlates of Autism and ADHD**
Yuta Aoki[1], Yuliya Yoncheva[1], Bosi Chen[1], Dillon Sharp[1], Francisco Castellanos[1], Michael Milham[2], Adriana Di Martino[1]
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DISORDERS OF THE NERVOUS SYSTEM

Schizophrenia and Psychotic Disorders

3193 **EEG-informed fMRI: altered gamma-band specific network in the high-risk state for psychosis**
Gregor Leicht[1], Sebastian Vauth[1], Nenad Polomac[1], Christina Andreou[1], Jonas Rauh[1], Marius Mußmann[1], Anne Karow[1], Christoph Mulert[1]
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3194 **Brain Subtyping Enhances Machine Learning Predictions of Schizophrenia Group Membership**
Dominic Dwyer[1], Carlos Cabral[1], Lana Kambeitz-Ilankovic[1], Joseph Kambeitz[1], Peter Falkai[1], Nikolaos Koutsouleris[1]
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3195 **Emotion and Theory of Mind in Schizophrenia - Investigating the Role of the Cerebellum**
Omar Mothersill[1], Charlotte Knee-Zaska[1], Gary Donohoe[1]
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3196 **How schizophrenia, cannabis use and unexpected gain and loss relate to striatum activity**
Dominik Moser[1], Sophia Frangou[1]
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3197 **Heterochronicity of White Matter Development and Aging and Susceptibility to Schizophrenia**
Peter Kochunov[1], Habib Ganjgahi[2], Anderson Winkler[3], Sinead Kelly[4], Dinesh Shukla[1], Xiaoming Du[1], Neda Jahanshad[5], Laura Rowland[1], Patricio O'Donnell[6], Zhiyong Xie[6], Sara Paciga[7], Christian Schubert[7], Paul Thompson[8], Thomas Nichols[9], Elliot Hong[1]
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3198 **Disrupted structural brain networks underlying cognitive impairments in schizophrenia**
Fengchun Wu[1], Xiaobing Lu[1], Yongzhe Yang[2], Biao Huang[3], Yuping Ning[1], Kai Wu[2]
[1]Department of Psychiatry, Guangzhou Brain Hospital, Guangzhou, China, [2]Department of Biomedical Engineering, School of Materials Science and Engineering, South China Unive, Guangzhou, China, [3]Department of Radiology, Guangdong Academy of Medical Sciences, Guangdong General Hospital, Guangzho, Guangzhou, China

3199 **Frontal cortical thickness correlates positively with impulsivity in early psychosis patients**
Philipp Baumann[1,2], Paul Klauser[1,2], Alessandra Griffa[3], Julie Palix[1], Agathe Azzola[1], Luis Alameda[1,2], Raoul Jenni[4], Patric Hagmann[5], Jacques Gasser[1], Philippe Conus[1], Kim Do[2], Valérie Moulin[1]
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3200 **Parallel volume loss in global and individual cortices of Childhood-Onset-Schizophrenia patients**
Siyuan Liu[1], Nevin Sastry[1], Xueping Zhou[1], Francois Lalonde[1], Liv Clasen[1], Peter Gochman[1], Judy Rapoport[1]
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3201 **Dysfunctional Language- and Speech-Processing in Formal Thought Disorder: an ALE Meta-Analysis**
Tobias Wensing[1,2,3], Edna Cieslik[2,4], Veronika Müller[2,4], Simon Eickhoff[2,4], Thomas Nickl-Jockschat[1,3]
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3202 **Functional and structural salience network disruptions in persons at risk for psychosis**
Chenhao Wang[1], Fang Ji[1], Zhaoping Hong[1], Joann S. Poh[1], Ranga Krishnan[1], Jimmy Lee[2,1], Gurpreet Rekhi[2], Richard S.E. Keefe[3], R. Alison Adcock[3,4], Stephen J. Wood[5,6], Alex Fornito[7], Ofer Pasternak[8], Michael W. L. Chee[1], Juan Zhou[1,9]
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3203 **Sensorimotor modulation of self–other boundaries in psychosis is related to neural disconnectivity**
Roy Salomon[1], Pierre Progin[2], Alessandra Griffa[3], Giullio Rognini[4], Kim Do[5], Philip Conus[2], Silvia Marchesotti[4], Patric Hagmann[3], Andrea Serino[4], Olaf Blanke[4]
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3204 **Diffusion Kurtosis in Patients with First-Episode Psychosis**
Kang Ik Cho[1], Tae Young Lee[2], Kyung Ok Lim[2,3], Sung Nyun Kim[2,3], Jun Soo Kwon[1,2,3]
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3205 **Discriminative analysis of schizophrenia using SVM and RFE on structural MRI images**
Xiaobing Lu[1], Yongzhe Yang[2], Fengchun Wu[1], Biao Huang[3], Yuping Ning[1], Kai Wu[2]
[1]Department of Psychiatry, Guangzhou Brain Hospital, Guangzhou, China, [2]Department of Biomedical Engineering, School of Materials Science and Engineering, South China Unive, Guangzhou, China, [3]Department of Radiology, Guangdong Academy of Medical Sciences, Guangdong General Hospital, Guangzho, Guangzhou, China

3206 **Enhanced carbonyl stress and white matter disruption in schizophrenia**
Shuraku Son[1], Makoto Arai[2], Kazuya Toriumi[2], Shin-ichi Urayama[3], Toshihiko Aso[4], Hidenao Fukuyama[3], Masanori Itokawa[2], Toshiya Murai[5]
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3207 **Orbitofrontal cortex in first-episode schizophrenia spectrum patients: MRI manual ROI-based study**
Roberto Roiz-Santiañez[1,2], Teresa Sáinz Olavarria[3], Rosa Ayesa-Arriola[1,2], Paula Suarez-Pinilla[1,2], Victor Ortiz-García de la Foz[1,2], Diana Tordesillas-Gutierrez[4,5], Benedicto Crespo-Facorro[1,2]
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3208 **Influence of emotion on the neural processing of cognitive conflict in patients with schizophrenia**
Jaesub Park[1], Ji-Won Chun[2], Hae-Jeong Park[3], Il-Ho Park[4], Eo-Su Kim[1,2], Jae-Jin Kim[1,2]
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3209 **Dynamic FC revealed high risk for schizophreniac's unaffected siblings to develop schizophrenia**
Jianpo Su[1], Hui Shen[1], Ling-Li Zeng[1], Dewen Hu[1]
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3210 **Altered resting-state functional connectivity of limbic subregion of caudate in schizophrenia**
Peng Zhang[1], Ling-Li Zeng[1], Dewen Hu[1]
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3211 **Brain Volumes in Family Members of Schizophrenia or Bipolar Patients: an ENIGMA Meta-Analysis**
Sonja de Zwarte[1], Rachel Brouwer[1], Manon Hillegers[1], Wiepke Cahn[1], Hilleke Hulshoff Pol[1], Kathryn Alpert[2], Lei Wang[2], Fergus Kane[3], Marco Picchioni[4], Elvira Bramon[5], Colm McDonald[6], Robin Murray[3], Tomas Hajek[7], Martin Alda[7], Gloria Roberts[8], Philip Mitchell[8], Peter Schofield[9], Janice Fullerton[9], Benson Mwangi[10], Jair Soares[10], Anja Richter[11], Oliver Gruber[11], Aurora Bonvino[12], Annabella Di Giorgio[13], Alessandro Bertolino[12], Emma Neilson[14], Stephen Lawrie[14], Xavier Caseras[15], Scott Fears[16,17], Carrie Bearden[18,19], David Glahn[20,21], Theo van Erp[22], Neda Jahanshad[23], Derrek Hibar[23], Paul Thompson[23], Jessica Turner[24], René Kahn[1], Neeltje van Haren[1]
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3212 **Aberrant emotional salience: a neuro-functional marker of psychotic-like experiences in adolescents**
Josiane Bourque[1,2], Stéphane Potvin[1,3], Robert Whelan[4], Tobias Banaschewski[5,6], Arun Bokde[7], Uli Bromberg[8], Christian Büchel[9], Anna Cattrell[10], Sylvane Desrivieres[10], Herta Flor[5,6], Vincent Frouin[11], Jurgen Gallinat[12], Penny Gowland[13], Andreas Heinz[14], Bernd Ittermann[15], Jean-Luc Martinot[16], Frauke Nees[17,6], Dimitri Papadopoulos-Orfanos[18], Tomáš Paus[19,13,20], Luise Poustka[21], Michael Smolka[22], Henrik Walter[23], Gunter Schumann[24,25], Hugh Garavan[26], Patricia Conrod[1,2], IMAGEN consortium[27]
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3213 **Functional hyper-engagement of white matter pathways in schizophrenia during visuo-motor processing**
Sakeena Fatima[1], Marcella Bellani[2], Gianluca Rambaldelli[2], Carlo Marzi[2], Karthik Ramaseshan[3], Vaibhav Diwadkar[3], Paolo Brambilla[4]
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3214 **Functional Network Analysis of Face and Emotion Processing in Schizophrenia: A Family Study**
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3215 **Cortical Thickness Differentially Changes with Age in a Subset of First Episode Psychosis Patients**
Carolina Makowski[1,2,3], Michael Bodnar[1,2], Ashok Malla[1,2], Ridha Joober[1,2], Alan Evans[3,1], Martin Lepage[1,2]
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3216 **Working memory deficit in recent-onset SZ associated with WM integrity: connectometry approach**
Mahsa Dolatshahi[1], Ali Anjomshoa[1], fatemeh amirkhani[1], Farzaneh Rahmani[1], Ahmad Shojaei[2], Hamidreza Safabakhsh[3], Mohammad Hadi Aarabi[1]
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3217 **Ambivalence of ideal self-reflection correlates with the midline cortical activity in schizoprenia**
Byung-Hoon Kim[1], Yu-bin Shin[2], Sunghyon Kyeong[2], Seon-Koo Lee[3], Seung-Koo Lee[4], Jae-Jin Kim[1]
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3218 **Dysfunction of intrinsic and extrinsic motivation in schizophrenia: an fMRI study**
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3219 An ENIGMA Schizophrenia Working Group Meta-Analysis of Cortical Thickness/Area in over 6000 Subjects

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3220 Structural Connectivity and Delusional Cognitive Bias

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3221 Schizophrenia and Dysfunctional Frontal-Hippocampal Network Interactions during Associative Learning

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3222* Cortical dysconnectivity and cortical thinning are associated with psychotic symptoms in 22q11DS

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3223 Association between genetic risk for schizophrenia and deactivation of the TPJ during working memory

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3224 Biomarkers from dynamic networks in early schizophrenia patients and clinical high risk individuals

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3225 Brain-behaviour relationships in multisession practice-related verbal learning in schizophrenia

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3226 Clinical high-risk subjects show slight impairment in brain networks compared to early schizophrenia

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3227 **Improved correspondence of working memory networks in schizophrenia after macro-anatomial alignment**
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3228 **Connectomic correlates of response to treatment in first-episode psychosis**
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3229 **Impact of pooling brain connectivity fMRI studies on prediction accuracy in schizophrenia**
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3230 **Individualized Prediction of Negative Symptom Subtype in Schizophrenia Using Tract-Based Analysis**
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3231 **Reductions in cerebral asymmetry of functional connectivity in schizophrenia**
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3232 **Neural Correlates of Abnormal Decision-making during Sequential Purchasing Process in Schizophrenia**
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3234 **Working memory in schizophrenia: a neuroimaging meta-analytic and VBM study**
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3235 **The Auditory Interhemispheric Pathway and Auditory Verbal Hallucinations (AVH)**
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3236 **Neuroimaging of Early-Onset Psychosis from an ENIGMA perspective**
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3237 **Functional connectivity aberrations in severe mental disorders are context independent**
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3238 **Stimulus-induced inter-areal gamma-band phase synchronization is suppressed in schizophrenia**
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3239 **Altered functional connectivity pattern of right dorsolateral prefrontal cortex in schizophrenia**
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3240 **Emotion regulation in methamphetamine dependence with and without psychosis – an fMRI study**
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3241 **A VBM and ALE study of insight in first episode of psychosis**
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3242 **Aberrant myelination in anti-psychotic naïve patients with schizophrenia**
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3243 **Glutamate in Psychosis: A Meta-Analysis of Proton Magnetic Resonance Spectroscopy (1H-MRS) Studies**
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3244 **Abnormal Precuneus-posterior cingulate network in auditory verbal hallucinations of schizophrenia**
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3245* **Accelerated Aging of the Brain in Schizophrenia: a Longitudinal Pattern Recognition Study**
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3246 **Trends and patterns in 15 years of functional MRI research in psychiatric disorders**
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3247 **Altered default mode network activity as vulnerability indicators for schizophrenia: a pilot study**
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3248 **Disconnectivity in Hallucinating Schizophrenia: a Dynamic MRI Study with a Multiband EPI Sequence**
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3249 **Aberrant Arcuate Fasciculus in Schizophrenia with Auditory Verbal Hallucination: A Multi-site Study**
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3250* **Linking gene expression to white matter connectome alterations in schizophrenia**
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3251 **Increased instructed and non-instructed evaluative conditioning in delusion proneness**
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3252 **Working Memory Modulation of Frontoparietal Network Connectivity in First-Episode Schizophrenia**
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3253 **Apparent compensation mechanisms in relatives of schizophrenia patients in visual backward masking**
Michael Herzog[1], Janir Nuno da Cruz[1,2], Maya Roinishvili[3,4], Eka Chkonia[4,5], Patrícia Figueiredo[2]
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3254 **EEG oscillations link impulsivity and aggression in early phase psychosis**
Julie Palix[1], Jean-François Knebel[2,3], Micah Murray[2,3,4], philipp baumann[5,6], Luis Alameda[5,6], Agathe Azzola[1], Philippe Conus[5], Jacques Gasser[1], Kim Do[6], Valérie Moulin[1]
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3255 **Resting-state Functional Connectivity of the Temporo-parietal Junction and Psychosis Risk**
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3257 **The genome-wide supported MIR137 variant predicts structural heterogeneity in psychosis relatives**
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3258* **Cerebellar grey matter volume in schizophrenia - a multi-site study of 543 patients and 760 controls**
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3259 **Relationship between neural correlates of emotion regulation and insight in schizophrenia**
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3260 **Hyper-engagement of macroscopic brain networks in first episode psychosis identified with fMRI**
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3261 **Axonal disruptions in schizophrenia converge on brain network hubs**
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3262 **Functional connectivity and brain networks in early schizophrenia: not much different from healthy?**
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3263 **Impaired action planning and a limbic interference during gesture performance in schizophrenia**
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3264 **Abnormal Structural Covariance Networks in Subjects at Risk for Psychosis**
Roman Buechler[1,2], Diana Wotruba[3,2], Lars Michels[4,2], Anastasia Theodoridou[5,1], Sibylle Metzler[5,1], Susanne Walitza[6], Spyros Kollias[4,2], Wulf Roessler[1,7,8], Karsten Heekeren[5,1]
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3265 **Intrinsic brain connectivity is related to treatment response in patients with schizophrenia**
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3266 **Response Inhibition in Prodromal Schizophrenia**
Alexandra Potter[1], Geoffrey Schaubhut[1], Sarahjane Dube[1], Julie Dumas[1]
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3267 **Reduced Insula Between-Network Connectivity in Schizophrenia**
Jason Tregellas[1], Korey Wylie[1], Jason Smucny[1], Ann Olincy[1], Kristina Legget[1]
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3268 **Supplementary Motor Area resting state hyperperfusion as a marker of catatonia**
Sebastian Walther[1], Andrea Federspiel[1], Roland Wiest[2], Werner Strik[3], Katharina Stegmayer[1]
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3269 **Resting state connectivity in prodromal schizophrenia**
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3270 **Network Diagnoses – Diagnosing Networks: Classification of Schizophrenia and Parkinson Disease**
Rachel Nirmala Pläschke[1,2], Edna Cieslik[1,2], Veronika Müller[1,2], Felix Hoffstaedter[2], Claudia Eickhoff[3,2], Kathrin Reetz[4,2], Julia Heller[4], Martin Südmeyer[5,6], Christian Mathys[7], Julian Caspers[7,2], Robert Langner[1,2], Simon B. Eickhoff[1,2]
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3271 **Impaired frontal processing during agency inferences in schizophrenia**
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3272 **Optimization of an Algorithm Able to Detect the BOLD-signal Associated with Auditory Hallucinations**
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3273 **Functional Connectivity and Cognitive Substrates of Social Disability in Schizophrenia**
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3274 **Canonicality of Structural patterns using Source Based Morphometry**
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3275 **State dependent working memory processes in schizophrenia – an EEG-fMRI study**
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3276 **Psychotic Dysconnectivity in an African-American Community Sample**
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3277 **Hippocampal M1 expression predicts hippocampal activation during encoding at onset of psychosis**
Geor Bakker[1,2], Daphne Boucherie[3], Wilhelmina Vingerhoets[1,3], Matthan Caan[4], Oswald Bloemen[1,5], Jan Booij[3], Therese van Amelsvoort[1]
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3278 **The interaction of emotion recognition and semantic processing in schizophrenia**
Tai-Shan Li[1], Tzung-Jeng Hwang[2], Tai-Li Chou[3]
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3279 **Gray matter volume alteration with persistent auditory verbal hallucinations: A VBM using 7-T MRI**
Yo-Han Joo[1], Jeong-Hee Kim[2], Yeon-Jeong Shin[1], Young-Don Son[3], Hang-Keun Kim[3], Jong-Hoon Kim[4,1]
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3280 **Multivariate classification of schizophrenia by local activity features of resting-state fMRI**
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3281 **Reduced macroscopic network coherence in first episode psychosis patients in visuo-motor processing**
Fouad Badaoui[1], Karthik Ramaseshan[1], Marcella Bellani[2], Gianluca Rambaldelli[2], Carlo Marzi[2], Paolo Brambilla[3], Vaibhav Diwadkar[1]
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3282 **Abnormal cerebellar activation in psychosis risk during learning: Support for cerebellar dysfunction**
Jessica Bernard[1], Joseph Orr[1], Derek Dean[2], Vijay Mittal[3]
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3283 **Effects of modified electroconvulsive therapy on the brain functional connectivity in schizophrenia**
Rixing Jing[1], Peng Li[2], Rongjiang Zhao[3], Le Shi[4], Hongqiang Sun[2], Lin Lu[2], Yong Fan[5]
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3284 **Impairments of social cognition in Sz and ASD: relationship to underlying sensory dysfunction**
Antigona Martinez[1], Pablo Gaspar[2], Matthew Hoptman[3], Elisa Dias[1], Cheryl Corcoran[4], Daniel Javitt[5]
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3285 **Neurofeedback-enhanced mindfulness effectively modulates brain's resting state in schizophrenia**
Clemens Bauer[1], Kana Okano[1], Satra Ghosh[1], Carlo de los Angeles[1], Margaret Niznikiewicz[2], Susan Whitfield-Gabrieli[1]
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3286 **Disrupted Prefrontal Dynamics Underlying Task Learning in the Psychosis Prodrome**
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3287 **Novel whole brain approach finds schizophrenia functional disconnection linked to cognitive scores**
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3288 **Volumetric and Shape Analysis of the subcortical in Patients With Schizophrenia. Pilot study**
Jamaan Alghamdi[1], Abdullah Abu Jamea[2], Muhammed Alblowi[3], Fahad Alosaimi[2], Fahad Bader Bader[2], Shahid Bashir[4]
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DISORDERS OF THE NERVOUS SYSTEM

Sleep Disorders

3289 **The rCBF Abnormality during Wakefulness in OSA patients and Effect of Long-term CPAP treatment**
Jeongsik Kim[1], Eunyeon Joo[1], Seungbong Hong[1]
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3290 **Relation between injury of the hypothalamus and hypersomnia following mild traumatic brain injury**
Hyeok Gyu Kwon[1], Sung Ho Jang[1], Su Min Son[2], Mi Young Lee[3]
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3291 **Aberrant Right Side Frontoparietal Network in Primary Insomnia Patients**
Shumei Li[1], Guihua Jiang[1], Junzhang Tian[1], Meng Li[1], Tianyue Wang[1], Hua Wen[1], Wenfeng Zhan[1], Chulan Lin[1], Likun Xia[2]
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3292 **Between-network Associations Increased with AHI in Obstructive Sleep Apnea**
Changwei Wu[1], Albert Yang[2], Yi-Ping Chao[3], Ching-Po Lin[4]
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DISORDERS OF THE NERVOUS SYSTEM

Stroke

3294 **Altered structural connectivity associated with visual hallucinations following occipital stroke**
Sara Rafique[1], John Richards[2], Francisco Parreira[1], Jennifer Steeves[1]
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3295 **Diverging lesion and connectivity patterns in delayed vs. early swallowing recovery after stroke**
Marian Galovic[1], Natascha Leisi[2], Manuela Wapp[3], Martin Zbinden[3], Sjoerd Vos[1], Marlise Müller[2], Johannes Weber[2], Florian Brugger[2], Georg Kägi[2], Bruno Weder[2]
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3296 **Laterality in the Action Observation Network After Stroke**
Kaori Ito[1], Sook-Lei Liew[1], Kathleen Garrison[2], Panthea Heydari[1], Mona Sobhani[3], Julie Werner[1], Hanna Damasio[1], Carolee Winstein[1], Lisa Aziz-Zadeh[1]
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3297 **Graph analysis of the motor network after primary motor cortex stroke**
Elisabeth Dirren[1], Jonas Richiardi[2], Fabien Albert[1], Roman Sztajzel[1], Andreas Kleinschmidt[1], Emmanuel Carrera[1]
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3298 **Predicting long-term functional outcome after subarachnoid hemorrhage**
Christian Rubbert[1], Rebecca May[1], Daniel Martens[1], Bernd Turowski[1], Christian Mathys[1], Julian Caspers[1]
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3299 **Predicting motor function after stroke using MRI-based lesion-overlap and TMS-based measures**
Amy Kuceyeski[1], Douglas Labar[1], Katherine Nearing[1], Zoe Tsagaris[2], Joshua Silverstein[2], Heather Pepper-Lane[2], Aaron Boes[3,4], Michael Fox[3,4], Gary Thickbroom[2], Dylan Edwards[2,1]
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3300 **Modeling the relationship between post-stroke recovery and changes in the structural connectome**
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3301 **Critical regions of post-stroke aphasia severity at the acute and chronic stages are not the same**
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3302 **Language outcome after left-hemispheric stroke: towards a predictive model using DTI**
Marjolein Verly[1], Carolina Mendez Orellana[2], Robin Gerrits[1], Peter Koudstaal[2], Lieven Lagae[3,1], Inge Zink[1], Stefan Sunaert[3,1], Nathalie Rommel[1], Aad van der Lugt[2], Evy Visch-Brink[2], Marion Smits[2]
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3303 **Graph-based analysis of the structural connectivity network modulation in stroke patients**
Silvia Obertino[1], Silvia Francesca Storti[1], Alessandro Daducci[2], Cristina Granziera[3,4], Gloria Menegaz[1]
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3304 **Voxel-based Lesion Symptom Mapping for Post-stroke Depressive Mood in Isolated Cerebellar Stroke**
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3305 **Functional imaging correlates of recovered swallowing after dysphagia**
Paul Glad Mihai[1], Mareile Otto[2], Martin Domin[3], Thomas Platz[2], Shaheen Hamdy[4], Martin Lotze[3]
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3306 **Sensory Tractography and Robotic Position Sense in Perinatal Stroke and Hemiparetic Cerebral Palsy**
Andrea Kuczynski[1,2], Helen Carlson[2], Catherine Lebel[3,2], Jacquie Hodge[2], Jennifer Semrau[1], Sean Dukelow[1], Adam Kirton[1,2]
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3307 **Abnormal default mode network of stroke patients: a resting-state fMRI study**
Ye Zhang[1], Mingguo Qiu[1], Jingna Zhang[1], Li Wang[1]
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3308 **Abnormal structural network organization of stroke patients revealed by graph theoretical analysis**
Jingna Zhang[1], Mingguo Qiu[1], Ye Zhang[1], Li Wang[1]
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3309 **EEG connectivity-based neurofeedback for motor recovery: a study in chronic stroke patients**
Anaïs Mottaz[1], Tiffany Corbet[2], Cécile Magnin[3], Pierre Nicolò[1], Armin Schnider[1,3], Adrian G. Guggisberg[1,3]
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3310 **ENIGMA Stroke Recovery Working Group: Big Data Approaches to Predict Stroke Recovery from MRI Scans**
Sook-Lei Liew[1], Neda Jahanshad[2], Julia Anglin[1], Bokkyu Kim[1], Heng Nhoung[1], Junning Li[1], Jane Rondina[3], Michael Borich[4], Lara Boyd[5], Steven Cramer[6], Catherine Lang[7], Nerses Sanossian[1], Surjo Soekadar[8], Nick Ward[3], Carolee Winstein[1], Paul Thompson[2]
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3311 **White matter injury in diabetic stroke related with acute neurological deficits and prognosis**
Xinfeng Yu[1], Yerfan Jiaerken[1], Ruirui Song[1], Peiyu Huang[1], Jianzhong Sun[1], Minming Zhang[1]
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3312 **3D Convolutional Neural Network for Chronic Stroke Lesion Segmentation**
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3313 **Ischemic Stroke: Evidence of Functional Diaschisis Investigated with R2' Quantification**
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3314 **Neuronal Activity for the Prognosis of Stroke Recovery**
Filippo Zappasodi[1], Patrizio Pasqualetti[2], Alessandro Giordani[3], Nadia Giannantoni[3], Paolo Maria Rossini[3], Franca Tecchio[4]
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3315 **The roles of anterior intraparietal sulcus and inferior frontal cortex during recovery after stroke**
Jungsoo Lee[1], Eunhee Park[2], Ahee Lee[3], Won Hyuk Chang[2], Dae-Shik Kim[1], Yun-Hee Kim[2,3]
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3316 **Functional alterations in post-stroke patients with cognitive impairment**
Clément Bournonville[1], Romain Viard[1], Hilde Henon[2], Christine Delmaire[2], Stephanie Bombois[2], Xavier Leclerc[1], Régis Bordet[2], Renaud Lopes[1]
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3317 **Functional reorganization by dual-mode noninvasive brain stimulation in stroke patients**
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3318 **Postlesional plasticity of tonotopic maps in primary auditory cortex**
Sandra Da Costa[1], Isabel Tissières[2], Pierre-André Rapin[3], Eleonora Fornari[4], Wietske van der Zwaag[5], Reto Meuli[6], Stephanie Clarke[2], Sonia Crottaz-Herbette[2]
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3319 **Reorganization patterns of cortical arm muscle representations: post-stroke longitudinal TMS study**
Latifa Lazzouni[1], Anna Zumbansen[1], Heike Vogt[1], Philippe Kramer[1], Alexander Thiel[1]
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3320 **Mapping oxygenation changes in extended brain regions during cardiac surgery with multi-channel NIRS**
Christian Rummel[1], Gabor Erdoes[2], Balthasar Eberle[2], Monika Stucki[2], Arto Nirkko[3], Roland Wiest[1], Jan Gralla[1], Thierry Carrel[4], Reto Basciani[2]
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3321 **Multivariate prediction of aphasia scores after stroke: which part of the lesion matters?**
Dorian Pustina[1], H. Branch Coslett[1], Brian Avants[1], Myrna Schwartz[2]
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3322 **Probing motor network neuroplasticity after perinatal stroke using magnetic resonance spectroscopy**
Helen Carlson[1], Frank MacMaster[2], Ashley Harris[2], Adam Kirton[2]
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3323 **Mechanical thrombectomy in acute stroke monitored with multi-channel Near-Infrared spectroscopy**
Christian Rummel[1], Manuela Wapp[1], Arto Nirkko[2], Roland Wiest[1], Pasquale Mordasini[1], Jan Gralla[1], Gerhard Schroth[1]
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3324 **Reliability of BOLD activation during story comprehension for individuals with aphasia**
Xue Wang[1], Xiaowei Song[1], Jennifer Mack[2], David Caplan[3], Swathi Kiran[4], Brenda Rapp[5], Cynthia Thompson[2], Todd Parrish[1]
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3325 **Treatment-Induced Changes in Anatomical and Functional Regions of Interest in People with Aphasia**
Jeffrey Johnson[1], Erin Meier[1], Swathi Kiran[1]
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3326* **Normalization or Reorganization: Evidence for different mechanisms of recovery in Neglect & Aphasia**
Joshua Siegel[1], Lenny Ramsey[1], Gordon Shulman[1], Maurizio Corbetta[2]
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3327* **Distinct signatures of remote longitudinal white matter alterations in neglect**
Roza Umarova[1], Lena Beume[1], Marco Reisert[2], Christoph Kaller[2], Stefan Klöppel[3], Irina Mader[4], Volkmar Glauche[5], Valerij Kiselev[6], Marco Catani[7], Cornelius Weiller[2]
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3328 **Sensorimotor network connectivity in children with perinatal stroke and hemiparetic cerebral palsy**
Kristine Woodward[1], Helen Carlson[2], Andrea Kuczynski[3], Jenny Saunders[1], Brad Goodyear[3], Sean Dukelow[1], Jacquie Hodge[4], Adam Kirton[1]
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3329 **Corpus Callosum Diffusion Properties are Altered in Hemiparetic Children with Perinatal Stroke**
Jacquie Hodge[1], Andrea Kuczynski[1], Helen Carlson[2], Adam Kirton[3]
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3330 **Differentiation of resting state network adaptions in chronic stroke patients by lesion localization**
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3331 **Increasing Cortical Motor Lateralization through real-time fMRI Neurofeedback after Stroke**
YunYing Huang[1], Heather Neyedli[2], Laurie Josephs[1], Emily Hinson[1], Bruce Gao[3], Michael Lührs[4], Rainer Goebel[4], Heidi Johansen-Berg[1]
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3332 **Long-lasting effects of prism adaptation on spatial neglect depends on cortical localisation**
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3333 **Temporal decomposition of the cerebrovascular reactivity dynamic response in neurovascular patients**
Marco Piccirelli[1], Christiaan Hendrik Bas van Niftrik[1], Oliver Bozinov[1], Athina Pangalu[1], Antonios Valavanis[1], Luca Regli[1], Jorn Fierstra[1]
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3334 **Enhanced effective connectivity between primary motor cortex and intraparietal sulcus after stroke**
Robert Schulz[1], Anika Buchholz[1], Benedikt Frey[1], Marlene Bönstrup[1], Bastian Cheng[1], Götz Thomalla[2], Friedhelm Hummel[3], Christian Gerloff[1]
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3335* **Integrity of cortico-cerebellar fibres is associated with residual motor function in chronic stroke**
Robert Schulz[1], Benedikt Frey[1], Philipp Koch[1], Maximo Zimerman[1], Marlene Bönstrup[1], Jan Feldheim[1], Jan Timmermann[1], Gerhard Schön[2], Bastian Cheng[1], Götz Thomalla[1], Christian Gerloff[1], Friedhelm Hummel[1]
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EMOTION AND MOTIVATION

Emotion and Motivation Other

3337 **Sex matters: Self-esteem and hormones in female and male neural stress reaction**
Lydia Kogler[1], Eva-Maria Seidel[2], Hannah Metzler[2], Hanna Thaler[2], Roland Boubela[3], Jens Pruessner[4], Ilse Kryspin-Exner[2], Ruben Gur[5], Christian Windischberger[6], Ewald Moser[3], Ute Habel[7], Birgit Derntl[1]
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3338 **Neural bases of fluctuations between positive and negative thoughts**
Takayuki Nozawa[1], Shigeyuki Ikeda[1], Kohei Sakaki[1], Yukako Sasaki[1], Sugiko Hanawa[1], Ryuta Kawashima[1]
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3339 **Age Effects on Uncinate FA and Relations with MPFC-Amygdala Functional Connectivity and Well-Being**
Tammi Kral[1], Brianna Schuyler[1], Nagesh Adluru[1], Daniel Destiche[1], Stacey Schaefer[1], Jeanette Mumford[1], Melissa Rosenkranz[1], Richard Davidson[2]
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3340 **Motivational and emotional influences on cognitive control: an ALE meta-analysis study**
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3341 **In vivo correlates of thermoregulatory defense in humans assessed with fMRI**
Otto Muzik[1], Vaibhav Diwadkar[1]
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3342 **Congruence of Attention Context and Stimulus Valence Modulates Cortical-limbic Responses to Faces**
Ria Manimalethu[1]
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3343 **Neural substrates of stimulus value in binary choice about emotional expressiveness of faces**
Lisa Dommes[1,2], Julia Bosch[2], Tanja Dolpp[2], Petra Beschoner[1], Julia Stingl[3], Roberto Viviani[4,2]
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3344 **Sub-acute back pain patients have increased brain activity during food consumption**
Paul Geha[1,2], Xiao Deng[2], Ivan De Araujo[2,1], Peter Whang[1], Hani Mowafi[1], Hochang Lee[1], Dana Small[2,1]
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3345 **Brain areas related to cognitive fatigue in veterans with Gulf War Illness: an extension of a model**
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3346 **Temporal changes in self-control networks during voluntary weight-loss**
Selin Neseliler[1], Wen Hu[2], Maria Zacchia[2], Kevin Larcher[3], Stephanie Scala[4], Marie Lamarche[5], Stephen Stotland[6], Maurice Larocque[6], Erol Marliss[5], Alain Dagher[1]
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3347 **Who is Physically Active? A Dopamine Story**
Linh Dang[1], Gregory Samanez-Larkin[2], Jaime Castrellon[1], Scott Perkins[1], Ronald Cowan[1], David Zald[1]
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3349 **Dissociable neural correlates of trait and ability emotional intelligence A resting-state fMRI study**
Song Xue[1], Jia Liu[1]
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3350 **The brain's response to emotion regulation during anticipation of ambivalent future events**
Johann Kruschwitz[1,2], Lea Waller[2], David List[1], Uta Wolfensteller[1], Thomas Goschke[1], Henrik Walter[2]
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3351 **Is It Really a Reinterpretation? The "Anatomy" of Reappraisal as Assessed by the Late Positivity**
Miroslaw Wyczesany[1], Tomasz Ligeza[1]
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3352 **Basal ganglia associative learning supports automatic emotion regulation**
Lea Waller[1], Johann Kruschwitz[2,1], David List[2], Vera Ludwig[1], Uta Wolfensteller[2], Thomas Goschke[2], Henrik Walter[1]
[1]Charité Universitätsmedizin Berlin, Berlin, Germany, [2]Technische Universität Dresden, Dresden, Germany

3353 **Neurofeedback training using real-time fMRI improves amygdala down-regulation**
Annette Brühl[1,2], Jacqueline Lutz[2,3], Sigrid Scherpiet[2,3], Antonia Scheiblich[2], Hanne Scheerer[2], Vivian Steiger[3,2], Steffi Weidt[4], Sarah Opialla[2,3], James Sulzer[6], Philipp Stämpfli[2], Michael Rufer[4], Erich Seifritz[2], Lutz Jäncke[3], Uwe Herwig[2]
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3354 **Restoration of Emotional Brain Response by Ketamine in Major Depressive Disorder**
Virginie Sterpenich[1], Sonia Vidal[1], Jeremy Hofmeister[2], Delphine Warrot[1], Giorgio Michalopoulos[3], Victor Bancila[3], Markus kosel[3], Sophie Schwartz[1], Laszlo Vutskits[1]
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3355 **Assessing the attentional and emotional responses in preschool children through fNIRS**
Julien Voisin[1], Vincent Paquin[2], Jacinthe Bernier[2], Jacinthe Brisson[2]
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3356 **Amygdala's functional connectivity in stress and after stimuli with low/high restorative potential**
Dina Vazquez[1], Joel Martinez-Soto[2], Fernando Barrios[1], Leopoldo Gonzales-Santos[1], Erick Pasaye[1], Sarael Alcauter[1]
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3357 **Neural Dynamics of Placebo Anxiolysis**
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3358 **Comparison of Neural Responses to Value and Intention in Gratitude and Pleasantness Ratings**
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Emotional Learning

3359 **Encoding and retrieval of negative emotional pictures - results from a large-scale fMRI study**
Eva Loos[1], Tobias Egli[1], David Coynel[1], Andreas Papassotiropoulos[1], Dominique de Quervain[1], Annette Milnik[1]
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3360 **Fear avoidance beliefs underlie differential brain processes in chronic low back patients**
Michael Meier[1], Philipp Stämpfli[2], Andrea Vrana[1], Kim Humphreys[1], Erich Seifritz[2], Sabina Hotz-Boendermaker[1]
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3361 **Memory contextualization requires PFC-driven information integration**
Wei Zhang[1], Vanessa van Ast[2], Floris Klumpers[1,3], Karin Roelofs[4,3], Erno Hermans[4,5]
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3362 **Pupil Dilations During Fear Learning Correlate with Activity in the Dorsal Anterior Cingulate Cortex**
Laura Leuchs[1], Max Schneider[1], Michael Czisch[1], Victor Spoormaker[1]
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3363 **Neural and behavioral effects of emotion and object category on non-verbal memory**
Marie Nicolini[1], Jan Jastorff[1], Charlotte Sleurs[1], Stefan Sunaert[1], Mathieu Vandenbulcke[1], Jan Van den Stock[1]
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3364 **Design and validation of a human fMRI battery for longitudinal stress resilience studies**
Miriam Kampa[1], Kenneth Yuen[1], Alexandra Sebastian[2], Michèle Wessa[3], Tüscher Oliver[2], Raffael Kalisch[1]
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3365 **Cognitive Extinction: Where reappraisal and extinction intersect**
Birthe Macdonald[1], Shannon Hoare[1], Tom Johnstone[1]
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EMOTION AND MOTIVATION

Emotional Perception

3366 **Dynamic brain networks engaged in positive emotion regulation**
Yury Koush[1], Swann Pichon[2], Simon Eickhoff[3], Dimitri Van De Ville[1], Patrik Vuilleumier[2], Frank Scharnowski[4]
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3367 **Common representations of valence across music and silent videos: An fMRI Study**
Jongwan Kim[1], Douglas Wedell[1], Svetlana Shinkareva[1]
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3368 **The Cognitive Control of Empathy**
Karina Borja Jimenez[1], Abdel Abdelgabar[1], Valeria Gazzola[1], Christian Keysers[1]
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3369 **Changes in cortical source power and functional connectivity due to emotional states**
Jongdoo Choi[1], Jeong Woo Choi[2], Kyung Hwan Kim[2]
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3370 **Explicit and Implicit Representations of Facial Expressions revealed by EEG Decoding**
Fraser Smith[1], Marie Smith[2]
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3371 **Vocal emotions reduce functional brain connectivity and impair verbal memory**
Xiaoqin Cheng[1], Nicolas Escoffier[1], Trevor Penney[1], Annett Schirmer[1]
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3372 **Functional connectivity within emotion circuits investigated with general PPI and graph analysis**
Yun-an Huang[1], Jan Van den Stock[1,2], Mathieu Vandenbulcke[1,2], Jan Jastorff[1]
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3373 **Dissociation between ATL and IFG for Visual Emotion Processing in Frontotemporal Dementia**
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3374 **The underlying functional networks of anger detection and the role of prior expectations**
Ilvana Dzafic[1], Andrew Martin[1], Bryan Mowry[1], Hana Burianová[1]
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3375 **Explicit and Implicit Decoding of Expression in V1 from Partial Face Stimuli**
Vicky Adams[1], Lucy Petro[2], Lars Muckli[2], Fraser Smith[1]
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3376 **Downregulating Amygdala using fMRI Neurofeedback reduces Emotional Reactivity**
Michael Marxen[1], Mark Jacob[1], Dirk Müller[1], Lydia Hellrung[1], Stefan Posse[2], Philipp Riedel[1], Stephan Bender[3], Michael Smolka[1]
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3377 **Temporal Predictability Drives the Integration of Emotional Facial, Body, and Vocal Expressions**
Ashley Symons[1], Wael El-Deredy[1,2], Jason Taylor[1], Michael Schwartze[3,4], Sonja Kotz[3,1,4]
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3378 **The Deficiency of Positive Emotion for Females with Premenstrual Syndrome**
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3379 **Emotional Expression Processing of Human Face and Emoticon: an ERP Study**
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3380 **Connectivity in the human brain during the encoding of emotionally arousing pictures**
Matthias Fastenrath[1], David Coynel[1], Klara Spalek[1], Annette Milnik[1], Leo Gschwind[2], Benno Roozendaal[3], Andreas Papassotiropoulos[1], Dominique de Quervain[1]
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3381 **Right insular lesion leads attenuated sensitivity to others' facial expressions across emotions**
Yuri Terasawa[1], Yoshiko Kurosaki[2], Yukio Ibata[3], Yoshiya Moriguchi[4], Satoshi Umeda[1]
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3382 **Modulation of Brain Activity in Relation to Visual Stimuli Complexity and Valence**
Simone Di Plinio[1,2], Ferri Francesca[3,4], Laura Marzetti[1,2], Georg Northoff[4,5,6], Vittorio Pizzella[1,2]
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3383 **The influence of amygdala lesions on the processing of human voices and affective vocalizations**
Sascha Frühholz[1], Christoph Hofstetter[1], Chiara Cristinzio[2], Arnaud Saj[2], Margitta Seeck[3], Patrik Vuilleumier[2], Didier Grandjean[4]
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3384 **Kisspeptin Modulation of Limbic Brain Activity and Mood in Healthy Men**
Lysia Demetriou[1], Alexader Comninos[2], Matthew Wall[1], Amar Shah[2], Sophie Clarke[2], Shakunthala Narayanaswamy[2], Alexander Nesbitt[2], Chioma Izzi-Engbeaya[2], Julia Prague[2], Ali Abbara[2], Risheka Ratnasabapathy[2], Victoria Salem[2], Gurjinder Nijher[2], Channa Jayasena[2], Mark Tanner[1], Amrish Mehta[3], Eugenii Rabiner[1], Stephen Bloom[2], Waljit Dhillo[2]
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3385 **Neuronal interactions in spatial attention areas reflect disgust avoidance, but orienting to danger**
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3386 **Gender Difference for Affective Auditory Stimuli – Simultaneous MEG/EEG Study**
Moonyoung Kwon[1], Hohyun Cho[1], Sangtae Ahn[1], Sung Chan Jun[1]
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3387 **Brain structures involved in attention guidance to key semantic objects are valence independent**
Michal Kuniecki[1], Joanna Pilarczyk[1], Aleksandra Domagalik[2]
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3388 **Effects of Low and High Intensity Exercise Bouts on Fear-Processing: a fMRI Face-Matching Study**
Angelika Schmitt[1], Jason Martin[1], Sandra Rojas[2], Lukas Scheef[1], Ramin Vafa[2], Heiko Strüder[2], Henning Boecker[1]
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3389 **Smells like hell, but not when thirsty: rivalry of homeostatic and sensory-evoked emotions**
Lea Meier[1], Hergen Friedrich[2], Andrea Federspiel[3], Kay Jann[4,3], Yosuke Morishima[1,5], Basile Landis[6,2], Roland Wiest[7], Werner Strik[1], Thomas Dierks[1]
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3390 **Serotonergic challenge alters BOLD-response when managing attention during negative distraction**
Claudia Barth[1], Hadas Okon-Singer[2], H. Lina Schaare[1], Lydia Hellrung[3], Jöran Lepsien[1], Inga Burmann[1], Arno Villringer[1], Julia Sacher[1]
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3391 **Insular function with emotional experience and interoceptive awareness in awake surgery**
Kazuya Motomura[1], Kentaro Iijima[1], Satoshi Umeda[2], Yuri Terasawa[2], Atsushi Natsume[1], Toshihiko Wakabayashi[1]
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3392 **Emotion recognition from body language in patients with anterior temporal lobectomy**
Laura Van de Vliet[1], Jan Van den Stock[1,2], Stefan Sunaert[3,4], Wim Van Paesschen[5,6], Mathieu Vandenbulcke[1,2], Jan Jastorff[1]
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3393 **Intracranial recording of affective blindsight**
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3394 **Structural and Effective Connectivity within the Cerebro-Cerebellar Networks for Social Cognition**
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3395 **What does Band Frequency Activities Tells us about the 4-D Affect Space?**
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3396 **Amygdala, never tired of faces: High stability of BOLD response for emotional faces at 7 Tesla**
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3397 **Conscious and non-conscious perception of emotions: a meta-analytic study on functional neuroanatomy**
Alessia Celeghin[1,2], Tommaso Costa[1,3], Karina Tatu[1,3], Arianna Bagnis[1], Ylenia Camassa[1], Marco Tamietto[1,2,4]
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3398 **BOLD signal variability and brain network dynamics during stress recovery**
Janis Reinelt[1], Mark Lauckner[1], Marie Uhlig[1], Deniz Kumral[1], Yoon Ju Bae[2], Jeffrey Netto[2], Anja Willenberg[2], Anahit Babayan[1], Talma Hendler[3], Joachim Thiery[2], Jürgen Kratzsch[2], Arno Villringer[1], Michael Gaebler[1]
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3399 **A meta-analysis of studies investigating neural correlates of extraversion in emotion processing**
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EMOTION AND MOTIVATION

Reward and Punishment

3400 **Preference between works of art and the medial orbitofrontal cortex**
Philipp Fiessinger[1], Petra Beschoner[1], Julia Stingl[2], Julia Bosch[1], Lisa Dommes[1], Tanja Dolpp[1], Roberto Viviani[3]
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3401 **Effect of Reward Information on Right Anterior Insular Cortex in Anticipation of Instruction**
Yasunori Kotani[1], Yoshimi Ohgami[1], Jun-ichiro Arai[2], Shigeru Kiryu[3], Yusuke Inoue[4]
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3402 **Reward processes, white matter pathways of the reward system and negative symptoms in 22q11DS**
Lydia Dubourg[1], Maude Schneider[1], Maria Padula[1], Stéphan Eliez[1,2]
[1]Office Médico-Pédagogique, Department of Psychiatry, University of Geneva School of Medicine, Geneva, Switzerland, [2]Department of Genetic Medicine and Development, University of Geneva School of Medicine, Geneva, Switzerland, Geneva, Switzerland

3403 **Dissociation of neural substrates of temporal difference and mean reward rates in a foraging task**
Roberto Viviani[1,2], Lisa Dommes[3,2], Michael Steffens[4], Jörg Breitfeld[4], Anna Maria Paul[4], Katharina Kaumanns[4], Julia Stingl[4,5], Petra Beschoner[6]
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3404 **Effective connectivity during the prospect of reward and task-difficulty**
Frederik Van de Steen[1], Ruth Krebs[1], Daniele Marinazzo[1]
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3405 **Altered functional connectivity during prediction error processing in individuals with obesity**
Jana Kube[1,2], David Mathar[1,2], Arno Villringer[1,2,3,4], Annette Horstmann[1,2], Jane Neumann[1,2]
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3406 **Neural correlates of probabilistic pain anticipation and health-related risk taking**
Catharina Probst[1], Patrick Ring[2,3], Stefan Wolff[4], Christian Kaernbach[2], Ulrich Schmidt[3], Thilo van Eimeren[1,5,6]
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3407 **Reward, stress and performance: an fMRI study of reward processing under stress**
Claudie Gaillard[1], Matthias Guillod[1], Andrea Federspiel[2], Romina Recabarren[1], Kety Hsieh[3], Dominik Schoebi[4], Christoph Mueller-Pfeiffer[5], Antje Horsch[6], Gregor Hasler[2], Chantal Martin-Soelch[1]
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3408 **Genetic and environmental factors linked to creativity modulate the dopaminergic reward system**
Roberto Goya-Maldonado[1], Maria Keil[1], Katja Brodmann[1], Oliver Gruber[1]
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3409 **Electrophysiological correlates of prediction and information anticipation in reinforcement learning**
Joaquín Morís[1], David Luque[2], Antoni Rodríguez-Fornells[3]
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3410 **Motivational salience produces hemispheric asymmetries in visual processing: behavioral & fMRI study**
Rashmi Gupta[1], Patrik Vuilleumier[2]
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3411 **L-DOPA Reduces Model-Free Control of Behavior by Attenuating the Transfer of Value to Action**
Nils Kroemer[1], Ying Lee[1], Shakoor Pooseh[1], Daniel Schad[2], Ben Eppinger[1], Michael Smolka[1]
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3412 **Brain oscillatory responses in non-pathological gambling depending on game preference**
Helena Alicart[1], Ernest Mas-Herrero[2], David cucurell[3], Josep Marco-Pallares[4]
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3413 **The broken link in musical anhedonia: reduced interactions between the NAcc and auditory cortex**
Noelia Martinez Molina[1], Ernest Mas-Herrero[2], Robert Zatorre[2], Antoni Rodriguez-Fornells[3], Josep Marco-Pallarés[1]
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3414 **Dopamine modulates adaptive prediction error coding in the human midbrain and ventral striatum**
Kelly Diederen[1], Hisham Ziauddeen[1], Tom Spencer[1], Martin Vestergaard[1], Wolfram Schultz[1], Paul Fletcher[1]
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3415 **Anatomical differences associated with sensitivity to reward and punishment: a VBM study**
Jesús Adrián-Ventura[1], Victor Costumero[1], Alfonso Barros-Loscertales[1], Cesar Avila[1]
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3416 **The neural basis of reward anticipation and its genetic determinants**
Tianye Jia[1], Christine Macare[2], Sylvane Desrivieres[1], Barbara Ruggeri[3], Adrian Rothenfluh[4], Christian Müller[5], Gunter Schumann[6]
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3417 **Reward Processing in Children with Compulsive Behavior – First fMRI Results in TACTICS**
Regina Boecker-Schlier[1], Isabella Wolf[1], Sarah Hohmann[1], Brigitta Gehrig[1], Matthias Ruf[1], Steve Williams[2], Sarah Durston[3], Jan Buitelaar[4], Tobias Banaschewski[1], Daniel Brandeis[5,1]
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3418 **Win some, lose some? Delayed effects of reward conditioning on subsequent associative memory**
Ewa Miendlarzewska[1], Kristoffer Aberg[1], Daphne Bavelier[1], Sophie Schwartz[1]
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3419 **Ghrelin Promotes Associative Learning of Food Odours**
Jung Eun Han[1], Julie Boyle[1], Yashar Zeighami[1], Kevin Larcher[1], Theodore McConnell[1], Johannes Frasnelli[2], Marilyn Jones-Gotman[1], Alain Dagher[1]
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3420 **The FTO gene modulates structural aspects of the meso-striatal circuitry**
Sharmili Edwin Thanarajah[1,2], Corina Melzer[3], Martin Hess[1], Jens Brüning[1], Marc Tittgemeyer[4]
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3421 **Dopamine Depletion Increases Loss Aversion and Loss Prediction Error Activity in Ventral Striatum**
Yu Zhang[1], Crystal Erickson[1], Alain Dagher[1]
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3422 **Levodopa impairs learning in healthy young adults: Implications for Parkinson's disease**
Penny MacDonald[1], Andrew Vo[1], Ken Seergobin[1]
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EMOTION AND MOTIVATION

Sexual Behavior

3423 **Erotic stimulus perception and preceding attention under amisulpride and reboxetine**
Heiko Graf[1], Maike Wiegers[1], Coraline Metzger[2], Martin Walter[3], Georg Grön[1], Birgit Abler[1]
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3424 **Distended seminal vesicles correlate with specific brain activity: A pilot study**
Christian Weisstanner[1], Manuela Wapp[1], Martin Schmitt[2], Stefan Puig[3], Livio Mordasini[4], Roland Wiest[1], George Thalmann[2], Frédéric Birkhäuser[5]
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3425 **Gender Differences in Structural Connectome of Teenage Brain using Generalized q-Sampling Imaging**
Yu-Chieh Lin[1], Chao-Yu Shen[2], Julie Shu-Li Wang[3], Yeu-Sheng Tyan[2], Jun-Cheng Weng[1]
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3426 **White Matter Integrity Predicts 3-Month Change in Risky Sexual Behavior**
Casey Gardiner[1], Rachel Thayer[1], Sarah Feldstein-Ewing[2], Renee Magnan[3], Angela Bryan[1]
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GENETICS

Genetic Association Studies

3427 **A Genetic Study of the Brain Cortical Sulci with the IMAGEN Cohort**
Yann Le Guen[1], François Leroy[2], Jean-François Mangin[3], Clara Fischer[1], Antoine Grigis[1], Ghislaine Dehaene-Lambertz[4], Gunter Schumann[5], Sylvane Desrivières[5], Edouard Duchesnay[3], IMAGEN consortium[6], Vincent Frouin[3]
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3428 **Imaging of brain metabolism: Effects of CYP2C19 polymorphism on voxel-based morphometry**
Julia Stingl[1], Marin Jukic[2], Rachel Tyndale[3], Michael Steffens[1], Anna Maria Paul[1], Roberto Viviani[4]
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3429 **BDNF Val66Met polymorphism impacts recruitment of memory networks during facial recognition**
Meg Spriggs[1,2,3], Elena Heber[4], Chris Thompson[1,2], Carolyn Wu[5], Ian Kirk[1,2,3]
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3430 **Association of the CHAT gene with parahippocampal gyrus volume, and their interaction on memory**
Bi Zhu[1], Chuansheng Chen[2], Gui Xue[1], Xuemei Lei[1], Robert Moyzis[2], Jun Li[1], Qi Dong[1], Chongde Lin[1]
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3431 **Interconnection of EEG and fMRI correlates of trait anxiety with the 5-HTT polymorphisms**
Alexander Savostyanov[1,2,3], Darya Bazovkina[2], Evgeny Petrovskiy[4], Sergey Tamozhnikov[1], Andrey Bocharov[1,3], Yulia Rymareva[1,3], Vladimir Naumenko[2], Andrey Savelov[4], Urana Kavai-ool[5], Nikolay Kolchanov[2], Lubomir Aftanas[1], Gennady Knyazev[1]
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3432 **ENIGMAVis: Updated interactive visualization of genetic influences on brain structure**
Jason Stein[1], Natalia Shatokhina[2], Derrek Hibar[2], Neda Jahanshad[3], Paul Thompson[4]
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3433 **Genetic overlap between variants influencing Parkinson's disease risk and brain volumes**
Joshua Cheung[1], Derrek Hibar[1], Neda Jahanshad[1], Mike Nalls[2], Nathan Pankratz[3], Tatiana Foroud[4], Andrew Singleton[2], Paul Thompson[1]
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3434 **Genome-wide Association Analysis of Secondary Imaging Phenotypes from ADNI**
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3435 **Sex differences in the effects of OXTR rs4686302 in the dorsal anterior cingulate cortex (dACC)**
Wakana Ishii[1], Mitsunari Abe[1], Hiroaki Tomita[2], Hikaru Takeuchi[3], Ryuta Kawashima[3], Yasuyuki Taki[1]
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3436 **CYP1A2 in the brain: genotype associations with structural magnetic resonance imaging**
Anna Maria Paul[1], Roberto Viviani[2], Julia Stingl[1]
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3437 **Variability and heritability of cerebellar cortical lobules**
Christopher Steele[1,2], Sejal Patel[3,4], Gabriel Devenyi[1], Joanne Knight[3,4], Mallar Chakravarty[1,5]
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3438 Plasticity of The Human Visual Pathways in Low Vision Subjects Before And After Retinal Gene Therapy
Manzar Ashtari[1], Philip Cook[1], Hui Zhang[2], Laura Cyckowski[3], Elena Nikonova[4], Gloria Young[1], Kathleen Marshall[3], James Gee[1], David Leopold[5], Chris Baker[5], Albert Maguire[1], Jean Bennett[1]
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3439 Effects of pathway-specific polygenic risk scoring for Alzheimer's disease on cortical thickness
Thomas Mühleisen[1,2], Melanie Röckner[2,1], Nora Bittner[1,3], Christiane Jockwitz[3,1], Alexander Teumer[4,5], Stefan Herms[6,7], Per Hoffmann[1,6,2,7], Markus Nöthen[2,7], Susanne Moebus[8], Katrin Amunts[1,9,3], Svenja Caspers[3,1], Sven Cichon[1,6,2,7]
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3440* Matrix Metalloproteinase-9 Genetic Variation Affects Brain Structure and Function in Healthy Adults
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3441 Heritability of 492 cortical sulcal measures in 1459 adults
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3442 Nicotinic receptor genotype linked to alertness and cingulo-opercular network activity
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3443 Genetic predictors of serotonin transporter binding in a large healthy human cohort
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3444 APOE related changes in task switching ability and white matter correlates in young adults
Yu-Ling Chang[1,2], Sang-Yu Lin[1], Chia-Hua Lin[1], Yu-Shiuan Yen[1], Yu-Jen Chen[3], Yung-Chin Hsu[3], Wen-Yih Isaac Tseng[2,3,4,5]
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3445 The Inverted /U-Shaped Effect of COMT SNP on Cortical Morphology and Function in Adult Lifespan
Yi-Huei Lin[1], Chu-Chung Huang[2], Hung-Wen Kao[3], Albert Chih-Chieh Yang[4], Shih-Jen Tsai[5], Ching-Po Lin[6]
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3446 **Genome-wide Association Study of Alexithymia and effects of genetic findings on Gray Matter**
Katharina Wittfeld[1], Katri Kantojärvi[2], Alexander Teumer[3], Hanna Ollila[2], Aino Mattila[4], Anu Loukola[5], Erkki Kronholm[6], Antti Jula[6], Sandra Van der Auwera[3], Johannes Hertel[3], Norbert Hosten[3], Georg Homuth[3], Henry Völzke[3], Matthias Nauck[3], Alex Blakemore[7], Nurul Ramzi[7], Andrianos Yiorkas[7], Antonietta Robino[8], Sheila Ulivi[8], Massimo Mezzavilla[8], Eero Vuoksimaa[5], Beenish Qaiser[5], Marjo-Riitta Järvelin[9], Juha Veijola[9], Jaakko Kaprio[5], Matti Joukamaa[10], Tiina Paunio[11], Hans Grabe[3]
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3447 **Interaction of BDNF Val66Met Polymorphism across Lifespan for Brain Structure**
Yi-Chia Kung[1], Chun-Yi Zac Lo[2], Chu-Chung Huang[1], Ching-Po Lin[2]
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3448 **Identifying epigenetic markers affecting the brain**
Sylvane Desrivières[1], Tianye Jia[1], Barbara Ruggeri[1], Yun Liu[2], Daniil Sarkisyan[3], Ann-Christine Syvänen[4], Tomas Axelsson[4], Georgy Bakalkin[3], Paul Thompson[5], ENIGMA Epigenetics Working Group[6], Gunter Schumann[1], IMAGEN consortium[7]
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3449 **Coupling subcortical brain volumes with CNVs: A preliminary mega-analysis in ENIGMA-CNV**
Ida Elken Sønderby[1], Nhat Trung Doan[2], Omar Gustafsson[3], Derrek Hibar[4], Ingrid Agartz[5], Srdjan Djurovic[2], Tormod Fladby[1], Erik Jönsson[6], Sigrid B. Sando[7], Lars Tjelta Westlye[5], Paul Thompson[8], Ole Andreas Andreassen[9], ENIGMA-CNV working group[10]
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3450 **Heritability of Global Architectural Features of the Functional Connectome of the Human Brain**
Soroosh Afyouni[1], Thomas Nichols[2]
[1]University of Warwick, Coventry, United Kingdom, [2]Warwick University, Warwick, United Kingdom

3451 **Brain morphology in the lateral hypothalamus predicts insulin receptor substrate**
Delia-Lisa Feis[1], Martin Hess[1], Marcel Scharge[1], Jens Brüning[1], Marc Tittgemeyer[1]
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3452 **Association Between Genetics and Dynamic Functional Network Connectivity Features in Schizophrenia**
Barnaly Rashid[1], Jiayu Chen[1], Ishtiaque Rashid[2], Jingyu Liu[1], Eswar Damaraju[1], Robyn Miller[1], Vince D. Calhoun[1]
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3453 **Novel genetic drivers of large-scale corticolimbic networks centered on the amygdala**
Kevin Bickart[1], Valerio Napolioni[1], Raiyan Khan[1], Bernard Ng[1], Andre Altmann[2], Tobias Banaschewski[3], Gareth Barker[4], Arun Bokde[5], Uli Bromberg[6], Christian Büchel[7], Anna Cattrell[4], Patricia Conrod[8], Sylvane Desrivieres[4], Herta Flor[3], Vincent Frouin[9], Jurgen Gallinat[10], Hugh Garavan[11], Penny Gowland[12], Andreas Heinz[13], Bernd Ittermann[14], Hervé Lemaitre[15], Marie-Laure Martinot[15], Frauke Nees[16], Dimitri Papadopoulos-Orfanos[17], Tomáš Paus[18], Luise Poustka[19], Michael Smolka[20], Henrik Walter[21], Robert Whelan[22], Gunter Schumann[23], Michael Greicius[1], IMAGEN consortium[24]
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3454 **Meta-analysis of SNP effects on a robust multivariate structural imaging phenotype of schizophrenia**
Veena Patel[1], Cota Navin Gupta[1], Wenhao Jiang[2], Esther Walton[2], Godfrey Pearlson[3], Lei Wang[4], Ingrid Agartz[5], Ole Andreassen[5], Vince D. Calhoun[1], Jessica Turner[2]
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3455 **The Effect of KTN1 Genotype rs945270 on Putamen Function in Adolescence**
Bing Xu[1], Gunter Schumann[1], Sylvane Desrivières[1], the IMAGEN Consortium[2]
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3456 **Mapping Common Genetic Variants onto Subcortical Surface Models**
Boris Gutman[1], Hieab Adams[2], Derrek Hibar[3], Meike Vernooij[2], Arfan Ikram[2], Neda Jahanshad[4], Paul Thompson[5]
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GENETICS

Genetic Modeling and Analysis Methods

3457 **Genetic influence over processing speed and white matter microstructure**
Peter Kochunov[1], Paul Thompson[2], Anderson Winkler[3], Neda Jahanshad[4], Thomas Nichols[5], Elliot Hong[1]
[1]University of Maryland School of Medicine, Baltimore, MD, [2]University of South California, Los Angeles, CA, [3]Oxford University, Oxford, United Kingdom, [4]University of Southern California, Marina del Rey, CA, [5]Warwick University, Warwick, United Kingdom

3458 **Heritability of large-scale functional brain network**
Moo Chung[1], Victoria Vilalta[2], Paul Rathouz[1], Benjamin Lahey[3], David Zald[2]
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3459 **Gene Set Enrichment Analysis of Hippocampal Atrophy Implicates Novel Pathways in Alzheimer's Disease**
Raiyan Khan[1], Andre Altmann[2], Michael Greicius[1]
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3460 **Deciphering Multi-Genetics of Motivation Brain Circuitry Using Random Forest Multiple Regression**
Qiang Chen[1], Kristin Nicodemus[2], Richard Straub[1], Daniel Weinberger[1], Caroline Zink[1]
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3461 **Polygenic scores for educational attainment are related to white matter development during childhood**
Philip Jansen[1,2], Ryan Muetzel[1], Philipp Koellinger[2], Danielle Posthuma[2], Tonya White[1]
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3462 **Nonparametric Inference for Genetics Analysis (NINGA): Fast&powerful regression for related subjects**
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3463 **Faster Accelerated Permutation Inference for the ACE Model (APACE) with Parallelization**
Xu Chen[1], Essi Viding[2], Thomas Nichols[3]
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3464 **Neuroimaging Phenome-Wide Association Study (PheWAS) of BDNF in Neurodevelopment**
Kristi Clark[1], Clio Gonzalez-Zacarias[1], Surafael Yared[1], Sabir Saluja[1], Arthur Toga[1]
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3465 **Genetic Influences on the Cerebral Cortex**
Lachlan Strike[1], Narelle Hansell[1], Baptiste Couvy-Duchesne[1], Paul Thompson[2], Nicholas Martin[3], Greig de Zubicaray[4], Katie McMahon[5], Margaret Wright[1]
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GENETICS

Genetics Other

3466 **KLOTHO's effects on cognition, brain size and survival: A study in the Aberdeen Birth Cohort of 1936**
Clarisse de Vries[1], Roger Staff[1,2], Sarah Harris[3], Dorota Chapko[1], Daniel Scott[4], Trevor Ahearn[2], Christopher McNeil[1], Lawrence Whalley[4], Alison Murray[1]
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3467 **Interaction effect between Childhood Abuse and rs1360780 of the FKBP5 Gene on Gray Matter in N=1826**
Katharina Wittfeld[1], Sandra Van der Auwera[2], Deborah Janowitz[2], Katrin Hegenscheid[2], Mohamad Habes[2], Georg Homuth[2], Sven Barnow[3], Ulrich John[2], Matthias Nauck[2], Henry Völzke[2], Henriette Meyer zu Schwabedissen[4], Harald Freyberger[2], Norbert Hosten[2], Hans Grabe[2]
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3468 **Genetic factors of cortical development and intelligence in a longitudinal Dutch twin study**
Jalmar Teeuw[1], Rachel Brouwer[1], Marinka Koenis[1], Suzanne Swagerman[2], Dorret Boomsma[2], Hilleke Hulshoff Pol[1]
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3469 **Genetic influences on longitudinal changes in brain volumes from the ENIGMA Plasticity Working Group**
Rachel Brouwer[1], Matthew Panizzon[2], David Glahn[3], Derrek Hibar[4], Xue Hua[4], Neda Jahanshad[4], Lucija Abramovic[1], Greig de Zubicaray[5], Carol Franz[2], Narelle Hansell[6], Ian Hickie[7], Marinka Koenis[1], Karen Mather[8], Katie McMahon[9], Lachlan Strike[6], Suzanne Swagerman[10], Anbupalam Thalamuthu[8], Wei Wen[8], Dorret Boomsma[10], John Gilmore[11], Nitin Gogtay[12], René Kahn[1], William Kremen[2], Perminder Sachdev[8], Margaret Wright[6], Paul Thompson[4], Hilleke Hulshoff Pol[1]
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3470 **Macro- and microstructural cerebellar abnormalities in Friedreich's ataxia**
Sandro Romanzetti[1,2], Imis Dogan[1,2], Eugenie Tinnemann[1], Shahram Mirzazade[1,2], Cornelius Werner[1,2], Kathrin Fedosov[1], Stefanie Schulz[1], Dagmar Timman-Braun[3], Ilaria Giordano[4,5], Thomas Klockgether[4,5], Jörg Schulz[1,2,6], Kathrin Reetz[1,7,6]
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3471 **Amygdaloid functional network architecture varies with epigenetic changes in the FKBP5 gene**
Markus Muehlhan[1], Nina Alexander[2]
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3472 **Heritability of Dynamic and Static Connectivity in Resting State**
Anita Barber[1], Martin Lindquist[2], Katherine Karlsgodt[1]
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3473 **Pleiotropic influences on cortical morphometrics and intelligence**
Francois Chouinard-Decorte[1], Pierre Rioux[1], John Lewis[2], Jack Kent[3], Melanie Carless[3], Joanne Curran[3], Tom Dyer[3], Harald Göring[3], Rene Olvera[3], Peter Fox[4], Laura Almasy[3], Ravi Duggirala[3], John Blangero[5], Pierre Bellec[6], David Glahn[7], Sherif Karama[2], Alan Evans[8]
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3474 **Effects of epigenetic age acceleration on total gray matter volume in health and major depression**
Philipp Sämann[1], Anthony Zannas[2], Stella Iurato[2], Tania Carrillo-Roa[2], David Höhn[1], Michael Czisch[1], Elisabeth Binder[2]
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GENETICS

Neurogenetic Syndromes

3475 **Inhibitory control in early-treated females with phenylketonuria: Findings from Go-NoGo-fMRI**
Benedikt Sundermann[1], Stefan Garde[1], Reinhold Feldmann[2], Josef Weglage[2], Mahboobeh Dehghan-Nayyeri[1,3], Bettina Pfleiderer[1]
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3476 **The relationship between proline and cortical neuroanatomy in 22q11.2 Deletion Syndrome**
Rachel Jonas[1], Elizabeth Gras[2], Ania Fiksninski[2], Carrie Bearden[1], Jacob Vorstman[2]
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3477 **Decreased white matter connectivity in a single-gene disorder of cognitive development**
Joe Bathelt[1], Kate Baker[2], Jessica Barnes[1], Lucy Raymond[2], Duncan Astle[1]
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3478 **22q11.2 Gene Dosage Effects on Subcortical Brain Structure: The ENIGMA 22q11.2 Working Group**
Christopher Ching[1,2], Boris Gutman[2], Artemis Zavaliangos-Petropulu[2], Daqiang Sun[3,4], Rachel Jonas[1,3,4], Amy Lin[3,4], Leila Kushan[3,4], Therese van Amelsvoort[5], Geor Bakker[5], Wendy Kates[6], Linda Campbell[7], Kathryn McCabe[7], Eileen Daly[8,9,10], Maria Gudbrandsen[8,9,10], Clodagh Murphy[8,9,10], Declan Murphy[8,9,10], Michael Craig[8,9,10], Jacob Vorstman[11], Ania Fiksinski[11], Liz Gras[11], Paul Thompson[2,12], Carrie Bearden[3,4], 22q11.2 ENIGMA Working Group[2,3,4]
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3479 **Connectomic and Structural Brain Differences Between Typical Children and Those with 22q11.2DS**
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3480 **Contrasting cortical thickness and surface area deviations in Down and 49, XXXXY syndromes**
Nancy Raitano Lee[1], Elizabeth Adeyemi[2], Amy Lin[3], Jonathan Blumenthal[2], Liv Clasen[2], Jay Giedd[4], Armin Raznahan[5]
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3481 **Multimodal large-scale networks connectivity in 22q11.2 deletion syndrome**
Maria Padula[1], Marie Schaer[1,2], Elisa Scariati Jaussi[1], Maude Schneider[1], Stéphan Eliez[1,3]
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3482 **White Matter differences in 22q11.2 Deletion Syndrome: ENIGMA working group meta-analysis findings**
Julio Villalon Reina[1], Justin Galvis[2], Neda Jahanshad[3], Talia Nir[4], Conor Corbin[5], Gabrielle Colvert[5], Leila Kushan[6], Rachel Jonas[7], Therese van Amelsvoort[8], Geor Bakker[9], Linda Campbell[10], Kathryn McCabe[11], Jacob Vorstman[12], Liz Gras[12], Tony Simon[13], Paul Thompson[3], Carrie Bearden[6]
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3483 **Basal ganglia involvement in ARX gene mutated patients: the reason for their very specific grasping?**
Aurore Curie[1], Gaëlle Friocourt[2], Vincent des Portes[1], Alice Roy[1], Tatjana Nazir[1], Amandine Brun[1], Anne Cheylus[1], Pascale Marcorelles[3], Kalliroi Retzepi[4], Nasim Maleki[4], Gérald Bussy[1], Yves Paulignan[1], Anne Reboul[1], Danièle Ibarrola[5], Jian Kong[6], Nouchine Hadjikhani[6], Annie Laquerrière[7], Randy L. Gollub[8]
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3484 **Resting state connectivity in Nerve Growth Factor Beta mutation carriers; rewiring of the accumbens?**
Helene van Ettinger-Veenstra[1,2,3], Irene Perini[1,2], India Morrison[1,2,3]
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GENETICS

Transcriptomics

3485 **Transcriptional profiles of supragranular-enriched genes associate with corticocortical networks**
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3486 **Human spatio-temporal transcriptome: inter-areal maturation of information and memory processing**
Claudia Cioli[1,2], Hervé Abdi[3], Yves Burnod[2]
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3487 **Stress-related Polyepigenic Score Predicts Cortical Thickness in Adolescence**
Angelita Pui-Yee Wong[1], Leon French[2], Gabriel Leonard[3], Michel Perron[4], G. Bruce Pike[5], Louis Richer[6], Suzanne Veillette[4], Zdenka Pausova[7], Tomas Paus[8]
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IMAGING METHODS

Diffusion MRI

3488 **Tractography affects brain network properties: A comparison study of DTI and HARDI models in AD**
Tao Wang[1,2], Feng Shi[3], Yan Jin[4], Shifu Xiao[5], Dinggang Shen[3]
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3489 **DTI data of behavioral variant frontotemporal dementia show characteristic spreading patterns**
Jan Kassubek[1], Matthias Schroeter[2], Sarah Anderl-Straub[3], Ingo Uttner[3], Kelly Del Tredici[4], Markus Otto[1], Albert Ludolph[3], Hans-Peter Müller[3]
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3490 **Anatomy of limbic-prefrontal projections in the human and monkey: a comparative tractography study**
Davide Folloni[1], Lennart Verhagen[1], Franz-Xaver Neubert[1], Jérôme Sallet[1], Saad Jbabdi[1], Sean Foxley[1], Karla Miller[1], Matthew Rushworth[1], Rogier Mars[1,2]
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3491 **An interactive software for the visualisation and extraction of tractography datasets**
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3492 **Sex Differences in the Association of BMI with Anatomical Architecture of Reward Network Regions**
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3493* **Diffusion MRI using Single-Shot Spiral Acquisition with Magnetic Field Monitoring**
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3494 **Abnormal white matter networks in patients with non-neuropsychiatric systemic lupus erythematosus**
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3495 **Sex and puberty-specific influences on the white matter microstructure of the uncinate fasciculus**
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3496 **Confounds in Charting the Development of the Structural Connectome**
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3497 **In-vivo measurement of aggregated myelin thickness map (g-ratio) using MRI**
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3498 **Left-Right asymmetries of the dendrite density within cortical areas**
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3499 **The corticospinal tract diffusion profile in Amyotrophic Lateral Sclerosis**
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3500 **On White Matter Changes in Children with HIV Infection and Exposure**
Marcin Jankiewicz[1], Paul Taylor[1,2,3], Martha Holmes[1], Mark Cotton[4], Barbara Laughton[4], Andre van der Kouwe[5], Ernesta Meintjes[1]
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3501 **What can we get from diffusion data? A random forest regression experiment**
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3502 **A Phantom-Based DTI-QA Tool: Application to a Multisite Study**
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3503 **Advanced diffusion MR imaging (NODDI): comparison with a transparent mouse brain**
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3504 **Altered Brain Structure in Children with Perinatally Acquired HIV**
Talia Nir[1], Victor Valcour[2], Neda Jahanshad[1], Wasana Prasitsuebsai[3], Kanchana Pruksakaew[3], Katherine Clifford[2], Sukalya Lerdlum[4], Mantana Pothisri[4], Pannee Visrutaratna[5], Linda Aurpibul[6], Thanyawee Puthanakit[3,4], Pope Kosalaraksa[7], Jintanat Ananworanich[8], Paul Thompson[1]
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3505 **Connectivity based parcellation of basal ganglia functional zones using tractography**
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3506 **Frechet Distance for Fiber Clustering of Diffusion Tensor Imaging**
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3507 **Conventional MRI fails to detect early thalamic degeneration in multiple sclerosis**
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3508 **Multi-center reproducibility of DTI in a study into the effects of brain irradiation**
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3509 **Sensitivity of diffusion metrics in complex white matter configurations**
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3510 **Microstructural evaluation by non-Gaussian diffusion image with gray matter-based spatial statistics**
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3511 **A data-driven method to study brain structural connectivities via microarray and dMRI data**
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3512 **Structural Brain Connectivity in Schizophrenia: Classical Network Analysis vs Minimum Spanning Tree**
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3513 **Repeated Tractography of a Single Subject - How High Is the Variance?**
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3514 **Comprehensive white matter assessment in Mucopolysaccharidosis type I – a DTI study**
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3515 **White Matter Microstructural Alterations Mapped in Patients With 22q11.2 Deletion Syndrome**
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3516 **Brain white matter microstructure changes following acupuncture in carpal tunnel syndrome: DTI study**
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3517 **Comparison of voxelwise analyses using improved DTI registration methods**
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3518* **FOXP2 polymorphism effects on the topological organization of human brain connectome**
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3519 **Effects of hypogonadism on human white matter: evidence from Turner syndrome**
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3520 **Changes in Cortical Microstructure due to Aging and Sensory Deprivation as Revealed by DTI**
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3521 **White Matter Differences in Major Depression: Meta-analytic findings from ENIGMA-MDD DTI**
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3522 **Higher FA in the left pyramidal tract but no association with handedness in cohort data**
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3523 **Increased structural network connectivity compensates functional decline in early multiple sclerosis**
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3524 **Two Diffusion Tensor Imaging measures are better than four**
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3525 **Cellularity: A Novel Marker of Inflammation in HIV**
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3526 **White mater integrity as a potential early biomarker of vulnerability to depression**
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3527 **Altered white matter connectivity associated with intergyral brain disorganization in cerebral palsy**
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3528 **ENIGMA-Schizophrenia DTI: Meta-analysis of FA measures in 3,031 cases and controls from 14 countries**
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3529 **Applying NODDI Technique to Chronic Back Pain Data: One Shell is Sufficient for ODI**
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3530 **U-Fiber Density Imaging identifies specific alterations in patients with cryptogenic focal epilepsy**
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3531 **7T Diffusion MRI to analyze neuronal fiber directions including Gray Matter, Midbrain and cerebellum**
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3532 **Reducing inter and intra-volume instabilities on diffusion-weighted data for ageing studies**
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3533 **Widespread Regions of White Matter Show Relationship Between FA and Psychomotor Skill**
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3534 **New data visualization and analysis tools in FATCAT**
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3535 **White matter integrity of the contralesional hemisphere in patients with high or low grade glioma**
Pauline Schaapsmeerders[1], J Martijn Jansma[1], Geert-Jan Rutten[1]
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3536 **SAGIT multi-subject automated assessment with multi-tensor tractography**
David Chen[1], Jidan Zhong[2], Dave Hayes[2,3], Brendan Behan[2], Matthew Walker[1], Peter Hung[1], Mojgan Hodaie[2,4]
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3537 **Anatomic Filtering of Structural Connectome Fibers to Improve Alzheimer's Disease Classification**
Talia Nir[1], Julio Villalon Reina[1], Paul Thompson[1], Neda Jahanshad[1]
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3538 **Effects of axonal spatial distribution and diameter on diffusion MR simulations**
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3539 **An improved Imaging Method to Assess the Fornix with DTI Tractography**
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3540 **In Vivo Characterization of the Radial and Tangential Diffusion Patterns in Human Cerebral Cortex**
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3541 **Atypical White Matter Microstructure in Left Handed Individuals**
Nicole Mckay[1], Sarina Iwabuchi[2,1], Isabelle Haberling[1], Michael Corballis[1], Ian Kirk[1]
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3542 **Age-Dependence of the Metabolite Diffusion Tensor using MR Spectroscopic Imaging**
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3543 **Influence of Prenatal Stress on the Adolescent Brain**
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3544 **The role of fornix in cognitive impairment in patients with chronic hemorrhage of the left putamen**
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3545 **Free water elimination improves test-retest reproducibility of brain DTI metrics**
Angela Albi[1], Ofer Pasternak[2], Ludovico Minati[3], Moira Marizzoni[4], David Bartrés-Faz[5], Núria Bargalló[6], Beatriz Bosch[7], Paolo Rossini[8,9], Camillo Marra[10], Bernhard Müller[11], Ute Fiedler[11], Jens Wiltfang[11,12], Luca Roccatagliata[13,14], Agnese Picco[15], Flavio Nobili[15], Oliver Blin[16], Julien Sein[17], Jean-Philippe Ranjeva[17], Mira Didic[18,19], Stephanie Bombois[20], Renaud Lopes[20], Régis Bordet[20], Hélène Gros-Dagnac[21,22], Pierre Payoux[21,22], Giada Zoccatelli[23], Francesco Alessandrini[23], Alberto Beltramelli[23], Antonio Ferretti[24,25], Massimo Caulo[24,25], Marco Aiello[26], Carlo Cavaliere[26], Andrea Soricelli[26,27], Lucilla Parnetti[28], Roberto Tarducci[29], Pietro Floridi[30], Magda Tsolaki[31], Manos Constantinidis[32], Antonios Drevelegas[33], Giovanni Frisoni[4,34], Jorge Jovicich[1]
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3546 **Artifact Identification and Signal Restoring in HARDI data by using spherical harmonic model**
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3547 **Diffusion parameters alterations in patients with hypertension**
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3548 **Effects of acquisition and tractography parameters on the reconstruction of the acoustic radiation**
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IMAGING METHODS

MEG

3549 **Characterization of Motor Cortical Oscillations in Children**
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3550 **An MEG test of the dual route model of speech processing**
Marina Kilintari[1], Roozbeh Rezaie[1,2], Shalini Narayana[1,2,3], Abbas Babajani-Feremi[1,2,3], Andrew Papanicolaou[1,2,3]
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3551 **Identifying the epileptogenic zone in interictal resting state MEG networks**
Ida Nissen[1], Cornelis Stam[1], Jaap Reijneveld[1], Ilse van Straaten[1], Eef Hendriks[1], Johannes Baayen[1], Philip de Witt Hamer[1], Sander Idema[1], Arjan Hillebrand[1]
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3552 **Increased Oscillatory Brain Activity Predicts Shorter Progression Free Survival in Glioma Patients**
Jolanda Derks[1,2], Ellen Carbo[1], Arjan Hillebrand[1], Edwin van Dellen[3,4], Philip de Witt Hamer[1,2], Martin Klein[1,2], Jeroen Geurts[1], Jaap Reijneveld[1,2], Linda Douw[1,2,5]
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3553 **Multifrequency Brain Connectivity In Alzheimer's Disease: A Multilayer Network Approach**
Jérémy Guillon[1], Yohan Attal[2], Valentina La Corte[3], Bruno Dubois[3], Denis Schwartz[1], Mario Chavez[1], Fabrizio De Vico Fallani[1]
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3554 **A Krylov-Bayes inverse solver for MEG with anatomical prior**
Daniela Calvetti[1], Annalisa Pascarella[2], Francesca Pitolli[3], Erkki Somersalo[1], Barbara Vantaggi[3]
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3555 **Selective modulation of θ-oscillations using rhythmic TMS boosts auditory working memory performance**
Philippe Albouy[1], Sylvain Baillet[1], Robert Zatorre[1]
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3556 **Mechanisms of spatial versus non-spatial, modality-based attention**
Daniel Baldauf[1], Robert Desimone[2]
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3557 **Information spread through MEG source localization and its effect on pattern classification analysis**
Masashi Sato[1], Okito Yamashita[2,3], Masa-aki Sato[2], Yoichi Miyawaki[4]
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3558 **Criticality of Phase and Amplitude Dynamics in the Resting Brain in Carriers of APOE e-4 Allele**
Stavros Dimitriadis[1], Lisa Brintley[2], Tom Lancaster[3], Suresh Muthukumaraswamy[4], David Linden[1], Krish Singh[2]
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3560 **Network-wide and region-specific oscillatory changes in Alzheimer's Disease and healthy ageing**
Loes Koelewijn[1], Aline Bompas[1], Andrea Tales[2], Suresh Muthukumaraswamy[3], Stavros Dimitriadis[4], Anthony Bayer[5], Krish Singh[1]
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3561 **The impact of trauma reminders on brain spatio-temporal dynamics in soldiers with PTSD**
Rocco Mennella[1], Elizabeth Pang[2], Benjamin Dunkley[3], Margot Taylor[3]
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3562 **Spatio-temporal characteristics of neural responses to music and human voice: Evidence from MEG**
Simon Rigoulot[1], Kyle Logie[2], Pierre Jolicoeur[3], Jorge Armony[4]
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3563 **MEG and EEG demonstrate similar test-retest reliability of the 40 Hz auditory steady-state response**
Kristina Legget[1], Allison Hild[1], Jason Tregellas[1], Donald Rojas[2]
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3564 **Does speech processing induce changes in resting-state brain networks? An MEG study**
Daphné Bertrand-Dubois[1], Florence Martin[2], Hannu Laaksonen[3], David Meunier[4], Ana-Sofia Hincapié[5], Younes Zerouali[6], Hélène Guiraud[7], Véronique Boulenger[8], Karim Jerbi[9]
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3565 **Estimation of functional connectivity using 2-dimensional tangential components in MEG sensor space**
Min-Young Kim[1], Hyukchan Kwon[1], Sanghyun Lim[1], Kiwoong Kim[1], Yong-Ho Lee[1]
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3566 **MEG study of insular cortex epilepsy: new insights from functional connectivity**
Younes Zerouali[1], Philippe Pouliot[2], Manon Robert[3], Ismail Mohamed[4], Alain Bouthillier[5], Frédéric Lesage[6], Dang Nguyen[7]
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3567 **Towards entropy-based brain-machine interfaces (BMIs)**
Surjo Soekadar[1], Matthias Witkowski[1], Stephen Robinson[2]
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IMAGING METHODS

MR Spectroscopy

3568 **Magnetic Resonance Spectroscopy as a Novel Approach to Measure Central Effects of Analgesic Drugs**
Tine Hansen[1,2], Anne Olesen[3,4], Carsten Simonsen[1], Iben Fischer[3,4], Dina Lelic[3], Asbjørn Drewes[2,3], Jens Frøkjær[1,2]
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3569 **Automatic voxel positioning for high cross-subject reproducibility in single voxel MRS**
Young Woo Park[1], Dinesh Deelchand[2], James Joers[2], Karim Snoussi[3], Brian Soher[4], Peter Barker[3], HyunWook Park[1], Gülin Öz[2], Christophe Lenglet[2]
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3570 **1H-MRS reveals disturbed glutamatergic neurotransmission in borderline personality disorder**
Patricia Ohrmann[1], Sophia Chrysanthou[2], Harald Kugel[3], Jochen Bauer[4]
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3571 **Brain GABA levels in patients receiving ECT. Preliminary findings from a case-control study**
Vera Jane Erchinger[1], Lars Ersland[2,3], Alexander Craven[4,3], Kenneth Hugdahl[4,3,5], Ralph Noeske[6], John Evans[7], Ketil Ødegaard[8,1], Ute Kessler[8], Leif Oltedal[1,5]
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3572 **Toward metabolic insight into the reward circuitry in addiction: a novel small-voxel 1H-MRS protocol**
Etna Engeli[1], Andreas Hock[2], Niklaus Zölch[2], Jessica Dafflon[3], Milan Scheidegger[2], Lea Hulka[3], Erich Seifritz[4], Boris Quednow[5], Anke Henning[6], Marcus Herdener[3]
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3573 **Trigeminal brainstem coupled neurochemical alterations of dental pain revealed by MR spectroscopy**
Nuno de Matos[1,2], Andreas Hock[1,3], Erich Seifritz[1], Dominik Ettlin[1], Mike Brügger[1,3]
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3574 **Development of a method to track GABA changes in time after applying repetitive inhibitory TMS**
Katarzyna Kurcyus[1], Gabriel Castrillon[2], Nico Sollman[2], Sandro Krieg[2], Valentin Riedl[1]
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IMAGING METHODS

NIRS

3575 **Real-time motion artifact removal algorithm for fNIRS to offset head motion using motion sensors**
Jae-Myoung Kim[1], Jong-Kwan Choi[1], Min-Gyu Choi[1], Gunpil Hwang[1], Minsu Ji[1], Hyeon-Min Bae[1]
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3576 **Spatial distribution of non-functional components on functional near-infrared spectroscopy signals**
Joana Balardin[1,2], Guilherme Morais[3], Rogério Akira Furucho[1], Lucas Trambaiolli[1], João Sato[1]
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3577 **The use of a fiberless and wearable fNIRS device to monitor brain activity in real scenarios**
Paola Pinti[1], Clarisse Aichelburg[2], Frida Lind[2], Sarah Power[2], Elizabeth Swingler[2], Arcangelo Merla[1], Antonia Hamilton[2], Sam Gilbert[2], Paul Burgess[2], Ilias Tachtsidis[2]
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3578 **A modified GLM-based algorithm for recovering functional events in real-world fNIRS experiments**
Paola Pinti[1], Arcangelo Merla[1], Clarisse Aichelburg[2], Frida Lind[2], Sarah Power[2], Elizabeth Swingler[2], Antonia Hamilton[2], Sam Gilbert[2], Paul Burgess[2], Ilias Tachtsidis[2]
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3579 **Photogrammetry for Localizing 3D Position of Multi-channel NIRS Optodes using a Tablet Camera**
Gunpil Hwang[1], Min-Gyu Choi[1], Jong-Kwan Choi[1], Jae-Myoung Kim[1], Minsu Ji[1], Hyeon-Min Bae[1]
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3580 **Determining optimal feature-combination for classification of fNIRS-based BCI**
Noman Naseer[1], Nauman Qureshi[1], Farzan Noori[1], Keum-Shik Hong[2]
[1]Air University, Islamabad, Islamabad, Pakistan, [2]Pusan National University, Busan, Korea, Republic of

3581 **Monitoring the Therapeutic Effect of Internal Carotid Artery Stenting: A Pilot Study of fNIRS**
Chia-Yu Huang[1], Chang-Ming Chern[2], Chia-Feng Lu[3], Jong-Ling Fuh[4], Feng-Chi Chang[5]
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3582 **The cortical activation pattern by a weight shifting control trainer; A functional NIRS study**
Sang Seok Yeo[1], Sung Ho Jang[2], Jung Won Kwon[1]
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3583 **Early development of visual working memory: an fNIRS study**
Lourdes Delgado Reyes[1], Sobanawartiny Wijeakumar[1], Vincent Magnotta[2], John Spencer[1]
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3584 **A study of performances and brain activities during memorizing tasks under the influence of sound**
Tomoka Katayama[1], Satoru Hiwa[2], Tomoyuki Hiroyasu[2]
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3585 **FC-NIRS: A Functional Connectivity Analysis Tool for near-infrared spectroscopy data**
Shujie Geng[1,2], Jingping Xu[1,2], Xindi Wang[3], He Yong[4], Haijing Niu[5]
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3586 **Examination of light environmental effects on brain activity using paper and computer screen**
Hayato Tanaka[1], Satoru Hiwa[1], Tomoyuki Hiroyasu[1]
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3587 **Modulation of Cortical Activity by Whole-body Vibration Exercise: An fNIRS Study**
Yun-Hee Kim[1,2], Dong-Sung Choi[1], Ahee Lee[2], Hee Goo Kim[2], Won Hyuk Chang[1], Hwang-Jae Lee[1]
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3588 **A problem-identifying self-calibrating diffuse optical tomography for portable fNIRS system**
Min-Gyu Choi[1], Min-Su Ji[1], Gunpil Hwang[1], Jae-Myoung Kim[1], Jong-Kwan Choi[1], Hyeon-Min Bae[1]
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3589 **Autonomic and neural correlates of prefrontal cortex activity during a mathematical task**
Paola Pinti[1], Daniela Cardone[1], Arcangelo Merla[1]
[1]University of Chieti-Pescara, Chieti-Pescara, Italy

3590 **Hemodynamic responses in cortical areas to mechanosensory stimulations of the back measured by fNIRS**
Andrea Vrana[1], Kim Humphreys[1], Michael Meier[1], Sabina Hotz-Boendermaker[1], Felix Scholkmann[2]
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3591 **Application of Network Based Statistics to Investigate Infants' Functional Connectivity**
Borja Blanco[1], Monika Molnar[1], Cesar Caballero Gaudes[1]
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3592 **Retinotopic mapping of the human visual cortex using a high-density compact DOT system**
Chandran Seshagiri[1], Tanmayi Oruganti[1], Jason Trobaugh[2,1], Joseph Culver[2], Bertan Hallacoglu[1]
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3593 **Hemodynamic responses to visual and auditory social stimuli: A comparison between fNIRS and fMRI**
Lucas Peek[1,2], Simon Rigoulot[2,3,4], Jocelyne Whitehead[2,5], Manon Maheux[2,4], Pierre Jolicoeur[2,4], Jorge Armony[2,3,4,5]
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IMAGING METHODS

Non-BOLD fMRI

3595 **The effect of aging on the dynamic BOLD-CBF coupling during resting-state: a dual-echo pCASL study**
Piero Chiacchiaretta[1,2], Antonio Ferretti[1,2]
[1]Department of Neuroscience, Imaging and Clinical Sciences - University of Chieti-Pescara, Chieti, Italy, [2]Institute for Advanced Biomedical Technologies (ITAB), University of Chieti-Pescara, Chieti, Italy

3596 **Towards quantitative functional imaging of training-related plasticity with vascular space occupancy**
Christopher Steele[1,2], Laurentius Huber[3], Sophia Grahl[1], Pierre-Louis Bazin[1], Christine Tardif[2], Patrick Ragert[4], Claudine Gauthier[5], Arno Villringer[1]
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3597 **Perfusion imaging using velocity selective adiabatic inversion pulses**
Luis Hernandez-Garcia[1], Jon-Fredrik Nielsen[1], Douglas Noll[1]
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3598 **Exploring the Brain Connectivity of Epileptic Resting State Networks using Arterial Spin Labeling**
Ilaria Boscolo Galazzo[1,2], Silvia Francesca Storti[3], Anna Barnes[1], Enrico De Vita[4], Francesca Pizzini[2], John Duncan[5], Ashley Groves[1], Gloria Menegaz[3], Francesco Fraioli[1]
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3599 **Evaluating ANTs SyN coregistration and normalization algorithm for improving perfusion fMRI analysis**
Maurizio Bergamino[1], Mahlega Hassanpour[1], Qingfei Luo[1], Rachel Lapidus[1], W. Kyle Simmons[1,2], Justin Feinstein[1,2], Martin Paulus[1], Wen-Ming Luh[3], Jerzy Bodurka[1,4], Sahib Khalsa[1,2]
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3600 **Tracing of neuronal flexibility by MEMRI in awake behaving animals: effects of hypertension**
Emma Muñoz-Moreno[1], Xavier López-Gil[1], Raúl Tudela[2], Alberto Prats-Galino[3], Guadalupe Soria[1]
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IMAGING METHODS

PET

3601 **Patterns of intercorrelations observed in controls with [11C]DASB, [18F]Fallypride, and [18F] FDG PET**
Jeong-Hee Kim[1], Young-Don Son[2], Jong-Hoon Kim[3], Hang-Keun Kim[2], Myung-Kyun Woo[4], Chang-Hyun Oh[5]
[1]Research Institute for Advanced Industrial Technology, Korea University Sejong Campus, Sejong City, Korea, Republic of, [2]Department of Biomedical Engineering, College of Health Science, Gachon University, Incheon, Korea, Republic of, [3]Department of Psychiatry, Gil Medical Center, Gachon University, Incheon, Korea, Republic of, [4]Department of Electrical and Computer Engineering, Seoul National University, Seoul, Korea, Republic of, [5]Department of Electronics and Information Engineering, Korea University, Seoul, Korea, Republic of

3602 **Measuring selective neuronal loss with high resolution PET**
Thomas Funck[1,2], Claude Lepage[1], Hyman Schipper[2], Alan Evans[1], Alexander Thiel[2]
[1]McGill Centre for Integrative Neuroscience, Montreal, Quebec, Canada, [2]Lady Davis Institute, Jewish General Hospital, McGill University, Montreal, Quebec, Canada

3603 **Semi-parametric Bayes Conditional Graphical Models for Imaging Genetics**
Suprateek Kundu[1], Jian Kang[2]
[1]Emory University, Decatur, GA, [2]University of Michigan, Ann Arbor, United States

IMAGING METHODS

Polarized Light Imaging (PLI)

3604 Spotlight Imaging to explore high-resolution fiber orientation maps of the rat and human brain
David Gräßel[1], Nicola Palomero-Gallagher[1], Markus Axer[1], Katrin Amunts[1], Michael Zeineh[2], Karl Zilles[1]
[1]Research Centre Juelich, Juelich, Germany, [2]Stanford University, Stanford, CA

LANGUAGE

Language Acquisition

3605 Age-of-acquisition induces structural and functional changes in bilinguals
Myriam Oliver[1], Manuel Carreiras[1,2], Yasser Iturria-Medina[3], Pedro M. Paz-Alonso[1]
[1]BCBL.Basque Center on Cognition, Brain and Language, San Sebastian, Spain, [2]IKERBASQUE, Basque Foundation for Science, Bilbao, Spain, [3]Montreal Neurological Institute, Montreal, Canada

3606 Effect of imitation and social context in learning meanings
Shuichi Tanifuji[1], Susumu Yokota[2], Sugiko Hanawa[3], Tatsuro Kikuchi[3], Motoaki Sugiura[3], Ryuta Kawashima[3]
[1]Tohoku University School of Medicine, Sendai, Japan, [2]Division of Developmental Cognitive Neuroscience, IDAC, Tohoku University, Sendai, Japan, [3]Division of Functional Brain Imaging, IDAC, Tohoku University, Sendai, Japan

3607 The effect of AoA-L2 influence topological properties of language network
Xiaojin Liu[1], Liu Tu[2], Miao Zhong[1], Bo Jiang[3], Ximin Pan[3], Meng Li[4], Yanyan Li[2], Chang Liu[2], Zhenzhen Zhu[2], Zhi Lu[5], Ruiwang Huang[1]
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3608* Whole-brain functional connectivity during acquisition of novel grammar
Olga Kepinska[1], Mischa de Rover[1], Johanneke Caspers[1], Niels Schiller[1]
[1]Leiden University, Leiden, Netherlands

3609 Brain response changes in adults associated with twelve-week intensive second language learning
Elise Barbeau[1], Xiaoqian Chai[1], Jen-Kai Chen[2], Jonathan Berken[1], Shari Baum[2], Denise Klein[3]
[1]Montreal Neurological Institute, Montreal, Canada, [2]McGill University, Montreal, Canada, [3]Montreal Neurological Institute, McGill, Montreal, Canada

3610 Neural Basis of Early Language Processing in 9-Month-Old Infants at High and Low Risk for Autism
Janelle Liu[1], Tawny Tsang[1], Carolyn Ponting[1], Susan Bookheimer[1], Mirella Dapretto[1]
[1]University of California Los Angeles, Los Angeles, United States

3611 Fronto-parietal connectivity in the extraction of language rules
Joan Orpella-Garcia[1,2], Ruth de Diego-Balaguer[1,2,3]
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LANGUAGE

Language Comprehension and Semantics

3612 Effects of Participation and Expertise on Contextual Meaning Acquisition
Shu Umezawa[1], Takayuki Nozawa[1], Shigeyuki Ikeda[1], Hyeonjeong Jeong[1], Yukako Sasaki[1], Keyvan Nejad[2], Kohei Sakaki[1], Masako Tanaka[1], Shuichi Tanifuji[1], Naoki Chiba[1], Ryuta Kawashima[1]
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3613* Angular Gyrus likes Episodic Retrieval, rather than all Internally-Directed thought (even Semantics)
Gina Humphreys[1], Matthew Lambon Ralph[1]
[1]University of Manchester, Manchester, United Kingdom

3614 Selective attention to syntactic and semantic features in simple phrase processing
Marianne Schell[1], Emiliano Zaccarella[1], Angela Friederici[1]
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3615 Neural Mechanism Underlie Comprehension of Narrative Speech: A Study Based On ~500 Subjects
Abbas Babajani-Feremi[1]
[1]The University of Tennessee Health Science Center, Memphis, TN

3616 Morphology and semantics are distinct: ERP evidence from Chinese
Lijuan Zou[1], Wei Zhang[2]
[1]Zaozhuang University, Zaozhuang, China, [2]College of Chemistry Chemical Engineering and Material Science, Zaozhuang, China

3617 Anterior temporal lobe morphometry is predictive of categorization abilities
Béatrice Garcin[1], Marika Urbanski[1], Michel Thiebaut de Schotten[1], Richard Lévy[1], Emmanuelle Volle[1]
[1]Brain and Spine Institute, Paris, France

3618* **Lesion and fMRI data reveal the contribution of right-hemisphere regions to sentence comprehension**
Andrea Gajardo Vidal[1,2], Diego Lorca-Puls[1], Thomas Hope[1], Oiwi Parker Jones[3,4], Marion Oberhuber[1], Susan Prejawa[1], Mohamed Seghier[5], Alexander Leff[6,7], David Green[8], Cathy Price[1]
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3619 **Learning Reduced Word Pronunciation Variants in a Second Language: An N400 Study**
Mark Noordenbos[1], Mirjam Ernestus[1,2]
[1]Radboud University, Nijmegen, Netherlands, [2]Max Planck Institute for Psycholinguistics, Nijmegen, Netherlands

3620 **The Comprehension of Action-Related Metaphors in Stroke Subjects**
Eleonora Borelli[1,2,3], Panthea Heydari[1], Andrew Katirai[1], Alexander Swenson[1], Thomas Adams[4], Lisa Schamber[1], Sona Shah[1], Lisa Aziz-Zadeh[1]
[1]University of Southern California, Los Angeles, CA, [2]University of Parma, Parma, Italy, [3]University of Modena, Modena, Italy, [4]Rosalind Franklin University, Chicago, IL

3621 **Predictive Brain in Sound-to-Meaning Mapping during Speech Processing**
Bingjiang Lyu[1], Jianqiao Ge[1], Zhendong Niu[2], Li Hai Tan[3], Jia-Hong Gao[1]
[1]Peking University, Beijing, China, [2]Beijing Institute of Technology, Beijing, China, [3]Shenzhen Institute of Neuroscience, Shenzhen, China

3622 **Individualized prediction of language skills using whole-brain gray matter pattern**
Zaixu Cui[1,2], Mengmeng Su[1,2], Hua Shu[1,2], Gaolang Gong[1,2]
[1]State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, [2]IDG/McGovern Institute for Brain Research, Beijing Normal University, Beijing, China

3623 **Temporo-parietal connectivity uniquely predicts semantic change from childhood to adolescence**
Shu-Hui Lee[1], James Booth[2], Tai-Li Chou[1]
[1]National Taiwan University, Taipei, Taiwan, [2]University of Texas, Austin, Austin, TX

3624 **Disentangling brain correlates of semantic anticipation and integration during speech processing**
Patricia León-Cabrera[1], Antoni Rodríguez-Fornells[1,2], Joaquín Morís[3,1]
[1]Cognition and Brain Plasticity Group, [Bellvitge Biomedical Research Institute-] IDIBELL, Hospitalet de Llobregat, Spain, [2]University of Barcelona, Barcelona, Spain, [3]University of Oviedo, Oviedo, Spain

3625 **The Neural Correlates of Mathematical Processing of Chinese Numeral Classifiers and Measure Words**
Ying-Chun Chen[1], One-Soon Her[1], Denise Wu[2], Nai-Shing Yen[1]
[1]National Chengchi University, Taipei, Taiwan, [2]National Central University, Taoyuan, Taiwan

3626 **SimNet: A new algorithm for measuring brain networks similarity**
Ahmad Mheich[1,2,3], Mahmoud Hassan[1,2], Mohamad Khalil[3], Olivier Dufor[4], Fabrice Wendling[1,2], Claude Berrou[4]
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3627 **The effect of typology on ERPs during sentence processing: Evidence from Turkish**
Gülay Cedden[1], Aykut Eken[2], Tuna Cakar[3]
[1]Middle East Technical University, Ankara, Turkey, [2]Düzce University, Ankara, Turkey, [3]Middle East Technical University, Istanbul, Turkey

3628 **Neural specialization for words and sentences during Chinese listening comprehension: an fMRI study**
Hengshuang Liu[1], Alvin Lim[2], Toshiharu Nakai[3], SH Annabel Chen[2,4]
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3629 **Lexical and semantic processing of polish language – a multimodal fMRI study**
Anna Banaszkiewicz[1], Jacek Matuszewski[1], Małgorzata Wordecha[1], Michał Szczepanik[1], Bartosz Kossowski[1], Łukasz Bola[2], Marcin Szwed[2], Katarzyna Jednoróg[3], Artur Marchewka[1]
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3630 **Hemodynamic response observation during associative concept judgment tasks using NIRS-imaging**
Nao Tatsumi[1]
[1]Kaetsu University, Tokyo, Japan

3631 **Semantic Association in Schizophrenia with Emotional Withdrawal**
Shu-Yao Wu[1], Tzung-Jeng Hwang[2,3,4], Fang-Yu Cheng[5], Tai-Li Chou[1,6,7]
[1]Graduate Institute of Brain and Mind Sciences, Taipei, Taiwan, [2]Graduate Institute of Brain and Mind Sciences, Tapei, Taiwan, [3]Neurobiology and Cognitive Science Center, Taipei City, Taiwan, [4]Department of Psychiatry, National Taiwan University Hospital and College of Medicine, Taipei City, Taiwan, [5]Department of Psychology, Tapei, Taiwan, [6]Neurobiology and Cognitive Science Center, Taipei, Taiwan, [7]Department of Psychology, Taipei, Taiwan

3634 **Speech acts comprehension in native spanish speakers: involvement of the basal ganglia**
Giovanna Lilian Licea Haquet[1], Eva Velásquez Upegui[2], Sarael Alcauter[3], María Magdalena Giordano Noyola[1]
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3635 **Early language abilities and the underlying neural functional language network in preschoolers**
Alina Benischek[1], Christiane Rohr[2], Deborah Dewey[3], Catherine Lebel[3]
[1]University of Calgary, Calgary, Alberta, [2]University of Calgary ACHRI, Calgary, Alberta, [3]University of Calgary, Calgary, Alberta

3636 **Brain Decoding using EEG-controlled Rapid Serial Visual Presentation**
Thomas Maillart[1], Nick Merrill[2], John Chuang[3]
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LANGUAGE

Language Other

3637 **TMS-guided lesion-deficit mapping identifies brain areas involved in phonological processing**
Diego Lorca-Puls[1], Andrea Gajardo-Vidal[1,2], Mohamed Seghier[1,3], Alexander Leff[4,5], Varun Sethi[6], Susan Prejawa[1], Thomas Hope[1], Joseph Devlin[7], Cathy Price[1]
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3638 **Simultaneous Interpreting Training Induces Changes In Brain Structural Connectivity**
Alexis Hervais-Adelman[1], Barbara Moser-Mercer[1], Narly Golestani[1]
[1]University of Geneva, Geneva, Switzerland

3639 **Functional and structural relationship of left posterior temporal lobe with age**
Anthony Krafnick[1], Kirsten Lynch[1], Scott Holland[2], Arthur Toga[1], Kristi Clark[1]
[1]University of Southern California, Los Angeles, CA, [2]Cincinnati Children's Hospital Medical Center, Cincinnati, OH

3640 **Disentangling cognitive strategies in task-based fMRI data using Tensor ICA**
Leonardo Cerliani[1], Michel Thiebaut de Schotten[2], Alberto Bizzi[3]
[1]ICM Institute, Paris, France, [2]Brain and Spine Institute, Paris, France, [3]IRCCS Neurological Institute Besta, Milan, Italy

3641 **Connectivity Changes Suggest Children and Adolescents use Different Strategies for Verb Generation**
Claudio Toro-Serey[1], Darren Kadis[1]
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3642 **Should left-handers be excluded from functional neuroimaging studies?**
Bader Chaarani[1], Scott Mackey[1], Philip Spechler[1], Kelsey Hudson[2], Robert Whelan[3], Lee Jollans[3], Nicholas Allgaier[1], Stephen Higgins[4], Alexandra Potter[1], Robert Althoff[2], Hugh Garavan[1], IMAGEN consortium[5]
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3643 **Symmetrical Ipsi- and Contralateral Cerebello-Cerebral Functional Connections in Language System**
Roza Vlasova[1], Liudmila Makovskaya[2], Valentin Sinitsyn[1], Ekaterina Pechenkova[1]
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LANGUAGE

Reading and Writing

3644 **Meta-analysis of dyslexic brain activation abnormalities in deep and shallow orthographies**
Fabio Richlan[1], Anna Martin[1], Martin Kronbichler[2]
[1]University of Salzburg, Salzburg, Austria, [2]Paracelsus Medical University, Salzburg, Austria

3645 **The effects of word length, frequency and predictability on brain responses during natural reading**
Sarah Schuster[1,2], Stefan Hawelka[1,2], Florian Hutzler[1,2], Martin Kronbichler[1,3,2], Fabio Richlan[1,2]
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3646 **The brain regions that translate phonology into orthography**
Philipp Ludersdorfer[1], Susan Prejawa[1], Marion Oberhuber[1], Julie Guerin[1], Mohamed Seghier[2,1], Thomas Hope[1], Oiwi Parker Jones[3,4,1], David Green[5], Cathy Price[1]
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3647 **Children with reading difficulties respond to reading training differently when also having ADHD**
Tzipi Horowitz-Kraus[1,2], Alexander Hershey[3], Mark DiFrancesco[3], Scott Holland[1]
[1]Cincinnati Children's Hospital Medical Center, Cincinnati, OH, [2]Technion, Israel Institute of Technology, Haifa, Israel, [3]Cincinnati Children's Hospital Medical Center, Cincinnati, United States

3648 **NRSN1 associated grey matter volume of the visual word form area reveals dyslexia before school**
Michael Skeide[1], Indra Kraft[1], Bent Müller[2], Gesa Schaadt[1,3], Nicole Neef[1], Jens Brauer[1], Arndt Wilcke[2], Holger Kirsten[2,4], Johannes Boltze[2,5], Angela Friederici[1]
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3649 **Reduced structural connections between left visual thalamus and area V5 in developmental dyslexia**
Christa Müller-Axt[1], Alfred Anwander[1], Katharina von Kriegstein[1,2]
[1]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, [2]Humboldt University of Berlin, Berlin, Germany

3650 **Left ventral occipitotemporal cortex in reading**
Matthew Scoggins[1], Ping Zou[1], Heather Conklin[1], Robert Ogg[1]
[1]St. Jude Children's Research Hospital, Memphis, TN

3651 **Proficiency Modulates Visual Word Form Area for Second Language Reading**
Yue Gao[1], Yafeng Sun[2], Li Liu[3]
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3652 **The reading time-course: from childhood to adulthood**
Marjolaine Cohen[1], Gwendoline Mahé[1], Pascal Zesiger[1], Marina Laganaro[1]
[1]University of Geneva, Geneva, Switzerland

3653* **The left frontal aslant tract is important for written communication irrespective of handedness**
Henrietta Howells[1], Stephanie Forkel[2], Flavio Dell'Acqua[2], Andy Simmons[2], Declan Murphy[2], Marco Catani[1]
[1]Natbrainlab, King's College London, London, United Kingdom, [2]King's College London, London, United Kingdom

3654 **Development of speech sound and letter processing in children at risk for developmental dyslexia**
Iliana I. Karipidis[1,2], Georgette Pleisch[1,2], Martina Röthlisberger[1], Philipp Stämpfli[3], Christoph Hofstetter[1], Silvia Brem[1,2,3]
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3655 **Structural changes in the brain when children with a risk for dyslexia learn to read**
Christoph Hofstetter[1], Georgette Pleisch[1,2], Iliana I. Karipidis[1,2], Martina Röthlisberger[1], Philipp Stämpfli[3], Silvia Brem[1,2,3]
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3656 **Phonological grain size sensitivity in auditory cortex is related to reading skill**
Christine Brennan[1], James Booth[2]
[1]University of Colorado, Boulder, Boulder, CO, [2]University of Texas, Austin, Austin, TX

3657 **Gender modulates environment–brain relationships in reading acquisition**
Mengmeng Su[1], Suyu Zhong[1], Gaolang Gong[1], Hua Shu[1]
[1]State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China

3658 **A gene-brain-behavior pathway: From the ROBO1 gene, to callosal connectivity, to reading skills**
Xiaochen Sun[1,2], Shuang Song[1,2], Xinyu Liang[1,2], Yachao Xie[1,2], Chenxi Zhao[1,2], Yuping Zhang[3], Hua Shu[1,2], Gaolang Gong[1,2]
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3659 **EEG references and ERP components: A new ERP component specific for reading Chinese?**
Urs Maurer[1], Sarah Rometsch[2], Jing Zhao[3], Pei Zhao[3], Su Li[4]
[1]The Chinese University of Hong Kong, Hong Kong, Shatin, [2]University of Zurich, Zurich, Switzerland, [3]Chinese Academy of Sciences, Beijing, China, [4]Chinese Academy of Science, Beijing, China

3660 **Word reading in novice readers: a simultaneous EEG/fMRI study**
Georgette Pleisch[1,2], Iliana I. Karipidis[1,2], Alexandra Brem[1], Martina Röthlisberger[1], Christoph Hofstetter[1], Silvia Brem[1,2]
[1]Department of Child and Adolescent Psychiatry and Psychotherapy, University of Zurich, Zurich, Switzerland, [2]Neuroscience Center Zurich, University of Zurich and ETH Zurich, Zurich, Switzerland

3661 **Early cerebral constraints on reading skills in school-age children**
Arnaud Cachia[1], Grégoire Borst[2], Cloélia Tissier[1], Emmanuel Ahr[1], Grégory Simpn[3], Olivier Houdé[1]
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3662 **Repetition priming effect of reading Hangul and Hanja words in Korean**
Hyo Woon Yoon[1], Kyung-Duk Cho[2]
[1]Daegu Cyber University, Daegu, Korea, Republic of, [2]Paichai University, Daejeon, Korea, Republic of

3663 **Musical literacy increases functional asymmetry in the visual cortex and in language areas**
Florence Bouhali[1,2], Valeria Mongelli[2,3], Stanislas Dehaene[4,5,6], Isabelle Peretz[7], Paolo Bartolomeo[2,8,9], Laurent Cohen[2,8,10]
[1]Université Paris Descartes, Paris, France, [2]Brain and Spine Institute, Paris, France, [3]Max Planck Institute for Psycholinguistics, Nijmegen, Netherlands, [4]Collège de France, Paris, France, [5]Neurospin, Comissariat à l'Energie Atomique (CEA), Gif sur Yvette, France, [6]Université Paris-Sud, Orsay, France, [7]University of Montreal, Montreal, Canada, [8]Université Pierre et Marie Curie, Paris, France, [9]Catholic University, Milan, Italy, [10]AP-HP, Hôpital de la Pitié Salpêtrière, Paris, France

3664 **Inner speech codes phonological detail as fine-grained as consonant voicing**
Christian Kell[1], Maritza Darquea[2], Susanne Fuchs[3]
[1]Goethe University Frankfurt, Frankfurt am Main, Germany, [2]Goethe University, Frankfurt, Germany, [3]Zentrum fuer Angewandte Sprachwissenschaft, Berlin, Germany

3665 **Common and Distinct Functional Correlates of Literacy and Numeracy**
Maki Koyama[1], David O'Connor[1], Zarrar Shehzad[2], Michael Milham[1]
[1]Child Mind Institute, New York, NY, [2]Yale University, New Haven, CT

3666 **Unravelling the da Vinci code through neuroimaging: Sudden-onset mirror writing in a healthy child**
Elizabeth Roach-Fox[1], Annika Linke[2], Rhodri Cusack[2], Ellen Vriezen[1], Asuri Narayan Prasad[1]
[1]London Health Sciences Centre, London, Canada, [2]The Brain and Mind Institute, London, Canada

3667 **Age-of-acquisition of the L2 alters bilinguals' reading networks connectivity at rest**
Jaione Arnaez-Telleria[1], Myriam Oliver[1], Manuel Carreiras[1], Pedro M. Paz-Alonso[1]
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LANGUAGE

Speech Perception

3668 **The Effects of Concurrent Cognitive Load on the Processing of Clear and Degraded Speech**
Harrison Ritz[1], Conor Wild[1], Ingrid Johnsrude[1]
[1]University of Western Ontario, London, Canada

3669 **How Musicians Perceive Speech in Noise: Role of the Right Ventral and Dorsal Auditory Streams**
Yi Du[1,2], Robert Zatorre[1,2]
[1]McGill University, Montréal, Québec, Canada, [2]International Laboratory for Brain, Music and Sound Research (BRAMS), Montréal, Québec, Canada

3670 **Congenital right ear deafness does not lead to atypical language lateralization**
Lise Van der Haegen[1], Frederic Acke[2], Guy Vingerhoets[1], Ingeborg Dhooge[2], Els De Leenheer[2], Qing Cai[3], Marc Brysbaert[1]
[1]Ghent University, Ghent, Belgium, [2]Ghent University Hospital, Ghent, Belgium, [3]East China Normal University, Shanghai, China

3671 **Speech is special: Decoding acoustic and semantic representations of spoken words and natural sounds**
Ali Faisal[1,2], Anni Nora[1,2], Hanna Renvall[1], Jaeho Seol[1], Elia Formisano[3], Riitta Salmelin[1]
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3672 **Functional Connectivity of Human Voice-Sensitive Brain Areas**
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3673 **When Alice in Wonderland has an accent: The effects of accented speech on attentional networks**
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3674* **Lip movements during speech entrain observers' low-frequency brain oscillations**
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3675 **Boosting auditory cortical oscillations with transcranial alternating current stimulation**
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3676 **Speech Processing by Neural Oscillations in a Predictive Coding Context**
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3677 **Cortical oscillatory constraints on speech sampling and intelligibility**
Maria Pefkou[1], Luc Arnal[1], Lorenzo Fontolan[2], Anne-Lise Giraud[1]
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3678 **How much cortex do we need to decode speech sounds?**
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3679 **The relationship between statistical learning and speech perception under noisy listening conditions**
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3680 **Coupling of Speech Rhythm and Cortical Oscillations: an MEG Study in Typically Developing Children**
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3681 **Oscillatory tracking of visual speech by auditory cortex: an intracranial EEG study**
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3682 **Investigating human speech recognition: Reverse-engineering the machine solution with EMEG and RSA**
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3683 **Low-Level Encoding of Continuous Speech Perception in ECoG High Frequency Band**
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3684 **Tracking of Speech Rhythm by Neuronal Oscillations: an MEG Study of Normal vs Fast Speech Processing**
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3685 **Second language neural network activity: training in children, and proficiency in adults**
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3686 **Effective speech perception system depended on an anatomical connectivity marker: A DTI study**
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3687 **The role of the larynx motor cortex on the discrimination of affective prosody: A TMS study**
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LANGUAGE

Speech Production

3688 **Long-term recovery in chronic nonfluent aphasia and apraxia of speech**
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3689 **The neural correlates of speech fluency, phonology and semantics in chronic post-stroke aphasia**
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3690 **Training effect of speech articulation on older speakers as revealed by fMRI**
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3691 **Gray matter volume in the caudate nucleus is related to second language fluency: a VBM study**
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3692 **Four functionally distinct regions in the left supramarginal gyrus support word processing**
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3693 **Redefying "Core" and "Belt" Areas of the Language-Control Network During Simultaneous Translation**
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3694 **Electrocorticagraphical high gamma perturbations elicited in word production tasks**
Jianbin Wen[1], Ke Zeng[1], Xiaoli Li[1]
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3695 **Using word onset phonetic properties to track EEG motor artefact signature in speech production**
Raphael Fargier[1], Audrey Bürki[1], Andrea Valente[2], Svetlana Pinet[2], François-Xavier Alario[2], Marina Laganaro[1]
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3696 **Producing emotional speech: Limbic system involvement in speech motor control**
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3697 **Imaging temporal dynamics of language processing with an fMRI event-related adaptive design**
Sandrine Muller[1], Antoine Renard[2], Renaud Marquis[1], Leyla Loued-Khenissi[3], Borja Rodriguez-Herreros[1], Christian Pfeiffer[4], Gretel Sanabria-Diaz[1], Elisabeth Roggenhofer[1], Antoine Lutti[5], Bogdan Draganski[4], Jean-François Démonet[2], Ferath Kherif[4]
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3698 **Structural connectivity of the insula underlies its distinct role in speech and language control**
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3699* **MEG Imaging of Logopenic and Nonfluent Variant Primary Progressive Aphasia**
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3700 **"When music speaks": the role of auditory cortex morphology in language aptitude**
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3701 **Auditory feedback suppression in sentence repetition**
Johannes Gehrig[1], Marie-Therese Forster[1], Giorgos Michalareas[2], Juan Lei[1], Christian Senft[1], Volker Seifert[1], Jan-Mathijs Schoffelen[3], Simon Hanslmayr[4], Christian Kell[1]
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3702 **Multivariate analysis of input and output representations in speech**
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LIFESPAN DEVELOPMENT

Aging

3703* **Prenatal Undernutrition and Precocious Brain Aging: BrainAGE in the Dutch Famine Birth Cohort**
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3704 **Age-related Changes in Inter-Network Connectivity by Component Analysis**
Christian La[1], Veena Nair[2], Mary Meyerand[2], Vivek Prabhakaran[2]
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3705 **The Effects of Long-Term Physical Exercises on the Morphologic Changes in Brain**
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3706 **Age-related decline in white matter integrity differs in male and female healthy adults**
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3707 **The changes of cortical activation in swallowing after application of high frequency rTMS in elderly**
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3708 **Estimating individual age of healthy adults using large-scale structural covariance networks**
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3709 **Sex/Gender Differences in Regional Human Brain Aerobic Glycolysis during Healthy Aging**
Andrei Vlassenko[1], Manu Goyal[1], Lars Couture[1], Tammie Benzinger[1], John Morris[1], Marcus Raichle[1]
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3710 **Effect of high-definition tDCS on modulating attentional process and working memory in Older Adults**
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3711 **Sevoflurane Exposure Inhibits Theta–gamma Coupling Oscillation in Aged Rats during Working Memory**
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3712 **Neural Correlates of Age-related Changes in Cognitive Action Control**
Anne Latz[1,2], Felix Hoffstaedter[2,1], Edna Cieslik[1,2], Svenja Caspers[2,3], Susanne Moebus[4], Noreen Pundt[4], Katrin Amunts[2,3], Simon Eickhoff[1,2], Robert Langner[1,2]
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3713 **Investigating White Matter Change in Relation to Language Functions with TBSS in the Healthy Aging**
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3714 **Sex effect in the association between fasting blood glucose and total grey matter volume in the 60s**
Erin Walsh[1], Marnie Shaw[1], Perminder Sachdev[2], Kaarin Anstey[1], Nicolas Cherbuin[1]
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3715 **Dissecting the P300 ageing effect using Functional Source Separation**
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3716 **Structural and functional frontostriatal connectivity strength predicts self-control in the elderly**
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3717 **Probing lifetime trajectories of cortical structure in inferior parietal cortex of older adults**
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3718 **COMT Haplotype Modulates Aging Brain Morphology**
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3720 **Imaging the Gait Analysis: Neural Correlates of a Cognitive-Motor Dual Task Paradigm**
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3721 **Neural correlates of emotional feedback influences on valuative decisions in young and older adults**
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3722 **Age-related decline in source memory is explained by source memory network activity**
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3723 **White Matter Hyperintensities and Cognitive Reserve during a Working Memory Task in Healthy Elders**
Sara Fernandez Rodriguez-Cabello[1], Cinta Valls-Pedret[2], Didac Vidal-Piñeiro[3], Roser Sala-Llonch[3], Nuria Bargalló[4], Emilio Ros[2], David Bartrés-Faz[5]
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3724 **Hippocampal pathway plasticity is associated with the ability to form novel memories in older adults**
Daria Antonenko[1], Nadine Külzow[1], Magda Cesarz[1], Ulrike Grittner[1], Agnes Flöel[1]
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3725 **Small changes, but huge impact? The right anterior insula's age-related loss of connection strength**
Angela Martina Muller[1], Susan Mérillat[1], Lutz Jäncke[1]
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3726 **Information-Theoretic Discovery of ASL, Structural, and Cognitive Markers of Brain Aging**
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3727 **The C677T variant in MTHFR mediates associations between blood and CSF neurodegeneration biomarkers**
Florence Roussotte[1], Xue Hua[2], Katherine Narr[1], Paul Thompson[3]
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3728 **Effects of the gene coding for DARPP-32 (PPP1R1B) on the prefrontal cortex and declarative memory**
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3729 **Larger stress-induced medial posterior cingulate deactivations in healthy- than in regular aging**
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3730* **Discovering Heterogeneous Patterns of Advanced Brain Aging in Baltimore Longitudinal Study of Aging**
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3731 **GABA in the dorsal anterior cingulate (ACC), aging and cognitive decline**
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3732 **Mapping age-related myelination differences between midlife and early-old age with T1w/T2w mapping**
Marnie Shaw[1], Walter Abhayaratna[1], Perminder Sachdev[2], Kaarin Anstey[3], Nicolas Cherbuin[3]
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3733 **Linking individual variability in gray matter volume to cognitive performance in older adults**
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3734 **Low-grade systemic inflammation and hippocampal volume in old age**
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3735 **Effect of AD Risk Variant SORL1 on Gray Matter Volume and Age-Related Interaction in Adult Lifespan**
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3736 **Morphometric insights into intra-individual variability of reaction time in healthy senior adults**
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3737* **The morphology of the cortical surface in aging process**
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3738 **Spectral variability in the aged brain during fine motor control**
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3739 **Age-related cortical thinning: regional differences and predictors**
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3740 **Associations of regional Glx and GABA with DMN functional properties and cognition in healthy aging**
Kilian Abellaneda Perez[1], Elisabeth Solana[1,2], Dídac Vidal Piñeiro[3], Nuria Bargalló[4,5], Sara Domènech[6], Antoni Salvà[6], David Bartrés-Faz[1,2]
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3741 **Speaking up does not help older adults with presbycusis to understand – but a thicker cortex does**
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3742 **Lifespan effects of brain-wide activity and connectivity of cognitive control**
Kamen Tsvetanov[1], Zheng Ye[2], Laura Hughes[3], David Samu[1], Matthias Treder[3], Richard Henson[3], Lorraine Tyler[3], Cam-Can[4], James Rowe[5]
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3743 **Individual differences in the neural mechanisms of superior cognitive ageing: a data-driven approach**
Clare O'Donoghue[1], Ludovica Griffanti[2], Nicola Filippini[2], Eniko Zsoldos[1], Anya Topiwala[1], Klaus Ebmeier[1], Mark Jenkinson[2], Clare Mackay[1]
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3744 **Brain structural changes mediate the relationship between education and cognition in healthy elders**
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3745 **Structural connections changes over time during aging: a 4 years longitudinal cohort analysis**
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3746* **Aging-related changes in structural and functional interhemispheric connectivity**
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3747 **Age-related differences in time course of activation and connectivity during associative learning**
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3748 **Executive functioning and Music-based training in seniors – A prevention study of fall risks**
Natalia Fernandez[1,2], Mélany Hars[3], François Herrmann[3], Patrik Vuilleumier[1,2], Andrea Trombetti[3]
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3749 **Selective association between cortical thickness and reference abilities in normal aging**
Seonjoo Lee[1], Christian Habeck[2], Qolamreza Razlighi[2], Timpthy Salthouse[3], Stern Yaakov[2]
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3750 **Repetitive TMS improved associative memory through modulating brain connectivity in older adults**
Weicong Ren[1], Rui Li[1], Zhiwei Zheng[1], Weiming Wang[2], Juan Li[1]
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3751* **CSF NFL levels and hippocampal atrophy rate in cognitively healthy elderly individuals**
Ane-Victoria Idland[1], Roser Sala-Llonch[2], Tom Borza[3], Leiv Otto Watne[1], Torgeir Bruun Wyller[1], Anne Brækhus[4], Henrik Zetterberg[5], Kaj Blennow[5], Kristine Walhovd[2], Anders Fjell[2]
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3752 **Down's syndrome and associated amyloid pathology influences predicted brain age**
James Cole[1], Tiina Annus[2], Liam Wilson[2], Young Hong[3], Tim Fryer[3], Julio Acosta-Cabronero[4], Arturo Cardenas-Blanco[4], Robert Smith[5], David Menon[6], Shahid Zaman[2], Peter Nestor[4], Anthony Holland[2], David Sharp[7]
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3753 **Brain dynamics of aging as revealed by the analysis of multiscale variability of EEG signals**
Rita Sleimen-Malkoun[1,2], Dionysios Perdikis[2,3], Viktor Müller[3], Raoul Huys[4], Jean-Jacques Temprado[1], Viktor Jirsa[2]
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3754 **Keeping Brains Young with Music**
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3755 **Brain integrity and cognition in old age-Structural equation modeling of multiple imaging modalities**
Sandra Düzel[1], Ulman Lindenberger[1], Andreas Brandmaier[1], Simone Kühn[1]
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3756 **Brain dynamics in aging: slower network reorganization assessed with dynamic functional connectivity**
Maria Giulia Preti[1], Nathalie Mella[2], Sandrine de Ribaupierre[3], Roy Eagleson[3], Anik De Ribaupierre[2], Dimitri Van De Ville[1]
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3757 **Memory-relevant sleep characteristics linked to hippocampal functional connectivity**
Julia Ladenbauer[1], Daria Antonenko[1], Sven Passmann[1], Nadine Külzow[1], Agnes Flöel[1]
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3758 **Is Age-related Decline in Cognitive Action Control Mediated by Functional Connectivity Changes?**
Robert Langner[1], Anne Latz[1], Edna Cieslik[1], Felix Hoffstaedter[2], Noreen Pundt[3], Susanne Moebus[3], Svenja Caspers[2], Katrin Amunts[2], Simon B. Eickhoff[1]
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3760 **White Matter Hyperintensities in the aging brain – effects on gray matter and cognition**
Leonie Lampe[1], Shahrzad Kharabian Masouleh[1], Jana Kynast[1], Christopher Steele[2], Matthias Schroeter[3], A. Veronica Witte[1], Arno Villringer[3], Pierre-Louis Bazin[3]
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3761 **D1 and D2/3 receptor mapping with high-affinity PET tracers in the healthy aging brain**
Daniel Eisenberg[1], Philip Kohn[1], Catherine Hegarty[1], Angela Ianni[1], Michael Gregory[2], Jasmin Czarapata[1], Joseph Masdeu[3], Karen Berman[4]
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3762 **Fine-grained localization of relation between white matter hyperintensities and gray matter volume**
Shahrzad Kharabian Masouleh[1], Leonie Lampe[1], Frauke Beyer[2], Matthias Schroeter[3], A. Veronica Witte[1], Christopher Steele[4], Arno Villringer[3], Pierre-Louis Bazin[3]
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3763 **Box Cox transformations as a tool to reveal non-linear age related effects in neuroimaging**
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3764 **Investigating age-related changes in resting-state functional connectivity with age**
Stanislau Hrybouski[1], Peter Seres[1], Rawle Carter[1], Fraser Olsen[1], Nikolai Malykhin[1]
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3765 **Factors Affecting Cortical Morphometry in Older Women Revealed by Canonical Correlation Analysis**
Christina Boyle[1], Kirk Erickson[2], Oscar Lopez[3], James Becker[2], H. Gach[4], W. Longstreth, Jr.[5], Mikhail Popov[2], Owen Carmichael[6], Paul Thompson[7]
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3766 **The Weighting of Demographic and Behavioural Factors to the Elderly Functional Connectome**
Alistair Perry[1], Wei Wen[1], Nicole Kochan[1], John Crawford[1], Perminder Sachdev[1], Michael Breakspear[2]
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3767 **Microstructural Changes of Human Brain from Early to Middle Adulthood: a DTI Study**
Lixia Tian[1], Lin Ma[1], Jiangang Liu[1]
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3768 **Blood pressure associates with brain connectivity and information processing speed**
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3769 **The brain's salience network in aging: behavioral implications for executive function and affect**
Alexandra Touroutoglou[1], Joseph Andreano[1], Jiahe Zhang[2], Bradford Dickerson[1], Lisa Barrett[2]
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3770 **Aging effects on complex cognition are moderated by cognitive and neural reserve**
Lena Köstering[1], Charlotte Schmidt[2], Karl Egger[2], Jessica Peter[3], Stefan Klöppel[4], Horst Urbach[2], Cornelius Weiller[2], Christoph Kaller[2]
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Bayesian Modeling

3771 **A Bayesian Hierarchical Spatial Point Process Model with Covariates**
Bernd Taschler[1], Jian Kang[2], Kerstin Bendfeldt[3], Jens Wuerfel[3], Timothy Johnson[2], Thomas Nichols[1]
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3772* **Hierarchical Prediction Errors during Auditory Mismatch: A Computational Single-Trial EEG Analysis**
Lilian Aline Weber[1], Sara Tomiello[1], Dario Schoebi[1], Sandra Iglesias[1], Andreea Diaconescu[1], Gabor Stefanics[1], Helene Haker[1], Christoph Mathys[2,3], Klaas Stephan[1,2]
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3773 **Developmental trajectories of thalamocortical effective connectivity**
Richard Rosch[1], Adeel Razi[1], Zeidman Peter[1], Torsten Baldeweg[2], Karl Friston[1]
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3774 **A Bayesian Heteroscedastic GLM for fMRI analysis**
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3775 **Variational-Bayesian Melodic**
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3776 **Comparison of dynamic causal modeling results for simultaneously recorded fNIRS and EEG**
Branislava Curcic-Blake[1], Remco Renken[2], Natasha Maurits[3]
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3777* **A Bayesian Framework for Population Receptive Field (PRF) Modelling**
Peter Zeidman[1], Ed Silson[2], Chris Baker[2], Will Penny[1]
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3778 **Model-based dynamic resting state functional connectivity**
Michael Andersen[1], Oluwasanmi Koyejo[2], Russell Poldrack[2]
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3779 **Connectivity Priors Informed by Functional Neuroanatomy in DCM for Evoked Responses in EEG and MEG**
Jean-Didier Lemaréchal[1,2,3], Nathalie George[1,2,3], Olivier David[4,5]
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3780 **Structural and Effective Amygdala Pathways Involved in Spatial Frequency and Emotion Processing**
Jessica McFadyen[1], Martial Mermillod[2,3], Veronika Halász[4], Jason Mattingley[4,5], Marta Garrido[4,1]
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3781 **On the Accuracy of Variational Bayes in task-fMRI with Spatial Priors**
Per Sidén[1], Anders Eklund[1], Mattias Villani[1]
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3782 **A Bayesian approach for hierarchical modelling of sparse functional networks**
Giles Colclough[1], Stephen Smith[2], Samuel Harrison[3], Pedro Ariel Rojas-Lopez[4], Pedro Valdes-Sosa[5], Mark Woolrich[6]
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3783 **Physiologically Motivated Gaussian Process Priors for the Hemodynamics in fMRI Analysis**
Josef Wilzén[1], Mattias Villani[2]
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3784 **Bayesian Heteroscedastic Rician Regression for Diffusion Tensor Imaging**
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MODELING AND ANALYSIS METHODS

Classification and Predictive Modeling

3785 **Decoding Averaged Observations: Aggregation Bias and the Interpretability of MVPA Classification**
Tal Golan[1]
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3786 **Feature selection stability in machine learning with anatomical brain MRI**
Jussi Tohka[1], Elaheh Moradi[2], Heikki Huttunen[2]
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3787 **Quantifying Patterns of Abnormality for ADHD in a large MRI based Pattern Recognition Study**
Thomas Wolfers[1], Daan van Rooji[1], Christian Beckmann[1,2], Barbara Franke[1], Jan Buitelaar[1], Andre Marquand[1,3]
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3788 **One-Class SVM identify distinctive common patterns in young children with Autism Spectrum Disorders**
Alessandra Retico[1], Ilaria Gori[1], Alessia Giuliano[2], Piernicola Oliva[3], Michela Tosetti[4], Filippo Muratori[5], Sara Calderoni[4]
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3789 **The Role of Spontaneous EEG in Normalization of Pain-evoked EEG Responses and Pain Prediction**
Yanru Bai[1], Gan Huang[2], Li Hu[3], Zhiguo Zhang[1]
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3790 **Feature selection from multimodal MRI data: a combinatorial model approach**
Xiaowei Zhuang[1], Virendra Mishra[1], Karthik Sreenivasan[1], Charles Bernick[1], Sarah Banks[1], Dietmar Cordes[1,2]
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3791 **Accuracy and interpretability, tree-based machine learning approaches**
Marie Wehenkel[1], Pierre Geurts[1], Christophe Phillips[1]
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3792 **Spatial neglect in left hemisphere stroke: a causal contribution analysis based on game theory**
Caroline Malherbe[1,2,3], Roza Umarova[1,4], Lena Beume[4], Christoph Kaller[4], Melissa Zavaglia[2], Götz Thomalla[3], Claus Hilgetag[2]
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3793 **Dictionary Learning Algorithm for Alzheimer's Disease Classification**
Kichang Kwak[1], Hyuk Jin Yun[1], Gilsoon Park[1], Eun Kyoung Kim[1], Jong-Min Lee[1]
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3794 **Combining Multivariate Cox Model and Independent Component Analysis to Predict MCI Conversion**
Ke Liu[1], Xiaojuan Guo[1], Jiacai Zhang[1], Li Yao[1], Kewei Chen[2]
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3795 **Minimum Analytical Complexity Necessary for Classification of Bipolar Disorder**
Tyler Grummett[1], Sean Fitzgibbon[2], Hanieh Bakhshayesh[1], David Powers[1], Trent Lewis[1], John Willoughby[1], Kenneth Pope[1]
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3796 **Parkinson's disease: diagnostic utility of volumetric imaging**
Wei-Che Lin[1], Chou Kun-Hsien[2], Pei-Lin Lee[2]
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3797 **From the Chaotic Brain Activities to Structured Hierarchy of Feature Maps**
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3798 **Combining multi-modal MRI and machine learning approach for TBI biomarkers in professional fighters**
Virendra Mishra[1], Xiaowei Zhuang[1], Karthik Sreenivasan[1], Zhengshi Yang[1], Sarah Banks[1], Charles Bernick[1], Dietmar Cordes[1]
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3799 **Exploring the relationship between cognitive impairment and age of "first" fight**
Virendra Mishra[1], Xiaowei Zhuang[1], Karthik Sreenivasan[1], Zhengshi Yang[1], Sarah Banks[1], Charles Bernick[1], Dietmar Cordes[1]
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3800 **Tikhonov regularized regression for voxel-wise modeling of fMRI responses to natural stories**
Jenelle Feather[1], Alexander Huth[2], Anwar Nunez-Elizalde[2], Jack Gallant[3]
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3801 **Machine Classification of Adolescent Boys vs. Girls on a Novel fMRI Risk-Taking Decision Task**
Manish Dalwani[1], Debashis Ghosh[1], Susan Mikulich-Gilbertson[1], Thomas Crowley[1], Joseph Sakai[1]
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3802 **Decoding of Disparity Information from fMRI with Deep Neural Network**
Dabin Shi[1], Chuncheng Zhang[2], Yuan Li[2], Jiacai Zhang[1]
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3803 **Predicting Takotsubo cardiomyopathy based on multimodal magnetic resonance imaging of the brain**
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3804 **Prediction of the Activation Pattern Preceding Hallucinations using Structured Machine Learning**
Amicie de Pierrefeu[1], Edouard Duchesnay[1], Fouad Hadj-Selem[1], Tommy Löfstedt[1], Vincent Frouin[1], Thomas Fovet[2], Renaud Jardri[2]
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3805 **Predicting gender based on anatomical brain features**
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3806 **Classification of autistic individuals by merging information from multiple fMRI experiments**
Guillaume Chanel[1], Swann Pichon[2], Laurence Conty[3], Sylvie Berthoz[4], Coralie Chevallier[5], Julie Grèzes[5]
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3807 **Feature Subspace Optimization for fMRI Pattern Analysis with Multiple Classes**
Eunwoo Kim[1], HyunWook Park[1]
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3808 **Deep learning to predict the emotional response using functional MRI data**
Hyun-Chul Kim[1], Jong-Hwan Lee[1]
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3809 **Graph theory based classification of brain states under propofol sedation**
Sandya Subramanian[1], Ram Adapa[1,2], Anthony Absalom[3], David Menon[1,2], Emmanuel Stamatakis[1,2]
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3810 **Multimodal Imaging Signatures of Parkinson's Disease**
Dubois Bowman[1], Daniel Drake[1], Daniel Huddleston[2]
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3811 **Multi-Kernel Learning to Predict Smoking Status Using Multiple Resting-State fMRI Features**
Xiaoyu Ding[1], Yihong Yang[1], Elliot Stein[1], Thomas Ross[1]
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3812 **Modeling brain activity in brain tumor patients and healthy controls: A proof-of-concept study**
Hannelore Aerts[1], Daniele Marinazzo[1]
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3813* **Predicting Task-Based From Task-Free MRI in Individual Subjects**
Ido Tavor[1,2], Oiwi Parker Jones[1], Rogier Mars[3,1], Stephen Smith[1], Timothy Behrens[1], Saad Jbabdi[1]
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3814 **Shape-based Classification and Domain Adaptation for Alzheimer's Disease Diagnostics**
Christian Wachinger[1], Martin Reuter[2,3]
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3815 **Robust inter-subject audiovisual decoding in fMRI using kernel ridge regression**
Gal Raz[1], Michele Svanera[2], Maya Bleich Cohen[3], Avner Thaler[3], Rainer Göbel[4], Talma Hendler[5], Sergio Benini[6], Giancarlo Valente[7]
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3816 **Using machine learning to identify an antidepressant signature in task-based fMRI data**
Daniel Barron[1], Eugene Duff[2], Michael Browning[3], Catherine Harmer[3]
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3817 **Frequency-specific coding of taste quality / category information**
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3818 **Transmodal Biomarkers of Alzheimer's Disease: Improving Noninvasive Modality with Invasive Modality**
Mehdi Rahim[1,2], Bertrand Thirion[3], Claude Comtat[4], Gael Varoquaux[3]
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3819 **Can we predict subject-specific dynamic cortical thickness maps during infancy from birth?**
Yu Meng[1], Gang Li[1], Islem Rekik[1], Han Zhang[1], Yaozong Gao[1], Weili Lin[1], Dinggang Shen[1]
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3820 **Neural encoding of faces with deep neural networks**
Umut Güçlü[1], Marcel van Gerven[1]
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3821 **Statistical evidence of predictive power of MRI measures for future clinical scores**
Maya Jastrzebowska[1], Stanislaw Adaszewski[1], Juergen Dukart[2], Bogdan Draganski[1], Ferath Kherif[1]
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3822 **Neural-Net model for predicting clinical symptom scores in Alzheimer's disease**
Nikhil Bhagwat[1], Jon Pipitone[2], Min Tae M. Park[3], Aristotle Voineskos[4], Mallar Chakravarty[5]
[1]IBBME, University of Toronto, Toronto, Canada, [2]Kimel Family Translational Imaging-Genetics Research Lab, CAMH, Toronto, Canada, [3]Cerebral Imaging Centre, Douglas Mental Health University Institute, McGill University, Montreal, Quebec, [4]University of Toronto, Toronto, Canada, [5]Douglas Mental Health University Institute/McGill University, Montreal, Canada

3823 **Improved spatial accuracy of functional maps in the rat olfactory bulb using supervised machine lear**
Matthew Murphy[1], Alexander Poplawsky[1], Alberto Vazquez[1], Kevin Chan[1], Seong-Gi Kim[2], Mitsuhiro Fukuda[1]
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3825 **Multivariate Analysis of Methylphenidate Effects on Functional Networks in Cocaine Addiction**
Irina Rish[1], Pouya Bashivan[2], Guillermo Cecchi[1], Rita Goldstein[3]
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3826 **Decoding abstract cognitive concepts from neuroimaging data using multivariate pattern analysis**
Sarah Alizadeh[1,2], Hamidreza Jamalabadi[1,2], Monika Schönauer[1,2], Steffen Gais[1,2]
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3827 **Functional Network Features as Discriminative Patterns of Schizophrenia**
Mina Gheiratmand[1], Irina Rish[2], Guillermo Cecchi[2], Matthew Brown[1,3], Russell Greiner[1], Serdar Dursun[3]
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3828 **Using Multi-Voxel Pattern Analysis to decode motor imagery of complex actions**
Salim Al-Wasity[1], Aleksandra Vuckovic[1], Stefan Vogt[2,3], Yasuharu Koike[4,5], Frank Pollick[6]
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3829* **Cross-validation to assess decoder performance: the good, the bad, and the ugly**
Gael Varoquaux[1], Yannick Schwartz[2], Andrés Andrés Hoyos Idrobo[3], Bertrand Thirion[4]
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3830 **High-resolution 7T fMRI reveals auditory and imagery information in non-stimulated visual cortex**
Matthew Bennett[1], Lucy Petro[2], Andrew Morgan[1], Federico De Martino[3], Lars Muckli[1]
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3831 **Contribution of functional connectivity to auditory encoding in human cortex**
Kuwook Cha[1,2,3], Robert J. Zatorre[1,2,3], Marc Schönwiesner[4,2,3]
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3832 **Planning functional grasps of tools vs. non-tools – decoding conditions from brain activity**
Mikolaj Buchwald[1], Łukasz Przybylski[2], Gregory Kroliczak[2]
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3833 **Predicting adolescent drug use from neuroimaging data yields sex- and drug-specific effects**
Philip Spechler[1], Nicholas Allgaier[1], Bader Chaarani[1], Scott Mackey[1], Kelsey Hudson[2], Catherine Orr[1], Nicholas D'Alberto[1], Robert Whelan[3], Lee Jollans[3], Richard Watts[1], Robert Althoff[2], Alexandra Potter[1], Hugh Garavan[1], IMAGEN consortium[4]
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3834 **Pathways Towards Internalizing Disorders in Adolescents Presenting with Varying Levels of Impairment**
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3835 **Graph-Embedding Discriminant Model for Classification of at Risk Addictive Behavior Adolescents**
Poay Hoon Lim[1], Sean Spinney[1], Rachel Sharkey[2], Josiance Bourque[1], Alan Evans[2], Alain Dagher[2], Patricia Conrod[1]
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3836 **Predicting Functional Connectivity in Resting-state fMRI Data Using a Bayesian Hierarchical Model**
Ying Guo[1], Tian Dai[1]
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3837 **Classifying Neuroimaging Data with the Weka Brain Toolbox**
Pamela Douglas[1], Eibe Frank[2], Tim Leathart[2], Ian Witten[2]
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3838 **Bayesian error estimation for model selection in machine learning for brain imaging**
Jussi Tohka[1], Elaheh Moradi[2], Heikki Huttunen[2]
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MODELING AND ANALYSIS METHODS

EEG/MEG Modeling and Analysis

3839 **Modelling of Intracerebral Network Interactions That Co-Occur with Interictal Epileptic Discharges**
Stephan Meesters[1,2], Pauly Ossenblok[1], Albert Colon[1], Louis Wagner[1], Olaf Schijns[1,3], Paul Boon[1], Luc Florack[2], Andrea Fuster[2]
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3840 **Investigating the frequency characteristic of resting-state networks using high-density EEG**
Quanying Liu[1,2], Rezvan Farahibozorg[3,4], Nicole Wenderoth[1], Dante Mantini[1,2,4]
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3841 **Integrating cross-frequency and within band networks in MEG: a multi-layer network approach**
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3842 **Deriving Distinct EEG Spatiospectral Maps with Multi-Subject Blind Source Separation**
David Bridwell[1], Srinivas Rachakonda[1], Rogers Silva[1], Godfrey Pearlson[2], Vince D. Calhoun[1]
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3843 **Accurate source imaging based on high resolution scalp EEG and finite difference method head models**
Rui Feng[1], Jie Hu[1,2], Jinsong Wu[1], Liqin Lang[1], Shize Jiang[1], Li Pan[1], Liangfu Zhou[1]
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3844 **Forward Models can be Inferred from EEG Data**
Sofie Therese Hansen[1], Søren Hauberg[1], Lars Kai Hansen[1]
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3845 **A spatio-temporal analysis of MEG Adaptation Paradigms applied to extensive Visual Category Learning**
Benedikt Ehinger[1], Tim Kietzmann[1], Danja Porada[1], Andreas Engel[2], Peter König[1,2]
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3846 **Features Extracted from EEG Source Reconstruction Allow Classification of Schizophrenia Patients**
Jorne Laton[1], Johan Baijot[1], Jeroen Van Schependom[1,2], Jeroen Gielen[1], Jeroen Decoster[3], Tim Moons[3], Jacques De Keyser[1], Marc De Hert[3], Guy Nagels[1,2,3,4]
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3847 **MEG and EEG data processing using MNE: News from the trenches**
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3848 **Improvement in the definition of the Phase-Slope Index to estimate coupling directions in MEG/EEG**
Alessio Basti[1], Vittorio Pizzella[1], Federico Chella[1], Guido Nolte[2], Laura Marzetti[3]
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3849 **Identifying pairwise interacting sources from the antisymmetric cross-bispectrum of EEG/MEG data**
Federico Chella[1], Vittorio Pizzella[1], Filippo Zappasodi[1], Guido Nolte[2], Laura Marzetti[1]
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3850 **Automatic artifacts detection in long continuous EEG recordings for spontaneous activity analysis**
Dorothée Coppieters[1], Sarah Chellappa[1], Giulia Gaggioni[1], Mathieu Jaspar[1], Christelle Meyer[1], Vincenzo Muto[1], Gilles Vandewalle[1], Pierre Maquet[1], Christophe Phillips[1]
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3851 **Modular Co-organization of Functional Connectivity and Critical Dynamics in the Human Brain**
Alexander Zhigalov[1,2], Gabriele Arnulfo[3], Lino Nobili[4], Satu Palva[1], Matias Palva[1]
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3852 **A comparative study of the impact of the data length on different connectivity measures**
Sara Sommariva[1], Alberto Sorrentino[1], Michele Piana[1], Vittorio Pizzella[2], Laura Marzetti[2]
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3853 **Graph Models of Brain Connectivity Networks**
Catalina Obando Forero[1], Fabrizio De Vico Fallani[1]
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3854 **Response Inhibition Deficit in the People with Test Anxiety**
Wenpei Zhang[1], Renlai Zhou[2]
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3855 **Metastable wave patterns in a large-scale network model of brain dynamics**
James Roberts[1], Leonardo Gollo[1], Michael Breakspear[1]
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3856 **Assessing effective causal cortical interactions with the cross-frequency feedback index**
Roberto Pascual-Marqui[1,2], Keiichiro Nishida[2], Masafumi Yoshimura[2], Yuichi Kitaura[2], Toshihiko Kinoshita[2], Patricia Milz[1], Pascal Faber[1], Kieko Kochi[1]
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3857 **Auditory discrimination progression during acute coma predicts cognitive and functional outcome**
Elsa Juan[1,2], Marzia De Lucia[3], Athina Tzovara[4], Valérie Beaud[1], Mauro Oddo[1], Stephanie Clarke[5], Andrea Rossetti[1]
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3858 **Automatic creation of fast, realistic boundary element head models**
Daniel Miklody[1,2], Yu Huang[2], Stefan Haufe[1], Lucas Parra[2]
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3859 **Measuring the correlation structure of cortical oscillations with EEG and MEG**
Marcus Siems[1], Anna-Antonia Pape[1], Joerg F. Hipp[1], Markus Siegel[1]
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3860 **A novel automatic pre-processing pipeline for EEG analysis based on robust statistics**
Janir Nuno da Cruz[1,2], Vitaly Chicherov[1], Michael Herzog[1], Patrícia Figueiredo[2]
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3861 **The Posterior Cingulate Cortex drives the brain at rest: an EEG-based directed connectivity study**
Ana Coito[1], Christoph Michel[1], Serge Vulliemoz[2], Gijs Plomp[3]
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3862* Learning Effects in Fast Transient Brain States During the Formation of Long-Term Memories
Andrew Quinn[1], Eva Patai[1], Adam Baker[1], Anna Nobre[1], Mark Woolrich[1]
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3863 A benchmark for EEG-based brain connectivity estimation pipelines based on realistic simulated data
Stefan Haufe[1,2], Arne Ewald[3]
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3864 Epileptic brain networks detection improved by time-variant effective connectivity and graph theory
Silvia Francesca Storti[1], Sehresh Khan[1], Ilaria Boscolo Galazzo[2,3], Paolo Manganotti[4], Gloria Menegaz[1]
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3865 Hierarchical Sparsity-Based Estimation Approach Resolves Subcortical Sources Underlying M/EEG Data
Pavitra Krishnaswamy[1,2,3,4], Gabriel Obregon-Henao[1,5], Jyrki Ahveninen[1,6], Sheraz Khan[1,6], Behtash Babadi[3], Juan Eugenio Iglesias[1], Matti Hamalainen[1,6,7], Patrick Purdon[1,5]
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3866 How reproducible are EEG source location and connectivity estimates?
Keyvan Mahjoory[1,2], Loic Botrel[3], Klaus Linkenkaer-Hansen[4], Marco Fato[1], Vadim Nikulin[5], Stefan Haufe[2,6]
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3867 Time-frequency analysis of phase-amplitude coupling in a two-population neural mass model
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3868 Feature mapping of intracranial EEG in patients with poor seizure control after epilepsy surgery
Christian Rummel[1], Eugenio Abela[2], Andrea Seiler[3], Roland Wiest[4], Kaspar Schindler[3]
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3869 Working memory induced frequency changes in EEG
Dario Schöbi[1], Sara Tomiello[2], Lilian Aline Weber[3], Katharina Wellstein[3], Gabor Stefanics[3], Helene Haker[4], Sandra Iglesias[3], Jakob Heinzle[5], Klaas Enno Stephan[3,6,7]
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3870 Nonuniform neural field modeling of seizure spreading on the cortical surface
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3871 Combining EEG and MEG for modeling auditory deviance responses
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3872 Multidimensional EEG source reconstruction: A Tensor Based Approach
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3873 A Cross-Talk Informed Parcellation of the Brain for Connectivity Analysis of EEG/MEG Data
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3874 A BeamFormer for source localization in ElectroCOrticoGraphy
Annalisa Pascarella[1], Chiara Todaro[2], Maureen Clerc[3], Thomas Serre[4], Michele Piana[5]
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3875 Effects of head model errors on EEG forward modeling in neonates
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3876 Scalp EEG from asynchronous cortical generators
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3877 **Tracking stimulus features with neural components**
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3878 **Age effects on brain signal complexity – a neural mass modelling study**
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MODELING AND ANALYSIS METHODS

fMRI Connectivity and Network Modeling

3879 **Dynamic functional connectivity reveals consistent transient resting-state network interactions**
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3880 **In vivo functional connectome of human brainstem nuclei by high spatial resolution 7 Tesla fMRI**
Marta Bianciardi[1], Nicola Toschi[1,2], Cornelius Eichner[1], Jonathan Polimeni[1], Kawin Setsompop[1], Emery Brown[3], Matti Hamalainen[1], Bruce Rosen[1], Lawrence Wald[1]
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3881 **Dynamic Brain Functional Connectivity: Change-Point Estimation and Testing**
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3882* **The cost of controlling the human connectome**
Richard Betzel[1], Shi Gu[1], John Medaglia[1], Fabio Pasqualetti[2], Danielle Bassett[1]
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3883 **Spatial Patterns and Flow Dynamics in Functional Connectivity States across the Human Lifespan**
Makoto Fukushima[1], Richard Betzel[1,2], Ye He[3], Xi-Nian Zuo[3], Olaf Sporns[1]
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3884 **Alien hand, restless brain: connectivity disruption parallels progression of diagonistic dyspraxia**
Ben Ridley[1,2], Marion Beltramone[3], Jonathan Wirsich[1,2,4], Arnaud Le Troter[1,2], Eve Tramoni[3,4], Sandrine Aubert[5], Sophie Achard[6,7], Jean-Philippe Ranjeva[1,2], Maxime Guye[1,2], Olivier Felician[3,4]
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3885 **Scaling up Directed Graphical Models for Resting-State fMRI with Stepwise Regression**
Ruth Harbord[1], Lilia Carolina Carneiro da Costa[2], Jim Smith[3], Janine Bijsterbosch[4], Sonia Bishop[4], Thomas Nichols[3]
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3886 **Dynamical component analysis of fMRI time series**
Raphael Liegeois[1], Mattia Zorzi[2], B.T. Thomas Yeo[1]
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3887 **Directional connectivity analysis within DMN based on combined spatial and temporal ICA of MREG data**
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3888 **Dynamic fluctuations in integration and segregation within the functional connectome**
Mac Shine[1], Peter Bell[2], Oluwasanmi Koyejo[3], Chris Gorgolewski[3], Craig Moodie[1], Russell Poldrack[3]
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3889 **Parcellating the Cerebral Cortex by Combining Local and Global Functional Connectivity Information**
Alexander Schaefer[1], Ru Kong[1], Evan Gordon[2], Timothy Laumann[3], Simon Eickhoff[4], Xi-Nian Zuo[5], Avram Holmes[6], B.T. Thomas Yeo[1]
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3890* **Individual Cerebral Cortex Parcellation with Group-level Spatial and Connectivity Priors**
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3891 **Predicting haemodynamic networks using electrophysiology**
Prejaas Tewarie[1], Molly Bright[1], Arjan Hillebrand[2], Sian Robson[1], Lauren Gascoyne[1], Peter Morris[1], Jil Meier[3], Piet Van Mieghem[3], Matthew Brookes[1]
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3892 **Quantitative evaluation of simulated functional brain networks in graph theoretical analysis**
Won Hee Lee[1], Sophia Frangou[1]
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3893 **Neuroanatomical basis of orbitofrontal-hypothalamic interaction revealed by areal parcellation**
Takahiro Osada[1], Satoshi Hirose[1], Akitoshi Ogawa[1], Masaki Tanaka[1], Hiroyuki Wada[2], Yasunori Yoshizawa[2], Yoshio Imai[2], Toru Machida[2], Masaaki Akahane[2], Ichiro Shirouzu[2], Seiki Konishi[1]
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3894 **Multimodal connectivity mapping of the human left anterior and posterior lateral prefrontal cortex**
Andrew Reid[1], Danilo Bzdok[2], Robert Langner[3], Peter Fox[4], Angie Laird[5], Katrin Amunts[6], Simon Eickhoff[7], Claudia Eickhoff[8]
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3895 **Overlapping and distinct structural covariance networks in children with autism and ADHD**
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3896 **Temporal autocorrelation and between-subject heterogeneity in resting-state functional connectivity**
Ivor Cribben[1], Mark Fiecas[2], Jacqueline Cummine[3]
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3897 **Pallidal stimulation-related increase of resting functional connectivity in dystonia**
Robert Jech[1], Anna Fecíková[1], Filip Ružicka[1], Václav Cejka[1], Petra Havránková[1], Tereza Serranová[1], Václav Bocek[2], Josef Vymazal[3], Ivana Štetkárová[2], Dušan Urgošík[3], Karsten Mueller[4]
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3898 **High entropy is a brain network feature of midline frontal and association cortices**
Mangor Pedersen[1,2], Amir Omidvarnia[2], Jennifer Walz[2], Andrew Zalesky[1], Graeme Jackson[2,1,3]
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3899 **Analyzing non-stationarity of connectivity by a new matrix decomposition method**
Aapo Hyvarinen[1], Jun-ichiro Hirayama[2], Vesa Kiviniemi[3], Motoaki Kawanabe[2]
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3900 **Altered topological organization of brain functional networks in non-NPSLE patients**
Xiaojin Liu[1], Xiangliang Tan[2], Miao Zhong[3], Meiqi Niu[1], Junjing Wang[1], Ling Zhao[1], Kai Han[4], Jun Xu[5], Yikai Xu[2], Ruiwang Huang[1]
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3901 **Effective connectivity changes within the default mode network induced by coma**
Margarita Papadopoulou[1], Adeel Razi[2], Brigitta Malagurski[1], Patrice Péran[1], Stein Silva[1]
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3902 **Omission of nuisance regressors from dual regression can improve fMRI functional connectivity maps**
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3903 **Direct Evidence of Functional Connectivity Influencing Behavior: Connectivity Neurofeedback Study**
Ayumu Yamashita[1,2,3], Syunsuke Hayasaka[4], Mitsuo Kawato[1], Hiroshi Imamizu[1,5]
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3904 **Transient polysynaptic resting-state components map to known functional systems**
Alessandra Griffa[1,2], Benjamin Ricaud[3], Kirell Benzi[3], Jean-Philippe Thiran[2,1], Patric Hagmann[1,2]
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3905 **Oxytocin affects the directed connectivity from the precuneus to the dorsolateral prefrontal cortex**
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3906 **Preprocessing strategy influences graph-based exploration of altered functional networks in MDD**
Viola Borchardt[1], Anton Lord[1], Meng Li[1], Johan van der Meer[1], Hans-Jochen Heinze[2], Bernhard Bogerts[3], Michael Breakspear[4], Martin Walter[1]
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3907 **Dynamic reconfiguration of brain networks: links to schizophrenia risk and NMDA receptor function**
Urs Braun[1], Axel Schäfer[1], Danielle Bassett[2], Franziska Rausch[1], Janina Schweiger[1], Edda Bilek[1], Susanne Erk[3], Nina Romanczuk-Seiferth[3], Oliver Grimm[1], Leila Haddad[1], Kristina Otto[1], Sebastian Mohnke[3], Andreas Heinz[3], Mathias Zink[1], Henrik Walter[3], Andreas Meyer-Lindenberg[1], Heike Tost[1]
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3908 **Can sliding-window analysis map time-varying connectivity? Validation using fear conditioning data**
Blazej Baczkowski[1,2], Ilya Veer[1], Susanne Erk[1], Henrik Walter[1], Tom Johnstone[3]
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3909 **Enhanced functional connectivity inference using a shared components model**
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3910 **Functional interaction between brain networks associated with demands of tasks**
Siying Xie[1], Delong Zhang[2,3], Junchao Li[1], Zheng Zhang[1], Yuting Lin[1], Yuxuan Cai[1], Song Chang[1], Jinghua Pan[1], Ruiwang Huang[1], Ming Liu[1]
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3911 **Effective connectivity pattern in Gilles de la Tourette Syndrome: DCM evidence on fMRI data**
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3912 **A topological graph kernel for gender classification of functional brain networks**
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3913 **Temporal-spatial organization of the neonatal brain is associated with neurodevelopmental outcome**
Piergiorgio Salvan[1], Gareth Ball[1], Shona Falconer[1], Andrew Chew[1], Mary Rutherford[1], Nigel Kennea[2], Tomoki Arichi[1,3], A David Edwards[1,3], Serena Counsell[1]
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3915 **The relationship between functional network modularity and performance during a working memory task**
Kamil Bonna[1], Karolina Finc[1], Maja Dobija[1], Alex Lubinski[1], Jan Nikadon[1], Tomasz Wolak[2], Monika Lewandowska[3], Joanna Dreszer[3]
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3916 **Granger Causality Analysis in the Tensor Framework**
Esin Karahan[1], Pedro Ariel Rojas-Lopez[2], Pedro Valdes-Sosa[1,2]
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3917 **NBS-TFCE: A combined approach to solve cluster-defining threshold problems in connectomics**
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3918 **Informing participants about the study purpose affects resting state fMRI connectivity**
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3919 **Towards a Mechanistic Understanding of Hemispheric Lateralization in the Face Perception Network**
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3920 **Energetic Costs and Directionality of Global Functional Connectivity in the Human Brain**
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3921 **Characterizing the Brain's Dynamic Functional Connectivity at A Local Scale**
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3922 **Covariance-based estimation of cerebral effective connectivity from fast BOLD-fMRI**
Carolin Arand[1], Jonathan Schiefer[2], Stefan Rotter[2], Burak Akin[1], Jürgen Hennig[1], Pierre Levan[1]
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3923 **Network-level structure-function relationships in human neocortex**
Bratislav Misic[1,2], Richard Betzel[3], Marcel de Reus[4], Martijn van den Heuvel[4], Marc Berman[5], Randy McIntosh[6], Olaf Sporns[2]
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3924 **Boosting expectancy to enhance acupuncture effect: a fMRI study in knee osteoarthritis patients**
Jian Kong[1], Zengjian Wang[1], Jaclyn Leiser[1], Domenic Minicucci[1], Robert R. Edwards[2], Irving Kirsch[3], Ajay D. Wasan[4], Vitaly Napadow[5], Ted Kaptchuk[3], Randy L. Gollub[1]
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3925 **Regional Connectivity in Hippocampal System and Neocortical Areas During Visual Working Memory Tasks**
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3926 **Functional network efficiency shift during a working memory task. Parcellation scheme matters**
Karolina Finc[1], Kamil Bonna[1], Maja Dobija[1], Alex Lubinski[1], Jan Nikadon[1], Tomasz Wolak[2], Monika Lewandowska[3], Joanna Dreszer[3]
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3927 **Inter-subject variability in dynamic functional connectivity states tracks with occupancy of states**
Shruti Gopal[1], Jason Nomi[2], Dina Dajani[2], Rosa Steimke[3], Eswar Damaraju[4], Srinivas Rachakonda[5], Stefi Baum[6], Lucina Uddin[7], Vince D. Calhoun[8]
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3928 **Knowledge based functional connectivity Enrichment Analysis**
Wei Cheng[1], Edmund Rolls[2], Jie Zhang[1], Wenbo Sheng[1], Qiang Luo[1], Jianfeng Feng[1]
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3929 **Semi-automated network analysis of functional connectivity dynamics during fMRI task**
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3930 **Complex network analysis of brain functional connectivity in different loss of consciousness**
Shengpei Wang[1,2], Yun Li[3], Junfang Xian[4], Tianzuo Li[3], Huiguang He[1]
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3931* **Identifying spatiotemporal patterns of functional connectivity using dictionary learning**
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3932 **Functional Connectivity of Emotional Self-Regulatory Region during a continuous Meditation State**
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3934 **Low-theta oscillatory network during smoking cue-reactivity predicts smoking craving in smokers**
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3935 **Reward processing and cognitive control in adolescent smokers: Functional connectivity insights**
Lee Jollans[1], Cao Zhipeng[1], Ilknur Icke[2], Ciara Greene[1], Clare Kelly[3], Robert Whelan[1]
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3936 **Hierarchical Dynamic Causal Modelling (DCM) for fMRI**
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3937 **Dynamic connectivity of resting-state network according to the mother wavelet**
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3938 **Task-induced edge density analysis applied to the HCP social recognition experiment**
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3939 **Functional Connectivity Dynamics of the Resting State through the Human Adult Lifespan**
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3940 **Task-specificity of connectivity profiles: A comparison between ADHD and controls**
Roselyne Chauvin[1,2], Jan Buitelaar[1,2], Christian Beckmann[1,3,2], Maarten Mennes[1]
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3941* **The structural basis of large-scale functional connectivity in the mouse**
Valerio Zerbi[1], Joanes Grandjean[2], Markus Rudin[2,3], Nicole Wenderoth[1]
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3942 **Disease and treatment effects on default mode network homogeneity in major depressive disorder**
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3943 **Connectivity of the Default Mode Network & Cortical Motor Regions after Pediatric TBI**
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3944 **Discrepancy regarding confounds in resting state fMRI and resolution using Dynamic Causal Modelling**
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3945 **Probabilistic analysis of the schizophrenic functional (dys)connectome**
František Váša[1], Edward Bullmore[1], Ameera Patel[1]
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3946 **Brain avalanche patterns explain splitting of DMN into spatiotemporally sparse sub-units**
Zalán Rajna[1], Janne Kananen[2], Tapio Seppänen[3], Vesa Kiviniemi[4]
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3947 **Estimating dynamic connectivity transition rules in healthy controls and schizophrenia patients**
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3948 **A library of macaque connectomes for large-scale network simulations in TheVirtualBrain**
Kelly Shen[1], Joseph Gati[2], Ravi Menon[2,3], Stefan Everling[2,3], Anthony McIntosh[1,4]
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3949 **Cluster Weighted Regressions for Connectome Analysis**
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3950 **Investigating training induced changes in olfactory network in master sommeliers using graph theory**
Karthik Sreenivasan[1], Xiaowei Zhuang[1], Virendra Mishra[1], Zhengshi Yang[1], Gopikrishna Deshpande[2], Sarah Banks[1], Dietmar Cordes[1,3]
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3951 **Changes in Amygdala Connectivity During Multiple Visits of Real-Time fMRI Neurofeedback Training**
Raquel Phillips[1], Vadim Zotev[1], Kymberly Young[1], Masaya Misaki[1], Chung-Ki Wong[1], Brent Wurfel[1], Matthew Meyer[1], Frank Krueger[2], Matthew Feldner[3], Jerzy Bodurka[1]
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3952 **Predicting post-traumatic stress disorder using brain activation during working memory tasks**
Kate Essad[1], Hooman Azmi[2], Gerald Voelbel[3], Ekaterina Dobryakova[4], John DeLuca[5], Nancy Chiaravalloti[5], Helen Genova[5], Glenn Wylie[5]
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3953 **Subtypes of functional brain organization are associated with autism symptom severity**
Sebastian Urchs[1], Yassine Benhajali[2], Penelope Kostopoulos[1], Pierre Orban[2], John Lewis[1], Alan Evans[1], Pierre Bellec[2]
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3954 **The dynamic community structure depending the time varying multiscale networks of MDD**
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3955 **Fluctuations in network topology predict N-back correct and errors preferentially during high load**
Patrick Bissett[1], Mac Shine[1], Oluwasanmi Koyejo[1], Krzysztof Gorgolewski[1], Russell Poldrack[1]
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3956 **Impaired episodic memory network in subjects at high risk for Alzheimer's Disease**
Yafeng Zhan[1], Jianhua Ma[1], Kaibin Xu[2], Yanhui Ding[3], Zhengyi Yang[2], Tianzi Jiang[4], Yong Liu[4]
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3957 **Task-related effects of age on functional connectivity during attentive tracking**
Dag Alnæs[1], Erlend Dørum[1], Geneviève Richard[1], Knut Kolskår[1], Jan Egil Nordvik[2], Ole Andreas Andreassen[1], Tobias Kaufmann[1], Niels Kloosterman[3], Douglas Garret[3], Lars Tjelta Westlye[4]
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3958 **Impaired functional connectivity in subjects with mild cognitive impairment and Alzheimer's disease**
Yafeng Zhan[1], Bo Zhou[2], Hongxiang Yao[3], Kaibin Xu[4], Yanhui Ding[5], Jianhua Ma[1], Xinqin Zhang[6], Chunshui Yu[7], Tianzi Jiang[8], Xi Zhang[2], Yong Liu[8]
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3959 **Dynamic Functional Connectivity Entropy: a Voxel-wise Approach to Characterize the Dynamic of Brain**
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3960 **Topographic features of cortico-striatal connectivity predict reward-related behaviour in humans**
Andre Marquand[1], Koen Haak[1], Christian Beckmann[2]
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3961 **Functional connectivity between dorsomedial prefrontal and motor cortices during being imitated**
Aziem Athira Abdullah[1], Akihiro Sato[1], Madoka Matsumoto[2], Yukihito Yomogida[3], Kenji Matsumoto[3], Sotaro Shimada[1]
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3962 **What Is the Most Frequently Altered Area of the Cortex in Brain Disorders?**
Andrea Nani[1], Jordi Manuello[2], Tommaso Costa[3], Karina Tatu[3], Ugo Vercelli[4], Stefano Moia[2], Sergio Duca[2], Franco Cauda[3]
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3963 **The Pattern of Damage Propagation of the Left and Right Insulae**
Andrea Nani[1], Jordi Manuello[2], Tommaso Costa[1], Karina Tatu[1], Ugo Vercelli[3], Stefano Moia[2], Sergio Duca[2], Franco Cauda[1]
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3964 **The effect of cognition on functional connectivity in resting state networks of MS patients**
Jeroen Gielen[1], Melissa Cambron[2], Jeroen Van Schependom[1], Jorne Laton[1], Johan De Mey[3], Anne-marie Vanbinst[3], Miguel D'haeseleer[1,2,4], Jacques De Keyser[1,2], Marie Beatrice D'hooghe[1,2,4], Guy Nagels[1,2,4]
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3965 **Dynamics of the Resting-State Connectome with BrainX3: From Health to Disease**
Xerxes Arsiwalla[1], Riccardo Zucca[1], David Dalmazzo[1], Pedro Omedas[1], Gustavo Deco[2], Paul Verschure[1]
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3966 **Mapping the functional traits of levels of consciousness**
Enrico Amico[1], Daniele Marinazzo[2], Carol Di Perri[1], Lizette Heine[1], Charlotte Martial[1], Joaquin Goni[3], Steven Laureys[1]
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3967 **Laguerre Polynomials and Granger Causality: a New Approach to Directed Functional Connectivity**
Andrea Duggento[1], Gaetano Valenza[2,3], Luca Passamonti[4,5], Maria Guerrisi[1], Riccardo Barbieri[6,3], Nicola Toschi[1,7]
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3968 **Detecting resting-state networks using scalable multi-subject spatial canonical correlation analysis**
Sven Dähne[1,2], Julia Huntenburg[3], Anahit Babayan[3], Miray Erbey[3], Deniz Kumral[3], Janis Reinelt[3], Andrea Reiter[3], Josefin Röbbig[3], H. Lina Schaare[3], Daniel Margulies[3], Klaus-Robert Müller[1,2,4], Arno Villringer[3], Michael Gaebler[3,5]
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3969 **Genetic factors influence resting-state connectivity more than common environmental factors**
Giles Colclough[1], Stephen Smith[2], Thomas Nichols[3], Matthew Glasser[4], David Van Essen[5], Mark Woolrich[6]
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3970 **Sex-Related Neural Circuits of Anterior Insula with Individual Difference of Emotion Regulation**
Yan Wu[1], Huandong Li[2], Chunshui Yu[3], Tianzi Jiang[4]
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3971 **Mapping the cortico-hippocampal connectivity gradient in single subjects using resting-state fMRI**
Izabela Przezdzik[1,2], Koen Haak[1], Guillén Fernández[1,2], Christian Beckmann[1,2,3]
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3972 **Developmental Variability of perfusion and functional connectivity in the DMN of children and youth**
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3973 **Understanding Rich Club with a Stochastic Block Model: A Connectome Study of Schizophrenia**
Soroosh Afyouni[1], Dragana Pavlovic[2], Emma Towlson[3], Petra Vértes[4], Theodoros Arvanitis[1], Edward Bullmore[4], Thomas Nichols[5]
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3974 **Effects of norepinephrine on whole-brain resting-state network organization**
Jeremy Hofmeister[1], Virginie Sterpenich[1], Maria Giulia Preti[2], Kinga Igloi[1], Dimitri Van De Ville[2], Sophie Schwartz[1]
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3975 **Aging modulates the "switching" dynamics of Functional Connectivity fluctuations at rest**
Dionysios Perdikis[1], Rita Sleimen-Malkoun[2], Raoul Huys[3], Demian Battaglia[1], Petra Ritter[4], Jean-Jacques Temprado[2], Viktor Jirsa[1]
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3976 **Changes in Brain Connectivity After Cognitive-Behavioral Therapy In Obsessive Compulsive Disorder**
Teena Moody[1], Gigi Cheng[1], Joseph O'Neill[1], Jamie Feusner[1]
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3977 **Effect of Processing Pipeline on Functional Connectivity Analysis**
Michal Mikl[1], Eva Vytvarova[2,1], Jan Fousek[2,1], Marek Barton[1], Martin Gajdoš[1], Martin Lamos[1], Tomas Slavicek[1], Radek Marecek[1]
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3978 **Brain Effective Connectivity Pattern Modulation by Repeating Blocks of an fMRI Task**
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3979 **Redefining Structural Hubs in Human Brain Networks**
Xindi Wang[1], Qixiang Lin[1], Zhiqiang Sha[1], Mingrui Xia[1], Yong He[1]
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3980 **Functional Connectivity of Cortical Midline Structures Relates to Repetitive Negative Thinking**
Catherine Burrows[1], Lucina Uddin[1]
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3981 **Modeling Individual-Level Brain Connectivity Using Automated Search with Unsupervised Classification**
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3982 **Resting State Functional Connectivity Dynamics in Healthy Aging**
Raymond Viviano[1], Naftali Raz[1], Jessica Damoiseaux[1]
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3983 **Reliable modular classification of occipital nodes in functional graphs**
Maxwell Shinn[1], Petra Vértes[1], Kirstie Whitaker[1], Rafael Romero Garcia[1], František Váša[1], Prantik Kundu[2], Roger Tait[1], Ameera Patel[3], Cinly Ooi[1], John Suckling[1], Becky Inkster[1], Peter Fonagy[4], Ray Dolan[5], Peter Jones[1], Ian Goodyer[1], Edward Bullmore[1]
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3984 **The Functional Dynamics of Brain Domains in Schizophrenia**
Victor Vergara[1], Robyn Miller[2], Theo van Erp[3], Eswar Damaraju[1], Juan Bustillo[4], Jessica Turner[5], Daniel H. Mathalon[6], Judith M. Ford[6], James Voyvodic[7], Bryon A. Mueller[8], Aysenil Belger[9], Sarah McEwen[10], Steven Potkin[11], Vince Calhoun[12]
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3985 **First thoughts: Quantifying development of neonatal brain function**
Emma Robinson[1], Sean Fitzgibbon[2], Jelena Bozek[3], Antonios Makropoulos[1], Robert Wright[1], Andreas Schuh[1], Jana Hutter[4], Anthony Price[4], Lucilio Cordero Grande[4], Emer Hughes[4], Nora Tusor[4], A David Edwards[4], Joseph Hajnal[4], Stephen Smith[2], Mark Jenkinson[2], Daniel Rueckert[1], Eugene Duff[2]
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3986 **Reward contingencies improve cognitive control by reducing corticostriatal connectivity in addicts**
Patricia Rosell-Negre[1], Juan Carlos Bustamante[2], Victor Costumero[3], Paola Fuentes[1], Alfonso Barros-Loscertales[1], Anna Miró Padilla[4], Jesús Adrián-Ventura[5]
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3987 **A resting-state functional MRI study in treatment-naive patients with obsessive-compulsive disorder**
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3988 **Network Dynamics during a Sustained Attention Task in Multiple Sclerosis**
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3989 **Longitudinal changes in structural cortical networks after clinically isolated syndrome**
Carmen Tur[1], Arman Eshaghi[2], Thomas Jenkins[3], Ferran Prados[4], Jonathan Clayden[5], Sebastien Ourselin[6], Daniel Altmann[7], Claudia Gandini Wheeler-Kingshott[2], David Miller[1], Alan Thompson[1], Olga Ciccarelli[1], Ahmed Toosy[2]
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3990 **Functional interpretation of diffusion maps**
Marcel Falkiewicz[1], Edward Necka[2], Aleksandra Gruszka-Gosiewska[2], Beata Janik[2], Daniel Margulies[1]
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3991 **Executive Control and Salience Network Connectivity during Cue-induced Craving Modulated by tDCS**
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3992 **Characterizing the Primary Spectrum of Personality and Brain Connectivity**
Manousos Klados[1], Mark Lauckner[1], Estrid Jakobsen[1], Daniel Margulies[1]
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3993 **Dynamic functional connectivity without atlasing: getting down to the voxel level**
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3994 **Disentangling functional connectivity: brain parcellation, frequency properties and predictive rates**
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3995 **The BigHMM algorithm for transient state identification in big data**
Diego Vidaurre[1], Stephen Smith[2], Mark Woolrich[1]
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3996* **Multivariate distance correlation is a more reliable and robust measure of functional connectivity**
Linda Geerligs[1], Cam-Can[2], Richard Henson[1]
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3997 **Altered Resting-state Functional Connectivity in Patients with Takotsubo (Stress) Cardiomyopathy**
Marlene Topka[1], Jelena-Rhima Ghadri[2], Jürgen Hänggi[3], Thierry Hiestand[2], Carina Klein[4], Thomas F. Lüscher[2], Christian Templin[5], Lutz Jäncke[6]
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3998 **Benchmarking Connectivity: Neurocognitive Coupling Analysis with Accelerated Density Mapping**
Ehsan Shokri Kojori[1], Nora Volkow[1], Dardo Tomasi[1]
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3999 **Brain circuits involved in self-paced motion: the influence of 0.1 Hz waves**
João Gens[1,2], Joana Brito[1], Alexandre Andrade[1], Hugo Ferreira[1], Karl Koschutnig[3,4], Andreas Schwerdtfeger[3,4], Gert Pfurtscheller[4,5]
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4000 **A new framework to capture dynamics of frequency content of brain network time-courses**
Maziar Yaesoubi[1], Robyn Miller[1], Vince D. Calhoun[1]
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4001 **Memory task activation and resting-state connectivity are correlated across normal aging and MCI**
Valeria Kebets[1], Mitsouko van Assche[2], Jonas Richiardi[1], Rachel Goldstein[1], Yury Koush[3], Patrik Vuilleumier[4], Frederic Assal[2], Dimitri Van De Ville[5]
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4002 **Bases of dysfunctional inter-network modulations in disordered brain structure in schizophrenia**
Guillaume Curaudeau[1], Marcella Bellani[2], Karthik Ramaseshan[3], Carlo Marzi[2], Paolo Brambilla[4], Gianluca Rambaldelli[2], Vaibhav Diwadkar[3]
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4003 **Functional Connectivity's Degenerate View of Brain Computation**
Guillaume Marrelec[1], Arnaud Messé[2], Alain Giron[1], David Rudrauf[3]
[1]Inserm, Paris, France, [2]Hamburg University, Hamburg, Germany, [3]Inserm, Grenoble, Isere

4004 **Resting-state functional connectivity alterations associated with behavior changes – an injury study**
Hansruedi Baetschmann[1], Jürgen Hänggi[1], Nicolas Langer[2,1], Lutz Jäncke[1,3,4]
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4005 **Improved Classification of Schizophrenia using Hemisphere Specific Functional Network Connectivity**
Oktay Agcaoglu[1,2], Barnaly Rashid[1,2], Mohammad Arbabshirani[1], Vince Calhoun[1,2]
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4006 **Effects of sex and age on atlas based rs-fMRI functional connectivity in early adulthood**
Chao Zhang[1,2], Nathan Cahill[3,1], Stefi Baum[4,1], Andrew Michael[2]
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4007 **The organization of the developing infant brain estimated using intrinsic functional connectivity**
Andrew Salzwedel[1], Weili Lin[2], John Gilmore[3], Wei Gao[1]
[1]Cedars-Sinai Medical Center, Los Angeles, CA, [2]University of North Carolina at Chapel Hill, Chapel Hill, NC, [3]Department of Psychiatry, University of North Carolina, Chapel Hill, United States

4008 **Resting-state BOLD local synchrony as a strong proxy of glucose uptake and as a biomarker of aging**
Michael Bernier[1], Etienne Croteau[2], Christian-Alexandre Castellano[2], Maxime Chamberland[1], Stephen Cunnane[2], Kevin Whittingstall[3]
[1]Université de Sherbrooke, Sherbrooke, Quebec, [2]Université de Sherbrooke, Sherbrooke, Québec, [3]Université de Sherbrooke, Sherbrooke, Canada

4009 **Relation between dynamic functional connectivity and heart rate variability: effect of preprocessing**
Martin Lamos[1], Radek Marecek[1], Michal Mikl[1], Martin Gajdoš[1], Jiri Jan[2]
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4010 **Direction of head motion induces specific biases in resting state functional connectivity**
Fikret Isik Karahanoglu[1,2], Paul Wighton[1,3], M. Dylan Tisdall[1,3], Dara S Manoach[1,2], Andre van der Kouwe[1,3]
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4011 **Functional connectivity graph metrics in bipolar disorder and schizophrenia**
Julian Pineda Zapata[1], Gabriel Castrillon[2], Victor Calvo[1], Catalina Bustamante Arcila[1], Ana Diaz[3], cristian Vargas[4], Juan Pablo Ortiz[4], Carlos Lopez-Jaramillo[5]
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4013 **Time of Day Differences in Resting & Task Functional Connectivity in Older Adults**
John Anderson[1], Karen Campbell[2], Lynn Hasher[3], Cheryl Grady[4]
[1]York University, Toronto, Ontario, [2]Harvard University, Cambridge Massachusetts, [3]University of Toronto & Rotman Research Institute, Toronto, Ontario, [4]University of Toronto & Rotman Research Institute, Toronto, Canada

4014 **Functional connectivity and connectome analysis as a tool for differential diagnostics in DOC**
Elina Zmeykina[1], Ludmila Legostaeva[1], Kremneva Elena[1], Alexandra Poydasheva[1], Alexander Chervyakov[1], Dmitry Sergeev[1], Julia Ryabinkina[1], Natalya Suponeva[1], Michael Piradov[1]
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4015 **Directional Dynamic Analysis Reveals Distorted Functional Information Flows in Schizophrenia**
Robyn Miller[1], Victor Vergara[2], Vince Calhoun[3]
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4016 **Individual variability in functional connectivity and emotions provoked while watching movie scenes**
Ju Kab Lee[1], Soyoung Yoon[1], Gang Chen[2], Yong-Wook Shin[1]
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4017 **Pain disrupts cortical connectivity with thalamus and nucleus accumbens in chronic widespread pain**
Helene van Ettinger-Veenstra[1,2,3], Maria Engström[4,3], Peter Lundberg[4,3], Björn Gerdle[4,3]
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4018 **Physiological Origin of High Frequency Connectivity in High Speed fMRI? In Vivo vs. Simulations**
Cameron Trapp[1], Kishore Vakamudi[1], Stefan Posse[1]
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4019 **Network localization of hemichorea-hemiballismus**
Simon Laganiere[1], Aaron Boes[2], Michael Fox[3]
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4020 **Activation of resting state networks following focal stimulation in a human brain network model**
Andreas Spiegler[1], Enrique Hansen[2], Christophe Bernard[1], Anthony McIntosh[3], Viktor Jirsa[4]
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4021 **Network profiles of the orbitofrontal cortex when impulsivity is gated by affective valence**
Kristy Abraham[1], Vaibhav Diwadkar[2], Paul Soloff[3], Karthik Ramaseshan[4], Richard White[5]
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4022 **Investigating the stability of the functional connectome fingerprint under anesthetic drugs**
Emily Finn[1], Xilin Shen[1], Dustin Scheinost[1], Maolin Qiu[1], Philip Corlett[1], Todd Constable[1]
[1]Yale University, New Haven, CT

4023 **Model-based functional neuroimaging using dynamic fields: Probing the neural dynamics of response se**
Sobanawartiny Wijeakumar[1], Rodica Curtu[2], Joseph Ambrose[2], John Spencer[1]
[1]University of East Anglia, Norwich, United Kingdom, [2]University of Iowa, Iowa City, United States

4024 **Roads to Abstraction: Functional Connectivity of Cortex Carrying Abstract Information About Letters**
Marlis Ontivero-Ortega[1], Jorge Iglesias-Fuster[2], Agustin Lage-Castellanos[2], Jinnan Gong[3], Cheng Luo[3], Dezhong Yao[3], Mitchell Valdes-Sosa[2]
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4025 **Model-free estimation of task-based, dynamic functional connectivity and its confidence intervals**
Maria Kudela[1], Mario Dzemidzic[2], Brandon Oberlin[2], Joaquin Goni[3], David Kareken[2], Jaroslaw Harezlak[1]
[1]Indiana University RM Fairbanks School of Public Health, Indianapolis, IN, [2]Indiana University School of Medicine, Indianapolis, IN, [3]Purdue University, West Lafayette, United States

4026 **Functional connectivity and network measures are reduced in preterm infants**
Elveda Gozdas[1], Nehal Parikh[2], Stephanie Merhar[3], Jean Tkach[4], Lili He[2], Scott Holland[5]
[1]Cincinnati Children's Hospital Medical Center, Cincinnati, OH, [2]Nationwide Children's Hospital, Columbus, OH, [3]Cincinnati Children's Hospital Medical Center, Cincinnati, OH, [4]Cincinnati Children's Hospital Medical Center, Cincinnati, OH, [5]Cincinnati Children's Hospital Medical Center, Cincinnati, OH

4027 **Stability of partial correlation coefficient-based functional brain networks during a day**
Bumhee Park[1,2], Seok-Oh Jeong[1], Hae-Jeong Park[3,4,5]
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4028* **Shape variability in the dynamics of resting-state functional network and relationship with age**
Hyekyoung Lee[1], Moo Chung[2], Hyejin Kang[1], Eunkyung Kim[3], Youngmin Huh[1], Jarang Hahm[1], Yu Kyeong Kim[4], Dong Soo Lee[1]
[1]Seoul National University, Seoul, Korea, Republic of, [2]University of Wisconsin, Madison, WI, [3]Seoul National University Hospital, Seoul, Korea, Republic of, [4]Seoul National University College of Medicine, Seoul, Korea, Republic of

4029 **Weak Intrinsic Functional Connectivity between the Hippocampus and Caudate Is Behaviorally Relevant**
Xiang-Zhen Kong[1], Yi Pu[2], Xu Wang[1], Xin Hao[1], Zonglei Zhen[1], Jia Liu[3]
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4030 **Individuality exists in the functional brain networks during watching movies**
Changwon Jang[1], Hae-Jeong Park[2,3]
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4031 **Finding the Imposter: brain connectivity lends insight into lesion-induced delusions of familiarity**
Ryan Darby[1], Simon Laganiere[2], Sashank Prasad[3], Michael Fox[4]
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4032 **Dysfunction of the Large-Scale Networks in Patients with Disorders of Consciousness**
Yi Yang[1], Pan Lin[2], Jianghong He[1], Xiaoyu Xia[1], Zhu Chen[1], Ruxiang Xu[1], Hao Song[2]
[1]Department of Neurosurgery, Beijing Army General Hospital, Beijing, China, [2]Key Laboratory of Biomedical Information Engineering of Education Ministry, Institute of Biomedical, Xi'an, China

4033 **Exploring the Aging Connectome via Anatomically-Weighted Functional Connectivity**
Daniel Drake[1], Yunglin Gazes[1], David Parker[1], Yaakov Stern[1], Dubois Bowman[1]
[1]Columbia University, New York, NY

4034 **Comparing Functional Connectivity using Graphons**
Oluwasanmi Koyejo[1], Peter Diao[1], Madeleine Udell[2], Bala Rajaratnam[1], Russell Poldrack[1]
[1]Stanford University, Stanford, CA, [2]California Institute of Technology, Pasedena, CA

4035 **Functional Connectivity Adaptive Change Point Detection Algorithm**
Sadia Shakil[1], Chin-Hui Lee[1], Shella Keilholz[2]
[1]Georgia Institute of Technology, Atlanta, GA, United States, [2]Emory University and Georgia Institute of Technology, Atlanta, GA, United States

4036 **Selection of a Hemodynamic Response Function Influences Task Effects in Connectivity Maps**
Adriene Beltz[1], Kathleen Gates[2], Stephen Wilson[1], Peter Molenaar[1]
[1]The Pennsylvania State University, University Park, PA, [2]University of North Carolina at Chapel Hill, Chapel Hill, NC

4037 **Change point analysis for a large scale functional connectivity of fMRI data**
Seok-Oh Jeong[1], Hae-Jeong Park[2]
[1]Hankuk University of Foreign Studies, Yong-In, Korea, Republic of, [2]Yonsei University College of Medicine, Seoul, Korea, Republic of

4038 **Theoretical investigation of robustness of the resting state based on maximum entropy model**
Jiyoung Kang[1], Hae-Jeong Park[2]
[1]University of Hyogo, Akoh, Japan, [2]Yonsei University College of Medicine, Seoul, Korea, Republic of

4039 **Multiscale module detection on weighted functional brain networks during development using rs-fMRI**
Rodrigo Pineda-Mondragon[1], Nadia Gonzalez[2], Pablo Padilla[3]
[1]Applied Mathematics and Systems Research Institute, Mexico City, Mexico, [2]Hospital Infantil de México, México, Mexico, [3]IIMAS-UNAM, Mexico, Mexico

4040 **Structure-function network decoupling in cerebral palsy**
Dongha Lee[1,2,3], Min-Hee Um[2], Jong Doo Lee[4], Hae-Jeong Park[1,2]
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4041 **Leap Motional gesture controls in BRAINtrinsic: Interactive Immersive VR Connectome Exploration**
Morris Chukhman[1], Giorgio Conte[2], Allen Ye[2], Olusola Ajilore[2], Angus Forbes[2], Alex Leow[2]
[1]UIC, chicago, IL, [2]University of Illinois at Chicago, Chicago, IL

4042 **Connectivity differences in preterms treated with Erythropoietin or placebo compared to term borns**
Eswar Damaraju[1], Vince D. Calhoun[2], John Phillips[3], Robin Ohls[4], Jean Lowe[3], Arvind Caprihan[3]
[1]University of New Mexico, Albuquerque, NM, [2]Mind Research Network, Albuquerque, NM, [3]The Mind Research Network, Albuquerque, NM, [4]University of New Mexico, Albuquerque, United States

4043 **Impact of Scan State on Inter-individual Differences in Full-brain Functional Connectivity**
David O'Connor[1], Natan Vega Potler[1], Tamara Vanderwal[2], Lucas Parra[3], Samantha Cohen[3], Satra Ghosh[4], Jasmine Escalera[1], Natalie Grant-Villegas[1], Diana Kwon[1], Yael Osman[1], Meagan Kovacs[1], Cameron Craddock[1], Michael Milham[1]
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4044 **Temporal meta-states are associated with distinct patterns of dynamics, topology and attention**
Mac Shine[1], Oluwasanmi Koyejo[2], Russell Poldrack[2]
[1]Stanford University, Palo Alto, CA, [2]Stanford University, Stanford, CA

4045 **Modular organization of functional connectivity in schizophrenia patient beyond the resolution limit**
Cecile Bordier[1], Carlo Nicolini[1,2], Angelo Bifone[1]
[1]Istituto Italiano di Tecnologia, Center for Neuroscience and Cognitive Systems, Rovereto, Italy, [2]University of Verona, Verona, Italy

4046 **Boosting anterior insula and somatosensory cortex connectivity enhances interoceptive awareness**
Rahim Malekshahi[1,2], Maartje Spetter[1], Niels Birbaumer[1], Andrea Caria[3]
[1]Institute of Medical Psychology and Behavioral Neurobiology, University of Tübingen, Tübingen, Germany, [2]Graduate School of Neural & Behavioural Sciences, Tübingen, Germany, [3]Department of Psychology and Cognitive Science, University of Trento, Rovereto, Italy

4047 **Dynamic community reconfiguration in functional brain networks during a learning task**
Qawi Telesford[1], Jean Vettel[2], Danielle Bassett[1]
[1]University of Pennsylvania, Philadelphia, PA, [2]Army Research Laboratory, Aberdeen, MD

4048 **Resting SMA to dACC connectivity distinguishes action sub-networks in motor control from memory**
Vaibhav Diwadkar[1], Avisa Asemi[2], Karthik Ramaseshan[1], Ashley Burgess[3], Steven Bressler[2]
[1]Wayne State University, Detroit, MI, [2]Florida Atlantic University, Boca Raton, FL, [3]Wayne State University, Detroit, United States

MODELING AND ANALYSIS METHODS

Image Registration and Computational Anatomy

4049 **Precocious Brain Aging in Young Adult Baboons with Intrauterine Growth Restriction (IUGR)**
Katja Franke[1], Robert Dahnke[1], Geoffrey Clarke[2], Cun Li[3], Matthias Schwab[1], Christian Gaser[1], Peter Nathanielsz[4]
[1]University Hospital Jena, Jena, Germany, [2]University of Texas Health Science Center San Antonio, San Antonio, TX, [3]Southwest National Primate Research Center, San Antonio, TX, [4]University of Wyoming, Laramie, WY

4050* **Effects of Physical Exercise on Brain Atrophy in Patients at Risk of Alzheimer's Disease**
Benjamin Sinclair[1,2], Kay Cox[3], Elizabeth Cyarto[4], Nicola Lautenschlager[5], Patricia Desmond[1,2]
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4051 **Quantitative MRI Mapping of Subcortical Structures using FreeSurfer in HIV-Infected Children**
Allison Moreau[1], Martha Holmes[2], Mark Cotton[3], Barbara Laughton[3], Ernesta Meintjes[2], Andre van der Kouwe[1]
[1]Massachusetts General Hospital, Boston, MA, USA, [2]University of Cape Town, Cape Town, South Africa, [3]Stellenbosch University, Stellenbosch, South Africa

4052 **Structural Graph-Based Morphometry: a multiscale searchlight framework based on sulcal pits**
Sylvain Takerkart[1], Guillaume Auzias[2], Lucile Brun[2], Olivier Coulon[2]
[1]CNRS, Aix-Marseille Université, INT UMR 7289, Marseille, France, [2]Aix-Marseille Université, CNRS, INT UMR 7289, LSIS UMR 7296, Marseille, France

4053 **Fully-integrated T1, T2, T2* atlases of the spinal cord white and gray matter**
Benjamin De Leener[1], Manuel Taso[2,3], Vladimir Fonov[4], Arnaud Le Troter[2,5], Nikola Stikov[1,6], D. Louis Collins[4], Virginie Callot[7,5], Julien Cohen-Adad[1,8]
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4054 **SymReg-ESP – an efficient and accurate method for human brain inter modality registration**
Vitaly Galinsky[1], Lawrence Frank[1]
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4055 **SVReg: Surface-Constrained Volumetric Registration in BrainSuite**
Anand Joshi[1], Soyoung Choi[1], David Shattuck[2], Richard Leahy[1]
[1]Univ. of Southern California, Los Angeles, United States, [2]Ahmanson Lovelace Brain Mapping Center, Dept. of Neurology UCLA, Los Angeles, CA, United States

4056 **Cyto-, Receptor- and Fiberarchitecture of the Rat Brain Registered to the Waxholm Space Atlas**
Nicole Schubert[1], Markus Axer[1], Martin Schober[1], Anh-Minh Huynh[1], Marcel Huysegoms[1], Nicola Palomero-Gallagher[1], Jan Bjaalie[2], Trygve Leergaard[2], Katrin Amunts[1,3], Karl Zilles[1,4,5]
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4057 **CAT - A Computational Anatomy Toolbox for the Analysis of Structural MRI Data**
Christian Gaser[1], Robert Dahnke[1], (ADNI) for the Alzheimer's Disease Neuroimaging Initiativ[2]
[1]Jena University Hospital, Jena, Germany, [2]multisite study, across North America, United States

4058 **Longitudinal Alignment of Brain Cortical Anatomy using Strain-Constrained MSM**
Emma Robinson[1], Ben Glocker[1], Kara Garcia[2], Antonios Makropoulos[1], Jelena Bozek[3], Sean Fitzgibbon[4], Robert Wright[1], Andreas Schuh[1], Jana Hutter[5], Anthony Price[5], Lucilio Cordero Grande[5], Emer Hughes[5], Nora Tusor[5], A David Edwards[6], Joseph Hajnal[5], Mark Jenkinson[4], Daniel Rueckert[1]
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4059 **Inter-subject highres EPI-to-EPI direct nonlinear registration outperforms classical T1-based method**
Elvis Dohmatob[1], Gael Varoquaux[2], Bertrand Thirion[3]
[1]Parietal Team, INRIA / CEA, University of Paris-Saclay, Paris, France, [2]INRIA, Gif-sur-Yvette, Select, [3]INRIA, Saclay, France

4060 **Methodological preliminary to the analysis of cortical thickness in the developing ferret brain**
Ophelie Foubet[1], Benoit Larrat[2], Sebastien Mériaux[2], Isabel Reillo[3], Jean-François Mangin[4], Victor Borrell[3], Roberto Toro[1]
[1]Institut Pasteur, Paris, France, [2]Neurospin, CEA, Saclay, France, [3]Instituto de Neurociencias, Alicante, Spain, [4]Neurospin, CEA, Gif-sur-Yvette, France

4061 **Region-Based Spatial Normalization for fMRI Research in Brain Aging**
Qolamreza Razlighi[1]
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4062 **Automatic nonlinear transformation of 7T MRI brain image to Talairach stereotaxic space**
Mingyi Li[1], Jian Lin[1], Katherine Koenig[1], Sehong Oh[1], Mark Lowe[1]
[1]Cleveland Clinic, Cleveland, Ohio, USA

4063 **Big Data harmonization on a voxelwise scale: reliability of tensor-based morphometry**
Joshua Faskowitz[1], Katie McMahon[2], Greig de Zubicaray[3], Paul Thompson[1], Margaret Wright[4], Neda Jahanshad[1]
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4064 **Streamlines non-linear registration using MR-Ultrasound for intra-operative brain shift correction**
Francois Rheault[1], D. Louis Collins[2], Maxime Descoteaux[3]
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MODELING AND ANALYSIS METHODS

Task-Independent and Resting-State Analysis

4065 **Spontaneous Patterns in Human Visual Cortex Reflect Responses to Naturalistic Sensory Stimuli**
Meytal Wilf[1], Francesca Strappini[1], Tal Golan[2], Avital Hahamy[1], Michal Harel[1], Rafael Malach[1]
[1]Department of Neurobiology, Weizmann Institute of Science, Rehovot, Israel, [2]The Edmund and Lily Safra Center for Brain Sciences, Hebrew University of Jerusalem, Jerusalem, Israel

4066 **The Relationship between Eye Openness Ratio and Activities of the Resting State Networks**
Toshiharu Nakai[1], Keiji Matsuda[2], Sachiko Kiyama[3], Ichiro Takashima[2]
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4067 **Development of the intrinsic language network in Chinese preschool children from age 3 to 5 years**
Yaqiong Xiao[1], Angela Friederici[2], Jens Brauer[1]
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4068 **Differing Patterns of Altered Slow-5 Oscillations in Healthy Aging and Ischemic Stroke**
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4069 **Recovery of Slow-5 Oscillations in a Longitudinal Study of Ischemic Stroke patients**
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4070 **Connectivity in Human Epileptic Networks: a Simultaneous Intracranial EEG & fMRI study**
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4071 **Resting state functional connectivity correlates with infancy immune health in HIV-infected children**
Jadrana Toich[1], Martha Holmes[1], Paul Taylor[2], Ernesta Meintjes[1], Mark Cotton[3], Els Dobbels[3], Francesca Little[1], Andre van der Kouwe[4], Barbara Laughton[3], Suril Gohel[5], Bharat Biswal[5]
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4072 **Resting-state connectivity between the MFC and right TPJ reflects a characteristic to avoid errors**
Naoki Miura[1], Takayuki Nozawa[2], Makoto Takahashi[2], Ryoichi Yokoyama[3], Yukako Sasaki[2], Kohei Sakaki[2], Ryuta Kawashima[2]
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4073 **Dynamical Network Biomarker during Human Brain Development**
Lili Jiang[1], Danyang Sui[1], Luonan Chen[2], Qi Ouyang[3], Xi-Nian Zuo[1]
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4074 **The impact of the gastric basal rhythm on resting-state BOLD dynamics**
Ignacio Rebollo[1], Anne Dominique Lodeho[1], Catherine Tallon-Baudry[1]
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4075 **Brain hubs in lesion models: Predicting network topology with lesion patterns in patients**
Binke Yuan[1], Yuxing Fang[1], Zaizhu Han[1], Luping Song[2], Yong He[1], Yanchao Bi[1]
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4076 **Resting state functional connectivity mediates effects of prenatal alcohol exposure on arithmetic**
Jia Fan[1], Paul Taylor[2], Jadrana Toich[1], Christopher Molteno[1], Joseph Jacobson[3], Sandra Jacobson[3], Ernesta Meintjes[1]
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4077 **Frequency and Amplitude Modulation of Resting-State fMRI and Their Functional Relevance in Aging**
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4078 **Deep neural network for age prediction using resting-state fMRI data**
Hojin Jang[1], Jong-Hwan Lee[1]
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4079 **Distinguishing Changes RSNs using Regional Correlation for Node Identification in Schizophrenia**
William Sohn[1], Tae Young Lee[1], Je-Yeon Yun[1], Bryan Yoon[2], Kang Ik Cho[2], Sung Nyun Kim[1], Jun Soo Kwon[1]
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4080 **Functional Connectivity within S1 Cortex Mapped by Multi-Channel LFPs: Comparisons with FMRI**
Zhaoyue Shi[1], Ruiqi Wu[1], Pai-feng Yang[1], Li Min Chen[1], John Gore[2]
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4081 **Distinct patterns of resting state networks in children with APOE ε4 allele**
Kentaro Oba[1], Mitsunari Abe[1,2], Atsushi Arino[3], Daigo Michimata[3], Susumu Yokota[2], Hikaru Takeuchi[2], Ryuta Kawashima[2], Yasuyuki Taki[1,2]
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4082* **Dynamic multi-scale modes of resting state brain activity detected by entropy field decomposition**
Lawrence Frank[1], Vitaly Galinsky[2]
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4083 **Spontaneous Pupil Dilations During the Resting State Are Associated with Salience Network Activation**
Max Schneider[1], Pamela Hathway[1], Laura Leuchs[1], Philipp Sämann[1], Michael Czisch[1], Victor Spoormaker[1]
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4084* **Intrinsic Functional Brain Dynamics Underlying Executive Function**
Jason Nomi[1], Shruti Gopal[2], Dina Dajani[1], Rosa Steimke[3], Eswar Damaraju[4], Srinivas Rachakonda[4], Vince D. Calhoun[5], Lucina Uddin[1]
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4085 **Ventral striatal circuits are associated with impulsivity differentially in smokers vs. nonsmokers**
Sufang Li[1], Betty Jo Salmeron[1], Hong Gu[1], Elliot Stein[1], Yihong Yang[1]
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4086 **Decoding the brain's surface to track whole-brain and interior brain activity**
Mark Tenzer[1], Jonathan Lisinski[1], Amnah Eltahir[1,2], Stephen LaConte[1,2]
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4087 **Cognitive training alters the local functional integration in aging human brain**
Lifu Deng[1], Yan Cheng[2], Wei Feng[3], Xinyi Cao[2], Lijuan Jiang[2], Wenyuan Wu[3], Shanbao Tong[1], Chunbo Li[2], Junfeng Sun[1]
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4088* **Concordance Among Indices of Intrinsic Brain Function**
Chao-Gan Yan[1,2,3], Zhen Yang[4,2,5], Stanley Colcombe[2], Xi-Nian Zuo[1], Michael Milham[5,2]
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4089 **Partially restored resting-state functional connectivity in women recovered from anorexia nervosa**
Ilka Boehm[1], Daniel Geisler[1], Friederike Tam[1], Joseph King[1], Franziska Ritschel[1], Maria Seidel[1], Fabio Bernardoni[1], Julia Murr[1], Thomas Goschke[2], Vince D. Calhoun[3], Veit Roessner[1], Stefan Ehrlich[1]
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4090 **Young resting-state properties of brain regions determine thickness-age relationships in later life**
Christian Habeck[1], Qolamreza Razlighi[1], Stern Yaakov[1]
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4091 **Reproducible and Efficient Computation of Functional Partial Correlations for the Entire Brain**
Nicolas Honnorat[1], Theodore Satterthwaite[2], Ruben Gur[3], Raquel Gur[1], Christos Davatzikos[1]
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4092 **Investigation of Cerebellar Functional Connectivity in Term and Preterm Infants Using fcMRI**
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4093 **Frequency specific correspondence of network hubs dynamics during rest and natural vision**
Viviana Betti[1,2], Stefania Della Penna[1,2], Francesco de Pasquale[1,2], Gian Luca Romani[1,2], Maurizio Corbetta[3,4]
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4094 **Characterisation of the Default Mode Network in Terms of the Hurst Exponent**
Muhammad Farhat Kaleem[1], Dietmar Cordes[2]
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4095 **Dual regression analysis of attention-related networks of childhood solid non-CNS tumor survivors**
Charlotte Sleurs[1], Sabine Deprez[2], Jurgen Lemiere[3], Dorothee Vercruysse[1], Thibo Billiet[1], Ronald Peeters[2], Stefan Sunaert[1], Marleen Renard[3], Annne Uyttebroeck[3]
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4096 **Negative correlation between rs-FC of the rostrolateral PFC and risk-seeking behavior in young males**
Yacila Isabela Deza Araujo[1], Lydia Hellrung[1], Nils Kroemer[1,2,3], Stephan Nebe[1], Michael Smolka[1]
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4097 **Abnormal resting-state network connectivity in methamphetamine dependence with and without psychosis**
Jonathan Ipser[1], Anne Uhlmann[1], Paul Taylor[2], Brian Harvey[3], Don Wilson[1], Dan Stein[1]
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4098 **Dynamic functional connectivity in major depression**
Andreas Hahn[1], Christoph Kraus[1], Nicole Geissberger[2], Bastian Auer[3], Sebastian Ganger[1], Martin Tik[2], Inga-Lisa Stürkat[3], Allan Hummer[2], Daniela Pfabigan[3], Siegfried Kasper[1], Christian Windischberger[2], Claus Lamm[3], Rupert Lanzenberger[1]
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4099 **Stability and Variability of Effective Connectivity in Resting State Networks**
Hannes Almgren[1], Frederik Van de Steen[1], Roma Siugzdaite[2], Gourong Wu[3], Daniele Marinazzo[1]
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4100 **Robustness of the Functional Connectome Fingerprint**
Jason Druzgal[1], Christina Gancayco[1], Riley North[1], Bryson Reynolds[1], Jamie Blair[1]
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4101 **In phase: topographical changes in spontaneous EEG at moments of cross-frequency phase alignment**
Markus Gschwind[1], Christoph Michel[2], Andreas Kleinschmidt[3], Dimitri Van De Ville[4]
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4102 **Hearing Voices Without Psychosis: An Analysis of Functional Network Connectivity**
Stephanie Hare[1], Sanne Schuite-Koops[2], Iris Sommer[3], Jessica Turner[4]
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4103 **Compressed Online Dictionary Learning for Fast Resting-State fMRI Decomposition**
Arthur Mensch[1], Bertrand Thirion[2], Gael Varoquaux[3]
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4104 **Characterizing cross session coherence in the resting-state human brain**
Shuqin Zhou[1], Xiaopeng Song[1], Jia-Hong Gao[1]
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4105 **Traveling Waves of Spontaneous Brain Activity Preferentially Propagate within Local Networks**
Xiao Liu[1], Toru Yanagawa[2], David Leopold[3], Naotaka Fujii[2], Jeff Duyn[1]
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4106 **High-fidelity individual connectomes reveal successful neuroplasticity in perinatal stroke**
Mario Ortega[1], Timothy Laumann[1], Catherine Hoyt-Drazen[1], Annie Nguyen[1], Rebecca Coalson[2], Jonathan Koller[3], Joshua Shimony[4], Deanna Greene[3], Jeffrey Berg[5], Adrian Gilmore[5], Kathleen McDermott[5], Steven Nelson[6], Steve Petersen[7], Bradley Schlaggar[8], Nico Dosenbach[1]
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4107 **Resting-state anterior insula dynamics reveals increased state switching in the pre-psychotic brain**
Diana Wotruba[1], Thomas Bolton[2], Roman Buechler[3], Lars Michels[4], Anastasia Theodoridou[5], Spyros Kollias[4], Wulf Roessler[3], Dimitri Van De Ville[6], Karsten Heekeren[5]
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4108 **Reproducibility of seed-based resting state fMRI measures at 7 tesla**
Katherine Koenig[1], Sehong Oh[1], Wanyong Shin[1], Mark Lowe[1]
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4109 **Posterior cingulate cortex dynamics: effects of aging and contributions to mnemonic capabilities**
Thomas Bolton[1], Nora Leonardi[1], Dimitri Van De Ville[1]
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4110 **Graph-theoretic comparison of resting-state networks in patients with aphasia and healthy controls**
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4111 **Retrieving the Hemodynamic Response Function in resting state fMRI: methodology and applications**
Gourong Wu[1,2], Gopikrishna Deshpande[3], Steven Laureys[4], Daniele Marinazzo[2]
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4112 **Functional connectivity measurement during recovery of consciousness after traumatic brain injury**
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4113 **Blink-related oscillations as potential marker of brain functional status in traumatic brain injury**
Careesa Liu[1], Sujoy Ghosh Hajra[1], Ryan D'Arcy[1], Xiaowei Song[2], Teresa Cheung[3]
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4114 **Robust Resting State fMRI using Robust Principal Component Analysis (RPCA)**
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4115 **Oral Contraceptives and Menstrual Cycle Phase Affect Salience Network Resting-State Connectivity**
Jonas Engman[1], Inger Sundström Poromaa[1], Mats Fredrikson[1], Malin Gingnell[1]
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4116 **Impact of blindness onset on the resting connectivity profile of the occipital cortex**
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4117 **Comparison of fALFF at 3 Tesla and 7 Tesla**
Michael Woletz[1], Martin Tik[1], Claus Lamm[2], Christian Windischberger[1]
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4118 **A Functional Connectivity-Based Evaluation of Competing Models of Sex Differentiation and Autism**
Dorothea Floris[1], Meng-Chuan Lai[2], Michael Milham[3], Adriana Di Martino[1]
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4119 **Routing arbitration, variable functional connectivity and emotion-related subcortical structures**
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4120 **Functional hierarchy in the optokinetic nystagmus network reveals functional specific sub-networks**
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4121 **Embedding dynamic functional connectivity into two dimensions with tSNE**
Jacob Billings[1], Sadia Shakil[2], Gordon Berman[1], Shella Keilholz[3]
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4122 **Sliding windows are suboptimal for tracking functional connectivity dynamics**
Mary Beth Nebel[1,2], Yuting Xu[2], Ann Choe[1,2], Jessica Cohen[3], Anita Barber[4], Stewart Mostofsky[1,2], James Pekar[1,2], Brian Caffo[2], Martin Lindquist[2]
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4123 **The Brain as an Adaptive Network: Charactering the Associations between BOLD Dynamics and Functional**
Zening Fu[1], Xin Di[2], Shing Chow Chan[1], Bharat Biswal[2], Zhiguo Zhang[3]
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4124 **Low Dimensional Visualization of Sliding Window Correlation results using t-SNE**
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4125 **Modulation of intrinsic brain activity is on a slow temporal scale**
Dongqiang Liu[1], Bin-Ke Yuan[2], Yu-Feng Zang[3]
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4126 **Global Signal Representation is Spatially Shifted in Schizophrenia**
Genevieve Yang[1], John Murray[1], Matthew Glasser[2], Godfrey Pearlson[3], John Krystal[4], Charles Schleifer[5], Grega Repovs[6], Alan Anticevic[5]
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4127 **Variability of network correlation within the same 10 minute resting state acquisition**
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MOTOR BEHAVIOR

Brain Machine Interface

4128 **Can graph metrics be used for MI-BCIs?**
Carlos Alberto Stefano Filho[1], Brunno Campos[2], Thiago Costa[3], Luisa Uribe[3], Cândida Barreto[4], Romis Attux[3], Gabriela Castellano[1]
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4129 **ComAware and recoveriX: New projects with innovative brain mapping**
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4130 **Influence of feedback, motor imagery and reward in brain self-regulation using real-time fMRI**
Pradyumna Sepulveda[1,2,3], Ranganatha Sitaram[4,5,3,6], Mohit Rana[5,3], Cristián Montalba[1], Cristián Tejos[1,2], Sergio Ruiz[5,3,6]
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4131 **Differential Activation of Motor Areas with Functional Connectivity Brain-Computer Interfaces**
Patricia Vargas[1,2,3,4], Ranganatha Sitaram[1,2,4,5,6], Pradyumna Sepulveda[3,4,7], Cristian Montalba[3], Mohit Rana[1,2,4], Cristián Tejos[3,7], Sergio Ruiz[1,2,4,5]
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4132 **Volitional control of Fusiform Face Area in Autism Spectrum Disorder with Brain Computer Interfaces**
Jaime Pereira[1,2,3], Ranganatha Sitaram[1,3,4,5], Pradyumna Sepulveda[6,7,3], Cristián Tejos[4,7], Mohit Rana[2,3], Cristian Montalba[6], Sergio Ruiz[1,3,4,5]
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4133 **Hybrid EEG-fMRI neurofeedback of a motor-imagery task**
Lorraine Perronnet[1,2], Anatole Lécuyer[1], Marsel Mano[1,1], Elise Bannier[3,2], Fabien Lotte[4], Maureen Clerc[5], Christian Barillot[2]
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4134 **Decoding Visual Imagery of Stroke Drawing using EEG Data**
Po-Chih Kuo[1], Tzyy-Ping Jung[2,3], Yong-Sheng Chen[1], Li-Fen Chen[4,5]
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4135 **Brain computer interface based on alpha desynchronization induces brain plasticity**
Till Nierhaus[1], Carmen Vidaurre[2], Claudia Sannelli[2], Klaus-Robert Müller[2], Arno Villringer[3]
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4136 **An auditory-based Brain-Computer Interface for binary communication with complete locked-in patients**
Perrine Seguin[1,2,3,4], Mélodie Fouillen[1,2], Anatole Otman[1,2], Jacques Luaute[1,2,5], Pascal Giraux[6,4], Dominique Morlet[1,2], Maby Emmanuel[1,2], Jérémie Mattout[1,2]
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4137 **Changes in m. extensor digitorum communis cortical motor representations after BCI trainings**
Roman Lukmanov[1], Andrey Chernyavskiy[2], Alexander Chervyakov[1], Alexandra Poydasheva[3], Olesy Mokienko[1], Ilya Bakulin[1], Alexander Frolov[4], Ludmila Chernikova[1,5], Natalya Suponeva[3], Michael Piradov[3]
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4138 **Envelope of gamma activity represents the direction preference at macroscopic level**
Hong Gi Yeom[1], June Sic Kim[2], Chun Kee Chung[3]
[1]Interdisciplinary Program in Neuroscience, Seoul National University, Seoul, Korea, Republic of, [2]Department of Brain and Cognitive Sciences, Seoul National University College of Natural Sciences, Seoul, Korea, Republic of, [3]Department of Brain and Cognitive Science, College of Natural Sciences, Seoul National University, Seoul, Korea, Republic of

4139 **Classification of EEG Patterns of Finger Imaginary Movements Preprocessed by CSD conversion**
Natalia Shemyakina[1], Zhanna Nagornova[1], Konstantin Sonkin[2], Julia Khomenko[3], Dmitry Perets[1], Alexandra Koval[2], Lev Stankevich[2]
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MOTOR BEHAVIOR

Mirror System

4140 **Activity patterns in motor regions of stroke patients during observation, execution, and imitation**
Panthea Heydari[1], Sook-Lei Liew[1], Hanna Damasio[1], Carolee Winstein[1], Lisa Aziz-Zadeh[1]
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4141 **Representational properties of the Action Observation Network revealed by computer vision and RSA**
Burcu Urgen[1], Selen Pehlivan[2], Ayse Saygin[3]
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4142 **Evidence for distinct echo-mirror neuron subsystems in the human brain**
James Lewis[1], Jeremy Donai[1], Magenta Silberman[1], Chris Frum[1]
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4143 **Dynamic causal modelling of counter-imitation**
Megan Campbell[1], Michael Breakspear[2], Ross Cunnington[3]
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4144 **Sensitivity of premotor and parietal cortices to stimulus familiarity during action observation**
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MOTOR BEHAVIOR

Motor Behavior Other

4145 **Primary motor area identified without motor execution**
Camillo Porcaro[1,2,3], Carlo Cottone[1], Andrea Cancelli[1,4], Carlo Salustri[1], Franca Tecchio[1,5]
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4146 **Investigating the role of cerebellum in vocal behavior with theta burst stimulation**
Zarinah Agnew[1], Jeevit Gill[1], Srikantan Nagarajan[1], Hardik Kothare[1], Gregory Hickok[2], Ben Parrell[3], Richard Ivry[4], John Houde[1]
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4147 **Cortical activity during preparation and execution of compensatory stepping to balance perturbations**
Teodoro Solis-Escalante[1], Joris van der Cruijsen[1], Digna de Kam[2], Joost van Kordelaar[3], Vivian Weerdesteyn[2], Alfred Schouten[1,3]
[1]Delft University of Technology, Delft, Netherlands, [2]Radboud University Medical Center, Nijmegen, Netherlands, [3]University of Twente, Enschede, Netherlands

4148 **Reorganization of cortical motor representations after long term sequential skill learning**
Patrick Beukema[1,2], Timothy Verstynen[3,2]
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4149 **Error-detection is followed by reversal of information flow between ACC and Anterior Insula**
Julien Bastin[1], Pierre Deman[1], Olivier David[2], Marcela Perrone-Bertolotti[3], Philippe Kahane[4], Jean-Philippe Lachaux[5], Karim Jerbi[6]
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MOTOR BEHAVIOR

Motor Planning and Execution

4150 **Is Poor Motor Competence Associated with Reduced White Matter Organization in Obese Children?**
Mireille J.C.M. Augustijn[1,2], Frederik J.A. Deconinck[1], Eva D'Hondt[3], Matthieu Lenoir[1], Karen Caeyenberghs[4]
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4151 **Oscillatory coupling during response inhibition in health and frontotemporal dementia**
Laura Hughes[1], James Rowe[2]
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4152 **EEG oscillations are modulated in different behavior-related networks during rhythmic movements**
Martin Seeber[1], Reinhold Scherer[1], Gernot Müller-Putz[1]
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4153 **Representations of action affordances induced by an object's size and orientation: An fMRI study**
Dimitrios Kourtis[1,2], Pieter Vandemaele[2], Guy Vingerhoets[2]
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4154 **Imagine that! Examining the contribution of the primary motor cortices to MI-based skill acquisition**
Sarah Kraeutner[1], Tony Ingram[2], Shaun Boe[1]
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4155 **The Neurophysiology of Interference of Grasping Movements in Separate Working Memory Processes**
Rumeysa Gunduz[1,2], Thomas Schack[1,2,3], Dirk Koester[1,2]
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4156 **Optimal delineation of motor somatotopy in cortical and subcortical areas using fMRI**
Renaud Marquis[1], Sandrine Muller[1], Sara Lorio[1], Borja Rodriguez-Herreros[2], Anne Ruef[3], Lester Melie-Garcia[3], Ferath Kherif[4], Antoine Lutti[5], Bogdan Draganski[4]
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4157 **The Neural Correlates of the Contextual Interference Effect in a Bimanual Task: A Pilot Study**
Lisa Pauwels[1], Sima Chalavi[1], Stefan Sunaert[1], Stephan Swinnen[1]
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4158 **Haptically guided grasping of common tools: a functional magnetic resonance imaging (fMRI) study**
Piotr Styrkowiec[1,2], Łukasz Przybylski[2], Magdalena Reuter[2], Agnieszka Nowik[2], Gregory Kroliczak[2]
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4159 **Atypical motor preparation in adults who stutter: a MEG study of finger movement**
Oren Civier[1], Paul Sowman[2,3], Danit Lavenda[1], Andrew Etchell[2,3], Ofer Amir[4], Ruth Ezrati-Vinacour[4], Yuval Harpaz[1], Vered Kronfeld-Duenias[1], Tamar Flash[5], Michal Ben-Shachar[1,6]
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4160 **Mapping Spinal Pathways using Functional Connectivity Analysis of Surface EMG**
Tjeerd Boonstra[1], Jennifer Kerkman[2], Andreas Daffertshofer[3], Michael Breakspear[4]
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4161 **A novel strategy for the assessment of the topographical orderliness of cortical representations**
Andrea Leo[1], Giacomo Handjaras[1], Pietro Pietrini[2], Emiliano Ricciardi[3]
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4162 **Motor system dynamics when bilateral actions interfere: FMRI evidence for a network bottleneck**
Shivakumar Viswanathan[1,2], Rouhollah Abdollahi[2], Bin Wang[2], Silvia Daun-Gruhn[3,2], Gereon Fink[1,2], Christian Grefkes[1,2]
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4163 **Decoding motor intentions using phase, amplitude and phase-amplitude coupling**
Etienne Combrisson[1], Juan Soto[2], Philippe Kahane[3], Jean-Philippe Lachaux[4], Aymeric Guillot[5], Karim Jerbi[6]
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MOTOR BEHAVIOR

Visuo-Motor Functions

4164 **Cerebral lateralization of a various driving speed difference**
Mi-Hyun Choi[1], Seon-Young Gim[1], Woo-Ram Kim[1], Kyung-Ryul Mun[1], Hyung-Sik Kim[1], Soon-Cheol Chung[1]
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4165 **Non-Linear BOLD-Force Effects in the Dentate Nuclei of the Cerebellum**
Adnan Alahmadi[1,2], Matteo Pardini[1,3], Rebecca Samson[1], Karl Friston[4], Ahmed Toosy[1], Egidio D'Angelo[5,6], Claudia Gandini Wheeler-Kingshott[1,6]
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4166 **Effects of the visual feedback delay on visually-guided hand movement and self-body recognition**
Takahashi Yoshiyuki[1], Zama Takuro[1], Shimada Sotaro[1]
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4167 **Cerebellar activation during tool manipulation under limited visual feedback**
Sayako Ueda[1], Hiroyuki Sakai[2], Takatsune Kumada[3,1]
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4168 **The binding phenomenon during visuomotor integration of angry facial expressions**
Sélim Coll[1], Sascha Frühholz[2], Leonardo Ceravolo[1], Didier Grandjean[3]
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4169* **Brain responses to delayed visual hand movement feedback in a virtual reality tracking task**
Jakub Limanowski[1], Evgeniya Kirilina[1], Felix Blankenburg[1]
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4170 **SMA sensitivity to visual feedback corresponds with subsequent motor learning**
Ori Ossmy[1], Roy Mukamel[2]
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4171 **Hemispheric asymmetry in the processing of left/right rotations during spatial updating of scenes**
Mitsouko van Assche[1], Valeria Kebets[1], Jonas Richiardi[2], Frederic Assal[1], Patrik Vuilleumier[3]
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4172 **Handedness and response hand modulate connectivity of ipsi- and contra-lateral visuo-motor cortices**
Yicong Guo[1], Karthik Ramaseshan[2], Paolo Brambilla[3], Vaibhav Diwadkar[2]
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NEUROANATOMY

Anatomy and Functional Systems

4173 **Molecular correlates of resting state networks**
Nicola Palomero-Gallagher[1], Axel Schleicher[1], Katrin Amunts[1,2,3], Karl Zilles[1,3,4]
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4174 **Decreased Gray Matter Volume and Disrupted Resting State Functional Connectivity in Non-neuropsychia**
Chen Niu[1], Xiangliang Tan[2], Xiaojin Liu[1], Wenjie Jiang[1], Xiaoyan Wu[1], Yuan He[1], Kai Han[3], Jun Xu[4], Yikai Xu[2], Ruiwang Huang[1]
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4175 **Structural and Functional Connectivity of Human Thalamo-Cortical Communication**
Vinod Kumar[1], Christian Beckmann[2], Wolfgang Grodd[1]
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4176 **Patterns of effective connectivity within DMN differs for left and right parahippocampal regions**
Vadim Ushakov[1], Maxim Sharaev[1], Victoria Zavyalova[1], Vitaliy Verkhlyutov[2], Boris Velichkovsky[1]
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4177 **Structural neural connectivity of vestibular nuclei in the human brain**
Hyeok Gyu Kwon[1], Mi Young Lee[2], Sung Ho Jang[1]
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4178 **Short-term effect of escitalopram on efficiency of sensorimotor networks**
Christian Weisstanner[1], Georg Kägi[2], John Missimer[3], Roland Wiest[1], Bruno Weder[1]
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4179 **Lesion Characteristics of Patients with Chronic Dysphagia after Stroke**
Dae Hyun Kim[1], Sol Jang[1], Hea-Eun Yang[1], Hee-Seung Yang[1]
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4181 **Hierarchical distinction of two areas of the fusiform gyrus by PaMiNI derived co-activation patterns**
Julian Caspers[1], Simon Eickhoff[2], Katrin Amunts[3], Gerald Antoch[1], Karl Zilles[3]
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4182 **Individual Structural Connectivity Predictive of Functional Connectivity?**
Joelle Zimmermann[1,2], Petra Ritter[3,4,5,6], Tyler Good[1,2], Kelly Shen[1], John Griffiths[1], Randy McIntosh[1,2]
[1]Rotman Research Institute, Baycrest Health Sciences, Toronto, Ontario, [2]University of Toronto, Toronto, Ontario, [3]Charité University Medicine Berlin, Berlin, Germany, [4]Bernstein Focus State Dependencies of Learning & Bernstein Center for Computational Neuroscience, Berlin, Germany, [5]Minerva Research Group BrainModes, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, [6]Berlin School of Mind and Brain & Mind and Brain Institute, Humboldt University, Berlin, Germany

4183 **How congenital lack of hearing and sign language expertise shape the folding of the human cortex**
Luca Cecchetti[1,2], Emiliano Ricciardi[1], Pietro Pietrini[3,1,2], Hartwig Siebner[4,5], Ron Kupers[6,7], Maurice Ptito[4,7,8]
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4184 **Effective connectivity of the cerebellum during cognitive-perceptual dynamics**
Vinh Nguyen[1], Saurabh Sonkusare[2], Michael Breakspear[3], Christine Guo[4]
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4185 **Asymmetries of cortical thickness and surface area and their local correlations**
Sophie Maingault[1], Tzourio-Mazoyer Nathalie[1], Bernard Mazoyer[1], Fabrice Crivello[1]
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4186 **Hand deformity reflects plastic remodeling of red nucleus mediating motor compensation of lesions**
Theodor Rüber[1], Bernd Weber[1], Christian Elger[1]
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4187 **Exposing Hidden Semantic Descriptions from the Corpus Callosum: A Shape Grammar Application**
Umut Turgut[1], Didem Gökçay[2]
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4188* **A novel approach for the investigation of the functional correlates of fronto-parietal networks**
Valeria Parlatini[1], Marco Catani[2], Flavio Dell'Acqua[3], Joaquim Radua[1], Declan Murphy[4], Michel Thiebaut de Schotten[5]
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4189 **Characterizing the spatial organization of the human cortex using distance of connectivity**
Sabine Oligschläger[1], Julia Huntenburg[1], Mark Lauckner[2], Johannes Golchert[1], Daniel Margulies[1]
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NEUROANATOMY

Cortical Anatomy and Brain Mapping

4190 **Mapping language activity with ECoG and ECS**
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4191 **Brain asymmetries in term-born healthy infants: a volumetric MRI study from FinnBrain Birth Cohort**
Jetro Tuulari[1,2,3], Harri Merisaari[4,2], Satu Lehtola[2], Riitta Parkkola[5], Linnea Karlsson[6,2], Noora Scheinin[1,2], Hasse Karlsson[7,2]
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4192 **Venous artefact cannot explain why incomplete hV4 maps appear predominantly in the left hemisphere**
Harriet Taylor[1], Alexander Puckett[2], Zoey Isherwood[3], Mark Schira[1]
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4193 **Narrative scene and reading comprehension overlap topological visual, auditory and somatomotor maps**
Mariam Sood[1], Martin Sereno[2]
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4194 **Structural and functional hyperconnectivity within the sensorimotor system in xenomelia**
Jürgen Hänggi[1], Deborah Vitacco[2], Leonie Hilti[2], Roger Luechinger[3], Bernd Kraemer[4], Peter Brugger[2]
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4195 **ANATOMO-FUNCTIONAL CORRESPONDENCE IN THE SUPERIOR TEMPORAL SULCUS**
Clémentine Bodin[1], Sylvain Takerkart[2], Pascal Belin[3], Olivier Coulon[4]
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4196 **Organizing principles in quantitative neuroanatomy and brain mapping: a philosophical analysis**
Philipp Haueis[1]
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4197* **Tractography based parcellation of the frontal lobe: reproducibility & functional significance**
Michel Thiebaut de Schotten[1], Marika Urbanski[2], leonardo cerliani[1], Emmanuelle Volle[1]
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4198 **Disconnectome maps: a new approach to assess long range disconnections induced by focal brain lesion**
Chris Foulon[1], Emmanuelle Volle[1], Marika Urbanski[1], Richard Lévy[1], Marine Lunven[1], Michel Thiebaut de Schotten[1]
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4199 **Quantitative Cortical Shape Measures in Schizophrenia**
Sue Kulason[1], Koko Ishizuka[1], Aditya Banerjee[1], Elvan Ceyhan[2], Patrick Barta[1], Akira Sawa[1], Michael Miller[1], Tilak Ratnanather[1]
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4200* **Multi-Parameter Quantitative Brain Anatomy at 7 Tesla**
Roy Haast[1], Dimo Ivanov[1], Elia Formisano[1], Kamil Uludag[1]
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4201 **In Vivo Cortical Myelination of the Neonatal Brain in the Developing Human Connectome Project**
Jelena Bozek[1], Matteo Bastiani[2], Antonios Makropoulos[3], Robert Wright[3], Andreas Schuh[3], Sean Fitzgibbon[2], Jana Hutter[4], Anthony Price[4], Lucilio Cordero Grande[4], Emer Hughes[4], Nora Tusor[4], A David Edwards[4], Joseph Hajnal[4], Stephen Smith[2], Daniel Rueckert[3], Mark Jenkinson[2], Emma Robinson[3]
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4202 **Reduced structural and functional inter-subject variability in the visuo-motor system**
Maxime Chamberland[1], Gabriel Girard[2], Michael Bernier[1], David Fortin[1], Maxime Descoteaux[3], Kevin Whittingstall[3]
[1]Université de Sherbrooke, Sherbrooke, Quebec, [2]Université de Sherbrooke, Sherbrooke, Québec, [3]Université de Sherbrooke, Sherbrooke, Canada

4203 **Deactivation of posterior cingulate cortex is tied to conditioned pain modulation**
Frédérique Daigle[1,2,3], Julie-Anne Champagne[1,2], Laurence Théorêt[1,2], Vanya Videnova[1,2], Guillaume Léonard[4,5], Philippe Goffaux[6,5]
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4204 **A Topological Characterisation of Cortical Folding in Schizophrenia and Bipolar Disorder**
Stener Nerland[1], Kjetil Jørgensen[1], Bjørn Jahren[2], Ingrid Melle[3], Ole Andreas Andreassen[3], Ingrid Agartz[1]
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4205 **Cognitive decline in multiple sclerosis is associated with structural network disruption**
Carolina Rimkus[1,2], Menno Schooenheim[3], Martijn Steenwijk[1,4], Hugo Vrenken[1], Claudia Leite[2], Frederik Barkhof[1], Betty Tijms[5]
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4206 **Cortical Thickness and gender differences in 22q11.2 Deletion Syndrome**
Maria Gudbrandsen[1], Eileen Daly[1], Derek Andrews[1], Clodagh Murphy[1], Leila Kushan[2], Declan Murphy[1], Christine Ecker[3,1], Michael Craig[1], Carrie Bearden[2]
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4207 **A comparison of intra-cortical information from high-resolution quantitative MRI at 7T**
Pierre-Louis Bazin[1], Sophia Grahl[1], Christine Tardif[2], Christopher Steele[3], Audrey Fan[4], Andreas Schaefer[5], Claudine Gauthier[6], Nikolaus Weiskopf[7], Arno Villringer[1]
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4208 **Cortical Development in ADHD Points Towards Specific Early Neurodevelopmental Mechanisms**
Sara Ambrosino[1], Patrick de Zeeuw[1], Lara Wierenga[1], Sarai van Dijk[1], Bob Oranje[1], Sarah Durston[1]
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4209* **BigBrain: Automated analysis of laminar structure in the cerebral cortex**
Konrad Wagstyl[1], Claude Lepage[2], Karl Zilles[3], Katrin Amunts[3], Paul Fletcher[1], Alan Evans[4]
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4210 **Contra- and ipsilateral pathway-dependent cortical connectivity mapping of the vestibular system**
Valerie Kirsch[1], Emilie Kierig[1], Daniel Keeser[2], Birgit Ertl-Wagner[2], Thomas Brandt[3], Marianne Dieterich[1]
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4211 **A Comparison of Pre-Surgical Language Mapping Paradigms between MEG and fMRI**
Ronald Bishop[1], Christopher O'Grady[2], Gail Eskes[3,4,5], Steven Beyea[6,7], Tynan Stevens[8], Timothy Bardouille[9]
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4212 **A Multi-modal Parcellation of Human Cerebral Cortex**
Matthew Glasser[1], Timothy Coalson[2], Emma Robinson[3], Carl Hacker[4], John Harwell[2], Essa Yacoub[5], Kamil Ugurbil[5], Jesper Andersson[6], Christian Beckmann[7], Mark Jenkinson[8], Stephen Smith[6], David Van Essen[2]
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4213 **Somatotopic body map of the cerebellum at 7T**
Yohan Boillat[1], Wietske van der Zwaag[2]
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4214 **A Biomechanical Model of Cerebral Cortical Folding Development**
Monica Hurdal[1], Sarah Kim[2]
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4215 **Investigating cortical morphology through the dual-origin theory**
Anastasia Osoianu[1], Daniel Margulies[1], Julia Hutenburg[1], Sabine Oligschläger[1]
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4216 **Investigating Changes in Hippocampal Volume and Cognitive Performance in Contact-Sport Athletes**
Muhammad Usman Sadiq[1], Thomas Talavage[1]
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4217 **Investigating Cortical Thinning In Contact-Sport Athletes with History of Concussion**
Muhammad Usman Sadiq[1], Thomas Talavage[1]
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NEUROANATOMY

Cortical Cyto- and Myeloarchitecture

4218 **The human dorsal premotor cortex – cytoarchitecture, maps and function**
Benjamin Sigl[1], Svenja Caspers[1,2], Hartmut Mohlberg[2], Edna Cieslik[2], Simon Eickhoff[2,3], Katrin Amunts[2,1]
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4219 **Depth dependent analysis of intracortical myelin in the prefrontal cortex**
Christopher Rowley[1], Manpreet Sehmbi[1], Christine Tardif[2], Pierre-Louis Bazin[3], Luciano Minuzzi[1], Benicio Frey[1], Nicholas Bock[1]
[1]McMaster University, Hamilton, Ontario, [2]Cerebral Imaging Centre, Douglas Mental Health University Institute, McGill University, Montreal, Quebec, [3]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

4220 **Investigating the relationship of myeloarchitecture and connectivity in the human cortex using MRI**
Julia Huntenburg[1], Pierre-Louis Bazin[1], Alexandros Goulas[2], Daniel Margulies[1]
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4221 **Histologically-defined Optical Coherence Tomography of the Human Hippocampus**
Jean Augustinack[1], Caroline Magnain[1], Louis Vinke[1], David Boas[1], Bruce Fischl[1,2]
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NEUROANATOMY

Neuroanatomy Other

4222 **High resolution MRI neuroanatomy of the human occipital lobe post mortem with a 9.4T RF coil**
Alard Roebroeck[1], Shubharthi Sengupta[1], Ron Hellenbrand[2], Rene Finger[2], Arno Lataster[3], Andreas Herrler[3], Christopher Wiggins[4,1], Desmond Tse[1,5], Benedikt Poser[1]
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4223 **Virtual Reality Intrinsic Functional Connectivity Visualization Application: VRiBraiN**
Gonzalo Rojas[1], Jorge Fuentes[2], Carlos Montoya[3], Maria de la Iglesia-Vayá[4], Marcelo Gálvez[3]
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NEUROANATOMY

Normal Development

4224 **The Evolving Influence of Education and Socioeconomic Status on Early Brain & Cognitive Development**
Sean Deoni[1], Jonathan O'Muircheartaigh[2], Holly Dirks[3], Douglas Dean[4]
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4225 **Sexual Anatomy of the Maturing Brain during Adolescence: A Longitudinal Study**
Pauline Frere[1], Nora Vetter[2], Eric Artiges[1], Irina Filippi[1], Rubén Miranda[1], Hélène Vulser[1], Marie-Laure Martinot[1], Veronika Ziesch[2], Gunter Schumann[3], Patricia Conrod[3,4], Anna Cattrell[3], Sylvane Desrivieres[3], Gareth Barker[3], Arun Bokde[5], Robert Whelan[5], Hugh Garavan[6], Tomas Paus[7], Penny Gowland[8], Henrik Walter[9], Andreas Heinz[9], Bernd Itterman[10], Jurgen Gallinat[9], Tobias Banaschewski[11], Luise Poustka[11], Herta Flor[11], Frauke Nees[11], Christian Büchel[12], Uli Bromberg[12], Sarah Jurk[13], Eva Mennigen[2], Vincent Frouin[14], Dimitri Papadopoulos-Orfanos[14], IMAGEN consortium[15], Michael Smolka[2], Jean-Luc Martinot[1], Hervé Lemaitre[1]
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4226 **Mapping Cortical Development from Morphology to Microstructure: A Longitudinal Study in Preterms**
Marie Zomeno[1], Julien Lefèvre[2], François Leroy[1], David Germanaud[3,4], Jessica Lebenberg[1,5], Karina Kersbergen[6], Nathalie Claessens[6], Pim Moeskops[7], Cyril Poupon[8], Ivana Isgum[7], Jean-François Mangin[5], Manon Benders[6], Jessica Dubois[1]
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4227 **Cortical development through adolescence and early adulthood**
Natalie Forde[1,2], Lisa Ronan[3], Marcel Zwiers[4], Aaron Alexander-Bloch[3,5], Barbara Franke[6], Stephen Faraone[7,8], Jaap Oosterlaan[9], Dirk Heslenfeld[9], Catharina Hartman[1], Jan Buitelaar[6], Pieter Hoekstra[1]
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4228 **Developmental White Matter Myelination Relates to Local Growth of Cortical Areas**
Riccardo Cafiero[1], Jens Brauer[1], Alfred Anwander[1], Angela Friederici[1]
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4229 **Age and Sex-Related Development of Striatal Functional Connectivity in Adolescents**
Deepak Sarpal[1,2], Christina Fales[3], Miklos Argyelan[3], Anil Malhotra[3], Todd Lencz[3], Katherine Karlsgodt[3]
[1]Hofstra Northwell School of Medicine, Glen Oaks, NY, [2]The Zucker Hillside Hospital, Glen Oaks, NY, [3]Feinstein Institute for Medical Research, Manhasset, NY United States

4230 **Conjoint changes in structural and functional neurodevelopment of fronto-cingulate cortex**
Ashley Burgess[1], Supriya Singh[1], Richard White[1], Vaibhav Diwadkar[1]
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NEUROANATOMY

Subcortical Structures

4231 **Distinct cerebellar contributions to cognitive-perceptual dynamics during natural viewing**
Vinh Nguyen[1], Saurabh Sonkusare[1], Jane Stadler[2], Xintao Hu[3], Michael Breakspear[1], Christine Guo[1]
[1]QIMR Berghofer Medical Research Institute, Brisbane, Australia, [2]School of Communication and Arts, The University of Queensland, Brisbane, Australia, [3]School of Automation, Northwestern Polytechnical University, Xi'an, China

4232 **Detection of task-based activity of brainstem nuclei in single subjects**
Patrick Stahl[1], Tawfik Moher Alsady[1], Florian Beissner[1]
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4233 **Representation of visual eccentricity in human superior colliculus**
Elizabeth Halfen[1], Sucharit Katyal[2], Ibrahim Akbar[3], David Ress[1]
[1]Baylor College of Medicine, Houston, TX, [2]University of Minnesota, Minneapolis, MN, [3]Rice University, Houston, TX

4234 **Heritability of hippocampal subfield volumes using a twin and non-twin siblings design**
Sejal Patel[1,2], Min Tae M. Park[3,4], Gabriel Devenyi[3], Raihaan Patel[3], Mallar Chakravarty[3], Jo Knight[1,2]
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4235 **3D-reconstruction of cell distributions in the human subthalamic nucleus at 1 micron resolution**
Sebastian Bludau[1], Timo Dickscheid[1], Francesca Iannilli[1], Katrin Amunts[1,2]
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4236 **Investigating brainstem circuitry supporting cardiovagal response to pain – a 7T fMRI study**
Roberta Sclocco[1], Florian Beissner[2], Gaelle Desbordes[1], Jonathan Polimeni[1], Lawrence Wald[1], Norman Kettner[3], Jieun Kim[4], Ronald Garcia[1], Ville Renvall[5], Riccardo Barbieri[6], Vitaly Napadow[1]
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4237 **Intra- and inter-subject reliability of functional imaging of brainstem motor nuclei at 7T**
Eva Matt[1,2], Florian Fischmeister[1,2], Ahmad Amini[1,2], Simon Robinson[3,2], Thomas Foki[1,2], Elke Gizewski[4], Roland Beisteiner[1,2]
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4238 **Subcortical response increase to uncertainty and deviations from expectation**
Anna Mestres-Misse[1], Robert Trampel[2], Robert Turner[2], Sonja Kotz[3]
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4239 **Development of the frontostriatal pathways from adolescence to early adulthood**
Juha P Salmi[1,2,3], Mona Moisala[2], Irina Anurova[2], Viljami Salmela[2], Synnöve Carlson[4,5], Virve Vuontela[5], Kimmo Alho[2,3]
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4240 **Mapping Subcortical Shape Change Rates in Alzheimer's Disease**
Anjanibhargavi Ragothaman[1], Artemis Zavaliangos-Petropulu[2], Arvin Saremi[2], Christopher Ching[3], Paul Thompson[4], Boris Gutman[2]
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4241 **Childhood trauma exposure modulates association of genetic markers and caudate volume in GWAS**
Rajendra Morey[1,2,3], Sarah Lancaster[2,3], Melanie Garrett[4], Emily Dennis[5], Courtney Haswell[2,3], Jennifer Stevens[6], Guia Guffanti[7], Sanne van Rooij[6], Mid-Atlantic MIRECC Workgroup[2], Kerry Ressler[6,8], Mike Hauser[9,10], Allison Ashley-Koch[9,4,11]
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4242* **Mapping the polar angle representation of saccades in human superior colliculus**
Ricky Savjani[1], Elizabeth Halfen[1], David Ress[1]
[1]Baylor College of Medicine, Houston, TX

4243 **The role of the basal ganglia in visuomotor integration during handwriting: an fMRI study**
Marek Barton[1], Monika Fnaskova[1], Michal Mikl[1], Radek Marecek[1], Irena Rektorova[2], Steven Rapcsak[3], Ivan Rektor[1]
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4244 **Rapid Functional Localization of Human Thalamic Sensory Nuclei with Multiband fMRI**
Jared Van Snellenberg[1,2], Seth Baker[2], Juan Sanchez-Pena[2], Rachel Rosengard[2], Guillermo Horga[1,2]
[1]Columbia University Medical Center, New York, NY, [2]New York State Psychiatric Institute, New York, NY

NEUROANATOMY

White Matter Anatomy, Fiber Pathways and Connectivity

4245 **Cleaning Output of Tractography via Fiber to Bundle Coherence, a New Open Source Implementation**
Stephan Meesters[1,2], Gonzalo Sanguinetti[1], Eleftherios Garyfallidis[3], Jorg Portegies[1], Pauly Ossenblok[2], Remco Duits[1]
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4246 **A Graded Parcellation of the Temporal Lobe**
Claude Bajada[1], Rebecca Jackson[1], Hamied Haroon[1], Hojjatollah Azadbakht[1], Geoff Parker[1], Matthew Lambon Ralph[1], Lauren Cloutman[1]
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4247 **Topography of the Fornix and Stria Terminalis in the Living Human Brain**
Layla Banihashemi[1], Timothy Verstynen[2]
[1]University of Pittsburgh, Pittsburgh, PA, [2]Carnegie Mellon University, Pittsburgh, PA

4248 **MONKEY CONNECTOME: 3D interactive anatomical connectivity atlas of the macaque brain**
Kadharbatcha Saleem[1], Daniel Glen[2], Ziad Saad[2], Mortimer Mishkin[1]
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4249 **Longitudinal Study of White Matter Integrity in CST during First Year of Treatment with Fingolimod**
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4250 **Sparse Bayesian Learning based Estimation of White Matter Fiber Parameters from Compressed dMRI**
Pramod Pisharady[1], Julio Duarte-Carvajalino[1], Stamatios Sotiropoulos[2], Guillermo Sapiro[3], Christophe Lenglet[1]
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4251 **Data-driven patterns of white matter connectivity map onto functional networks**
Jonathan O'Muircheartaigh[1], Saad Jbabdi[2]
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4252 **Neural Correlates of Working Memory in Children with Agenesis of the Corpus Callosum**
Vanessa Siffredi[1,2,3], Megan Spencer-Smith[4,3], Pierre Barrouillet[1], Maarten Vaessen[1], Richard Leventer[5,6], Vicky Anderson[5,6,2], Patrik Vuilleumier[7]
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4253* **Post-mortem mapping of the inner connectivity of the human hippocampus using diffusion MRI at 11.7T**
Justine Beaujoin[1,2,3], Fawzi Boumezbeur[1,2,3], Jérémy Bernard[1,2,3], Markus Axer[4], Jean-François Mangin[5,2,3,6], Cyril Poupon[1,2,3,6]
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4254 **In vivo anatomy of the temporo-frontal extreme capsule fasciculus**
AmanPreet Badhwar[1], Jasmeen Sidhu[2], Pierre Bellec[1], Maxime Descoteaux[2], Michael Petrides[3]
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4255 **Connectivity fingerprints: A method to compare brain organization between species**
Rogier Mars[1], Lennart Verhagen[2], Thomas Gladwin[3], Franz-Xaver Neubert[2], Jérôme Sallet[2], Matthew Rushworth[2]
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4256 **Revisiting the Human Uncinate Fascicle with Stem-based Tractography and Microdissection**
Janice Hau[1], Silvio Sarubbo[2,3], Jean Christophe Houde[4], Francesco Corsini[2,3], Gabriel Girard[4], Charles Deledalle[5], Fabrice Crivello[1], Laure Zago[1], Emmanuel Mellet[1], Gaël Jobard[1], Marc Joliot[1], Bernard Mazoyer[1], Tzourio-Mazoyer Nathalie[1], Maxime Descoteaux[4], Laurent Petit[1]
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4257 **Structural Connectivity Reflects Functional Segregation of Speech Areas in Intraoperative Mapping**
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4258 **A fast and flexible toolbox for tracking brain connections in diffusion MRI datasets using GPUs**
Moises Hernandez-Fernandez[1], Istvan Reguly[2,3], Mike Giles[3], Saad Jbabdi[1], Stephen Smith[1], Stamatios N. Sotiropoulos[1]
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4259 **Joint kq-space compressive fiber orientation mapping in diffusion MRI**
Marica Pesce[1], Jean-Philippe Thiran[2,3], Yves Wiaux[4]
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4260 **Anatomical predictors of recovery from visual neglect after prism adaptation therapy**
Marine Lunven[1], Michel Thiebaut de Schotten[1], Clémence Bourlon[2], Raffaella Migliaccio[1], Karynne Moreau[3], Emilie Monnot[4], Christophe Duret[2], Gilles Rode[5], Paolo Bartolomeo[1]
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4261* **Cytoarchitectonic similarity as a wiring principle of the human connectome**
Alexandros Goulas[1], René Werner[1], Sarah Beul[1], Dennis Säring[1], Martijn van den Heuvel[2], Claus Hilgetag[1]
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4262 **Precision white-matter connectomes to study individuality and variability in human populations**
Franco Pestilli[1], Cesar Caiafa[1,2], Brent McPherson[1]
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4263 **Regional Staging of Age-Associated White Matter Disease**
Emily Lindemer[1], Douglas Greve[2], Bruce Fischl[3], Jean Augustinack[4], David Salat[5]
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4264 **Whole brain tract-based analysis of white matter changes in anisometropic amblyopia**
Hsien-Te Su[1], Tzu-Hsun Tsai[2], Yao-Chia Shih[3], Yu-Shiang Tzeng[4], Chien-Chung Chen[4], Wen-Yih Isaac Tseng[5]
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4265 **Left ILF underlies orthographic processing: Evidence from lesion-behavior mapping analysis**
Xiaonan Li[1], Ke Wang[1], Luping Song[2], Ruiwang Huang[3], Junhua Ding[1], Yanchao Bi[1], Zaizhu Han[1]
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4266 **Validation of DTI Tractography in human brain by using Postmortem Fiber Dissection**
Shin Tai Chong[1], Han Gao[2], Chun-Yi Zac Lo[1], Jingsong Wu[2], Ching-Po Lin[1]
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4267* **Frontal aslant tract and premotor connections underlying visuomotor processing in humans**
Sanja Budisavljevic[1], Flavio Dell'Acqua[2], Diego Miotto[3], Raffaella Motta[3], Umberto Castiello[1]
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4268 **Heritability of the limbic networks**
Sanja Budisavljevic[1,2], Jamie Kawadler[2], Flavio Dell'Acqua[2], Frühling Rijsdijk[3], Fergus Kane[2], Marco Picchioni[2], Philip McGuire[2], Timothea Toulopoulou[2,4], Anna Georgiades[2], Sridevi Kalidindi[2], Eugenia Kravariti[2], Robin Murray[2], Declan Murphy[2], Michael Craig[2,5], Marco Catani[2]
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4269 **Line propagation based on FDT probabilistic tracking (LP-FPT)**
Haixiao Du[1], Minhui Ouyang[2], Cong Gao[1], Bo Hong[3], Huazhong Yang[1], Yu Wang[1], Hao Huang[2,4]
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4270 **New Insights in the Structural Organization of the Anterior Half of the Human Corpus Callosum**
Laurent Petit[1], Alessandro De Benedictis[2], Francesco Corsini[3,4], Franco Chioffi[3,4], Mattia Barbareschi[5], Maxime Descoteaux[6], Silvio Sarubbo[3,4]
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4271 **Abnormal structural network topology in trigeminal neuralgia revealed by white matter tractography**
Jidan Zhong[1], David Chen[2], Dave Hayes[1], Kevin Liang[1], Peter Hung[2], Mojgan Hodaie[1]
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4272 **Patterns of white matter connectivity along the pre- and post-central gyrus**
Jasmeen Sidhu[1], Jean Christophe Houde[2], Martin Cousineau[3], Kevin Whittingstall[3], Maxime Descoteaux[3]
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4273 **Cortical connectivity maturation index of human brain based on short-range association tracts**
Minhui Ouyang[1], Tina Jeon[1], Jennifer Muller[1], Virendra Mishra[2], Haixiao Du[3], Yu Wang[3], Yun Peng[4], Bo Hong[5], Hao Huang[1,6]
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4274 **Quantitative anatomical connectivity of prelemniscal radiations in Parkinson's disease using SIFT2**
Maria Guadalupe Garcia Gomar[1], Francisco Velasco[2], J-Donald Tournier[3], Luis Concha[1]
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4275 **3-Dimensional Axon Diameter Estimation of White Matter Fiber Tracts in The Human Brain**
Shani Ben Amitay[1], Shlomi Lifshits[1], Daniel Barazany[1], Yaniv Assaf[1]
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4276 **The left arcuate fasciculus connects with the superior temporal gyrus: new evidence from FIBRASCAN**
Ilyess Zemmoura[1], Barthelemy Serres[2], Daniel Bourry[3], Frédéric Andersson[4], Laurent Barantin[5], Gilles Venturini[2], Christophe Destrieux[1]
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4277 **Reading and Vocabulary Comprehension Mediated by the Posterior Segment of the Arcuate Fasciculus**
Naianna Robertsson[1], Stephanie Forkel[1], Flavio Dell'Acqua[1], Marco Catani[2]
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4278 **Structural properties of the human corpus callosum: Multimodal assessment and sex differences**
Lassi Björnholm[1], Juha Nikkinen[2], Vesa Kiviniemi[3], Tanja Nordström[4], Mark Drakesmith[5], John Evans[6], Juha Veijola[7], Tomas Paus[8]
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4279 **Fractional Anisotropy Changes of Thalamic Stroke Patients: A TBSS Approach**
Adil Deniz Duru[1], Dilek Göksel Duru[2], Sami Yumerhodzha[3], Serra Sencer[4], Nerses Bebek[5]
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4280 **A Prospective Study of Myelination Patterns in Left Handed Children**
Heather Spader[1], Douglas Dean[2], Andrea Miele[3], Sean Deoni[4]
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4281 **Quantitative Susceptibility Mapping of White Matter Identified by Diffusion Tensor Tractography**
Sarah Treit[1], Hongfu Sun[1], Peter Seres[1], Alan Wilman[1], Christian Beaulieu[1]
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4282 **Different alterations of structural connectivity in ADHD subtypes**
Youngmin Huh[1], Hyejin Kang[1], Johanna Inhyang Kim[2], Yu Kyeong Kim[3], Bung-Nyun Kim[2], Dong Soo Lee[1]
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4283* **Covariation of brain structure volumes is explained by structural connectivity and gene expression**
Yohan Yee[1,2], Darren Fernandes[1,2], Jacob Ellegood[1], Lindsay Cahill[1], Dulcie Vousden[1,2], Leigh Spencer-Noakes[1], Jan Scholz[1], Brian Nieman[1,2], John Sled[1,2], Jason Lerch[1,2]
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4284 **Structural Network Modularity and Disease Severity in Multiple Sclerosis**
AmirHussein Abdolalizadeh[1,2], Bahram Mohajer[1,2], Nooshin Abbasi[1,2]
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4285 **TRACULINA: Automated Probabilistic Tractography with Anatomical Priors in the Infant Brain**
Anastasia Yendiki[1], Isabelle Filipiak[2], Elie Saliba[2], Laurent Barantin[2], Christophe Destrieux[2], Hugo Dupuis[2], Maria Cottier[2], Jessica Owen[3], Yangming Ou[1], Ani Varjabedian[1], Camilo Jaimes[1], Lilla Zollei[1]
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4286 **Characterisation of the fronto-temporal territory of the arcuate fasciculus**
Paule Toussaint[1], And Turken[2], Odile Plaisant[3], Nina Dronkers[4]
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4287 **The Evolution of Mammalian Connectome**
Yossi Yovel[1], Omri Zomet[1], Arieli Bonzach[2], Assaf Marom[1], Yaniv Assaf[1]
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PHYSIOLOGY, METABOLISM AND NEUROTRANSMISSION

Cerebral Metabolism and Hemodynamics

4288 **Measurement and characterization of the hemodynamic response function across cerebral cortex**
David Ress[1], Jung Hwan Kim[1]
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4289 **Reliability of the depth-dependent high-resolution BOLD response in human cortex**
Jung Hwan Kim[1], David Ress[1]
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4290 **Revisiting the effect of visual attention on the flow-metabolism ratio**
Erin Mazerolle[1], Melany Mclean[1], Rebecca Williams[1], Avery Berman[2], Wen-Ming Luh[3], G. Bruce Pike[1]
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Virendra Mishra[1], Xiaowei Zhuang[1], Karthik Sreenivasan[1], Zhengshi Yang[1], Sarah Banks[1], Dietmar Cordes[1], Charles Bernick[1]
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4292 **Association between cardiorespiratory fitness and cerebral blood flow at rest and during hypercapnia**
Catherine Foster[1], Jessica Steventon[1], Daniel Helme[1], Monica Busse-Morris[1], Richard Wise[1]
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4293 **Coupling between the resting functional connectome and cerebral blood flow**
Anders Wåhlin[1,2], Micael Andersson[2,3], Lars Nyberg[4,5,2]
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4294 **Calibrated Functional Magnetic Resonance Imaging of the Motor Cortex in Multiple Sclerosis**
Jaimie Bird[1], Erin Mazerolle[1], Wen-Ming Luh[2], G. Bruce Pike[1]
[1]University of Calgary, Calgary, Alberta, [2]Cornell University, Ithaca, NY

4295 **Cerebral Blood Flow as a Potential Endophenotypic Marker for Schizophrenia: a pCASL Twin Study**
Christian Legind[1,2], Egill Rostrup[2], Rachel Brouwer[3], Maria Jensen[1], Simon Anhøj[1,2], Rikke Hilker[1,2], Brian Broberg[1,2], Rene Mandl[3,1], Birte Glenthøj[1]
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4296 **Hypercapnia effects on Networks of Cerebral Blood Flow covariation in Mild Cognitive Impairment**
Carlos A. Sanchez-Catasus[1,2,3], Gretel Sanabria-Diaz[4,2], Eduardo Martinez-Montes[2], Yasser Iturria-Medina[5,2,6], Juan Samper-Noa[2,7], Ronald Boellaard[8], Peter De Deyn[9], Rudi A. J. O. Dierckx[3], Lester Melie-Garcia[4,2]
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4297 **Empirical hemodynamic response functions improve first-level GLMs for fMRI data analysis**
Joram Soch[1,2], Carsten Allefeld[1,3], John-Dylan Haynes[1,3,4,5,6,2]
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4298 **Cerebrovascular changes during the Valsalva Maneuver measured with VASO**
Daniel Handwerker[1], Laurentius Huber[1], Puja Panwar[1], Benjamin Gutierrez[1], Javier Gonzalez Castillo[1], Peter Bandettini[1]
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4299 **Brain aerobic glycolysis and motor adaptation learning**
Andrei Vlassenko[1], Benjamin Shannon[2], Sanjeev Vaishnavi[3], Andrei Vlassenko[1], Marcus Raichle[1]
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4300 **Regional Cerebral Blood Flow Following a Single Bout Aerobic Exercise Examined by PET and TCD**
Akitaka Muta[1], Mikio Hiura[2], Tadashi Nariai[1], Taketoshi Maehara[1], Muneyuki Sakata[3], Keiichi Oda[3], Jun Toyohara[3], Kiichi Ishiwata[3], Kenji Ishii[3]
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4301 **Exploratory Tensor ICA of fMRI Data During Breath-hold Reveals Effects on Multiple Brain Networks**
Lisa Nickerson[1,2], Blaise Frederick[1,2]
[1]Harvard Medical School, Boston, MA, [2]McLean Hospital, Belmont, MA

4302 **RCBF - rCMRO2 Interrelation of Neonatal Premature Brain, A Simultaneous NIRS – DCS Analysis**
Mina Nourhashemi[1], Guy Kongolo[2], Mahdi Mahmoudzadeh[3], Sabrina Goudjil[1], Fabrice Wallois[3]
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4303 **COMET: Connectivity-Metabolism Associations Characterized by Cost and Reactivity Indices**
Ehsan Shokri Kojori[1], Dardo Tomasi[1], Cornide Wiers[1], Gene-Jack Wang[1], Nora Volkow[1]
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PHYSIOLOGY, METABOLISM AND NEUROTRANSMISSION

Neurophysiology of Imaging Signals

4304 **Within-subject Comparisons of CVR Measured using Global Regression and Prospective PETCO2 Targeting**
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4305 **The effect of breath-hold on cardiorespiratory glymphatic pulsations – an MREG study**
Lauri Raitamaa[1], Niko Huotari[1], Ville Raatikainen[1], Vesa Korhonen[1], Vesa Kiviniemi[1]
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4306* **Resting-state fMRI signals in the macaque are altered by transient inactivation of basal forebrain**
Catie Chang[1,2], Janita Turchi[3,2], Frank Ye[3], Brian Russ[3], Ilya Monosov[4], Katy Smith[3], Yu David[3], Charles Zhu[3], Carlos Cortes[5], Mortimer Mishkin[3], Jeff Duyn[1], David Leopold[3]
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4307 **Teasing apart contributions of low-frequency LFPs and spiking activity from hemodynamic responses**
Ali Zaidi[1], Matthias Munk[1], Eberhard Fetz[2], Nikos Logothetis[1], Niels Birbaumer[3], Ranganatha Sitaram[4]
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4308 **FMRI post-stimulus undershoots in visual cortex have a neuronal origin and putative inhibitory role**
Karen Mullinger[1,2], Matthew Cherukara[1], Susan Francis[1], Stephen Mayhew[2]
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4309 **Inhibitory neuron activity contributions to hemodynamic responses: Optogenetic vs. sensory stimuli**
Alberto Vazquez[1], Mitsuhiro Fukuda[1], Seong-Gi Kim[2]
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4310* **Comparison of Neuronal and Hemodynamic Dynamic Connectivity Calculated Using GCaMP Mice Data**
Sowmya Aggarwal[1], Matthew Murphy[1], Alberto Vazquez[1]
[1]University of Pittsburgh, Pittsburgh, PA

4311 **The intrinsic oscillators of the resting-state human brain**
Xiaopeng Song[1], Shuqin Zhou[1], Jia-Hong Gao[1]
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4312 **Bayesian model selection for first-level GLMs prefers physiological over psychological fMRI models**
Joram Soch[1,2], Carsten Allefeld[1,3], John-Dylan Haynes[1,3,4,5,6,2]
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4313 **Combining EEG and eye tracking to disentangle underlying mechanisms of processing speed**
Nicolas Langer[1], Erica Ho[1], Lindsay Alexander[1], Kenneth Schuster[1], Michael Milham[2], Simon Kelly[3]
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4314 **Correspondence of BOLD- and Electrophysiology-Based Connectivity Dynamics After Corpus Callosotomy**
Ashesh Mehta[1], Pierre Mégevand[2], Victor Du[3], Erin Yeagle[4], jose herrero rubio[5], Manuel Mercier[6], Stephan Bickel[7], Corey Keller[8], David Groppe[9], László Entz[10], Brittany Davis[11], Sean Hwang[11], Scott Stevens[11], Miklos Argyelan[12], Christopher Filippi[13]
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PHYSIOLOGY, METABOLISM AND NEUROTRANSMISSION

Pharmacology and Neurotransmission

4315 **Effects of L-tryptophan and L-leucine on brain resting state networks and plasma hormone levels**
Davide Zanchi[1], Anne Christin Meyer-Gerspach[2], Claudia Suenderhauf[1], Stefan Borgwardt[1], Christoph Beglinger[3], Bettina Wölnerhanssen[4]
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4316 **Moderators and Mediators of Antidepressant Treatment Response**
Bernhard Meyer[1], Ulrich Rabl[1], Julia Huemer[2], Klaudius Kalcher[1], Christoph Brandner[1], Nora Ortner[1], Patrick Sezen[1], Siegfried Kasper[1], Ewald Moser[1], Gang Chen[3], Lukas Pezawas[1]
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4317 **Opposing effects of dextromethorphan and stress on the auditory mismatch negativity (MMN)**
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PHYSIOLOGY, METABOLISM AND NEUROTRANSMISSION

Physiology, Metabolism and Neurotransmission Other

4318 **PESTICA 3.0; Evaluation of a new Physiologic estimation by temporal independent components analysis**
Wanyong Shin[1], Erik Beall[1], Mark Lowe[1]
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4319 **Do we need to take the autonomic nervous response into account in fMRI studies?**
Chantal Delon-Martin[1], Amandine Rubio[2], Lukas Van Oudenhove[3], Sonia Pellissier[4], Huynh Giao Ly[3], Bruno Bonaz[2]
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4320 **Scale-free properties in fMRI activity correlate with GABA-A receptor binding and glucose metabolism**
Niall Duncan[1], Pengmin Qin[1], Christine Wiebking[2], Georg Northoff[3]
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4321 **Physical fitness predicts arterial compliance in the middle cerebral arteries: A pASL MRI study**
Hannah Furby[1], Esther Warnert[1], Christopher Marley[2], Damian Bailey[2], Richard Wise[1]
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4322 **Effects of exogenous female sex hormones on function and anatomy of the fusiform gyrus**
Verena Schuster[1], Peer Herholz[1], Stefan Frässle[1], Jens Sommer[2], Andreas Jansen[1]
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4323 **Exercise causes a transient increase in arterial blood volume measured with ASL MRI**
Jessica Steventon[1], Catherine Foster[2], Daniel Helme[3], Joseph Whittaker[2], Monica Busse-Morris[4], Kevin Murphy[2]
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4324 **Pharmacological manipulation of cardiac mediated fear breakthrough in binocular rivalry**
Cassandra Gould[1], Ryan Scott[2], Sarah Garfinkel[2], Hugo Critchley[3]
[1]Brighton and Sussex Medical School, Brighton, United Kingdom, [2]University of Sussex, Brighton, United Kingdom, [3]Sackler Centre for Consciousness Science, University of Sussex, Brighton, United Kingdom

4325 **Cognitive control of respiration: Intracranial recordings in humans**
Jose Herrero Rubio[1], Erin Yeagle[2], Pierre Mégevand[3], Charles Schroeder[4], Cerf Moran[5], Victor Du[6], Simon Khuvis[7], Ashesh Mehta[8]
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SOCIAL NEUROSCIENCE

Self Processes

4326 **Development of right inferior fronto-parietal cortices associated with self-face recognition**
Tomoyo Morita[1], Daisuke Saito[2], Midori Ban[3], Koji Shimada[2], Yuko Okamoto[2], Hirotaka Kosaka[2], Hidehiko Okazawa[2], Minoru Asada[1], Eiichi Naito[4]
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4327 **Transient Modulation of Neural Responses to Heartbeats Reflects Bodily Self-Consciousness**
Hyeong-dong Park[1], Fosco Bernasconi[1], Javier Bello-Ruiz[1], Christian Pfeiffer[1], Roy Salomon[1], Olaf Blanke[1]
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4328 **Abnormal functional connectivity based on sense of agency in schizophrenia: a fMRI study**
Akihiro Koreki[1], Takaki Maeda[1], Toshiaki Kikuchi[2], Tsukasa Okimura[1], Yuri Terasawa[3], Satoshi Umeda[3], Shiro Nishikata[4], Tatsuhiko Yagihashi[4], Hirokata Fukushima[5], Mari Kasahara[4], Masaru Mimura[1], Tamotsu Watanabe[4]
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4329 **Increased Anterior Commissure Integrity After MBSR Training Relates to Improved Describing Ability**
Chang-Le Chen[1], Yao-Chia Shih[2], Tzung-Kuen Wen[3], Shih-Chin Fang[4], Da-Lun Tang[5], Si-Chen Lee[6], Wen-Yih Isaac Tseng[7,8]
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4330 **Biomarkers of visual and kinesthetic bodily representations: an fMRI study**
David Perruchoud[1], Roger Gassert[2], Spyros Kollias[3], Lars Michels[3], Silvio Ionta[1]
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4331 **Unveiling the Creative Personality: Modulations in Resting State Networks linked to Insight**
Anna-Lisa Schuler[1], Martin Tik[1], Ronald Sladky[1], Caroline Di Bernardi Luft[2], André Hoffmann[1], Allan Hummer[1], Michael Banissy[3], Joydeep Bhattacharya[3], Christian Windischberger[1]
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4332 **Spontaneous activity in default-mode network predicts ascription of self-relatedness to stimuli**
Pengmin Qin[1], Simone Grimm[2], Niall Duncan[1], Georg Northoff[3]
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4333 **The neural correlates of the social self involved in clothing and perspective-taking**
Yeon-Ju Hong[1,2], Sunghyon Kyeong[3], Sunyoung Park[4], Jae-Jin Kim[4,1,2]
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4334 **An MRI study of gender differences in autobiographical memory**
Laurie Compère[1], Sylvain Charron[2], Thierry Gallarda[3], Stéphanie Lion[3], Eirini Rari[3], Catherine Oppenheim[2], Pascale Piolino[4], Piolino Pascale[5]
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SOCIAL NEUROSCIENCE

Social Cognition

4335 **New evidence on the role of the Cerebellum in Social Cognition: multi-study connectivity findings**
Frank Van Overwalle[1]
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4336 **Brain responses to free viewing of dynamic social and non-social object interactions**
R.Matthew Hutchison[1], Marisa Hollinshead[1], Jared Nielsen[1], Avram Holmes[2], Randy Buckner[1]
[1]Harvard University, Cambridge, MA, [2]Yale University, New Haven, CT

4337 **Prefrontal inhibition of facial mimicry**
Sebastian Korb[1], Robin Goldman[2], Richard Davidson[3], Paula Niedenthal[4]
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4338 **Decreased Interoceptive Sharing of Others' Social Pain in Long-Term Meditators**
Laura Müller-Pinzler[1], Davide Laneri[2], Frieder Paulus[1], Sören Krach[1], Jens Sommer[2]
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4339 **Patterns of cortico-limbic activation during affective appraisal in children with FASD**
Nadine Lindinger[1], Joseph Jacobson[2], Susan Malcolm-Smith[1], Vaibhav Diwadkar[2], Chris Molteno[1], Kevin Thomas[1], Frances Robertson[1], Ernesta Meintjes[1], Sandra Jacobson[2]
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4340 **Body motion presented upside-down: Human ultra-high field 9.4T fMRI**
Marina Pavlova[1], Michael Erb[1], Gisela Hagberg[1], Joana Loureiro[1], Klaus Scheffler[1,2]
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4341 **It hurts me too – an fMRI study of the effects of sleep restriction and age on empathy for pain**
Sandra Tamm[1], Gustav Nilsonne[2], Johanna Schwarz[2], Claus Lamm[3], Göran Kecklund[2], Predrag Petrovic[1], Håkan Fischer[2], Torbjörn Åkerstedt[1], Mats Lekander[2]
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4342 **Response Inhibition and Conflict Control on Facial Expressions**
Tongran Liu[1], Tong Xiao[2], Jiannong Shi[3]
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4343 **Cerebral resting state connectivity predicts cognitive biases in social anxiety**
Benjamin Kreifelts[1], Lena Weigel[1], Carolin Brueck[1], Heike Jacob[1], Michael ERB[1], Thomas Ethofer[2], Dirk Wildgruber[1]
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4344 **Effect of induced sadness on neural response to other's pain**
Yuan Cao[1], Genevieve Dingle[2], Ross Cunnington[3]
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4345 **Does the brain distinguish false beliefs from willful deception? An ALE meta-analysis of fMRI data**
Alessandra Rampinini[1], Luca Cecchetti[1], Alessia Marani[1], Emiliano Ricciardi[2], Pietro Pietrini[3]
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4346 **Dynamic or static stimuli affect the neural of gazing: A meta-analysis of direct and averted gaze**
An Yan[1], Linlin Gong[1], Huiqing Hu[1], Wenjie Wu[1], Yanshan Hong[1], Kun Wu[1], Hongke You[1], Shuyu Han[1], Yidan Qiu[1], Ruiwang Huang[2]
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4347 **Regional gray matter volume associated with shame-proneness**
Carlos Miyauchi[1,2], Hikaru Takeuchi[1], Yasuyuki Taki[1,3], Ryoichi Yokoyama[1,4], Seishu Nakagawa[1,5], Sugiko Hanawa[1], Rui Nouchi[1,6,7], Atsushi Sekiguchi[1,8], Tsuyoshi Araki[1,9], Yuko Sassa[1], Ryuta Kawashima[1]
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4348 **Effect of Mu-opioids on Neural Activation during Social Cognition subsequent to Early Social Trauma**
Lindie Du Plessis[1,2], Ernesta Meintjes[1,2], Kevin Thomas[3], Mark Solms[4], Jonathan Ipser[5], Dan Stein[6,7], Jack Van Honk[8,9], Susan Malcolm-Smith[10]
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4349 **Our brain helps bad news travel on the web: Evidence from an fMRI study**
Huijun Zhang[1], Chen Qu[1,2]
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4350 **The role of Somatosensory vicarious activation in costly helping behavior**
Selene Gallo[1], Mario Severo[1], Christian Keysers[1,2], Valeria Gazzola[1,2]
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4351 **Temporal and spatial brain dynamics of socio-emotional regulation in children with autism**
Charline Urbain[1], Julie Sato[1], Anne Keller[1], Elizabeth Pang[1], Margot Taylor[1]
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4352 **A network perspective on Theory of Mind and implications for autism spectrum disorder**
Carolin Moessnang[1], Axel Schäfer[1], Edda Bilek[1], Kristina Otto[1], Sarah Baumeister[2], Sarah Hohmann[2], Daniel Brandeis[3,2], Tobias Banaschewski[2], Luise Poustka[4], Andreas Meyer-Lindenberg[1], Heike Tost[1]
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4353 **Cognitive and neural processes underlying pain management behavior in emergency departments**
Corrrado Corradi-Dell'Acqua[1], Maryline Foerster[2], Gil Sharvit[1], Lionel Trueb[2], Eliane Foucault[2], Patrik Vuilleumier[1], Olivier Hugli[2]
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4354 **FMRI study of young adult social intelligence**
Oscar Rene Marrufo Melendez[1], Tule Patoni Salinas[2], Daniel Acevedo Gomez[2], Margarita Gonzalez Gonzalez[1], Rodrigo Alfonso Martin Salas[3], Jesus Taboada Barajas[1], Alfredo Rodriguez Gonzalez[4]
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4355 **Gender Specific Humor Processing in Different Types of Joke**
I- Fei Chen[1], Yu-Chen Chan[1]
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4356 **Explore the Coding of Emotional Valence of Faces Using Multivoxel Pattern Analysis (MVPA)**
Maria Bobes[1], Marlis Ontiveiro[1], Agustin Lage[1], Pedro Guerra[2], Alicia Sanchez[2], Jaime Vila[2], Mitchell Valdes-Sosa[1]
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4357 **Impression formation in autism: Neural processing of verbal and nonverbal social information**
Bojana Kuzmanovic[1,2,3], Alexandra Georgescu[4,3], Kai Vogeley[3,5]
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4358 **Activation to Olfactory Stimulus in Limbic and Frontal Regions is Correlated with Social Impairment**
Maya Reiter[1,2], Melissa Reilly[1,2], Kelly Sambrook[1,2], Laura Barrera[1,2], Frederick Reitz[3], Tanya St. John[4,3], Annette Estes[4,3], Stephen Dager[1,3], Natalia Kleinhans[1,2,3]
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4359 **Neural Substrates of Theory of Mind for Autism Spectrum Disorder Participants and Healthy Controls**
I-Li Tai[1], Susan Shur-Fen Gau[2,1], Tai-Li Chou[1]
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4360 **Neural and behavioural correlates of disagreement in risk perception in adolescents and adults**
Lisa Knoll[1], Alberto Lazari[1], Elina Jacobs[1], Sarah-Jayne Blakemore[1]
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4361 **Communion and connectivity: social values are reflected in white matter microstructure**
Andrew Lawrence[1], Bethany Coad[1], Carl Hodgetts[1], Kim Graham[1]
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4362 **Inter-species face processing in dogs: The role of frontal and temporal cortices**
Laura Cuaya[1], Raul Hernandez[1], Luis Concha[1]
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4363 **Psychotherapists show increased functional connectivity within empathy core network**
Victor Olalde-Mathieu[1], Roberto Mercadillo[2], Federica Sassi[1], Erick Pasaye[1], Fernando Barrios[1], Sarael Alcauter[1]
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4364 **Intrinsic functional connectivity associates with perceived loneliness in adolescents**
Nichol M.L. Wong[1,2,3], Xiaopei Xu[4], Edward S. Hui[4], Pek-Lan Khong[4], Rainbow T.H. Ho[5,6], Pui-sze Yeung[7], C. Mary Schooling[8], Tatia M.C. Lee[1,2,3,9]
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4365 **Neural basis of covert and overt processing of familiar faces. An fMRI study**
Beatrice de Gelder[1], Elisabeth Huis[2], Maria Bobes[3], Yusniel Santos[3], Joanna Jaen[3]
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4366 **Normative influences in perceptual decision-making**
Ulf Toelch[1], Rasmus Bruckner[1], Arezoo Pooresmaeili[2], Ray Dolan[3]
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SOCIAL NEUROSCIENCE

Social Interaction

4367* **Using Live Face-to-Face fMRI to Investigate the Social Brain in Autism**
Laura Harrison[1,2], J. Michael Tyszka[2], Jed Elison[3], Ralph Adolphs[2]
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4368 **How group membership shapes placebo analgesia**
Grit Hein[1,2], Jan Engelmann[3], Philippe Tobler[2]
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4369 **EEG-fMRI hyperscanning for studying neuronal activity during therapeutic face-to-face conversation**
Masaya Misaki[1], Hideo Suzuki[1], Brent Wurfel[1], Frank Krueger[2], Qingfei Luo[1], Chung-Ki Wong[1], Jerzy Bodurka[1,3]
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4370 **Understanding internal states of others by listening to action verbs**
Giuseppe Di Cesare[1], Fabrizio Fasano[1], Antonino Errante[1], Massimo Marchi[2], Giacomo Rizzolatti[1]
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4371 **What makes eye contact special? Neural basis of eye contact in real time: a hyperscanning fMRI study**
Takahiko Koike[1], Eri Nakagawa[1], Motofumi Sumiya[1], Shuntaro Okazaki[1], Norihiro Sadato[1]
[1]National Institute for Physiological Sciences, Okazaki, Japan

4372 **Maternal touch and the developing social brain**
Annett Schirmer[1], Christy Reece[2], Yaqiong Xiao[3], Jens Brauer[3]
[1]National University of Singapore, Singapore, Singapore, [2]University of Adelaide, Adelaide, Australia, [3]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

4373 **Neural substrates of feature-based joint attention: a hyperscanning functional MRI study**
Hiroki Tanabe[1], Ayumi Yoshioka[1], Takahiko Koike[2], Eri Nakagawa[2], Motofumi Sumiya[2], Shuntaro Okazaki[2], Norihiro Sadato[2]
[1]Nagoya University, Graduate School of Environmental Studies, Nagoya, Japan, [2]National Institute for Physiological Sciences, Okazaki, Japan

4374 **Repeated Interactions in Social Neuroscience**
Andreas Hula[1], Read Montague[2], Peter Dayan[3]
[1]University College London, London, United Kingdom, [2]Virginia Tech Carilion Research Institute, Roanoke, VA, United States, Roanoke, VA, [3]Gatsby Computational Neuroscience Unit, University College London, London, United Kingdom

4375 **Neural mechanisms of eye contact in face-to-face communication**
Jing Jiang[1,2,3], Kamila Borowiak[1], Luke Tudge[2], Katharina von Kriegstein[1]
[1]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, [2]Berlin School of Mind and Brain, Humboldt Universitaet zu Berlin, Berlin, Germany, [3]Institute of Psychology, Humboldt University zu Berlin, Berlin, Germany

4376 **Oxytocin and vasopressin modulation of functional connectivity during human social interaction**
Xiangchuan Chen[1], Xu Chen[1], James Rilling[1]
[1]Emory University, Atlanta, United States

4377 **Childhood adversity, prodromal symptoms and brain response to faces in young adulthood**
Johannes Pulkkinen[1], Vesa Kiviniemi[2], Graham Murray[3], Jennifer Barnett[3], Jouko Miettunen[1], Pirjo Mäki[1], Tomas Paus[4], Juha Veijola[1]
[1]University of Oulu, Oulu, Finland, [2]University of Oulu / Oulu University Hospitals&MRC, Oulu, Finland, [3]University of Cambridge, Cambridge, United Kingdom, [4]University of Toronto, Toronto, Canada

4378 **The neural correlates of the subjective experience of social interaction in high-functioning autism**
Alexandra Georgescu[1,2], Ulrich Pfeiffer[2], Leonhard Schilbach[3], Bojana Kuzmanovic[4], Bert Timmermans[5], Gary Bente[6], Kai Vogeley[2]
[1]Institute of Cognitive Neuroscience, University College London, London, United Kingdom, [2]Department of Psychiatry, University Hospital of Cologne, Cologne, Germany, [3]Max Planck Institute of Psychiatry, Munich, Germany, [4]Max Planck Institute for Metabolism Research, Cologne, Germany, [5]School of Psychology, University of Aberdeen, Aberdeen, United Kingdom, [6]University of Cologne, Cologne, Germany

4379 **Investigating the effects of predictability on the neural basis of gaze-based social interactions**
Marie-Luise Brandi[1], Leonhard Schilbach[1]
[1]Max Planck Institute of Psychiatry - Research Group Social Neuroscience, Munich, Germany

4380 **Mortality salience attenuates the in-group bias of costly punishment: a functional MRI investigation**
Chunliang Feng[1], Bobby Azarian[2], Tengxiang Tian[1], Lili Wang[1], Yue-Jia Luo[3], Frank Krueger[2]
[1]Beijing Normal University, Beijing, China, [2]George Mason University, Fairfax, VA, [3]Shenzhen University, Shenzhen, China

4381 **Modulation of neural determinants of eating behavior by social context**
Christiane Wegner[1,2], Benjamin Sack[1], Sebastian Schmid[1], Thomas Martinetz[1], Silke Anders[1]
[1]Center of Brain, Behavior and Metabolism, Universität zu Lübeck, Lübeck, Germany, [2]Graduate School of Computing in Medicine and Life Science, Universität zu Lübeck, Lübeck, Germany

4382 **The dynamic brain during interaction: A dual-fMRI investigation of the iterated Ultimatum Game**
Daniel Shaw[1], Kristina Czekoova[1], Lenka Kopeckova[2], Jan Rezac[2], Tomas Urbanek[3], Jiri Spalek[2], Milan Brazdil[1]
[1]CEITEC MU, Brno, Czech Republic, [2]ESF MU, Brno, Czech Republic, [3]Institute of Psychology Czech Academy of Sciences, Brno, Czech Republic

4383 **Thinking About Mental States of Cooperators and Non-Cooperators Resulting from Personal Interactions**
Azalea Reyes-Aguilar[1], Edgar Morales-Ramirez[1], Juan Fernandez-Ruiz[2], Fernando Barrios[1]
[1]Universidad Nacional Autónoma de México, Queretaro, Queretaro, [2]Universidad Nacional autonoma de Mexico, Mexico DF, Mexico

4384 **Distinguishing different psychiatric populations based on a social hierarchy paradigm**
Iris Vilares[1], Tobias Nolte[1], Andreas Hula[1], Zhuoya Cui[2], Peter Fonagy[1], Terry Lohrenz[2], Peter Dayan[3], Read Montague[2]
[1]University College London, London, United Kingdom, [2]Virginia Tech Carilion Research Institute, Roanoke, VA, USA, [3]Gatsby Computational Neuroscience Unit, University College London, London, United Kingdom

SOCIAL NEUROSCIENCE

Social Neuroscience Other

4385 **The Developmental Change of Empathy in Taiwanese Children: From EEG and Behavioral Evidence**
Tan-Ya Yau[1], Yawei Cheng[1], Chenyi Chen[1], Jean Decety[2]
[1]Institute of Neuroscience, National Yang-Ming University, Taipei City, Taiwan, [2]Department of Psychology, The University of Chicago, Chicago, IL

4386 **Effects of orientations to happiness on social well-being: a behavioral and neuroimaging study**
Feng Kong[1], Jia Liu[2]
[1]State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, [2]School of Psychology, Beijing Normal University, Beijing, China

4387 **Authentic pride activates networks of reward and self-reflection**
David Stolz[1], Laura Müller-Pinzler[1], Lena Rademacher[2], Sören Krach[1], Frieder Paulus[1]
[1]University of Lübeck, Lübeck, Germany, [2]Department of Psychiatry & Psychotherapy, University of Lübeck, Lübeck, Germany

4388 **Third-Party Altruistic Choice can be modulated by Other-Regarding Attention Focus: An fMRI Study**
Bastian David[1,2], Yang Hu[1], Bernd Weber[1,2]
[1]Center for Economics and Neuroscience, University of Bonn, Bonn, Germany, [2]Department of Epileptology, University Hospital Bonn, Bonn, Germany

4389 **Associations between subjective happiness and parietal cortex structure**
Dennis van 't Ent[1,2], Anouk den Braber[3], Dorret Boomsma[1], Eco de Geus[1], Meike Bartels[1]
[1]VU university, Amsterdam, Netherlands, [2]Neuroscience campus amsterdam, Amsterdam, Netherlands, [3]VU university medical centre, Amsterdam, Netherlands

4390 **An intra-cerebral EEG investigation of the automatic imitation paradigm**
Daniel Shaw[1], Kristina Czekoova[2], Petr Klimes[3], Robert Roman[1], Jan Chladek[3], Milan Brazdil[4]
[1]CEITEC MU, Brno, Czech Republic, [2]CEITEC MU, Institute of Psychology ASCR, Brno, Czech Republic, [3]ISI ASCR, Brno, Czech Republic, [4]Department of Neurology, St. Anne's University Hospital and Medic, Brno, Czech Republic

4391 **Influence of personality traits and CNS-PNS communication to fatigue-stress-anxiety interactions**

Li Wei Ko[1], Shih Hua Liu[1], Oleksii Komarov[2], Wen Cheng Hsu[1], Peter König[3], Caspar Goeke[3], William Hairston[4], Chin Teng Lin[1], Tzyy Ping Jung[5]
[1]National Chiao Tung University, Hsinchu, Taiwan, [2]National Chiao Tung University, Hsinchu, Ukraine, [3]Universität Osnabrück, Osnabrück, Germany, [4]Army Research Laboratory, Aberdeen, United States, [5]University of California, San Diego, United States

A

Abbas, Kausar – 1378 MT
Abbasi, Nooshin – 1354 MT
Abbasi, Omid – 3002 WTh
Abdolalizadeh, AmirHussein – 4284 WTh
Abdoun, Oussama – 2267 MT
Abdulkadir, Ahmed – 2193 MT
Abdullah, Aziem Athira – 3961 WTh
Abe, Sumiko – 1867 MT
Abela, Eugenio – 1579 MT
Abellaneda Perez, Kilian – 3740 WTh
Abos, Alexandra – 3917 WTh
Abraham, Alexandre – 1876 MT
Abraham, Kristy – 4021 WTh
Abrams, Daniel – 2033 MT
Abu Jamea, Abdullah – 3247 WTh
Acar, Freya – 2091 MT
Adams, Vicky – 3375 WTh
Adaszewski, Stanislaw – 2354 MT
Adebimpe, Azeez – 1791 MT
Adibpour, Parvaneh – 2015 MT
Adler, Sophie – 3135 WTh
Adrián-Ventura, Jesús – 3415 WTh
Aerts, Hannelore – 3812 WTh
Afyouni, Soroosh – 3450, 3973 WTh
Agcaoglu, Oktay – 4005 WTh
Aggarwal, Sowmya – 4310 WTh
Aglieri, Virginia – 2286 MT
Agnew, Zarinah – 4146 WTh
Ahmed, Rizwan – 1570 MT
Ahn, Hye-Jee – 3069 WTh
Ahrens, Stefan – 1442 MT
Ahtam, Banu – 2058 MT
Ai, Leo – 3006 WTh, 2072 MT
Aichelburg, Clarisse – 1436 MT
Ajilore, Olu – 1200 MT
Akin, Burak – 3879 WTh
Akselrod, Michel – 2346 MT
Alahmadi, Adnan – 1211 MT, 4165 WTh
Albaugh, Matthew – 1087 MT
Albi, Angela – 3545 WTh
Albouy, Philippe – 3555 WTh
Albusac-Jorge, Miriam – 1498 MT
Al-Fahad, Rakib – 3395 WTh
Alfaro-Almagro, Fidel – 1877 MT
Alghamdi, Jamaan – 3288 WTh
Alhazmi, Fahad – 2280 MT
Alicart, Helena – 3412 WTh
Alizadeh, Sarah – 3826 WTh
Allefeld, Carsten – 2159 MT
Allegra, Michele – 2099 MT
Allemang-Grand, Rylan – 1572 MT
Allendorfer, Jane – 3184 WTh
Aller, Máté – 2310 MT
Allexandre, Didier – 1773 MT
Allgaier, Nicholas – 2115 MT
Almgren, Hannes – 4099 WTh
Almuqbel, Mustafa – 1539 MT
Alnæs, Dag – 3957 WTh
Alonazi, Batil – 3162 WTh
Altmann, Andre – 1001 MT
Al-Wasity, Salim – 3828 WTh
Ambrosini, Ettore – 1440 MT
Ambrosino, Sara – 4208 WTh
Amemiya, Kaoru – 1975 MT
Amengual Roig, Julian Luis – 3003 WTh
Amico, Enrico – 3966 WTh
Amini, Ahmad – 1932 MT
Amoruso, Lucía – 3072 WTh
An, Winko W. – 1754, 1760 MT
Anderkova, Lubomira – 1334 MT
Andersen, Michael – 3778 WTh
Anderson, John – 4013 WTh
Ando, Juko – 1474 MT
Andres, Tamara – 3113 WTh
Andrews, Derek – 1103 MT
Angenstein, Nicole – 2277 MT
Angstmann, Steffen – 1464 MT
Anjomshoa, Ali – 3512 WTh
Anken, Jacques – 2368 MT
Ant, Jana – 3023 WTh
Anticevic, Alan – 1828 MT
Antonenko, Daria – 3724 WTh
Anzures, Gizelle – 1725 MT
Aoki, Yuta – 3192 WTh
Apaydin, Nihal – 1672 MT
Apostolova, Liana – 1065 MT
Aquino, Kevin – 2184 MT
Arand, Carolin – 3922 WTh
Arco, Juan E. – 1705 MT
Arichi, Tomoki – 1992 MT
Arn, Lionel – 2148 MT
Arnaez-Telleria, Jaione – 3667 WTh
Arnal, Luc – 2288 MT
Arsiwalla, Xerxes – 3965 WTh
Arya, Ravindra – 3143 WTh
Ashinoff, Brandon – 2243 MT
Ashtari, Manzar – 3438 WTh
Atiani, Serin – 1886 MT
Augustijn, Mireille J.C.M. – 4150 WTh
Augustinack, Jean – 4221 WTh
Auria, Anna – 2041 MT
Avram, Mihai – 1628 MT
Azizollahi, Hamed – 3875 WTh

B

Babajani-Feremi, Abbas – 3615 WTh
Bächinger, Marc – 3018 WTh
Baczkowski, Blazej – 3908 WTh
Badaoui, Fouad – 3281 WTh
Badhwar, AmanPreet – 4254 WTh
Baenninger, Anja – 3275 WTh
Baete, Steven – 2053 MT
Baetschmann, Hansruedi – 4004 WTh
Bagarinao, Epifanio – 3137 WTh
Bai, Wenwen – 1739 MT
Bai, Yanru – 3789 WTh
Bain, Jonathan – 1557 MT
Bainbridge, Wilma – 1881 MT
Bajada, Claude – 4246 WTh
Bak, Nikolaj – 2088 MT
Bakker, Geor – 3277 WTh
Balardin, Joana – 3576 WTh
Baldassarre, Antonello – 3070 WTh
Baldauf, Daniel – 3556 WTh
Baldini, Sara – 1106 MT
Baldwin, Philip – 1712 MT
Banaszkiewicz, Anna – 3629 WTh
Banihashemi, Layla – 4247 WTh
Banozic, Adriana – 1476 MT
Baquero, Katherine – 1359 MT
Barakovic, Muhamed – 2042 MT
Barbeau, Elise – 3609 WTh
Barber, Anita – 3472 WTh
Bari, Sumra – 1377 MT
Barlaam, Fanny – 1946 MT
Barnett, Alexander – 3150 WTh
Barraclough, Michelle – 1249 MT
Barron, Daniel – 3816 WTh
Barth, Claudia – 3390 WTh
Bartley, Jessica – 1523 MT
Barton, Marek – 4243 WTh
Bashivan, Pouya – 3797 WTh
Bas-Hoogendam, Janna Marie – 1074 MT
Basti, Alessio – 3848 WTh
Bastin, Julien – 4149 WTh
Batalle, Dafnis – 1991 MT
Bathelt, Joe – 3477 WTh
Battaglia, Demian – 3939 WTh
Battistella, Giovanni – 3698 WTh
Bauer, Clemens – 3285 WTh
Bauer, Corinna – 1239 MT
Baum, Graham – 3496 WTh
Baum, Sarah – 2311 MT
Baumann, Philipp – 3199 WTh
Baumgarten, Thomas – 2343 MT
Bayard, Frida – 1295 MT
Bayram, Ali – 2404 MT
Bazin, Pierre-Louis – 4207 WTh
Beaujoin, Justine – 4253 WTh
Beer, Anton – 3520 WTh
Behjat, Hamid – 2108 MT
Bell, Spencer – 1648 MT
Bell, Tiffany – 1422 MT
Bellot, Emmanuelle – 1311 MT
Beltz, Adriene – 4036 WTh
Ben Amitay, Shani – 4275 WTh
Bendetowicz, David – 1481 MT
benetti, stefania – 2309 MT
Benis, Damien – 3004 WTh
Benischek, Alina – 3635 WTh
Benner, Jan – 2287 MT
Bennett, Matthew – 3830 WTh
Berchio, Cristina – 1752 MT
Berezutskaya, Julia – 3683 WTh
Bergamino, Maurizio – 2052 MT, 3599 WTh
Berger, Isabelle – 3091 WTh
Bergert, Susanne – 3050 WTh
Berlot, Eva – 2284 MT
Berlot, Rok – 2054 MT
Berlow, Rustin – 3042 WTh
Berman, Albert – 1880, 2120 MT
Bernaerts, Sylvie – 1090 MT
Bernard, Jessica – 3282 WTh
Bernardi, Giulio – 2405 MT
Bernardoni, Fabio – 3131 WTh
Bernasconi, Fosco – 1767 MT
Bernhardt, Boris – 1847 MT
Bernier, Michael – 4008 WTh
Bertrand-Dubois, Daphné – 3564 WTh
Beschoner, Petra – 1153 MT
Bethlehem, Richard – 3895 WTh
Betta, Monica – 2410 MT
Betti, Viviana – 4093 WTh
Bettina, Steiger – 3169 WTh
Betzel, Richard – 3882 WTh
Beukema, Patrick – 4148 WTh
Bezgin, Gleb – 1130 MT
Bhagwat, Nikhil – 3822 WTh
Bhandari, Ritu – 2125 MT
Bhatt, Priya – 1858 MT
Bhattrai, Avnish – 1382 MT
Bhushan, Chitresh – 2194 MT
Bianciardi, Marta – 3880 WTh
Bickart, Kevin – 1396 MT, 3453 WTh
Bielczyk, Natalia – 2111 MT
Bielser, Marie-Laure – 2273 MT

Biffen, Stevie – 1213 MT
Billings, Jacob – 4121 WTh
Binder, Ellen – 1645 MT
Bird, Christopher – 1571 MT
Bird, Jaimie – 4294 WTh
Birn, Rasmus – 2150, 2153 MT
Bischof, Gérard – 1022 MT
Bishop, Ronald – 4211 WTh
Bissett, Patrick – 3955 WTh
Bittner, Nora – 1974 MT
Bittner, Robert – 3227 WTh
Björnholm, Lassi – 4278 WTh
Blanco, Borja – 3591 WTh
Blazejewska, Anna – 1728 MT
Blondiaux Garcia, Eva – 2304 MT
Bludau, Sebastian – 4235 WTh
Bobes, Maria – 4356 WTh
Bocharov, Andrey – 1733 MT
Bodin, Clémentine – 4195 WTh
Boecker-Schlier, Regina – 3417 WTh
Boedhoe, Premika – 1266 MT
Boekel, Wouter – 2224 MT
Boes, Aaron – 2412 MT
Boeving, Emily – 1526 MT
Bohland, Jason – 4110 WTh
Boillat, Yohan – 4213 WTh
Bokde, Arun – 1059, 1964, 2049 MT
Bola, Łukasz – 2298 MT
Bolo, Nicolas – 1204 MT
Bolt, Taylor – 1459 MT
Bolton, Thomas – 4109 WTh
Boly, Melanie – 3148 WTh
Bonna, Kamil – 3915 WTh
Bonnard, Mireille – 3071 WTh
Boonstra, Tjeerd – 4160 WTh
Borchardt, Viola – 3906 WTh
Bordier, Cecile – 4045 WTh
Borelli, Eleonora – 3620 WTh
Borich, Michael – 3036 WTh
Borja Jimenez, Karina – 3368 WTh
Borowiak, Kamila – 1113 MT
Borragan, Guillermo – 3022 WTh
Bosch, Julia – 1402 MT
Boscolo Galazzo, Ilaria – 3598 WTh
Bossier, Han – 2178 MT
Bottenhorn, Katherine – 1869 MT
Botvinik Nezer, Rotem – 1412 MT
Boubela, Roland – 1864 MT
Bouhali, Florence – 3663 WTh
Boulanouar, Abdelkader – 1710 MT
Bourgeois, Alexia – 2249 MT
Bournonville, Clément – 3316 WTh
Bourque, Josiane – 3212 WTh
Bouton, Sophie – 3678 WTh
Bowman, Dubois – 3810 WTh
Bowring, Alex – 2075 MT
Boyle, Christina – 3765 WTh
Boyle, Stephanie – 1746 MT
Bozek, Jelena – 4201 WTh
Braga, Rodrigo – 1479 MT
Brandi, Marie-Luise – 4379 WTh
Brandt, Nicolas – 1031 MT
Braun, Urs – 3907 WTh
Bréchet, Lucie – 1909 MT
Breeden, Andrew – 1448 MT
Brefczynski-Lewis, Julie – 2124 MT
Breitfeld, Jörg – 1186 MT
Brennan, Christine – 3656 WTh
Bridwell, David – 3842 WTh
Bringas, Maria L. – 1826 MT
Brock, Jon – 2028 MT
Broersma, Marja – 1333 MT
Brouwer, Rachel – 2008 MT, 3469 WTh
Brovelli, Andrea – 1836 MT
Brown, Rachel – 1936 MT
Brühl, Annette – 3353 WTh
Brun, Lucile – 1124 MT
Bu, Junjie – 3934 WTh
Buchwald, Mikolaj – 3832 WTh
Bücker, Oliver – 1875 MT
Budisavljevic, Sanja – 4267 WTh, 4268 WTh
Buechler, Roman – 3264 WTh
Bueichekú, Elisenda – 2242 MT
Burgess, Ashley – 4230 WTh
Burgess, Paul – 1433 MT
Burggren, Alison – 1037 MT
Bürki, Céline – 3720 WTh
Burrowes, Shana – 2313 MT
Burrows, Catherine – 3980 WTh
Burrows, Kaiping – 2326 MT
Butler, Russell – 1822 MT
Buur, Pieter – 2147 MT
Bzdok, Danilo – 2160 MT

C

Cabeen, Ryan – 2037 MT
Cachia, Arnaud – 3661 WTh
Caeyenberghs, Karen – 1089 MT
Cafiero, Riccardo – 4228 WTh
Cai, Huajian – 1410 MT
Caldinelli, Chiara – 1922 MT
Caligiuri, Maria Eugenia – 3161 WTh
Calvetti, Daniela – 3554 WTh
Camilleri, Julia Ann – 1806 MT
Campbell, Jennifer – 1804 MT
Campbell, Megan – 4143 WTh
Cancelli, Andrea – 3017 WTh
Canna, Antonietta – 3125 WTh
Cao, Bo – 1138 MT
Cao, Miao – 2014 MT
Cao, Yuan – 4344 WTh
Caparelli, Elisabeth – 1627 MT
capotosto, paolo – 1766 MT
Carbonell, Felix – 2181 MT
Carlson, Helen – 3322 WTh
Carpentier, Sarah – 3685 WTh
Caspers, Julian – 4181 WTh
Cassidy, Ben – 2126 MT
Castelhano, Joao – 1661 MT
Castella, Rémi – 2149 MT
Castrillon, Gabriel – 3077 WTh
Castro, Eduardo – 2174 MT
Catheline, Gwenaelle – 3745 WTh
Cauvet, Elodie – 1097 MT
Cecchetti, Luca – 4183 WTh
Cedden, Gülay – 3627 WTh
Celeghin, Alessia – 3397 WTh
Ceravolo, Leonardo – 3672 WTh
Cerliani, Leonardo – 3640 WTh
Cha, Kuwook – 3831 WTh
Cha, Kwang Su – 1762 MT
Chaarani, Bader – 3642 WTh
Chaimow, Denis – 1640, 1659, 2172 MT
Chamard, Emilie – 1367 MT
Chamberland, Maxime – 4202 WTh
Chan, Sam Chi Chung – 1748 MT
Chan, Yee-Pei – 1092 MT
Chanel, Guillaume – 3806 WTh
Chang, Catie – 4306 WTh
Chang, Che-Lun – 1789 MT
Chang, Chih-Yen – 1942 MT
Chang, Chun-Yuan – 1012 MT
Chang, Monica – 3047 WTh
Chang, Song – 2402 MT
Chang, Yu-Ling – 3444 WTh
Chanraud, Sandra – 3747 WTh
Chao, Yi-Ping – 1057 MT
Chauvin, Roselyne – 2007 MT, 3940 WTh
Chavez, Sofia – 3502 WTh
Chechko, Natalia – 3239 WTh
Chechlacz, Magdalena – 3063 WTh
Chella, Federico – 1734 MT, 3849 WTh
Chen, Chang-Le – 4329 WTh
Chen, David – 3536 WTh
Chen, Gang – 2112 MT
Chen, Haobo – 1467 MT
Chen, Hsian-Min – 2100 MT
Chen, I- Fei – 4355 WTh
Chen, Jingyuan – 2138 MT
Chen, Lin – 1225 MT
Chen, Lirong – 3378 WTh
Chen, Meng-Hsiang – 1336 MT
Chen, Qiang – 3460 WTh
Chen, Wen – 1921 MT
Chen, Xiangchuan – 4376 WTh
Chen, Xiaodan – 1045 MT
Chen, Xu – 3463 WTh
Chen, Yan – 1005 MT
Chen, Ya-Yun – 2322 MT
Chen, Ying-Chun – 3625 WTh
Chen, Yin-Hua – 1475 MT, 2386 MT
Chen, Yu-chieh – 1121 MT
Chen, Zhencai – 1524 MT
Chen, Zikuan – 2094 MT
Chen, Ziqi – 1160 MT
Chén, Oliver – 2073 MT
Cheng, Wei – 3928 WTh
Cheng, Xiaoqin – 3371 WTh
Chepuri, Bhavika – 2272 MT
Cherbuin, Nicolas – 3734 WTh
Cheung, Joshua – 3433 WTh
Chiacchiaretta, Piero – 3595 WTh
Chiang, Huey-Ling – 1096 MT
Chiang, Jeffrey – 1515 MT
Chiarello, Christine – 1541 MT
Chiba, Naoki – 1899 MT
Chien, Hsiang-Yun – 1131 MT
Ching, Christopher – 3478 WTh
Chirumamilla, venkata chaitanya – 1584 MT
Cho, Kang Ik – 3204 WTh
Cho, Sang Soo – 1327 MT
Choe, Mi Kyung – 2333 MT
Choi, Jeong Woo – 1757 MT
Choi, Jongdoo – 3369 WTh
Choi, Ki Sueng – 3005 WTh
Choi, Mi-Hyun – 2338 MT, 4164 WTh
Choi, Min-Gyu – 3588 WTh
Choi, Yong-Ho – 3517 WTh
Chong, Minqi – 2214 MT
Chong, Shin Tai – 4266 WTh
Chou, Kun-Hsien – 1318 MT
Chou, Yu-Syuan – 3082 WTh
Chouinard-Decorte, Francois – 3473 WTh
Christophel, Thomas – 1955 MT
Christopher, Leigh – 1349 MT
Christov-Moore, Leonardo – 1636 MT
Chromec, Jakub – 1793 MT
Chu, Congying – 1716 MT

Chukhman, Morris – 4041 WTh
Chung, Jinyong – 2238 MT
Chung, Moo – 3458 WTh
Churchill, Nathan – 1397 MT
Ciarochi, Jennifer – 1351 MT
Çiçek, Metehan – 1195 MT
Cieslik, Edna – 3234 WTh
Cioli, Claudia – 3486 WTh
Ciuciu, Philippe – 2093 MT
Civier, Oren – 4159 WTh
Clark, Kristi – 3464 WTh
Cléry, Helen – 1080 MT
Clos, Mareike – 1902 MT
Coffey, Emily – 2282 MT
Cohen, Marjolaine – 3652 WTh
Coito, Ana – 3174 WTh, 3861 WTh
Colclough, Giles – 3782, 3969 WTh
Cole, David – 1417 MT
Cole, James – 3752 WTh
Coll, Sélim – 4168 WTh
Collignon, Olivier – 2394 MT
Combrisson, Etienne – 4163 WTh
Compère, Laurie – 4334 WTh
Coppieters, Dorothée – 3850 WTh
Corbin, Conor – 3515 WTh
Corbitt, Paul – 2109 MT
Cordes, Dietmar – 2102 MT
Córdova-Palomera, Aldo – 1058 MT
Corradi-Dell'Acqua, Corrrado – 4353 WTh
Costa, Gabriel – 2381 MT
Coste, Clio – 2226 MT
Costumero, Victor – 3098 WTh
Courtens, Sandra – 3179 WTh
Coutu, Jean-Philippe – 1025 MT
Cox, Robert – 2082 MT
Coxon, James – 1945 MT
Coynel, David – 1897 MT
Crawford, Karen – 1861 MT
Cribben, Ivor – 3896 WTh
Crone, Julia – 2268 MT
Crossley, Nicolas – 3228 WTh
Croxson, Paula – 1910 MT
Cuaya, Laura – 4362 WTh
Cubon, Valerie – 1392 MT
Cui, Jing – 1032 MT
Cui, Zaixu – 3622 WTh
Curaudeau, Guillaume – 4002 WTh
Curcic-Blake, Branislava – 3776 WTh
Curie, Aurore – 3483 WTh
Curwood, Evan – 3136 WTh
Custo, Anna – 1794 MT

D

Da Costa, Sandra – 2283 MT, 3318 WTh
da Cruz, Janir Nuno – 3860 WTh
Dähne, Sven – 3968 WTh
Dahnke, Robert – 2081 MT
Daianu, Madelaine – 1024 MT
Daigle, Frédérique – 4203 WTh
Dajani, Dina – 3190 WTh
Dalal, Sarang – 2403 MT
D'Alberto, Nicholas – 2123 MT
Dalboni da Rocha, Josue Luiz – 2055 MT
Dalenberg, Jelle – 1614 MT
Dall'Acqua, Patrizia – 1370 MT
Dalwani, Manish – 3801 WTh
Daly, Eileen – 1603 MT
Damaraju, Eswar – 4042 WTh
Damme, Katherine – 1149 MT
Dan, Rotem – 1162 MT
Dang, Linh – 3347 WTh
Dannhauer, Moritz – 3044 WTh
Darby, Ryan – 4031 WTh
Darki, Fahimeh – 1949 MT
David, Bastian – 4388 WTh
Davidenko, Olga – 1415 MT
Davidovic, Monika – 2339 MT
De Brito, Stephane – 1591 MT
de Dreu, Miek – 1462 MT
de Gelder, Beatrice – 4365 WTh
de Lacy, Nina – 1136 MT
De Leener, Benjamin – 4053 WTh
de Matos, Nuno – 3573 WTh
de Pierrefeu, Amicie – 3804 WTh
de Ruiter, Michiel – 3508 WTh
De Sanctis, Teresa – 2087 MT
De Santis, Carlo – 2110 MT
de Schipper, Laura – 1326 MT
De Simoni, Sara – 1387 MT
de Vries, Clarisse – 3466 WTh
de Zwarte, Sonja – 3211 WTh
Degryse, Jasper – 2218 MT
Deike, Susann – 3051 WTh
Delgado Reyes, Lourdes – 3583 WTh
Delon-Martin, Chantal – 2294 MT, 4319 WTh
Demetriou, Lysia – 3384 WTh
Deng, Feng – 1143 MT, 1159 MT
Deng, Lifu – 3921, 4087 WTh
Dennis, Emily – 1072, 1073, 1376 MT
Dentico, Daniela – 2230 MT
Deoni, Sean – 4224 WTh
Deppe, Michael – 3507 WTh
Derks, Jolanda – 3552 WTh
Desrivières, Sylvane – 3448 WTh
Deza Araujo, Yacila – 4096 WTh
Di Cesare, Giuseppe – 4370 WTh
Di Perri, Carol – 1679 MT
Di Plinio, Simone – 3382 WTh
Diaconescu, Andreea – 1425 MT, 1407 MT
Diano, Matteo – 2396 MT
Diaz, Paloma – 1708 MT
Diaz Hernandez, Laura – 3048 WTh
Diederen, Kelly – 3414 WTh
Diedrichsen, Jörn – 2173 MT
Diez, Ibai – 1385, 1846 MT
DiFeliceantonio, Alexandra – 1691 MT
Dimitriadis, Stavros – 3558 WTh
Ding, Lei – 2029 MT
Ding, Xiaoyu – 3104 WTh, 3811 WTh
Dinkelacker, Vera – 3152 WTh
Dipasquale, Ottavia – 1364 MT
Dirlikov, Benjamin – 3080 WTh
Dirren, Elisabeth – 3297 WTh
Diwadkar, Vaibhav – 4048 WTh
Doan, Nhat Trung – 1036 MT
Dogan, Imis – 1227 MT
Dohmatob, Elvis – 4059 WTh
Dojat, Michel – 1849 MT
Dolatshahi, Mahsa – 3216 WTh
Domagalik-Pittner, Aleksandra – 1894 MT
Dombert, Pascasie – 2233 MT
Domin, Martin – 3522 WTh
Dommes, Lisa – 3343 WTh
Dong, Jian – 1053 MT
Dong, Suh-Yeon – 1751 MT
Dosenbach, Nico – 2155 MT
Doucet, Gaelle – 1139 MT, 3180 WTh
Douet, Vanessa – 2022 MT
Douglas, Pamela – 3837 WTh
Drake, Daniel – 4033 WTh
Drakesmith, Mark – 2062 MT
Dresel, Christian – 1347 MT
Druzgal, Jason – 4100 WTh
Du, Haixiao – 4269 WTh
Du, Victor – 1823 MT
Du, Yi – 3669 WTh
Du, Yuhui – 3224, 3226 WTh
Du Plessis, Lindie – 1289 MT, 4348 WTh
Duarte, Isabel – 1525 MT
Dube, Sarahjane – 3269 WTh
Dubourg, Lydia – 3402 WTh
Duenas, Julio – 2350 MT
Duff, Eugene – 3909 WTh
Duggento, Andrea – 3967 WTh
Dumas, Julie – 1956 MT
Duncan, Niall – 4320 WTh
Durnez, Joke – 2220, 2221 MT
Duru, Adil Deniz – 4279 WTh
Düzel, Sandra – 3755 WTh
Dwyer, Dominic – 3194 WTh
Dyrba, Martin – 2162 MT
Dzafic, Ilvana – 3374 WTh

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Easson, Amanda – 1108 MT
Eavani, Harini – 3730 WTh
Ebrahimpoor, Mitra – 3991 WTh
Edwin Thanarajah, Sharmili – 3420 WTh
Egli, Tobias – 1948 MT
Egorova, Natalia – 1702 MT
Ehinger, Benedikt – 3845 WTh
Ehrlich, Stefan – 3126 WTh
Eickhoff, Claudia – 1857 MT
Eisenberg, Daniel – 3761 WTh
Eken, Aykut – 2329 MT
Ekhtiari, Hamed – 3115 WTh
Eklund, Anders – 1605 MT, 3774 WTh
Elahian, Bahareh – 3147 WTh
Elbau, Immanuel – 1197 MT
Eldeghaidy, Sally – 1671 MT
Elfmarkova, Nela – 1331 MT
Elias, Rita – 1893 MT
Ellerbrock, Isabel – 2323 MT
Elmer, Stefan – 3693 WTh
Ely, Benjamin – 2132 MT
Emmert, Kirsten – 1666, 1669 MT
Eng, Goi Khia – 1271 MT
Engeli, Etna – 3572 WTh
Engman, Jonas – 4115 WTh
Entz, Laszlo – 3013 WTh
Eom, Soyong – 1477 MT
Erchinger, Vera Jane – 3571 WTh
Erdogdu, Emel – 1345 MT
Ernst, Monique – 1695 MT
Essad, Kate – 3952 WTh
Evans, Jennifer – 1173 MT
Evans, Tanya – 1472 MT
Ewing, Louise – 2370 MT

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Faber, Hanna – 3056 WTh
Faisal, Ali – 3671 WTh
Faivre, Nathan – 2256 MT
Falcone, Karina – 1727 MT
Falkiewicz, Marcel – 3990 WTh
Falkovskiy, Pavel – 1560 MT
Fan, Jia – 4076 WTh

Fan, Shujuan – 1798 MT
Fang, Arlene X – 1039 MT
Fang, Jiliang – 2345 MT
Faraggi, Maya – 1930 MT
Farahibozorg, Seyedehrezvan – 3873 WTh
Fargier, Raphael – 3695 WTh
Farooq, Hamza – 2051 MT
Farrugia, Nicolas – 3931 WTh
Fartaria, Mário João – 2196 MT
Farthouat, Juliane – 1882 MT
Farzan, Faranak – 1170 MT
Fasano, Fabrizio – 2158 MT
Faskowitz, Joshua – 1151 MT, 4063 WTh
Fastenrath, Matthias – 3380 WTh
Fatima, Sakeena – 3213 WTh
Favrod, Ophélie – 2383 MT
Fazio, Leonardo – 1233 MT
Feather, Jenelle – 3800 WTh
Fedota, John – 3094 WTh
Fehér, Kristoffer – 3026 WTh
Fehlbaum, Lynn – 1297 MT
Fehlner, Andreas – 2135 MT
Feis, Delia-Lisa – 3451 WTh
Fellrath, Julia – 2235 MT
Feng, Chunliang – 4380 WTh
Feng, Jun-Tao – 1643 MT
Feng, Lei – 1843 MT
Feng, Rui – 3843 WTh
Fernandez, Natalia – 3748 WTh
Fernandez Rodriguez-Cabello, Sara – 3723 WTh
Ferradal, Silvina – 1990 MT
Ferrari, Elisabetta – 3687 WTh
Ferreri, Laura – 1509 MT
Ferschmann, Lia – 1994 MT
Ficarella, Stefania – 1765 MT
Fiessinger, Philipp – 3400 WTh
Finc, Karolina – 3926 WTh
Finke, Carsten – 1208 MT
Finn, Emily – 4022 WTh
Fioravanti, Chiara – 2384 MT
Fischer, Adrian – 1429 MT
Fischer, David – 3061 WTh
Fischmeister, Florian – 1924 MT
Fisher, Patrick – 3443 WTh
Fisher, Zachary – 2116 MT
Flannery, Jessica – 3102 WTh
Fleischer, Vinzenz – 1228 MT
Floris, Dorothea – 4118 WTh
Folloni, Davide – 3490 WTh
Forde, Natalie – 4227 WTh
Foster, Catherine – 4292 WTh
Foster, Nicholas – 1126 MT
Fotso Tagne, Kevin – 3542 WTh
Foubet, Ophelie – 4060 WTh
Fouche, Jean-Paul – 1252 MT
Foucher, Jack – 2204 MT
Foulon, Chris – 4198 WTh
Fovet, Thomas – 3272 WTh
Frank, Guido – 3120 WTh
Frank, Lawrence – 4082 WTh
Franke, Katja – 3703 WTh
Franke, Katja – 4049 WTh
Frässle, Stefan – 3919 WTh
Frere, Pauline – 4225 WTh
Friedman, Amy – 1269 MT
Friesen, Christopher – 1489 MT
Frühholz, Sascha – 3383 WTh
Fu, Zening – 4123 WTh
Fukushima, Makoto – 3883 WTh
Fulcher, Ben – 2219 MT
Funck, Thomas – 3602 WTh
Furby, Hannah – 4321 WTh
Furger, Reto – 1301 MT
Futamura, Miyako – 1480 MT

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Gaggioni, Giulia – 1792 MT
Gaglianese, Anna – 1818 MT
Gaillard, Claudie – 3407 WTh
Gajardo Vidal, Andrea – 3618 WTh
Gajdoš, Martin – 2207 MT
Galinsky, Vitaly – 4054 WTh
Gallardo Diez, Guillermo Alejandro – 1838 MT
Gallo, Selene – 4350 WTh
Galovic, Marian – 3295 WTh
Gandhi, Tapan Kumar – 1478 MT
Gandhi, Wiebke – 2320 MT
Ganjgahi, Habib – 3462 WTh
Gao, Mengxia – 1486 MT
Gao, Yue – 3651 WTh
Gao, Zhenni – 1607 MT
Garcia, Kara – 1997 MT
Garcia Gomar, Maria Guadalupe – 4274 WTh
Garcia-Gorro, Clara – 1353 MT
Garcin, Béatrice – 3617 WTh
Gardiner, Casey – 3426 WTh
Gargouri, Fatma – 1325 MT
Garlasco, Paolo – 1428 MT
Garrido, Marta – 2227 MT
Gaser, Christian – 4057 WTh
Gau, Remi – 2301 MT
Gau, Susan Shur-Fen – 1678 MT
Gaxiola-Valdez, Ismael – 3176 WTh
Gazes, Yunglin – 3524 WTh
Ge, Qiu – 1916 MT
Gea, Juan – 1667 MT
Geerligs, Linda – 3996 WTh
Geerts, Liesbeth – 1800 MT
Geha, Paul – 3344 WTh
Gehrig, Johannes – 3701 WTh
Geiger, Lena – 1963 MT
Geisler, Daniel – 3128 WTh
Geissberger, Nicole – 3396 WTh
Gelbard-Sagiv, Hagar – 2413 MT
Gelding, Rebeca – 1501 MT
Geng, Shujie – 3585 WTh
Genon, Sarah – 2188 MT
Gens, João – 3999 WTh
Georgescu, Alexandra – 4378 WTh
Georgiades, Matthew – 1321 MT
Ghazaleh, Naghmeh – 2166 MT
Gheiratmand, Mina – 3827 WTh
Gherman, Sabina – 1409 MT
Ghio, Marta – 1892 MT
Ghosh Hajra, Sujoy – 1783 MT
Giehl, Kathrin – 1219 MT
Gielen, Jeroen – 3964 WTh
Gilat, Moran – 1319 MT
Gilron, Roee – 2169 MT
Girard, Gabriel – 2035 MT
Giroud, Nathalie – 3741 WTh
Glasser, Matthew – 4212 WTh
Glatard, Tristan – 1879 MT
Gluth, Sebastian – 1398 MT
Goc, Joanna – 3166 WTh
Goghari, Vina – 3214 WTh
Gogulski, Juha – 3064 WTh
Göksel Duru, Dilek – 2061 MT
Golan, Tal – 2382 MT, 3785 WTh
Golestani, Ali – 4304 WTh
Gollo, Leonardo – 2130, 2131 MT
GOMOT, Marie – 1114 MT
Gondo, Motoharu – 3127 WTh
Gonzalez, Nadia – 1416 MT
Gonzalez Castillo, Javier – 1602 MT
Gonzalez Zacarias, Clio – 3543 WTh
González-Alemañy, Eduardo – 1537 MT
Gopal, Shruti – 3927 WTh
Gopinath, Kaundinya – 1231 MT
Goranskaya, Dariya – 1731 MT
Gordon, Brian – 1017 MT, 2145 MT
Gorges, Martin – 1207 MT
Gorgolewski, Krzysztof – 1854 MT
Gorgolewski, Krzysztof – 2201 MT
Gori, Pietro – 1270 MT
Goulas, Alexandros – 4261 WTh
Gould, Cassandra – 4324 WTh
Goya-Maldonado, Roberto – 3408 WTh
Gozdas, Elveda – 4026 WTh
Grabher, Patrick – 1215 MT
Grace, Sally – 1284 MT
Gracia, Zeus – 2010 MT
Graf, Heiko – 3423 WTh
Gramfort, Alexandre – 3847 WTh
Gräßel, David – 3604 WTh
Gray, Jodie – 1180, 2175 MT
Gray, Whitney – 3065 WTh
Gregory, Michael – 3440 WTh
Griffa, Alessandra – 3904 WTh
Griffis, Joseph – 1596 MT, 3040 WTh
Griffiths, John – 3878 WTh
Griksiene, Ramune – 1775 MT
Griskova-Bulanova, Inga – 1755 MT
Grivaz, Petr – 2255 MT
Groenewold, Nynke – 1982 MT
Groschwitz, Rebecca – 1296 MT
Grossman, Shany – 2387 MT
Grube, Manon – 2292 MT
Grummett, Tyler – 3795 WTh
Gschwind, Leo – 1642 MT
Gschwind, Markus – 4101 WTh
Gu, Xuan – 3513 WTh
Gu, Yue – 1750 MT
Gu, Hong – 3105 WTh
Güçlü, Umut – 3820 WTh
Gudbrandsen, Maria – 4206 WTh
Guger, Christoph – 4129 WTh
Guggisberg, Adrian – 1919 MT
Guidotti, Roberto – 2163 MT
Guillon, Jérémy – 3553 WTh
Guiraud, Hélène – 3680 WTh
Gulban, Omer Faruk – 1692 MT
Guler, Seyhmus – 3062 WTh
Gunduz, Rumeysa – 4155 WTh
Guo, Yicong – 4172 WTh
Guo, Ying – 3836 WTh
Gupta, Arpana – 3492 WTh
Gupta, Cota Navin – 3274 WTh
Gupta, Rashmi – 3410 WTh
Gupta, Vikash – 2170 MT
Gurholt, Tiril Pedersen – 3236 WTh
Gurtubay-Antolin, Ane – 2347 MT
Guterstam, Arvid – 3009 WTh
Gutman, Boris – 1203 MT, 3456 WTh
Gvozdanovic, Geraldine – 1075 MT
Gyebnár, Gyula – 2121, 2127 MT

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Haak, Koen – 2393 MT
Haast, Roy – 4200 WTh
Habeck, Christian – 4090 WTh
Hahamy, Avital – 1926 MT
Hahn, Andreas – 4098 WTh
Hahn, Peter – 3223 WTh
Halai, Ajay – 3689 WTh
Halchenko, Yaroslav – 1855 MT, 1870 MT
Hale, Joanne – 3159 WTh
Halfen, Elizabeth – 4233 WTh
Hall, Michelle – 2379 MT
Hammes, Jochen – 2182 MT
Han, Jung Eun – 3419 WTh
Han, Shuyu – 1644 MT
Handwerker, Daniel – 4298 WTh
Hänggi, Jürgen – 3716, 4194 WTh
Hanke, Michael – 2270 MT
Hannanu, Firdaus – 1820 MT
Hansen, Sofie Therese – 3844 WTh
Hansen, Tine – 3568 WTh
Harbord, Ruth – 3885 WTh
Harding, Ian – 1355 MT
Hare, Stephanie – 4102 WTh
Harrison, Laura – 4367 WTh
Harrison, Marc – 2211 MT
Harrison, Theresa – 1027 MT
Hartley, Caroline – 2319 MT
Hartwigsen, Gesa – 3073 WTh
Hashimoto, Ryuichiro – 1119 MT
Hashmi, Javeria Ali – 2265 MT
Hassan, Mahmoud – 3172 WTh
Hassanpour, Mahlega – 2069 MT, 3014 WTh
Hau, Janice – 4256 WTh
Haueis, Philipp – 4196 WTh
Haufe, Stefan – 1778 MT, 3863 WTh
Hauser, Tobias – 1406 MT
Havlicek, Martin – 1697 MT
Hawco, Colin – 3046 WTh
Hayashi, Takuya – 1839 MT
He, Xiaofu – 1196, 1717 MT
He, Xiaosong – 3182 WTh
He, Yuan – 1163, 1165 MT
Hearne, Luke – 1528 MT
Hein, Grit – 4368 WTh
Heise, Kirstin-Friederike – 3020 WTh
Hellyer, Peter – 1923 MT
Hemington, Kasey – 2328 MT
Heo, Da-Woon – 3099 WTh
Herbst, Michael – 3539 WTh
Herdener, Marcus – 3106 WTh
Herholz, Peer – 1664 MT
Heri, Kathryn – 1776 MT
Hermans, Kees – 1782 MT, 3170 WTh
Hernandez, Mireia – 3673 WTh
Hernandez-Castillo, Carlos – 1328 MT
Hernandez-Fernandez, Moises – 4258 WTh
Hernandez-Garcia, Luis – 3597 WTh
Hernandez-Perez, Raul – 2352 MT
Herrera Díaz, Adianes – 1795 MT
Herrero Rubio, Jose – 4325 WTh
Hervais-Adelman, Alexis – 1589 MT, 3638 WTh
Herzmann, Charlotte – 4092 WTh
Herzog, Michael – 3253 WTh
Heydari, Panthea – 4140 WTh
Hibar, Derrek – 1147 MT
Higgins, Nathan – 2291 MT
Hincapié, Ana-Sofia – 3684 WTh
Hinton, Kendra – 1978 MT
Hirano, Yoshiyuki – 1071 MT
Hirsiger, Sarah – 3090 WTh
Hirvonen, Jonni – 2348 MT, 3238 WTh
Hlinka, Jaroslav – 3262 WTh
Hlustik, Petr – 1927 MT
Hodge, Jacquie – 3329 WTh
Hoffman, William – 3107 WTh
Hoffmann, André – 2070 MT
Hoffstaedter, Felix – 4120 WTh
Hofmeister, Jeremy – 3974 WTh
Hofstetter, Christoph – 3655 WTh
Hofstetter, Shir – 1887 MT
Hojjati, Seyed Hani – 1030 MT
Hok, Pavel – 4257 WTh
Holeckova, Irena – 3041 WTh
Homae, Fumitaka – 2005 MT
Hong, Seok-Jun – 3178 WTh
Hong, Tzu-Yi – 2244 MT
Hong, Yeon-Ju – 4333 WTh
Honnorat, Nicolas – 4091 WTh
Hoogman, Martine – 1298 MT
Horn, Ulrike – 1925 MT
Horovitz, Silvina – 3007 WTh
Horowitz, Assaf – 1232 MT
Horowitz-Kraus, Tzipi – 1454 MT, 3647 WTh
Horvath, Lilla – 1400 MT
hou, bob – 1714 MT
Houde, Francis – 2321 MT, 3068 WTh
Hovsepyan, Sevada – 3676 WTh
Howells, Henrietta – 3653 WTh
Hrybouski, Stanislau – 3764 WTh
Hsu, Chih-Chin – 1976 MT
Hsu, Erika – 1917 MT
Hu, Shiang – 2068 MT
Hu, Xinyu – 1274 MT
Hu, Yang – 3244 WTh
Huang, Bingsheng – 3142 WTh
Huang, Chia-Yu – 3581 WTh
Huang, Chu-Chung – 3735 WTh
Huang, Dengfeng – 1676 MT
Huang, Huifang – 1729 MT
Huang, Jing-Ying – 3230 WTh
Huang, Lejian – 3529 WTh
Huang, Peiyu – 1168 MT
Huang, Yun-An – 3372 WTh
Huang, YunYing – 3331 WTh
Huber, Eveline – 1931 MT
Huber, Laurentius – 1803 MT
Hudson, Kelsey – 3834 WTh
Huemer, Sabine – 1100 MT
Hughes, Laura – 4151 WTh
Huh, Youngmin – 4282 WTh
Hula, Andreas – 4374 WTh
Hummer, Allan – 2397, 2399 MT
Humphreys, Gina – 3613 WTh
Huntenburg, Julia – 4220 WTh
Hurdal, Monica – 4214 WTh
Hutchison, R. Matthew – 4336 WTh
Hwang, Gunpil – 3579 WTh
Hwang, Kai – 1437 MT
Hyvarinen, Aapo – 3899 WTh

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Iannotti, Giannina Rita – 2067 MT
Ichesco, Eric – 2314 MT
Idland, Ane-Victoria – 3751 WTh
Igloi, Kinga – 1905 MT
Ing, Alex – 2165 MT
Invernizzi, Azzurra – 1543 MT
Ipser, Jonathan – 4097 WTh
Irimia, Andrei – 1110, 1384 MT
Isaev, Dmitry – 2060 MT
Ishaque, Abdullah – 1217 MT
Isherwood, Zoey – 2366 MT
Ishii, Wakana – 3435 WTh
Ito, Kaori – 3296 WTh
Iuculano, Teresa – 1527 MT
Ivanova, Maria – 1951 MT
Iwaki, Sunao – 1460 MT

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Jacob, Yael – 1079 MT
Jagannathan, Megha – 1686 MT
Jahanian, Hesamoddin – 2098 MT
Jakab, Andras – 1674 MT
Jamalabadi, Hamidreza – 1784 MT
James, Clara – 1504 MT
Jang, Changwon – 4030 WTh
Jang, Hojin – 4078 WTh
Jang, Ikbeom – 1393 MT
Jangraw, David – 2225 MT
Jankiewicz, Marcin – 3500 WTh
Jann, Kay – 3038, 3972 WTh
Jannusch, Kai – 1262 MT
Jansen, Philip – 3461 WTh
Jansma, Johan – 1706 MT
Janssen, Joost – 3189 WTh
Janssen, Niels – 1675 MT
Jao, Tun – 2264 MT
Jas, Mainak – 2066 MT
Jastorff, Jan – 3373 WTh
Jastrzebowska, Maya – 3821 WTh
Jech, Robert – 3897 WTh
Jee, Sungju – 3032 WTh
Jensen, Alexandria – 2012 MT
Jeong, Seok-Oh – 4037 WTh
Jeong, Woorim – 3156 WTh
Jesser, Jessica – 3330 WTh
JI, Gong-Jun – 1314 MT
Jia, Tianye – 3416 WTh
Jia, Xi-Ze – 1625, 1713 MT
Jiang, Jing – 4375 WTh
Jiang, Lili – 4073 WTh
Jiang, Xueyan – 1638 MT
Jiang, Yang – 1391 MT
Jiao, Bingqing – 1623 MT
Jiménez, Jesús – 2019 MT
Jin, Chenwang – 1720 MT
Jin, Seung-Hyun – 3154 WTh
Jin, Yan – 2057 MT
Jing, Rixing – 3283 WTh
Job, Dominic – 1853 MT
Jockwitz, Christiane – 3717 WTh
Johnson, Jeffrey – 3325 WTh
Johnson, Nessa – 3076 WTh
Jollans, Lee – 3935 WTh
Jonas, Rachel – 3476 WTh
Jones, Aaron – 3052 WTh
Joo, Yo-Han – 3279 WTh
Jorge, João – 1819 MT
Joshi, Anand – 4055 WTh
Jozwik, Kamila Maria – 2401 MT
Juan, Elsa – 3857 WTh
Jun, Soyeon – 3010 WTh
Jung, Won-Mo – 2353 MT
Jung, Woojin – 3497 WTh
Jung, Young Hoon – 3932 WTh
Jungblut, Monika – 3688 WTh

Jurk, Sarah – 1435 MT
Jurkiewicz, Michael – 3549 WTh

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Kaczkurkin, Antonia – 2026 MT
Kaden, Enrico – 2034 MT
Kaiser, Christian – 1673 MT
Kalcher, Klaudius – 2085 MT
Kaleem, Muhammad Farhat – 2103 MT, 4094 WTh
Kampa, Miriam – 3364 WTh
Kang, Hyejin – 1307 MT
Kang, Jiyoung – 4038 WTh
Kang, Kyunghun – 1013 MT
Kanno, Akitake – 1745 MT
Kano, Michiko – 1258 MT
Kao, Te-Wei – 3083 WTh
Kapeller, Christoph – 4190 WTh
Karabanov, Anke – 1941 MT
Karahan, Esin – 3916 WTh
Karahanoglu, Fikret Isik – 4010 WTh
Karimpoor, Mahta – 1449 MT
Karipidis, Iliana I. – 3654 WTh
Karlsgodt, Katherine – 1700 MT
Karmonik, Christof – 2122 MT
Karolis, Slava – 1567 MT
Kasper, Lars – 1547 MT, 2071 MT
Kassubek, Jan – 3489 WTh
Katayama, Tomoka – 3584 WTh
Katuwal, Gajendra – 1125 MT
Kaufmann, Lisa-Katrin – 3124 WTh
Kaufmann, Tobias – 3237 WTh
Kayser, Andrew – 3086 WTh
Kazan, Samira – 1641 MT
Keator, David – 1859 MT
Kebets, Valeria – 4001 WTh
Keeser, Daniel – 3029 WTh
Kell, Christian – 3664 WTh
Keller, Corey – 3033 WTh
Keller, Joseph – 1721 MT
Keller, Simon – 3164 WTh
Kelly, Robert – 3902 WTh
Kelly, Sinead – 3521, 3528 WTh
Kenzie, Jeffrey – 2344 MT
Kepinska, Olga – 3608 WTh
Kerbler, Georg – 3505 WTh
Khan, Raiyan – 3459 WTh
Kharabian Masouleh, Shahrzad – 3762 WTh
Khazaee, Ali – 1026 MT
Ki, Jason – 3877 WTh
Kiar, Gregory – 1856 MT
Kibleur, Astrid – 3000 WTh
Kıçik, Ani – 1084 MT
Kikkert, Sanne – 2340 MT
Kilintari, Marina – 3550 WTh
Kim, BoHyun – 1576 MT
Kim, Byunggik – 1749 MT
Kim, Byung-Hoon – 3217 WTh
Kim, Chan Hee – 1517 MT
Kim, Chan-Mi – 1019 MT
Kim, Dae Hyun – 1918 MT, 4179 WTh
Kim, Dong-Youl – 2168 MT
Kim, Eunkyung – 1243 MT
Kim, Eunwoo – 3807 WTh
Kim, Gwang-Won – 1043 MT
Kim, Heejung – 3114 WTh
Kim, Hesun Erin – 1403 MT
Kim, Hyo-Sung – 1373 MT
Kim, Hyun-Chul – 3808 WTh
Kim, Hyungjun – 3516 WTh
Kim, Ja Hee – 2285 MT
Kim, Jaehee – 3881 WTh
Kim, Jae-Myoung – 3575 WTh
Kim, Jeehyun – 1360 MT
Kim, Jeong-Hee – 3601 WTh
Kim, Jeongsik – 3289 WTh
Kim, Jeong-Youn – 1747 MT
Kim, Ji Hee – 1223 MT
Kim, Jieun – 2315 MT
Kim, Jongwan – 3367 WTh
Kim, Joong Il – 2406 MT
Kim, Joo-won – 2189 MT
Kim, Jung Hwan – 4289 WTh
Kim, Kisun – 3055 WTh
Kim, Min Seob – 3280 WTh
Kim, Min-Kyeong – 3232 WTh
Kim, Min-Young – 3565 WTh
Kim, Nayoung – 3304 WTh
Kim, Seung-Goo – 1496, 1497 MT
Kim, Sungkean – 1758 MT
Kim, Yun-Hee – 1959 MT, 3037, 3587 WTh
Kimmig, Christian – 1610 MT
King, Jean-Rémi – 2361 MT
Kippenhan, Shane – 1230 MT
Kirsch, Beatrice – 1235 MT
Kirsch, Peter – 3110 WTh
Kirsch, Valerie – 4210 WTh
Kirschner, Matthias – 1694 MT
Kisiel-Sajewicz, Katarzyna – 1487 MT
Kiyama, Sachiko – 3690 WTh
Klaassens, Bernadet – 1014 MT
Klados, Manousos – 3992 WTh
Klamer, Silke – 3139 WTh
Klauser, Paul – 3261 WTh
Klein, Carina – 3803 WTh
Kleinnijenhuis, Michiel – 2038 MT
Klimaj, Zoltán – 1689 MT
Knoll, Lisa – 4360 WTh
Ko, Li Wei – 4391 WTh, 1790 MT
Kobayashi, Akiko – 1575 MT
Köbe, Theresa – 1060 MT
Kober, Silvia – 1463 MT
Kochunov, Peter – 3197, 3457 WTh
Koeda, Michihiko – 1630 MT
Koelewijn, Loes – 3560 WTh
Koenig, Katherine – 1350, 1356, 1652 MT, 4108 WTh
Koessler, Laurent – 3015 WTh
Kogler, Lydia – 3337 WTh
Koike, Takahiko – 4371 WTh
Koirala, Nabin – 3523 WTh
Kong, Feng – 4386 WTh
Kong, Jian – 3924 WTh
Kong, Ru – 3890 WTh
Kong, Xiang-Zhen – 4029 WTh
Kopel, Rotem – 1598 MT
Korb, Sebastian – 4337 WTh
Koreki, Akihiro – 4328 WTh
Korgaonkar, Mayuresh – 1179 MT
Korostil, Michele – 3225 WTh
Koschutnig, Karl – 1961 MT
Köstering, Lena – 3770 WTh
Kotani, Yasunori – 3401 WTh
Kourtis, Dimitrios – 2355 MT, 4153 WTh
Koush, Yury – 3366 WTh
Koyama, Maki – 3665 WTh
Koyejo, Oluwasanmi – 4034 WTh
Kozák, Lajos – 3168 WTh
Kraeutner, Sarah – 4154 WTh
Krafnick, Anthony – 3639 WTh
Kral, Tammi – 3339 WTh
Kraus, Christoph – 1194 MT
Kreifelts, Benjamin – 4343 WTh
Kreilkamp, Barbara A. K. – 3140 WTh
Krienen, Fenna – 3485 WTh
Krishnadas, Rajeev – 1191 MT
Krishnaswamy, Pavitra – 3865 WTh
Kroemer, Nils – 3411 WTh
Kruschwitz, Johann – 3350 WTh
Ktena, Sofia Ira – 3912 WTh
Kube, Jana – 3405 WTh
Kübel, Stefanie – 1340 MT
Kuceyeski, Amy – 3299, 3300 WTh
Kucyi, Aaron – 2271 MT
Kuczynski, Andrea – 3306 WTh
Kudela, Maria – 4025 WTh
Kuhn, Taylor – 3134 WTh
Kühn, Esther – 2341 MT
Kulashekhar, Shrikanth – 1531 MT
Kulason, Sue – 4199 WTh
Kumar, Jyothika – 3905 WTh
Kumar, Vinod – 4175 WTh
Kundu, Prantik – 1677 MT
Kundu, Suprateek – 3603 WTh
Kung, Yi-Chia – 3447 WTh
Kuniecki, Michal – 3387 WTh
Kunze, Tim – 3028 WTh
Kuo, Bo-Cheng – 1958 MT
Kuo, Chen-Yuan – 3708 WTh
Kuo, Po-Chih – 2325 MT, 4134 WTh
Kurcyus, Katarzyna – 3574 WTh
Kuriki, Ichiro – 2358 MT
Kurmanaviciute, Dovile – 2228 MT
Kurt, Elif – 3163 WTh
Kurth, Florian – 1224 MT
Kuzmanovic, Bojana – 4357 WTh
Kwak, Kichang – 3793 WTh
Kwon, Hunki – 2047 MT
Kwon, Hyeok Gyu – 3290, 4177 WTh
Kwon, Moonyoung – 3386 WTh
Kyeong, Sunghyon – 1281 MT
Kyong, Jeong-Sug – 2317 MT, 3686 WTh

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La, Christian – 3704, 4068, 4069 WTh
Labounek, René – 3538 WTh
Lacy, Thomas – 2064 MT
Ladenbauer, Julia – 3757 WTh
Ladouceur, Cecile – 3495 WTh
Laganà, Maria Marcella – 1831 MT
Laganiere, Simon – 4019 WTh
Lai, Song – 1698 MT
Lambert, Christian – 2190 MT
Lamos, Martin – 4009 WTh
Lampe, Leonie – 3760 WTh
Landré, Lionel – 1279, 1898 MT
Lane, Stephanie – 3981 WTh
Langer, Nicolas – 4313 WTh
Langner, Robert – 3758 WTh
Laothamatas, Jiraporn – 1342 MT
Larabi, Daouia – 3259 WTh
Larsen, Bart – 2023 MT
Lascano, Agustina Maria – 3187 WTh
Latinus, Marianne – 1104 MT
Laton, Jorne – 3846 WTh
Latz, Anne – 3712 WTh
Lau, Johnny King L – 2377 MT
Laufer, Hadas – 3103 WTh
Laufs, Helmut – 2257 MT

Laurent, Jennifer – 3089 WTh
Law, Christine – 2335 MT
Lawrence, Andrew – 4361 WTh
Lawrence, Katherine – 1134 MT
Lazzouni, Latifa – 3319 WTh
Le Guen, Yann – 3427 WTh
Leaver, Amber – 1201 MT
Lebenberg, Jessica – 2018 MT
Lecaignard, Françoise – 3871 WTh
Lee, Annie – 3718 WTh
Lee, Dongha – 4040 WTh
Lee, Dongpyo – 3155 WTh
Lee, Gregory – 1588 MT
Lee, HanDo – 1372 MT
Lee, Hyekyoung – 4028 WTh
Lee, Hyeongrae – 1913 MT
Lee, I-Ting – 1041 MT
Lee, Ju Kab – 4016 WTh
Lee, Jungsoo – 3315, 3317 WTh
Lee, Kangjoo – 3153 WTh
Lee, Kyoung-UK – 3231 WTh
Lee, Mi Young – 1613 MT
Lee, Nancy Raitano – 3480 WTh
Lee, Pei-Lin – 1008 MT
Lee, Sangjun – 3058 WTh
Lee, Seonjoo – 3749 WTh
Lee, Shu-Hui – 3340, 3623 WTh
Lee, Won Hee – 3892 WTh
Lee, Yoojin – 1796 MT
Lee, Young-Beom – 3929 WTh
Lefebvre, Aline – 1115 MT
Lefebvre, Genevieve – 1389 MT
Lefèvre, Julien – 1977 MT
Lefranc, Michel – 3008 WTh
Lega, Carlotta – 1499 MT
Legget, Kristina – 3563 WTh
Legind, Christian – 4295 WTh
Legostaeva, Liudmila – 2266 MT
Legrand, Lore – 3393 WTh
Leh, Sandra – 1371 MT
Lehtola, Satu – 1566 MT
Leicht, Gregor – 3193 WTh
Leigh, MacIntyre – 1860 MT
Lemaréchal, Jean-Didier – 3779 WTh
Lenglet, Christophe – 1245 MT
Lennert, Therese – 2296 MT
Leo, Andrea – 4161 WTh
León-Cabrera, Patricia – 3624 WTh
Leppanen, Jenni – 1684 MT
Lerma-Usabiaga, Garikoitz – 1550 MT
Lerner, Yulia – 1066 MT
Lesage, Elise – 3100 WTh
Leuchs, Laura – 3362 WTh
Leunissen, Inge – 3021 WTh
Leuze, Christoph – 1802 MT
Lewis, James – 4142 WTh
Lewis, John – 3746 WTh
Li, Cheng-Jui – 3121 WTh
Li, Hai – 1842 MT
Li, Huijie – 1067 MT
Li, Junchao – 1635 MT
Li, Junhua – 2237 MT
Li, Lei – 1332 MT
Li, Mi – 1457 MT
Li, Mingyi – 4062 WTh
Li, Rui – 3733 WTh
Li, Shumei – 3291 WTh
Li, Siyi – 1259 MT
Li, Sufang – 4085 WTh
Li, Tai-Shan – 3278 WTh
Li, Xiao – 3511 WTh
Li, Xiaonan – 4265 WTh
Li, Ye – 2378 MT
Li, Yi-Tien – 1028 MT
Li, Yunqing – 1701 MT
Liang, Xinyu – 1657 MT
Liao, Yi – 1306 MT
Liberati, Giulia – 2327 MT
Licea Haquet, Giovanna Lilian – 3634 WTh
Liegeois, Raphael – 3886 WTh
Liew, Sook-Lei – 3310 WTh
Lim, Julian – 2232 MT
Lim, Manyoel – 2316 MT
Lim, Poay Hoon – 2180 MT, 3835 WTh
Limanowski, Jakub – 4169 WTh
Limbach, Katharina – 1770 MT
Limbachia, Chirag – 1654 MT
Lin, Dong-Wei – 3721 WTh
Lin, Hsiang-Yuan – 1293 MT
Lin, Hsin-Yu – 3737 WTh
Lin, Jian – 4249 WTh
Lin, Jo-Fu Lotus – 1516 MT
Lin, Liang-Chun – 1218 MT
Lin, Mei-Jing – 1538 MT
Lin, Min-Ling – 1655 MT
Lin, Ru-Jen – 1310 MT
Lin, Shang-Hua – 1929 MT
Lin, Wei-Che – 3796 WTh
Lin, Yi-Huei – 3445 WTh
Lin, Yu-Chieh – 3425 WTh
Lin, Yuting – 1618 MT
Lindemer, Emily – 4263 WTh
Lindinger, Nadine – 4339 WTh
Lindner, Philip – 1283 MT
Lipp, Ilona – 1226 MT
Liu, Careesa – 4113 WTh
Liu, Chunhong – 1182 MT
Liu, Dongqiang – 4125 WTh
Liu, Guanmin – 3358 WTh
Liu, Guoxiang – 2141 MT
LIU, Hengshuang – 3628 WTh
Liu, Janelle – 3610 WTh
Liu, Jin – 1083 MT
Liu, Ke – 3794 WTh
Liu, Lin – 3019 WTh
Liu, Peng – 1738 MT
Liu, Quanying – 3840 WTh
Liu, Siwei – 1962 MT
Liu, Siyuan – 3200 WTh
LIU, Tiaotiao – 1952 MT
Liu, Ting-Fong Tiffany – 1116 MT
Liu, Tongran – 4342 WTh
Liu, Wei – 1379 MT
Liu, Xiao – 4105 WTh
Liu, Xiaojin – 3607, 3900 WTh
Liu, Yi-Chun – 3119 WTh
Liu, Yunzhe – 1901 MT
Liu, Zhen – 1068 MT
Livny, Abigail – 1386 MT
Llera Arenas, Alberto – 3775 WTh
Lloyd, William – 1421 MT
Loewe, Kristian – 1236 MT
Lohmann, Gabriele – 3938 WTh
Long, Xiangyu – 2011 MT
Loos, Eva – 3359 WTh
Lopes, Renaud – 1348 MT
Lopez Sola, Marina – 2336 MT
Lorca-Puls, Diego – 3637 WTh
Lord, Anton – 1848 MT
Lorenz, Romy – 3024 WTh
Losin, Elizabeth – 2332 MT
Lotze, Martin – 1915 MT
Lou, Wutao – 3959 WTh
Loued-Khenissi, Leyla – 1424 MT
Louzolo, Anais – 3251 WTh
Love, Scott – 1837 MT
Lowe, Mark – 1220, 1221, 1222 MT
Lu, Hanna – 3736 WTh
Lu, Jing – 1506 MT
Lu, Kun-Han – 1611 MT
Lu, Xiaobing – 3205 WTh
Lu, Zhenna – 1534 MT
Ludersdorfer, Philipp – 3646 WTh
Ludwig, Simon – 1423 MT
Luetzkendorf, Ralf – 3531 WTh
Lukmanov, Roman – 4137 WTh
Lunven, Marine – 4260 WTh
Luo, Canhuang – 1761 MT
Luo, Qiang – 1552 MT
Luo, Qingfei – 1815 MT
Luque Laguna, Pedro – 3509 WTh
Lutkenhoff, Evan – 1395 MT
Lv, Yating – 1633 MT
Lynch, Charles – 1102 MT
Lynch, Kirsten – 2020 MT
Lyu, Bingjiang – 3621 WTh

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Macare, Christine – 3092 WTh
Macdonald, Birthe – 3365 WTh
MacDonald, Penny – 1363 MT, 3422 WTh
MacKenzie-Graham, Allan – 1242 MT
Mackey, Scott – 3111 WTh
Macpherson, Helen – 1651 MT
Madjar, Cécile – 1865 MT
Maeder, Cecilia – 1996 MT
Maesawa, Satoshi – 3141 WTh
Maffei, Chiara – 3548 WTh
Mahdizadeh Bakhshmand, Saeed – 1805 MT
Mahjoory, Keyvan – 3866 WTh
Mahmoudzade, Mahdi – 1830 MT
Maidenbaum, Shachar – 2308 MT
Maier, Simon – 1137 MT
Maillart, Thomas – 3636 WTh
Maingault, Sophie – 1981 MT, 4185 WTh
Mair, Ross – 1704 MT
Mak, Elijah – 1172 MT
Makary, Meena – 1608 MT
Makowski, Carolina – 3215 WTh
Malagurski, Brigitta – 2253 MT
Malekshahi, Rahim – 3133, 4046 WTh
Malherbe, Caroline – 3792 WTh
Mancini, Matteo – 3078 WTh
Mandelkow, Hendrik – 1688 MT
Manimalethu, Ria – 3342 WTh
Mannan, Malik Muhammad Naeem – 1759 MT
Manning, Kathryn – 1366 MT
Mano, Marsel – 2078 MT
Manuel, Aurélie – 3060 WTh
Mao, Xianglun – 1656 MT
Marciano-Romm, Deborah – 1420 MT
Marecek, Radek – 1814 MT
Mareckova, Klara – 3526 WTh
Marek, Scott – 2009 MT
Marenco, Stefano – 3731 WTh
Marie, Damien – 1590 MT
Marino, Marco – 2079 MT
Markiewicz, Christopher – 3702 WTh

Marquand, Andre – 3960 WTh
Marquis, Renaud – 4156 WTh
Marreiros, Andre – 1670 MT
Marrelec, Guillaume – 4003 WTh
Marrufo Melendez, Oscar Rene – 4354 WTh
Mars, Rogier – 4255 WTh
Marsman, Jan-Bernard – 2245 MT
Martin, Andrew – 3054 WTh
Martinelli, Anne – 1292 MT
Martinez, Antigona – 3284 WTh
Martínez, Kenia – 1123 MT
Martinez Molina, Noelia – 3413 WTh
Marussich, Lauren – 2362 MT
Marwood, Lindsey – 1187 MT
Marxen, Michael – 3376 WTh
Masur, Christian – 1260 MT
Mathieu, Romain – 1532 MT
Matsudaira, Izumi – 2003 MT
Matsushita, Reiko – 3053 WTh
Matt, Eva – 1317 MT, 4237 WTh
Matthews, Tomas – 1512 MT
Matusz, Pawel – 2307 MT
Maumet, Camille – 1851 MT
Maurer, Urs – 3659 WTh
Mayeli, Ahmad – 1817 MT
Mayhew, Stephen – 1816 MT
Mayo, Chantel – 1035 MT
Mazerolle, Erin – 4290 WTh
Mazor, Matan – 2119 MT
McFadyen, Jessica – 3780 WTh
Mckay, Nicole – 3541 WTh
McMains, Stephanie – 1719 MT
McWhinney, Sean – 3706 WTh
Medvedev, Andrei – 1034 MT
Meesters, Stephan – 3839, 4245 WTh
Mégevand, Pierre – 3681 WTh
Mehrkanoon, Saeid – 1735 MT
Mehta, Ashesh – 4314 WTh
Meier, Lea – 3389 WTh
Meier, Michael – 3360 WTh
Meijboom, Rozanna – 1054 MT
Mejia, Amanda – 2105 MT
Melie-Garcia, Lester – 1580 MT
Meng, Yu – 3819 WTh
Menks, Willeke – 1300 MT
Mennella, Rocco – 3561 WTh
Mensch, Arthur – 4103 WTh
Mérillat, Susan – 3739 WTh
Merisaari, Harri – 2076 MT
Merritt, Kate – 3243 WTh
Meskaldji, Djalel-Eddine – 1906 MT
Messinger, Adam – 3011 WTh
Mestres-Misse, Anna – 4238 WTh
Metzger, Coraline – 1685 MT
Metzler-Baddeley, Claudia – 1315 MT
Meyer, Benjamin – 3357 WTh
Meyer, Bernhard – 4316 WTh
Meyer, Christelle – 1455 MT
Mheich, Ahmad – 3626 WTh
Miao, Wen – 3506 WTh
Miele, Andrea – 1291 MT
Miendlarzewska, Ewa – 3418 WTh
Mihai, Paul Glad – 3305 WTh
Mihalik, Agoston – 2303 MT
Mikl, Michal – 3977 WTh
Miklody, Daniel – 3858 WTh
Miller, Karla – 1850 MT
Miller, Robert – 4317 WTh, 4015 WTh
Mills, Kathryn – 2031 MT
Minas, Jennifer – 1969 MT
Mincic, Adina – 3399 WTh
Minkova, Lora – 1323 MT
Miró Padilla, Anna – 1680 MT
Misaki, Masaya – 1155 MT, 4369 WTh
Mishra, Virendra – 3798, 3799, 4291 WTh
Misic, Bratislav – 3923 WTh
Misiura, Maria – 1312 MT
Mitra, Anish – 1895 MT
Mitta Raghava, Jayachandra – 3242 WTh
Miura, Naoki – 4072 WTh
Miyata, Jun – 3220 WTh
Miyauchi, Carlos – 4347 WTh
Mizuno, Kengo – 1953 MT
Mnatsakanian, Elena – 1181 MT
Moberget, Torgeir – 3258 WTh
Modi, Hemel – 1468 MT
Moessnang, Carolin – 4352 WTh
Mohammadi-Nejad, Ali-Reza – 1808 MT
Moher Alsady, Tawfik – 1871 MT
Mohr, Holger – 1885 MT
Mole, Jilu – 2043 MT
Molfese, Peter – 1390 MT
Mollink, Jeroen – 2056 MT
Momokawa, Tomoyuki – 2305 MT
Monteiro, João – 2167 MT
Moodie, Craig – 3276 WTh
Moody, Teena – 3976 WTh
Moreau, Allison – 4051 WTh
Moreno-Lopez, Laura – 1381 MT
Morey, Rajendra – 4241 WTh
Morgan, Andrew – 2357 MT
Morís, Joaquín – 3409 WTh
Morita, Tomoyo – 4326 WTh
Morris, Laurel – 1821 MT
Moser, Dominik – 3196 WTh
Mothersill, Omar – 3195 WTh
Motomura, Kazuya – 3391 WTh
Mottaz, Anaïs – 3309 WTh
Moulton, Eric – 2016 MT
Mouthon, Audrey – 1938 MT
Moyer, Daniel – 3949 WTh
Mu, Junya – 1835 MT
Muehlhan, Markus – 3471 WTh
Mueller, Karsten – 1308 MT
Mueller, Susanne – 3186 WTh
Mühleisen, Thomas – 3439 WTh
Muise-Hennessey, Alexandria – 3679 WTh
Mulders, Peter – 3942 WTh
Mulert, Christoph – 3235 WTh
Muller, Angela Martina – 3725 WTh
Muller, Sandrine – 3697 WTh
Müller, Veronika – 1184 MT
Müller-Axt, Christa – 3649 WTh
Müller-Pinzler, Laura – 4338 WTh
Mullinger, Karen – 4308 WTh
Mumford, Jeanette – 2217 MT
Muñoz-Moreno, Emma – 3600 WTh
Muraskin, Jordan – 2114 MT
Murias, Kara – 2021 MT
Murphy, Matthew – 3823 WTh
Muta, Akitaka – 4300 WTh
Muthuraman, Muthuraman – 1779, 17781 MT
Muzik, Otto – 3341 WTh
Myrvang, Anna – 3122 WTh

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Naci, Lorina – 2258 MT
Naegeli, Christoph – 1303 MT
Nagornova, Zhanna – 1986 MT
Naito, Eiichi – 2000 MT
Najdenovska, Elena – 2185 MT
Nakagawa, Eri – 3691 WTh
Nakai, Toshiharu – 1935 MT, 3705, 4066 WTh
Nakajima, Riho – 1947 MT
Nani, Andrea – 3962, 3963 WTh
Naseer, Noman – 3580 WTh
Nathan, Dominic – 1394 MT
Naumczyk, Patrycja – 1253 MT
Navarrete, Edna – 1445 MT
N'diaye, Karim – 1277 MT
Nebel, Mary Beth – 4122 WTh
Nerland, Stener – 4204 WTh
Neseliler, Selin – 3346 WTh
Neto Henriques, Rafael – 3532 WTh
Neufeld, Janina – 1093 MT
Neumann, Dirk – 1111 MT
Neumann, Nicola – 1937 MT
Nguyen, Vinh – 4184 WTh, 4231 WTh
Ni, Hsing Chang – 1105 MT
Nickerson, Lisa – 3093, 4301 WTh
Nickl-Jockschat, Thomas – 1834 MT
Nicolini, Marie – 3363 WTh
Nicolò, Pierre – 3066 WTh
Nielsen, Jesper – 3252 WTh
Nierhaus, Till – 4135 WTh
Niki, Chiharu – 1482 MT
Nikolaev, Andrey – 1888 MT
Nikolaou, Foivia – 1693 MT
Nir, Talia – 3504, 3537 WTh
Nissen, Ida – 3551 WTh
Nitschke, Kai – 2107 MT
Niu, Chen – 1210 MT, 4174 WTh
Niu, Meiqi – 1142 MT
Njau, Stephanie – 1202 MT
Nomi, Jason – 4084 WTh
Noordenbos, Mark – 3619 WTh
Nostro, Alessandra – 1542 MT
Notter, Michael – 1505 MT
Nourhashemi, Mina – 4302 WTh
Nourski, Kirill – 2293 MT
Nozawa, Takayuki – 3338 WTh
Nucifora, Paolo – 3533 WTh
Nugent, Allison – 1174 MT
Nunez Castellar, Elena Patricia – 1737 MT
Nwosu, Emmanuel – 1995 MT

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Oba, Kentaro – 4081 WTh
Obaid, Sami – 3183 WTh
Obando Forero, Catalina – 3853 WTh
Oberhuber, Marion – 3692 WTh
Obertino, Silvia – 3303 WTh
O'Callaghan, Claire – 1010 MT
O'Connor, David – 4043 WTh
O'Donoghue, Clare – 3743 WTh
Odriozola, Paola – 1095 MT
Oei, Nicole – 3729 WTh
O'Halloran, Rafael – 3001 WTh
Ohgami, Yoshimi – 1742 MT
Ohla, Kathrin – 2250 MT
Ohrmann, Patricia – 3570 WTh
Okugawa, Gaku – 1549 MT
Olalde-Mathieu, Victor – 4363 WTh
Olasagasti, Itsaso – 2306 MT
Oldehinkel, Marianne – 1288 MT
Oligschläger, Sabine – 4189 WTh
Oliver, Myriam – 3605 WTh
Olivito, Giusy – 1094 MT

Oltedal, Leif – 1158 MT
Omelchenko, Oleksii – 1352 MT
O'Muircheartaigh, Jonathan – 4251 WTh
Ontivero-Ortega, Marlis – 4024 WTh
Opitz, Alexander – 3027 WTh
Orban, Pierre – 3229 WTh
Ordaz, Sarah – 2013 MT
Orlov, Tanya – 2390 MT
Orpella-Garcia, Joan – 3611 WTh
Orr, Catherine – 1703 MT
Orr, Joseph – 3286 WTh
Ortega, Mario – 4106 WTh
Osada, Takahiro – 3893 WTh
Osoianu, Anastasia – 4215 WTh
Osorio, Ignacio – 3491 WTh
Ossmy, Ori – 4170 WTh
Oswald, Victor – 1971 MT
Otazo, Ricardo – 4114 WTh
Ouchi, Yasuomi – 1003 MT
Oujamaa, Lydia – 4112 WTh
Ouyang, Minhui – 4273 WTh
Ozbay, Pinar – 1604 MT
Ozdemir, Omer – 1344 MT
Özyurt, Jale – 1238 MT

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Pacoret, Cecile – 3675 WTh
Padula, Maria – 3481 WTh
Pai, Shu-Chi – 1503 MT
Palaus, Marc – 3039 WTh
Palenciano, Ana F. – 1709 MT
Palix, Julie – 3254 WTh
Palomar-García, María-Ángeles – 1507, 1928 MT
Palomero-Gallagher, Nicola – 4173 WTh
Pan, Yu – 1401 MT
Panda, Rajanikant – 1827 MT
Pandya, Sneha – 1062 MT
Pang, James – 2063 MT
Panicker, Mahesh – 2140 MT
Papadelis, Christos – 1216 MT, 3527 WTh
Papadopoulou, Margarita – 1772 MT, 3901 WTh
Papini, Chiara – 1561 MT
Paquola, Casey – 1972 MT
Parekh, Harsh – 1276 MT
Parisot, Sarah – 2210 MT
Park, Bumhee – 4027 WTh
Park, Chang-hyun – 1244 MT, 3158 WTh
Park, Gilsoon – 2191 MT
Park, Hyeong-dong – 4327 WTh
Park, Hyojin – 3674 WTh
Park, Jaesub – 3208 WTh
Park, Jin-Woo – 3707 WTh
Park, JongYun – 1006 MT
Park, Joonkoo – 1529 MT
Park, Min Tae – 1553 MT
Park, Su-Mi – 3095 WTh
Park, Sun Mi – 1726 MT
Park, Taejin – 3379 WTh
Park, Yeong-Hun – 3937 WTh
Park, Young Woo – 3569 WTh
Parkinson, Joel – 1190 MT
Parlatini, Valeria – 4188 WTh
Parrish, Todd – 4127 WTh
Pascarella, Annalisa – 3874 WTh
Pascual-Marqui, Roberto – 3856 WTh
Pascucci, David – 1769 MT
Passamonti, Luca – 1023 MT
Passaro, Antony – 1414 MT
Patanaik, Amiya – 1682 MT
Patel, Binish – 2059 MT
Patel, Gaurav – 3273 WTh
Patel, Sejal – 4234 WTh
Patel, Veena – 3454 WTh
Patil, Bhushan – 2139 MT
Paton, Angus – 2389 MT
Paul, Anna Maria – 3436 WTh
Paul, Katharina – 2318 MT
Pauling, Melissa – 1141 MT
Pauwels, Lisa – 4157 WTh
Pavlidou, Anastasia – 1241 MT
Pavlova, Marina – 4340 WTh
Pawlak, Mikolaj – 1548 MT
Pedersen, Mangor – 3898 WTh
Peek, Lucas – 3593 WTh
Pefkou, Maria – 3677 WTh
Pehrs, Corinna – 1128 MT
Pelletier-Baldelli, Andrea – 3255 WTh
Peltier, Scott – 2171 MT
Pendl, Suzanne – 2025 MT
Peng, Jiaxin – 2331 MT
Peng, Qinmu – 2032 MT
Peng, Wei – 1161 MT
Pepe, Antonietta – 2095, 2179 MT
Perdikis, Dionysios – 3975 WTh
Pereira, Fabricio – 3925 WTh
Perellón Alfonso, Ruben – 1968 MT
Perronnet, Lorraine – 4133 WTh
Perruchoud, David – 4330 WTh
Perry, Alistair – 1146 MT
Perry, Alistair – 3766 WTh
Persson, Ninni – 3728 WTh
Pesce, Marica – 4259 WTh
Pestilli, Franco – 4262 WTh
Peter, Jessica – 1581 MT
Peterse, Yorick – 1086 MT
Petit, Laurent – 4270 WTh
Petkoski, Spase – 2045 MT
Petrican, Raluca – 1979 MT
Petro, Lucy – 2388 MT
Petrosyan, Petros – 1874 MT
Petton, Mathilde – 2246 MT
Pfannmöller, Jörg – 1229 MT
Pfeiffer, Christian – 2300 MT
Pham, Dung – 1154 MT
Phillips, Owen – 1285 MT
Phillips, Raquel – 3951 WTh
Piccirelli, Marco – 3333 WTh
Pienaar, Rudolph – 1868 MT
Pine, Kerrin – 1573 MT
Pineda Zapata, Julian – 4011 WTh
Pineda-Mondragon, Rodrigo – 4039 WTh
Pinho, Ana Luísa – 1833 MT
Pinti, Paola – 3577, 3578, 3589 WTh
Pisauro, M. Andrea – 1413 MT
Pisharady, Pramod – 1209 MT, 3138, 4250 WTh
Pittau, Francesca – 3160 WTh
Pizzagalli, Fabrizio – 3441 WTh
Plaisant, Odile – 1832 MT
Plantinga, Birgit – 2195 MT
Pläschke, Rachel Nirmala – 3270 WTh
Pleisch, Georgette – 3660 WTh
Plis, Sergey – 1863 MT
Pluta, Agnieszka – 1256 MT
Poeppl, Timm – 3034 WTh
Poline, Jean-Baptiste – 1845 MT
Popa, Traian – 3035 WTh
Porcaro, Camillo – 1020 MT, 3715, 4145 WTh
Portes, Bruna – 1707 MT
Poston, Kathleen – 1365 MT
Potter, Alexandra – 3266 WTh
Poudel, Govinda – 2411 MT
Poydasheva, Alexandra – 3079 WTh
Prasad, Gautam – 2133 MT
Preti, Maria Giulia – 3756, 3993 WTh
Price, Darren – 1214 MT
Prigge, Molly – 1127 MT
Probst, Catharina – 1405 MT, 3406 WTh
Przezdzik, Izabela – 3971 WTh
Puckett, Alexander – 2223 MT
Pulkkinen, Johannes – 4377 WTh
Pustina, Dorian – 3185, 3321 WTh
Puts, Nicolaas – 1109 MT
Pyo Seo, Jeong – 3544 WTh

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Qi, Feng – 1556 MT
Qi, Shile – 1813 MT
Qin, Pengmin – 4332 WTh
Qin, Shaozheng – 1118 MT
Qiu, Yingwei – 1612 MT
Quandt, Fanny – 3738 WTh
Queirazza, Filippo – 1192 MT
Quevenco, Frances-Catherine – 1049 MT
Quinn, Andrew – 3862 WTh, 2113 MT

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Raamana, Pradeep Reddy – 2156 MT
Raatikainen, Ville – 3887 WTh
Rae, Charlotte – 1335 MT
Raffin, Estelle – 1944 MT
Rafique, Sara – 3294 WTh
Ragothaman, Anjanibhargavi – 4240 WTh
Rahim, Mehdi – 3818 WTh
Rahmani, Bahareh – 1756 MT
Rahmani, Farzaneh – 1324 MT
Raij, Tommi – 3112 WTh
Raitamaa, Lauri – 4305 WTh
Rajasilta, Olli – 1582 MT
Rajendra, Justin – 1198 MT
Rajna, Zalán – 3946 WTh
Ramakrishnan, Kandan – 2392 MT
Ramaseshan, Karthik – 3260 WTh
Rampinini, Alessandra – 4345 WTh
Randall, Steven – 1265 MT
Rao, Hengyi – 2408 MT
Raschle, Nora – 1294 MT
Rashid, Barnaly – 1989 MT, 3452 WTh
Ratnanather, Tilak – 2118 MT
Raud, Liisa – 1441 MT
Rauss, Karsten – 2391 MT
Raven, Erika – 1999 MT
Rayfield, Corbin – 1264 MT
Raz, Gal – 3815 WTh
Razi, Adeel – 3944 WTh
Razlighi, Qolamreza – 4061 WTh
Rebecca, Zoellner – 1683 MT
Rebollo, Ignacio – 4074 WTh
Reddick, Wilburn – 1251 MT
Rehert, Rachel – 1911 MT
Reid, Agnieszka – 1212 MT
Reid, Andrew – 3894 WTh
Reinelt, Janis – 3398 WTh
Reinhardt, Julia – 1500 MT
Reiter, Maya – 4358 WTh
Rektor, Ivan – 3167 WTh

Rektorova, Irena – 1055 MT
Ren, Weicong – 3750 WTh
Renes, Robert – 3271 WTh
Renken, Remco – 2090 MT
Rensonnet, Gaëtan – 2046 MT
Repovs, Grega – 1494 MT
Ress, David – 4288 WTh
Retico, Alessandra – 3788 WTh
Retsa, Chrysa – 1780 MT
Reyes-Aguilar, Azalea – 4383 WTh
Reynaud, Olivier – 2074 MT
Rezk, Mohamed – 4116 WTh
Rheault, Francois – 4064 WTh
Richlan, Fabio – 3644 WTh
Richter, Anja – 1418 MT
Ridley, Ben – 3884, 4070 WTh
Riedel, Brandalyn – 1064 MT
Riedel, Michael – 2209 MT
Riegel, Monika – 1904, 1907 MT
Rigoulot, Simon – 1741 MT, 3562 WTh
Rihs, Tonia – 1129 MT
Riley, Jeffrey – 2027 MT
Riley, Nicole – 2002 MT
Rimkus, Carolina – 4205 WTh
Rinker, Daniel – 3726 WTh
Rish, Irina – 3825 WTh
Ritschel, Franziska – 3123 WTh
Ritz, Harrison – 3668 WTh
Roach-Fox, Elizabeth – 3666 WTh
Roberts, James – 3855 WTh
Roberts, Reece – 1722 MT
Robertson, Frances – 1234 MT
Robertsson, Naianna – 4277 WTh
Robinson, Emma – 3985, 4058 WTh
Robinson, Peter – 2128 MT
Rodriguez-Raecke, Rea – 2252 MT
Roebroeck, Alard – 4222 WTh
Rogasch, Nigel – 3067 WTh
Rogenmoser, Lars – 3754 WTh
Roggenhofer, Elisabeth – 3175 WTh
Rogowska, Jadwiga – 1374 MT
Rohan, Michael – 3045 WTh
Rohr, Christiane – 1107 MT
Roiz-Santiañez, Roberto – 3207 WTh
Rojas, Gonzalo – 4223 WTh
Rojas-Hortelano, Eduardo – 1535 MT
Rojas-Lopez, Pedro Ariel – 3872 WTh
Romanzetti, Sandro – 3470 WTh
Romero Garcia, Rafael – 1551 MT
Romme, Ingrid – 3250 WTh
Ronchi, Roberta – 2380 MT
Roos, Annerine – 1206 MT
Rosch, Richard – 3773 WTh
Rose, Emma – 3088 WTh
Rosell-Negre, Patricia – 3986 WTh
Roshchupkin, Gennady – 1056 MT
Rösler, Lara – 1960 MT
Rosso, Charlotte – 3301 WTh
Roth, Zvi – 1681 MT
Roussotte, Florence – 3727 WTh
Rowley, Christopher – 4219 WTh
Rowny, Stefan – 3043 WTh
Roy, Abhrajeet – 1812 MT
Rubbert, Christian – 3298 WTh
Rüber, Theodor – 4186 WTh
Rudrauf, David – 4119 WTh
Ruehl, Ria Maxine – 2281 MT
Rufener, Katharina – 3049 WTh
Rujing, Zha – 3097 WTh
Rummel, Christian – 3171, 3320, 3323, 3868 WTh
Rus, Oana – 1275 MT
Rusiniak, Mateusz – 2289 MT
Rutten, Sanne – 2279 MT
Ryu, Myeonghoon – 3057 WTh
Ryun, Seokyun – 2342 MT
Rzepa, Ewelina – 3118 WTh

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Saab, Rami – 1786 MT
Sabisz, Agnieszka – 3547 WTh
Sacheli, Lucia Maria – 1491 MT
Sadaghiani, Sepideh – 3442 WTh
Sadana, Divya – 1483 MT
Sadeghi, Arash – 3978 WTh
Sadiq, Muhammad Usman – 4216, 4217 WTh
Saj, Arnaud – 3332 WTh
Sakamoto, Ryo – 1038 MT
Sala-Llonch, Roser – 3994 WTh
Saleem, Kadharbatcha – 4248 WTh
Salmi, Juha P – 4239 WTh
Salomon, Roy – 3203 WTh
Salvan, Piergiorgio – 3913 WTh
Salzwedel, Andrew – 4007 WTh
Sämann, Philipp – 1199 MT, 3474 WTh
Sanabria-Diaz, Gretel – 1050 MT
Sanchez-Castañeda, Cristina – 1346 MT
Sanchez-Catasus, Carlos A. – 4296 WTh
Sanchez-Moncada, Itzamna – 1724 MT
Sanchez-Rodriguez, Lazaro – 3867 WTh
Sandberg, Chaleece – 1787 MT
Sandini, Corrado – 3222 WTh
Sandoval, Hugo – 1144 MT
Sankar, Tejas – 1554 MT
Santyr, Brendan – 3173 WTh
Sanz-Leon, Paula – 2101 MT, 3870 WTh
Sapey-Triomphe, Laurie-Anne – 1120 MT
Sarica, Alessia – 3499 WTh
Sarkheil, Pegah – 1205 MT
Sarlls, Joelle – 2151 MT
Sarpal, Deepak – 4229 WTh
Sasai, Shuntaro – 2259 MT
Sasaki, Yukako – 1520 MT
Sassenhagen, Jona – 1730, 1732 MT
Sato, Kanako – 3503 WTh
Sato, Masashi – 3557 WTh
Sato, Naoyuki – 1900 MT
Savjani, Ricky – 4242 WTh
Savostyanov, Alexander – 3431 WTh
Scaccianoce, Elisa – 3546 WTh
Scarapicchia, Vanessa – 1011 MT
Scarpazza, Cristina – 1564 MT
Schaapsmeerders, Pauline – 3535 WTh
Schaefer, Alexander – 3889 WTh
Schauer, Julia – 3188 WTh
Scheinin, Noora – 1984 MT
Schell, Marianne – 3614 WTh
Schiffler, Patrick – 1866, 2199 MT
Schirmer, Annett – 4372 WTh
Schlumpf, Yolanda – 1280 MT
Schmaal, Lianne – 1185 MT
Schmidt, Charlotte – 1443 MT
Schmidt, Timo – 1967 MT
Schmitt, Angelika – 3388 WTh
Schmüser, Lena – 1763 MT
Schnack, Hugo – 3245 WTh
Schneider, Marian – 2263 MT
Schneider, Max – 4083 WTh
Schöbi, Dario – 3869 WTh
Schoenmakers, Sanne – 2363 MT
Schouten, Tijn – 1046 MT
Schouwenaars, Irena – 1465 MT
Schreiner, Simon – 1061 MT
Schroeder, Clemens – 1015 MT, 3918 WTh
Schubert, Nicole – 4056 WTh
Schuler, Anna-Lisa – 4331 WTh
Schulz, Robert – 3335 WTh, 3334 WTh
Schuster, Sarah – 3645 WTh
Schuster, Verena – 4322 WTh
Schwab, Simon – 1052 MT
Schwartenbeck, Philipp – 1399 MT
Schwartz, Flora – 1533 MT
Schwarz, Christopher – 2044 MT
Schwarz, Lena – 1282 MT
Schwarz, Nicolette – 1263 MT
Schweiger, Janina – 1444 MT
Schweizer, Renate – 1940 MT
Sclocco, Roberta – 4236 WTh
Scoggins, Matthew – 3650 WTh
Sebastian, Alexandra – 1430 MT
Seeber, Martin – 4152 WTh
Seguin, Perrine – 4136 WTh
Seidel, Maria – 3130 WTh
Seiger, Rene – 2183 MT
Senda, Joe – 1546 MT
Sentis, Amy – 2334 MT
Seo, Jeong Pyo – 1799 MT
Seo, Jong-Geun – 1316 MT
Seok, Ji-woo – 1637 MT
Sepede, Gianna – 1140 MT
Sepulveda, Pradyumna – 4130, 4132 WTh
Serino, Andrea – 2351 MT
Servaas, Michelle – 1167 MT
Seshagiri, Chandran – 3592 WTh
Sethi, Arjun – 1299 MT
Shahbabaie, Alireza – 3059 WTh
Shakil, Sadia – 4035, 4124 WTh
Shamir, Ittai – 1585 MT
Shams, Nasim – 1829 MT
Shams, Sara – 1063 MT
Shams, Zahra – 1545 MT
Shannon, Benjamin – 4299 WTh
Shapiro, Allison – 2001 MT
Sharda, Megha – 1117 MT
Sharvit, Gil – 2337 MT
Shaw, Daniel – 4382 WTh, 4390 WTh
Shaw, Marnie – 3732 WTh
Shemyakina, Natalia – 1471 MT, 4139 WTh
Shen, Chao-Yu – 1183 MT
Shen, Kelly – 3948 WTh
Sheng, Jintao – 1164 MT
Sheremata, Summer – 2234 MT
Sherwell, Chase – 1530 MT
Sheybani, Laurent – 3146 WTh
Shi, Dabin – 3802 WTh
Shi, Jie – 1033 MT
Shi, Junxing – 2400 MT
Shi, Zhaoyue – 4080 WTh
Shibata, MidORI – 2297 MT
Shim, Miseon – 1076 MT
Shin, Jung Eun – 1077 MT
Shin, Seong A – 1330 MT
Shin, Wanyong – 4318 WTh
Shin, Yu-bin – 3218 WTh
Shine, Mac – 3888, 4044 WTh
Shinn, Maxwell – 3983 WTh
Shiroishi, Mark – 2200 MT
Shokouhi, Mahsa – 1261 MT
Shokri Kojori, Ehsan – 3998 WTh, 4303 WTh

Shook, Devon – 1577 MT
Shou, Guofa – 1453, 1785 MT
Sidén, Per – 3781 WTh
Sidhu, Jasmeen – 4272 WTh
Siedentopf, Christian – 1649 MT
Siegel, Joshua – 3326 WTh
Siems, Marcus – 3859 WTh
Siffredi, Vanessa – 4252 WTh
Sigl, Benjamin – 4218 WTh
Simon, Joseph – 1912 MT
Sinanaj, Indrit – 2262 MT
Sinclair, Benjamin – 4050 WTh
Singer, Neomi – 1508 MT
Sitek, Kevin – 3696 WTh
Skeide, Michael – 3648 WTh
Sladky, Ronald – 1070, 1466 MT
Slana, Anka – 1966 MT
Sleimen-Malkoun, Rita – 3753 WTh
Sleurs, Charlotte – 4095 WTh
Smallwood, Rachel – 1240 MT
Smith, Fraser – 3370 WTh
Smith, Keith – 2086 MT
Smolka, Michael – 3085 WTh
Sobanska, Marta – 1257 MT
Soch, Joram – 4297, 4312 WTh
Soekadar, Surjo – 3567 WTh
Sohn, William – 4079 WTh
Sokolov, Arseny – 3394 WTh
Solana, Ana Beatriz – 1801 MT
Solis-Escalante, Teodoro – 4147 WTh
Soltysik, David – 1606, 1736 MT
Sommariva, Sara – 3852 WTh
Son, Seong-Jin – 1329 MT
Son, Shuraku – 3206 WTh
Sønderby, Ida Elken – 3449 WTh
Song, Hao – 1247 MT
Song, Xiaopeng – 4311 WTh
Sood, Mariam – 4193 WTh
Sood, Surabhi – 2084 MT
Sosic-Vasic, Zrinka – 1193 MT
Sousa, Teresa – 2374 MT
Sowman, Paul – 1450 MT
Spader, Heather – 4280 WTh
Spechler, Philip – 3833 WTh
Spencer, John – 1965 MT
Spiegler, Andreas – 4020 WTh
Spinelli, Simona – 1188 MT
Spitzer, Hannah – 2186 MT
Spriggs, Meg – 3429 WTh
Spring, Aaron – 3151 WTh
Sprooten, Emma – 3246 WTh
Sreenivasan, Karthik – 1569, 1592 MT, 3950 WTh
Sta, Marouen – 2048 MT
Stahl, Patrick – 4232 WTh
Staljanssens, Willeke – 1764 MT
Stanley, Jeffrey – 1896 MT
Steel, Adam – 1939 MT
Steele, Christopher – 2192 MT, 3437, 3596 WTh
Stefanics, Gabor – 2369 MT
Stefano Filho, Carlos Alberto – 4128 WTh
Stegmayer, Katharina – 3263 WTh
Steiger, Ruth – 1665 MT
Steiger, Vivian – 1069 MT
Steimke, Rosa – 2240 MT
Stein, Jason – 3432 WTh
Stengel, Chloé – 2385 MT
Stephan, Marianne – 1502 MT
Stephan, Thomas – 2290 MT
Stephens, Jaclyn – 3943 WTh
Sterpenich, Virginie – 3354 WTh
Steventon, Jessica – 4323 WTh
Steward, Chris – 2036 MT
Stingl, Julia – 3428 WTh
Stollstorff, Melanie – 1446 MT
Stolz, David – 4387 WTh
Storti, Silvia Francesca – 1797 MT, 3864 WTh
Storzer, Lena – 1322 MT
Stößel, Gabriela – 1305 MT
Strain, Jeremy – 3525 WTh
Strike, Lachlan – 3465 WTh
Strobbe, Gregor – 3177 WTh
Stürkat, Inga-Lisa – 1411 MT
Styrkowiec, Piotr – 4158 WTh
Su, Hsien-Te – 4264 WTh
Su, I-Wen – 2324 MT
Su, Jianpo – 3209 WTh
Su, Mengmeng – 3657 WTh
Su, Yu-Shiang – 1048 MT
Subhash Chander, Bankim – 3030 WTh
Subramanian, Sandya – 3809 WTh
Sudhakar, Prasad – 2202, 2203 MT
Suen, Summit – 2104 MT
Sui, Jing – 1189 MT
Sumanapala, Dilini – 4144 WTh
Sun, Xiaochen – 3658 WTh
Sundermann, Benedikt – 3475 WTh
Sung, Yulwan – 2365 MT
Sungkarat, Witaya – 1341, 1343 MT
Suo, Chao – 1933 MT
Supekar, Kaustubh – 1098 MT
Suzuki, Hideo – 1166 MT
Svatkova, Alena – 3514 WTh
Sweeney-Reed, Catherine – 1914 MT
Sylvester, Chad – 1085 MT
Symons, Ashley – 3377 WTh

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Tabelow, Karsten – 2136 MT
Tai, I-Li – 4359 WTh
Tailby, Chris – 3181 WTh
Tajima, Satohiro – 2077 MT
Takamiya, Akihiro – 3012 WTh
Takerkart, Sylvain – 4052 WTh
Talanow, Tobias – 1624 MT
Talukdar, Tanveer – 1650 MT
Tambini, Arielle – 2144 MT
Tamm, Sandra – 4341 WTh
Tan, Davynn – 3710 WTh
Tan, Ying – 2222 MT
Tanabe, Hiroki – 4373 WTh
Tanaka, Hayato – 3586 WTh
Tang, Chih-Wei – 3031 WTh
Tang, Matthew – 2236 MT
Tang, Yingying – 1809 MT
Tang, Yi-Yuan – 1431 MT
Tanifuji, ShulCHI – 3606 WTh
Tariq, Maira – 2039 MT
Taschler, Bernd – 3771 WTh
Tatsumi, Nao – 3630 WTh
Tavor, Ido – 3813 WTh
Taylor, Harriet – 4192 WTh
Taylor, Paul – 3534 WTh
Teeuw, Jalmar – 3468 WTh
Teillac, Achille – 2040 MT, 3498 WTh
Telesford, Qawi – 4047 WTh
Ten Kate, Mara – 1007 MT
Tennekoon, Michael – 3101 WTh
Tenzer, Mark – 4086 WTh
Terasawa, Yuri – 3381 WTh
Tervo-Clemmens, Brenden – 2024 MT
Tewarie, Prejaas – 3841, 3891 WTh
Thayer, Rachel – 3108 WTh
Thézé, Raphaël – 1891 MT
Thiebaut de Schotten, Michel – 4197 WTh
Thirion, Bertrand – 2212 MT
Thompson, Jessica – 1631 MT
Thompson, Megan – 3699 WTh
Tian, Lin – 3987 WTh
Tian, Lixia – 3767 WTh
Tian, Qiyuan – 3540 WTh
Tik, Martin – 1488 MT
Tik, Martin – 3074 WTh
Timmermann, Christopher – 2269 MT
Tinaz, Sule – 1320 MT
Tissières, Isabel – 2229 MT
Tobia, Michael – 2251 MT
Toelch, Ulf – 4366 WTh
Tohka, Jussi – 3786, 3838 WTh
Toich, Jadrana – 4071 WTh
Toida, Koichi – 2295 MT
Tokariev, Anton – 2006 MT
Tomescu, Miralena – 1985 MT
Tomiello, Sara – 1771 MT
Tona, Klodiana-Daphne – 1594 MT
Tong, Yunjie – 1699 MT
Topka, Marlene – 3997 WTh
Tordesillas-Gutierrez, Diana – 3241 WTh
Torgerson, Carinna – 1383 MT
Toro, Roberto – 1862 MT
Toro-Serey, Claudio – 3641 WTh
Tourbier, Sebastien – 1540 MT
Touroutoglou, Alexandra – 3769 WTh
Toussaint, Paule – 4286 WTh
Tran, Michelle – 1456 MT
Trapp, Cameron – 4018 WTh
Trautwein, Fynn-Mathis – 2231 MT
Trebaul, Lena – 2106 MT
Tregellas, Jason – 3267 WTh
Treit, Sarah – 4281 WTh
Tsai, Arthur – 2134 MT
Tsai, Kevin – 1621 MT
Tsang, Adrian – 1810 MT
Tsang, Tawny – 1132 MT
Tsapanou, Angeliki – 1587 MT
Tscherpel, Caroline – 3075 WTh
Tse, Chun-Yu – 1091 MT
Tseng, Chieh-En – 1616 MT
Tsurumi, Kosuke – 3084 WTh
Tsvetanov, Kamen – 3742 WTh
Tuleasca, Constantin – 1660 MT
Tuovinen, Timo – 2142 MT
Tur, Carmen – 3989 WTh
Turgut, Umut – 4187 WTh
Turker, Sabrina – 3700 WTh
Tuulari, Jetro – 1768 MT
Tuulari, Jetro – 4191 WTh

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Ubukata, Shiho – 1375 MT
Ueda, Sayako – 4167 WTh
Uhlmann, Anne – 3240 WTh
Ulasoglu Yıldız, Çigdem – 1081 MT
Ulloa, Antonio – 2096 MT
Umarova, Roza – 3327 WTh
Umeda, Satoshi – 1255 MT
Umezawa, Shu – 3612 WTh

Urbain, Charline – 4351 WTh
Urchs, Sebastian – 3953 WTh
Urgen, Burcu – 4141 WTh
Ushakov, Vadim – 4176 WTh
Usmani, Mohd – 1934 MT
Üstün, Sertaç – 1536 MT
Utz, Lukas – 3920 WTh

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Vakamudi, Kishore – 2129 MT
Vakorin, Vasily – 1133 MT
Valizadeh, Seyed Abolfazl – 3805 WTh
Vallee, Emmanuel – 3501 WTh
van Assche, Mitsouko – 4171 WTh
van Bergen, Jiri – 1047 MT
Van de Steen, Frederik – 3404 WTh
Van De Ville , Dimitri – 2239 MT
Van de Vliet, Laura – 3392 WTh
van den Boom, Max – 1495 MT
Van der Haegen, Lise – 3670 WTh
van der Meer, Audrey – 2360 MT
van der Zwaag, Wietske – 1599 MT, 1600 MT
van Erp, Theo – 3219 WTh
van Ettinger-Veenstra, Helene – 3484, 4017 WTh
Van Overwalle, Frank – 4335 WTh
van Rooden, Sanneke – 1021 MT
van Rooij, Daan – 1112 MT
Van Schependom, Jeroen – 2187 MT
Van Snellenberg, Jared – 4244 WTh
van 't Ent, Dennis – 4389 WTh
Vanhoutte, Matthieu – 3145 WTh
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Vaquero, Lucía – 1511 MT
Vargas, Patricia – 4131 WTh
Varikuti, Deepthi – 2143 MT
Varoquaux, Gael – 3829 WTh
Váša, František – 3945 WTh
Vasavada, Megha – 1156 MT
Vatansever, Deniz – 1493 MT
Vaughan, David – 1629 MT
Vaughn, Don – 1461 MT
Vazquez, Alberto – 4309 WTh
Vazquez, Dina – 3356 WTh
Vercelli, Ugo – 1578 MT
Vercruysse, Dorothee – 1254 MT
Vergara, Victor – 3984 WTh
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Verly, Marjolein – 3302 WTh
Vetter, Nora – 1690 MT
Viard, Romain – 2213 MT
Vidal Piñeiro, Didac – 3722 WTh
Vidaurre, Diego – 1470, 2161 MT, 3995 WTh
Vilares, Iris – 4384 WTh
Villalon Reina, Julio – 3482 WTh
Vintonyak, Olga – 1313 MT
Violante, Ines – 3025 WTh
Visser, Eelke – 2208 MT
Visser, Maya – 1601 MT
Viswanathan, Shivakumar – 4162 WTh
Viviani, Roberto – 1404, 2197, 2198 MT, 3403 WTh
Viviano, Raymond – 3982 WTh
Vlasova, Roza – 3643 WTh
Vlassenko, Andrei – 3709 WTh
Vo, An – 1338 MT
Vogel, Bob – 3257 WTh
Vogelbacher, Christoph – 1696 MT
Vogt , Stefan – 1484 MT
Voisin, Julien – 3355 WTh
Volberg, Gregor – 2371 MT
Vollmar, Christian – 3530 WTh
von Ellenrieder, Nicolas – 3876 WTh
Vousden, Dulcie – 1920 MT
Voyvodic, James – 1715 MT
Vrana, Andrea – 3590 WTh
Vriend, Chris – 1337 MT
Vrticka, Pascal – 2312 MT
Vucurevic, Goran – 1883 MT
Vuong, Quoc – 2299 MT
Vytvarova, Eva – 2152 MT

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Wachinger, Christian – 3814 WTh
Wade, Benjamin – 1380, 1980 MT
Wagstyl, Konrad – 4209 WTh
Wåhlin, Anders – 4293 WTh
Wall, Matthew – 1663 MT
Wallace, Greg – 1135 MT
Waller, Lea – 3352 WTh
Wallroth, Raphael – 3817 WTh
Walsh, Erin – 3714 WTh
Walther, Sebastian – 3268 WTh
Walton, Matthew – 1544 MT
Walz, Jennifer – 3157 WTh
Wang, Chenhao – 3202 WTh
Wang, Fang – 2373 MT
Wang, Fei – 1148 MT
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Wang, Jue – 1339 MT
Wang, Junping – 1824 MT
Wang, Lei – 1852 MT
Wang, Pan – 1040 MT
Wang, Pengyun – 1044 MT
Wang, Shengpei – 3930 WTh
Wang, Tao – 1000, 1004 MT, 3488 WTh
Wang, Weina – 1169 MT
Wang, Xiaosha – 2364 MT
Wang, Xindi – 1873 MT, 3979 WTh
Wang, Xingchao – 2275 MT
Wang, Xue – 3324 WTh
Wang, Yanran – 3312 WTh
Wang, Yi – 1668 MT
Wang, Yuanjia – 2117 MT
Wang, Yubao – 1632 MT
Wang, Ze – 1009 MT
Warren, Aaron – 3144 WTh
Warton, Fleur – 1983 MT
Wassermann, Demian – 1825 MT
Weber, Lilian Aline – 3772 WTh
Wegmann, Bertil – 3784 WTh
Wegner, Christiane – 4381 WTh
Wegrzyk, Jennifer – 1304 MT
Wehenkel, Marie – 3791 WTh
Wei, Xuehu – 1840 MT
Wei, Zhengde – 3096 WTh
Weisstanner, Christian – 3424, 4178 WTh
Welton, Thomas – 3988 WTh
Wen, Haiguang – 2372 MT, 2375 MT
Wen, Hongwei – 1272, 1273 MT
Wen, Jianbin – 3694 WTh
Wen, Xiaotong – 1954 MT
Wendelken, Carter – 2030 MT
Wenger, Elisabeth – 1583 MT
Wensing, Tobias – 3201 WTh
Werner, Rene – 1841 MT
Wertheim, Julia – 1522 MT
Wesselink, Daan – 2302 MT
Westlund Schreiner, Melinda – 1290 MT
Westwater, Margaret – 3129 WTh
Whelan, Christopher – 3149 WTh
Whitaker, Kirstie – 2004 MT
White, David – 3265 WTh
White, Milo – 1122 MT
White, Tonya – 1586 MT
Whitehead, Kimberley – 1993 MT
Wiebels, Kristina – 2089 MT
Wiebking, Christine – 1562 MT
Wiegand, Katrin – 2261 MT
Wijeakumar, Sobanawartiny – 1451 MT, 4023 WTh
Wilcox, Claire – 3087 WTh
Wilf, Meytal – 4065 WTh
Wilke, Marko – 1973 MT
Williams, Rebecca – 1646 MT
Wilm, Bertram – 3493 WTh
Wilson, Ross – 1639, 1647 MT
Wilzén, Josef – 3783 WTh
Wingfield, Cai – 3682 WTh
Winkler, Anderson – 1558, 2216 MT
Wirsich, Jonathan – 1807 MT
Wise, Toby – 1171 MT
Wisse, Laura – 1844, 2206 MT
Witte, Matthias – 1513 MT
Wittenberg, Marc – 2349 MT
Wittfeld, Katharina – 3446, 3467 WTh
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Woletz, Michael – 2154 MT, 4117 WTh
Wolfers, Thomas – 3787 WTh
Wollman, Indiana – 1514 MT
Wong, Angelita Pui-Yee – 3487 WTh
Wong, Chung-Ki – 1811, 2137 MT
Wong, Clive – 1473 MT
Wong, Kian Foong – 2241 MT
Wong, Nichol M.L. – 3768, 4364 WTh
Wong, Savio – 1452 MT
Woo, Choong-Wan – 2330 MT
Wood, Guilherme – 3763 WTh
Wood, Sarah – 1469 MT
Woodcock, Eric – 3221 WTh
Woods, Keri – 1237 MT
Woodward, Kristine – 3328 WTh
Wörsching, Jana – 3016 WTh
Wotruba, Diana – 4107 WTh
Wu, Changwei – 3292 WTh
Wu, Dan – 1998 MT
Wu, Fengchun – 3198 WTh
Wu, Gourong – 4111 WTh
Wu, Lei – 3287 WTh
Wu, Mei-Hsuan – 1434 MT
Wu, Qiong – 2376 MT
Wu, Shu-Yao – 3631 WTh
Wu, Xiaoyan – 1617, 1619 MT
Wu, Yan – 3970 WTh
Wu, Yi-Chen – 1595 MT
Wyczesany, Miroslaw – 3351 WTh
Wylie, Glenn – 3345 WTh

X

Xiang, Lily – 1565, 1568 MT
Xiao, Min – 2274 MT
Xiao, Xiaoqian – 1903 MT
Xiao, Yaqiong – 4067 WTh
Xie, Chao – 1658 MT
Xie, Long – 1016 MT
Xie, Sangma – 3249 WTh
Xie, Siying – 3910 WTh
Xing, Mengqi – 1777 MT
Xu, Bing – 3455 WTh
Xu, Jinping – 1088, 1309 MT
Xu, Ting – 1711, 1987 MT

Xu, Xinyu – 3711 WTh
Xu, Zhenhua – 1744 MT
Xu, Ziliang – 2407 MT
Xue, Song – 3349 WTh
Xuesong, Yang – 2215 MT

Y

Yaesoubi, Maziar – 4000 WTh
Yamashita, Ayumu – 3903 WTh
Yan, An – 4346 WTh
Yan, Chao-Gan – 4088 WTh, 1872 MT
Yanes, Julio – 3116 WTh
Yang, Albert Chih-Chieh – 4077 WTh
Yang, Fan-pei – 1388 MT, 3713 WTh
Yang, Genevieve – 4126 WTh
Yang, Guochun – 1438 MT
Yang, Jie – 1175 MT
Yang, Ning – 1988 MT
Yang, Xun – 1574 MT
Yang, Yaling – 1286, 1287 MT
Yang, Yi – 1246 MT, 4032 WTh
Yang, Yuan – 1740 MT
Yang, Zhen – 3191 WTh
Yang, Zhengshi – 2083, 2097 MT
Yao, Hongxiang – 1042 MT
Yao, Li – 1150 MT
Yao, Nailin – 1152, 1597 MT
Yao, ZeShan – 1723, 2398 MT
Yargholi, Elahe – 2367 MT
Yau, Tan-Ya – 4385 WTh
Yau, Yvonne – 1357 MT
Yeagle, Erin – 1753 MT
Yeatman, Jason – 2356 MT
Yee, Yohan – 4283 WTh
Yendiki, Anastasia – 4285 WTh
Yeo, Sang Seok – 3582 WTh
Yeom, Hong Gi – 4138 WTh
Yi, Jinyao – 3109 WTh
Yi-Cen, Ting – 2146 MT
Yick, Yee Ying – 1950 MT
Yokota, Susumu – 1458 MT
Yoo, Kwangsun – 1018 MT
Yoon, Bryan – 1559 MT
Yoon, Eun Jin – 1361 MT
Yoon, Hyo Woon – 3662 WTh
YorkWilliams, Sophie – 1426 MT
Yoshida, Akihiro – 1432 MT
Yoshida, Atsushi – 3510 WTh
Yoshimura, Masafumi – 1267 MT
Yoshiyuki, Takahashi – 4166 WTh
Young, Kymberly – 1176 MT
Yovel, Yossi – 4287 WTh
Yu, Qingbao – 3947 WTh
Yu, Xinfeng – 3311 WTh
Yuan, Binke – 4075 WTh
Yuan, Jie – 1518 MT, 2276 MT
Yuan, Weihong – 1369 MT
Yun, Je-Yeon – 1268, 1278 MT
Yun, Sungjae – 1427 MT
Yuxuan, Cai – 1485 MT

Z

Zabicki, Adam – 1490 MT
Zacà, Domenico – 2157 MT
Zaidi, Ali – 4307 WTh
Zainun, Dr Zuraida – 1774 MT
Zanchi, Davide – 4315 WTh
Zang, Zhenxiang – 1943 MT
Zapparoli, Laura – 3911 WTh
Zappasodi, Filippo – 3314 WTh
Zaretskaya, Natalia – 1609 MT
Zariei, Negin – 1563 MT
Zavaglia, Melissa – 2247 MT
Zeffiro, Thomas – 1248 MT
Zeidman, Peter – 3777 WTh, 3936 WTh
Zeighami, Yashar – 1593 MT
Zemmoura, Ilyess – 4276 WTh
Zeng, Ke – 1101 MT
Zerbi, Valerio – 3941 WTh
Zerouali, Younes – 1788 MT, 3566 WTh
Zhan, Liang – 3479 WTh
Zhan, Yafeng – 3956, 3958 WTh
Zhang, Aifeng – 3132 WTh
Zhang, Chao – 4006 WTh
Zhang, Hongxia – 1957 MT
Zhang, Huawei – 1177 MT
Zhang, Huijun – 4349 WTh
Zhang, Jingna – 3308 WTh
Zhang, Kai – 1362 MT
Zhang, Lijuan – 3313 WTh
Zhang, Liwen – 1145 MT
Zhang, Peng – 3210 WTh
Zhang, Rui – 1653 MT
Zhang, Wei – 3361 WTh
Zhang, Wenjing – 3248 WTh
Zhang, Wenpei – 3854 WTh
Zhang, Xiuming – 1002 MT
Zhang, Ye – 3307 WTh
Zhang, Yu – 3421 WTh
Zhang, Zheng – 1615 MT
Zhao, Chenxi – 3519 WTh
Zhao, Jingjie – 1157 MT
Zhao, Kang – 1878 MT
Zhao, Ling – 3494 WTh
Zhao, Rui – 2176 MT
Zhao, Tengda – 2017 MT
Zheng, Hongna – 3954 WTh
Zhigalov, Alexander – 3851 WTh
Zhong, Jidan – 4271 WTh
Zhong, Miao – 1620 MT
Zhong, Mingtian – 1302 MT
Zhong, Suyu – 3518 WTh
Zhou, Bo – 1051 MT
Zhou, Haiyan – 1521 MT
Zhou, Liqing – 1029 MT
Zhou, Ming – 1718 MT
Zhou, Peng – 1634 MT
Zhou, Shuqin – 4104 WTh
Zhou, Xinqi – 1622 MT
Zhu, Bi – 3430 WTh
Zhu, Min – 3081 WTh
Zhu, Ruida – 1743 MT
Zhu, Wensheng – 3434 WTh
Zhu, Yuanqiang – 2409 MT
Zhuang, Xiaowei – 1884, 2164 MT, 3790 WTh
Zhuo, Junjie – 2205 MT
Zich, Catharina – 1492 MT
Ziegler, Johannes – 1687 MT
Zielinski, Brandon – 1099 MT
Zimmer, Ulrike – 3385 WTh
Zimmermann, Joelle – 4182 WTh
Zimmermann, Kaeli – 1447 MT
Zmeykina, Elina – 4014 WTh
Zomeno, Marie – 4226 WTh
Zotev, Vadim – 1082, 1178 MT
Zou, Lijuan – 3616 WTh
Zou, Ping – 1250 MT
zu Eulenburg, Peter – 2278 MT
Zubarev, Ivan – 1439 MT
Zucchelli, Mauro – 2050 MT
Zuo, Xi-Nian – 2065 MT
Zwosta, Katharina – 1890 MT