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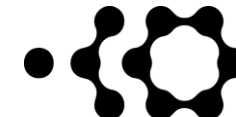
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ISMPP Announcements

- The next CMPP exam is March 1, 2024
 - Application deadline of February 1





ISMPP Announcements



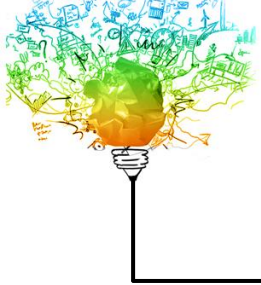
2024 European Meeting of ISMPP

Innovation: The New Tradition

23-24 January 2024

Novotel London West

Registration is open!



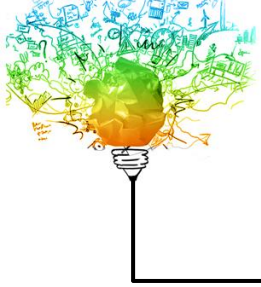
How To Ask Questions

Feel free to ask a question at any time, however all questions will be held until the end the of the presentation.

To ask a question, open the Q&A window, type your question into the Q&A box. **Click Send**

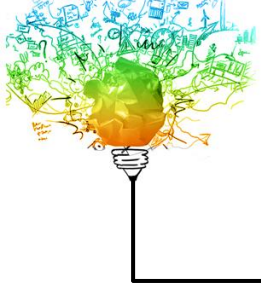
Note: Check **Send Anonymously** if you do not want your name attached to your question in the Q&A

We will make every effort to respond to all questions live (out loud)



Disclaimer

- Information presented reflects the personal knowledge and opinions of the faculty and does not necessarily represent the position of their current or past employers



Objectives

- Identify the applications of AI in medical publications, with a focus on the Asia-Pacific region
- Understand the limitations of AI tools and how to navigate these challenges
- Be familiar with the current guidelines and recommendations concerning the use of AI in medical publications



Faculty



Nischay Shah

Business Head,
Emerging Products, and
Chief Technology Officer,
Cactus Communications



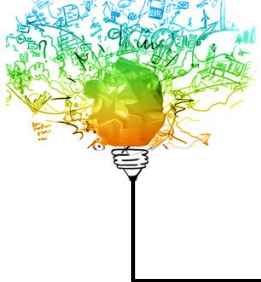
Jiayi Xu

Managing Editor, CAAI
Transactions on Intelligence
Technology, Chongqing
University of Technology, China



**Moderator: Shobana
Ganesan**

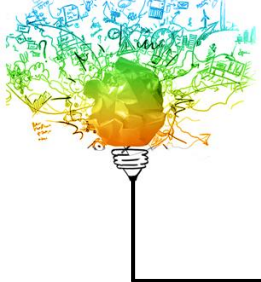
Senior Manager, Quality &
Training, at Cactus Life
Sciences



Poll Question 1

Have you used AI as part of your role as a medical publication professional?

- a) Yes
- b) No
- c) Not yet, but interested in starting
- d) I do not wish to use AI



Poll Question 2

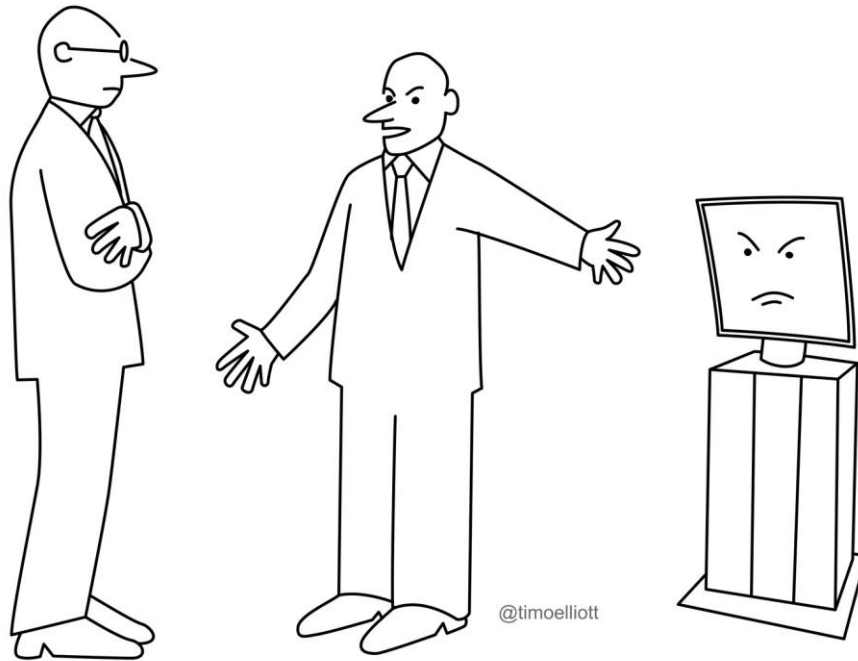


If you have used/are using AI, how are you using it (select all that apply)?

- a) Literature search
- b) Learning more about a new therapeutic area
- c) Transcribing speech to text
- d) Monitoring publication trends
- e) Checking information or references
- f) Writing drafts
- g) Checking drafts for grammar/spelling
- h) Translation
- i) Generating images
- j) Summarizing articles
- k) Other



The Age of AI

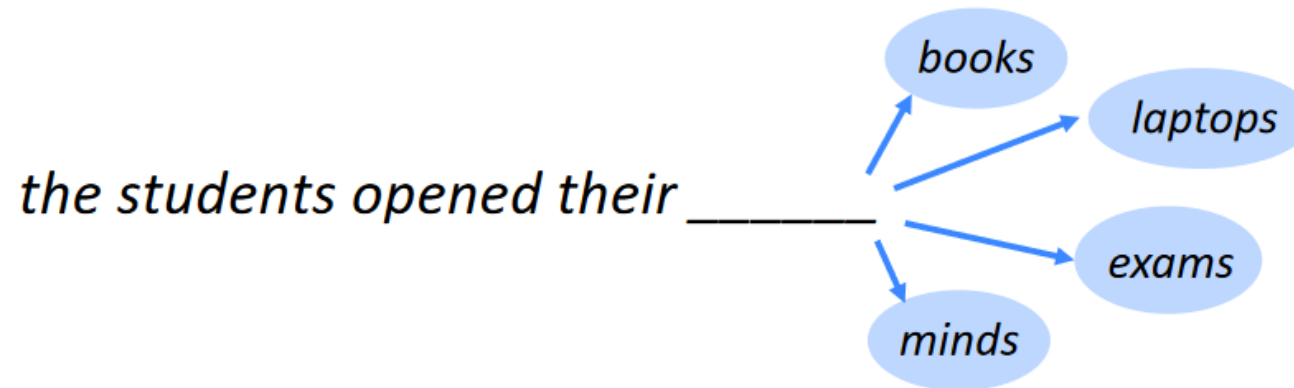


*His decisions aren't any better than yours
— but they're WAY faster...*



Language Model

Can you please come **here** ?





Use of AI

Facts Vs Myths

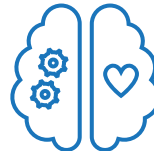
The new age of AI replaces humans





Artificial Narrow Intelligence (ANI)

- Weak AI
- Specializes in one area and performs a specific task well



Artificial General Intelligence (AGI)

- Strong AI, Sapience
- Ability to understand context, make judgments, plan, and learn from experience, and apply knowledge across a wide range of tasks like a human being



Artificial Super Intelligence (ASI)

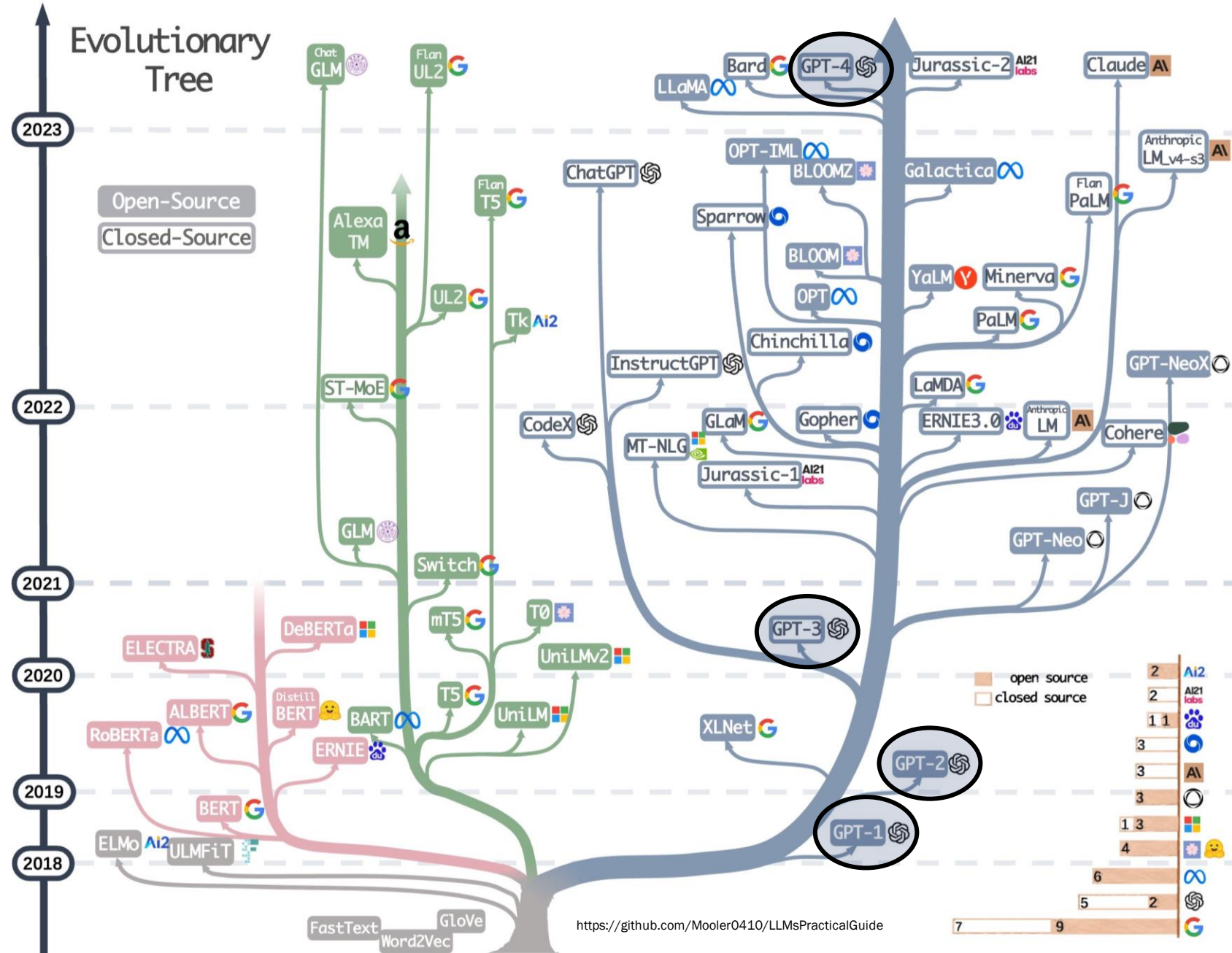
- Sentience
- AI that possesses capability and intelligence far surpassing that of the brightest humans

Time

**ChatGPT is the best innovation in
AI and openAI will monopolize AI**



Large Language Models (LLMs)



**AI isn't mature enough to have real
use case in Medical communications**



“A tool is as good as the human who is using it.”

- Anonymous





64

°F | °C

Precipitation: 0%

Humidity: 50%

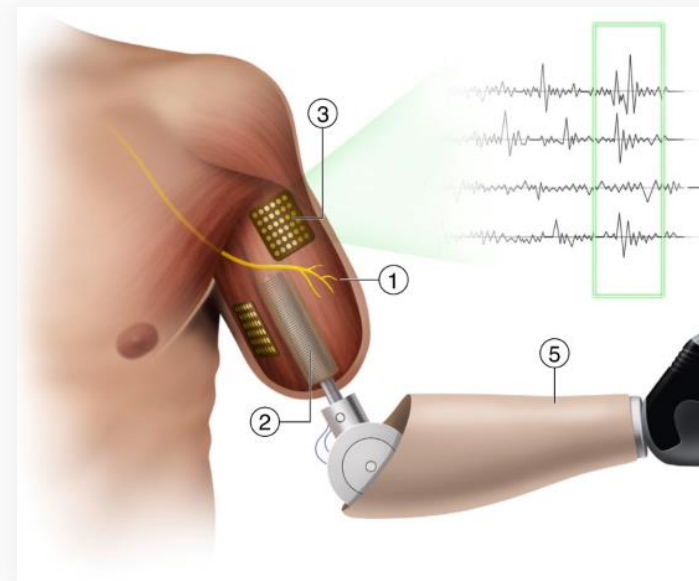
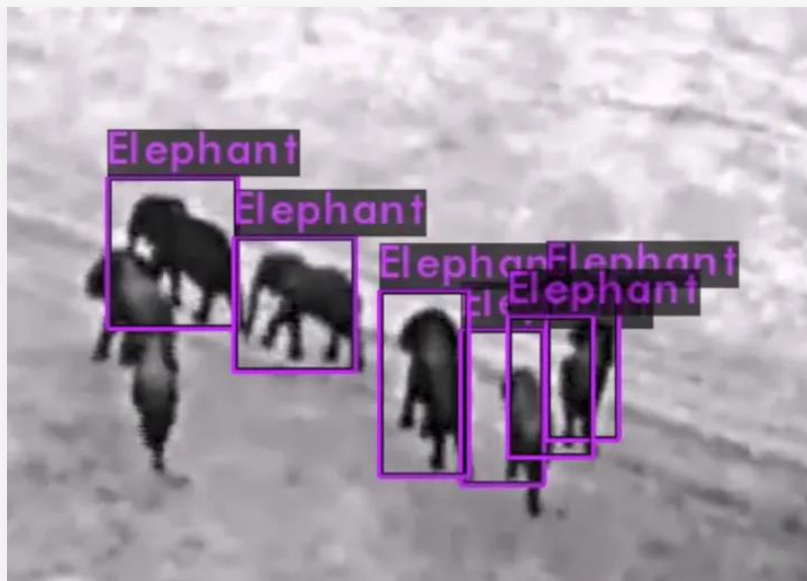
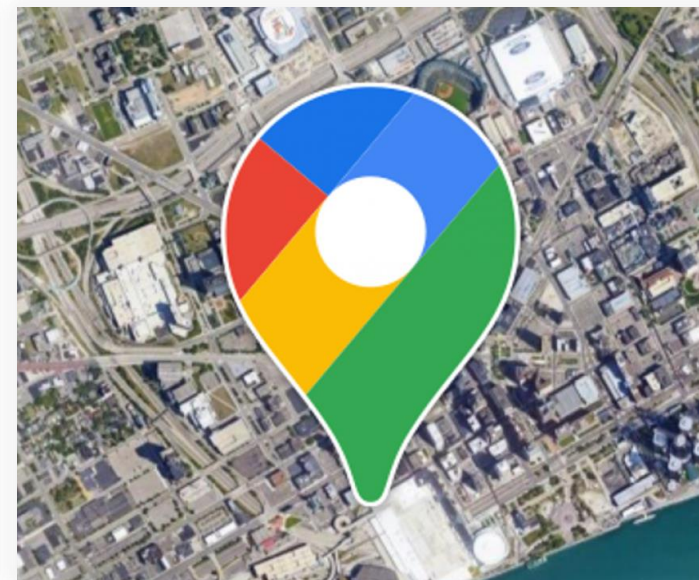
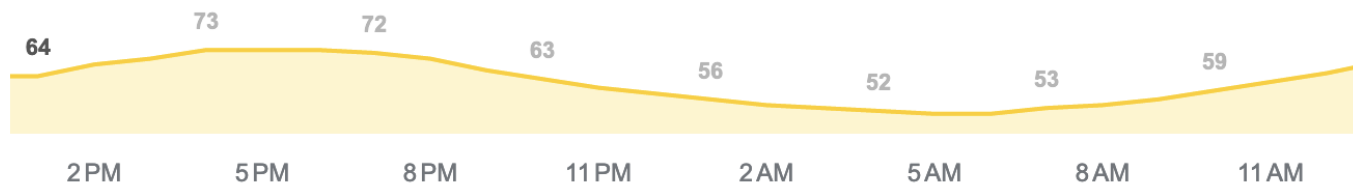
Wind: 7 mph

Weather
Sunday 1:00 PM
Mostly sunny

Temperature

Precipitation

Wind





AI use cases in Medical Communication and beyond



Medical Writing



Medical Writing Tools



Experience the future of Medical writing

AI assisted language and publication readiness ecosystem for medical publications. Boost your chances of success with real-time, subject-specific language suggestions that help you write better, faster!

...you will be able to write high-quality academic manuscripts...



employment. It is fast becoming a powerful engine of the world economy, as well as play a part in upskilling and retraining the global workforce. The sector's direct contribution to the economy estimates nearly £15bn by 2030.

In Europe \$1.5 billion was invested in Fintech companies in the year of 2014, which is including London-based companies received \$539 million. Stockholm is the second highest funded city after London over the past decade. To have a better understand of the current situation in the European Fintech market, we have analysed the fintech ecosystem through our visual software. The third part of this report we will focus on the european ecosystem and provide an overview of its development and key insights.

On the left, we can see the current Fintech ecosystem in Europe. Each node represents a company. Companies whose business operations are similar enough, are given the same colour, thus form a cluster. The closer the clusters are to each other, the more intertwined that their operations are. Sometimes they indicate these companies similarities with other companies in a different cluster, represented by a line, connecting the two.

Sometimes they indicate similarities between these companies and other companies in a different cluster, represented by a line, connecting the two.

This section will explore further a few qualities additional to the Fintech Ecosystem such as the ecosystem's development, the clusters' maturity, etc.

The value of a business is extrapolated from multiples of privately-traded companies with transactions of companies that can be compared. Trading multiples concern generally companies that may be in a later development stage than the Fintech under consideration. Which is why these companies may not be comparable truly. Greater data availability are advantages, such as observable values of enterprise. Transaction multiples in Fintech valuations may be derived from funding recent rounds. Disadvantages are observable market data missing, such as enterprise values.

Globally, Q1'21 was the largest funding quarter that was ever recorded. Across 468 deals, global VC backed fintech companies raised a record \$30.9 billions, which is shattering last quarter's funding record by 20%. What accompanied with this astounding funding growth was a small 3% deal growth quarter-over-quarter (QoQ) and an 17% increase year-over-year (YoY).

An explosion of mega-rounds drove the funding boom. This quarter only, global fintechs raised 67 mega-rounds (deals worth \$100M+) — up from 50 in Q1 20 — accounting for 75% of funding total.



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SEO Website Copy

Target SEO Keyword

ai generated landing pages

Description of your company or website

Our company writes copy for landing pages. It's called copy.ai and it's awesome. You can generate any kind of landing page copy you need and structure everything directly in your dashboard. Then just copy and paste the copy into your website builder to make beautiful landing pages in minutes.

Website Structure (separated by commas)

short hero, subheader, short call to action, catchy tagline, h3 benefit, paragraph, h3 benefit, paragraph, h3 benefit, paragraph, short call to action



Rooms that are tiny can be tricky to decorate but they can also be a lot of fun. So when a client challenged us to give her pocket size space a summer makeover for under \$500 dollars, we just couldn't say no. Transforming a very small space doesn't have to blow your budget. Small things like finding a vintage piece of furniture from a relative or adding a fresh coat of paint to your own dated items can add a stylish splash to any abode.

Correctness
2 alerts

Clarity
A bit unclear

Engagement
A bit bland

Delivery
Slightly off



Paperpal

Paperpal usage by pharma editors

ABSTRACT

This multicenter, double-blind, phase 2a part of a phase 2/3 study **assessed the efficacy and safety of ensitrelvir**, a novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) 3C-like protease inhibitor, in Japanese patients with mild-to-moderate **coronavirus disease 2019** (COVID-19) or asymptomatic SARS-CoV-2 infection. Sixty-nine patients were randomized (1:1:1) to orally receive 5-day ensitrelvir fumaric acid (375 mg on day 1 followed by 125 mg daily or 750 mg on day 1 followed by 250 mg daily) or placebo and followed up until day 28. The primary outcome was the change from baseline in the SARS-CoV-2 viral titer. A total of 16, 14, and 17 patients in the ensitrelvir 125 mg, ensitrelvir 250 mg, and placebo groups, respectively, were included in the intention-to-treat population (mean age: 38.0 to 40.4 years). On day 4, the change from baseline in SARS-CoV-2 viral titer ($\log_{10}$ 50% tissue culture infectious dose/mL) in patients with positive viral titer and viral RNA at baseline was greater with ensitrelvir 125 mg (mean [standard deviation], -2.42 [1.42]; $P = 0.0712$) and 250 mg (-2.81 [1.21]; $P = 0.0083$) versus placebo (-1.54 [0.74]), and ensitrelvir treatment reduced SARS-CoV-2 RNA by -1.4 to -1.5 $\log_{10}$ copies/mL versus placebo. The viral titer and viral RNA were similar across groups on and after day 6. The median time to viral clearance decreased by approximately 50 hours with ensitrelvir treatment. All adverse events were mild to moderate. Ensitrelvir treatment demonstrated

The screenshot shows the Paperpal application window. At the top, there's a toolbar with 'Language', 'P', 'G', 'E', and a 'Copilot' button. Below the toolbar, it says '6 sentences ready for review'. The main area displays several suggestion cards:

- Punctuation**: 'Sixty-nine patients were randomiz...' (truncated).
- Misplaced Modifier**: 'The primary outcome was the change in the SARS-CoV-2 viral titer from baseline from-baseline-in-the SARS-CoV-2 viral titer.' with 'Accept' and 'Reject' buttons.
- Spacing**: 'A total of 16, 14, and 17 patients i...' (truncated).
- Rephrase, Article Usage**: 'The viral titer and viral RNA were s...' (truncated).
- Preposition Usage**: 'The median time to viral clearance...' (truncated).

At the bottom of the window, there's a 'Paperpal' logo, a notification bell with a red '4', a speech bubble icon, a list icon, and a user profile icon. The status bar at the very bottom shows '(United States) Text Predictions: On Accessibility: Good to go' and a zoom level of '130%'.



Paperpal

Assistive writing features – Grammar and Language (1/3)

Unnecessary
nominalization

Incorrect use of
hyphens in ranges

The patient ~~shifted to quarantine~~was quarantined for a week ~~long~~, where he remained asymptomatic except for 2–3 motions on the second day of quarantine.

Unidiomatic usage

Incorrect
preposition use

Redundancy

The EDX mapping of a single Cu_{2-x}Se nanorod ~~at in~~ the fully discharged state (Figure 4d) shows that Zn ~~element~~ is uniformly distributed ~~in throughout~~ the ~~whole~~ nanorod, further ~~confirms~~confirming the Zn^{2+} intercalation process.

Conciseness

Incorrect verb form



Paperpal

Assistive writing features – Grammar and Language (2/3)

Contextual word choice

Redundancy

The linearity of fungicides was evaluated at ~~serious~~various ~~of concentration levels~~ concentrations (0.01, 0.05, 0.1, 0.2, 0.5, 1, 2, and 5 µg/L).

Informal word usage

Semicolon between independent clauses

Emerging evidence indicates that MVI is an independent factor for resection of HCC with poor survival^[20-22]; however, MVI is ~~hard~~difficult to detect before partial hepatectomy, even if ~~the improvement of~~ superior imaging procedures have been improved in recent years.

Rephrase for readability

Noun number

Adsorption technology has been studied as a promising ~~candidate~~alternative to ~~replace the~~ traditional C3 separation ~~unit~~units.

Wordiness



Paperpal

Assistive writing features – Grammar and Language (3/3)

Wordiness

When ~~we apply it~~applied to ~~the~~ skin, the paste reacts with the water ~~of~~on the skin surface, generating CO₂ gas.

Incorrect preposition

Missing article

Awkward phrasing

Obviously, ~~with~~as the ~~increasing of user~~ number of users increases, the total utility of the users ~~is becoming higher~~increases.

Unnecessary Nominalization

In the present study, we ~~conducted an evaluation of~~evaluated ~~the~~ protective efficacy of both cocktails by intranasal challenge of pigs with ASFV-Georgia 2007/1.

Missing article



Paperpal

Generative AI assistive features - Make Academic – 1/2

Translate

This sample is adapted from an open access article by Huang & Wang (2023), distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Paperpal translates from up to 30 different languages into English to simplify writing from your native tongue.

経験的に、複数の研究は、異なる社会経済的グループに属する大学生間のさまざまなメンタルヘルスの結果に対するパンデミックの影響が不均衡であり、その結果、時間の経過とともに永続的な影響をもたらす可能性があることを明らかにしています。

Despite the urgent need for action to address the worsening mental health inequalities caused by the pandemic of novel coronavirus infection, research on the relationship between socioeconomic status (SES) and various mental health outcomes among people and underlying mechanisms remains lacking There is a lack of research on the relationship between SES and various mental health outcomes among people. Students during a university closure due to a new coronavirus infection. This critical research gap will hinder the development of targeted policies and the implementation of counter interventions. The present study addresses this research gap, that is, to understand the impact of SES on mental health outcomes in university students during the COVID-19 pandemic. Specifically, we examine the mediating roles of perceived social support and self-efficacy.

This study aims to examine the relationships between SES and mental health outcomes in university students during the COVID-19 pandemic and to identify the mechanisms underlying these associations.

Page 1 of 2 338 words English (India)



Paperpal

Generative AI assistive features - Make Academic – 2/2

Consistency check

Immune effects of CDK4/6 inhibitors in HR⁺/HER2⁻ metastatic breast cancer patients: relief from immunosuppression is associated with clinical response

Abstract

Background: The cyclin-dependent-kinase 4/6 inhibitors (CDK4/6i) are innovative small target molecules recently employed in the treatment of HR⁺/HER2⁻ metastatic breast cancer (mBC) patients in combination with endocrine therapy. In this prospective study, we investigated the impact of CDK4/6i on the immune profile of HR⁺/HER2⁻mBC patients.

Methods: Analysis of immune cell subsets was performed by flow cytometry on Peripheral Blood Mononuclear Cells (PBMCs) isolated from HR⁺/HER2⁻mBC patients before and during treatment. Regulatory T cells (T_{reg}) were identified using the following markers: CD4, CD25, CTLA4, CD45RA, and intracellular FOXP3. Monocytic and Polymorphonuclear myeloid-derived suppressor cells (M-MDSCs and PMN-MDSCs) and other immune populations were analyzed using CD45, CD14, CD66b, CD11c, HLA-DR; CD3, CD8, CD28, CD137, PD1, CD45RA, CCR7, Ki67.

Finding: The percentage of circulating T_{reg} and M/PMN-MDSCs cells was significantly downregulated from baseline ($p < 0.0001$, $p < 0.05$ respectively). In particular, the effector T_{reg} subset (CD4⁺CD25⁺FOXP3^{high}CD45RA⁻) was strongly reduced ($p < 0.0001$). T_{reg} decrease was significantly greater in responder patients compared to non-responder ones. Conversely, the CDK4/6i treatment was associated with increased levels of CD4⁺ T and the anti-tumor

Paperpal Progress:

- ✓ Connecting with Word
- ✓ Checking subscription status
- ✓ Loading preferences
- ✓ Setting up document
- Starting writing session

Page 1 of 19 | 5840 words | English (United States) | 184%



Paperpal

Generative AI assistive features - Paraphrase

Paraphrase

AutoSave On Improving Accuracy and Temporal Resolution of Learning Curve Estimation for within- and across-Session Analysis — Saved

Home Insert Draw Design Layout References Mailings Review View Tell me

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Systematic errors did not increase for all trials, but only did so during phases of fast and large performance changes. Magnitude of systematic errors seems to depends on the temporal scales of the involved learning processes in relation with the chosen window size. The estimation of learning curves is significantly impacted by the size of the growing window, as it becomes increasingly influenced by trials from different phases of the learning process that may be governed by varying success probabilities. Therefore, the window size plays a critical role in determining the quality of learning curve analysis. By cross-validation and minimizing of MSEF, we determined with all three approaches optimal window sizes of 13 to 19 trials for our data. These numbers fit well to the observed temporal scales of performance changes which were on the order 5 to 25 trials.

SUMMARY

To summarize, our results show that even in simple tasks learning can be multi-phasic, with involving multiple behavioral and physiological processes acting on different time scales. Such a dynamic view of learning agrees to studies characterizing learning as lead by the interplay of various conflicting and cooperating brain systems. Describing such a rich learning dynamics only on a molar level, e.g. by session means of success rates, might be too gross for an adequate understanding of learning. Or else, a molecular description of learning by the responses for each trial must also account for the described multi scale learning dynamics. In any case, a detail quantitative assessment of the behavioral learning dynamics, as give by our approach, is crucial

Page 5 of 6 1639 words English (United States)

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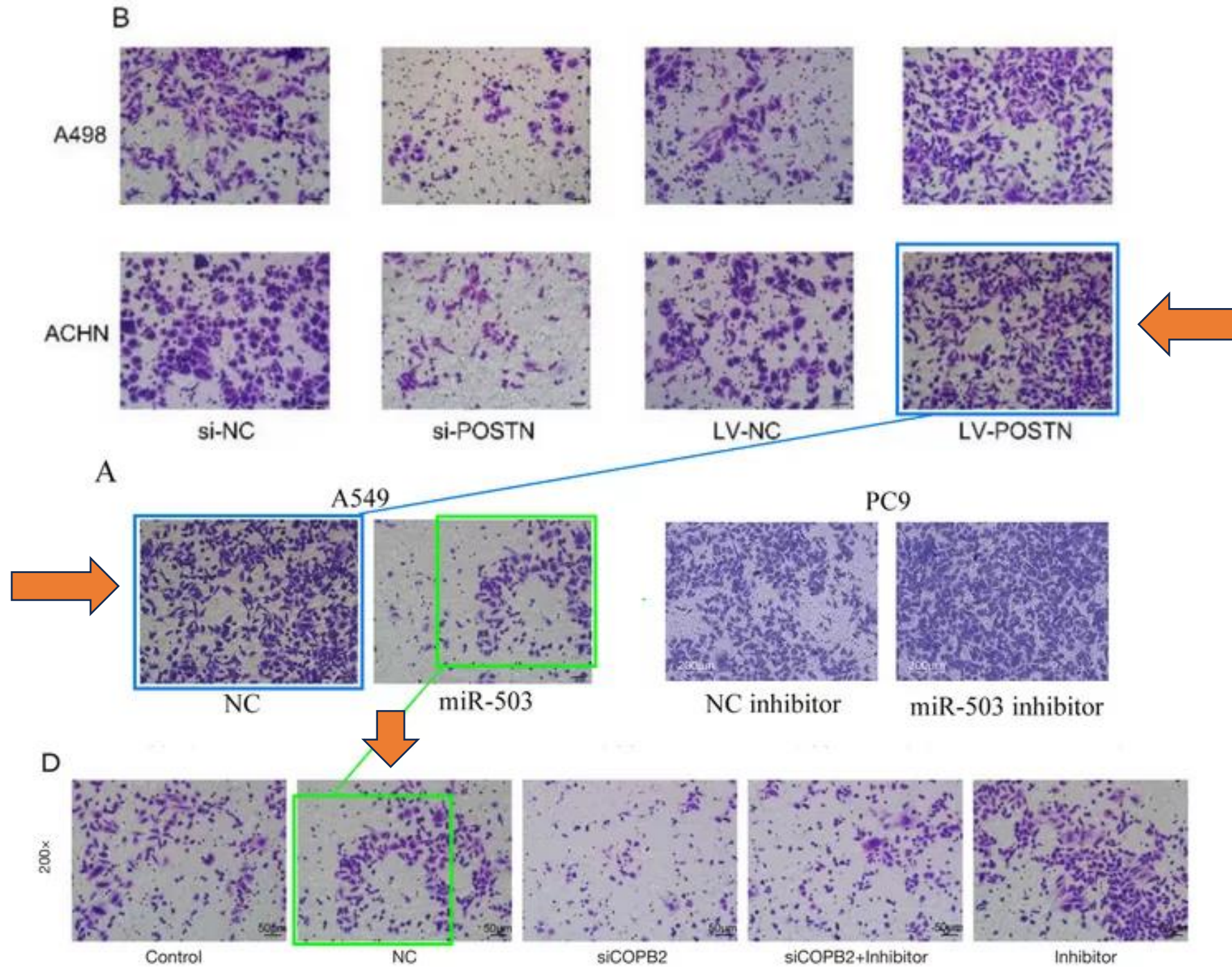
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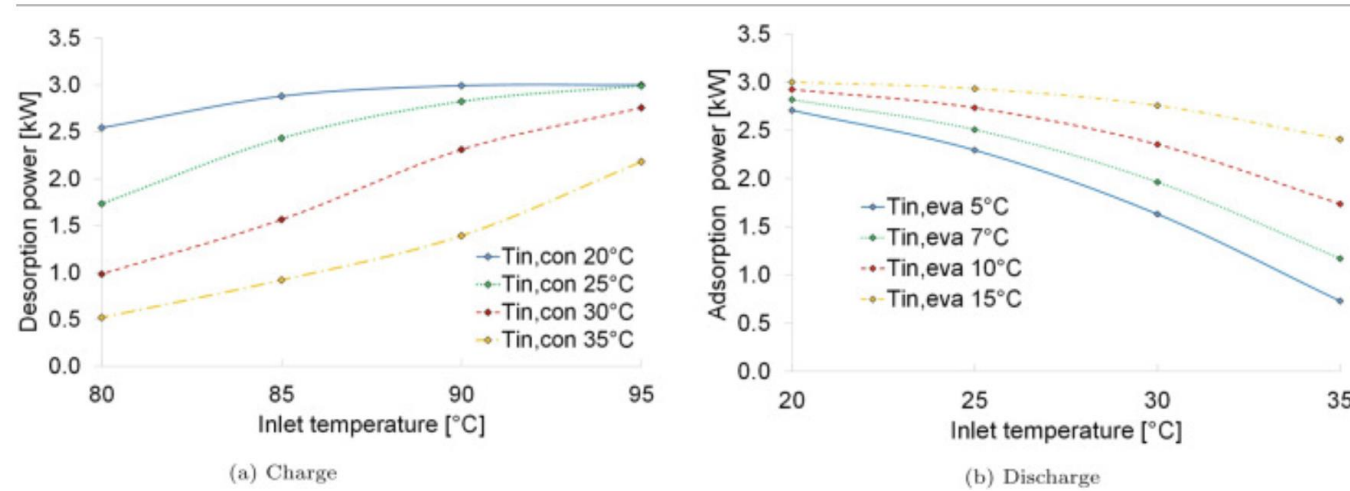
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Fig. 6. Performance map for the charging and discharging

The performance maps (see **Figure 6**) provided the charging and discharging power as a function of the adsorber inlet temperature and the condenser or evaporator inlet temperature, respectively. The following mass flow rates were used to obtain the performance maps: 0.2 kg/s in the adsorber, 0.25 kg/s in the condenser, 0.166 kg/s in the evaporator. The calculated maximum stored energy corresponds to 110 MJ per module.

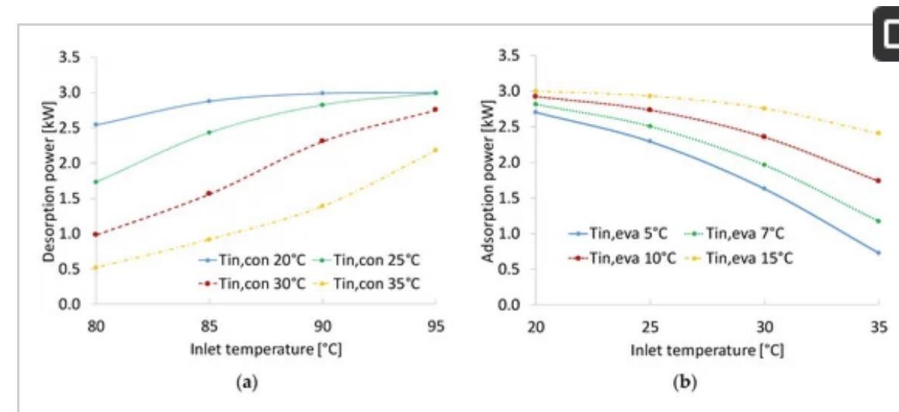


Figure 6. Charging (a) and discharging (b) performance map of a 100 kg sorption module.



Plain Language Summary



The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812

DECEMBER 31, 2020

VOL. 383 NO. 27

Safety and Efficacy of the BNT162b2 mRNA Covid-19 Vaccine

Fernando P. Polack, M.D., Stephen J. Thomas, M.D., Nicholas Kitchin, M.D., Judith Absalon, M.D., Alejandra Gurtman, M.D., Stephen Lockhart, D.M., John L. Perez, M.D., Gonzalo Pérez Marc, M.D., Edson D. Moreira, M.D., Cristiano Zerbini, M.D., Ruth Bailey, B.Sc., Kena A. Swanson, Ph.D., Satrajit Roychoudhury, Ph.D., Kenneth Koury, Ph.D., Ping Li, Ph.D., Warren V. Kalina, Ph.D., David Cooper, Ph.D., Robert W. Frenck, Jr., M.D., Laura L. Hammitt, M.D., Özlem Türeci, M.D., Haylene Nell, M.D., Axel Schaefer, M.D., Serhat Ünal, M.D., Dina B. Tresnan, D.V.M., Ph.D., Susan Mather, M.D., Philip R. Dormitzer, M.D., Ph.D., Uğur Şahin, M.D., Kathrin U. Jansen, Ph.D., and William C. Gruber, M.D., for the C4591001 Clinical Trial Group*

ABSTRACT

BACKGROUND

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection and the resulting coronavirus disease 2019 (Covid-19) have afflicted tens of millions of people in a worldwide pandemic. Safe and effective vaccines are needed urgently.

METHODS

In an ongoing multinational, placebo-controlled, observer-blinded, pivotal efficacy trial, we randomly assigned persons 16 years of age or older in a 1:1 ratio to receive two doses, 21 days apart, of either placebo or the BNT162b2 vaccine candidate (30 µg per dose). BNT162b2 is a lipid nanoparticle–formulated, nucleoside-modified RNA vaccine that encodes a prefusion stabilized, membrane-anchored SARS-CoV-2 full-length spike protein. The primary end points were efficacy of the vaccine against laboratory-confirmed Covid-19 and safety.

RESULTS

A total of 43,548 participants underwent randomization, of whom 43,448 received injections: 21,720 with BNT162b2 and 21,728 with placebo. There were 8 cases of Covid-19 with onset at least 7 days after the second dose among participants assigned to receive BNT162b2 and 162 cases among those assigned to placebo; BNT162b2 was 95% effective in preventing Covid-19 (95% credible interval, 90.3 to 97.6). Similar vaccine efficacy (generally 90 to 100%) was observed across subgroups defined by age, sex, race, ethnicity, baseline body-mass index, and the presence of coexisting conditions. Among 10 cases of severe Covid-19 with onset after the first dose, 9 occurred in placebo recipients and 1 in a BNT162b2 recipient. The safety profile of BNT162b2 was characterized by short-term, mild-to-moderate pain at the injection site, fatigue, and headache. The incidence of serious adverse events was low and was similar in the vaccine and placebo groups.

CONCLUSIONS

A two-dose regimen of BNT162b2 conferred 95% protection against Covid-19 in persons 16 years of age or older. Safety over a median of 2 months was similar to that of other viral vaccines. (Funded by BioNTech and Pfizer; ClinicalTrials.gov number, NCT04368728.)

The authors' affiliations are listed in the Appendix. Address reprint requests to Dr. Absalon at Pfizer, 401 N. Middletown Rd., Pearl River, NY 10965, or at judith.absalon@pfizer.com.

*A complete list of investigators in the C4591001 Clinical Trial Group is provided in the Supplementary Appendix, available at NEJM.org.

Drs. Polack and Thomas contributed equally to this article.

This article was published on December 10, 2020, and updated on December 16, 2020, at NEJM.org.

N Engl J Med 2020;383:2603-15.

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NTech and Pfizer; ClinicalTrials.gov

IA Covid-19 Vaccine

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Ph.D., Susan Mather, M.D., Philip R. Dormitzer, M.D., Ph.D.,
and William C. Gruber, M.D., for the C4591001 Clinical Trial Group*



AB Sample Text

Clear

 Paperpal Copilot

RewriteGenerateAskBETA

Paraphrase

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Make Academic

Make Expert Summary

Make Plain Lang. Summary

Paperpal





Expert Summary vs Plain Language Summary

Expert Summary

The paper, "Safety and Efficacy of the BNT162b2 mRNA Covid-19 Vaccine," presents findings from a multinational, placebo-controlled, observer-blinded efficacy trial of the BNT162b2 vaccine. Participants aged 16 and older were randomly assigned in a 1:1 ratio to receive two doses of either the placebo or the BNT162b2 vaccine, a lipid nanoparticle-formulated, nucleoside-modified RNA vaccine encoding a prefusion stabilized, membrane-anchored SARS-CoV-2 full-length spike protein. The primary endpoints were vaccine efficacy against laboratory-confirmed Covid-19 and safety. Out of 43,548 participants, 8 cases of Covid-19 occurred in the vaccine group compared to 162 in the placebo group post-second dose, demonstrating a 95% efficacy. The vaccine showed similar efficacy across different subgroups and had a safety profile characterized by short-term, mild-to-moderate pain at the injection site, fatigue, and headache. Serious adverse events were low and comparable in both vaccine and placebo groups.

Plain Language Summary

The paper is about testing a new COVID-19 vaccine called BNT162b2. Scientists gave the vaccine to some people and a fake shot (placebo) to others to see how well it works. They had over 43,000 people in the study. After getting two shots, only 8 people who got the vaccine got sick with COVID-19, but 162 people who got the fake shot got sick. This means the vaccine works really well (95% effective) in stopping COVID-19. The vaccine is safe for people, with the main side effects being a sore arm, feeling tired, and headaches. Not many people had serious problems after getting the vaccine. It worked well for all kinds of people in the study.



Data for APAC

What % of our Paperpal clients are from APAC

Specific feedback from APAC researchers

35%

of Paperpal and other tools' users are from APAC

93%

Indonesia, India, Philippines, Japan, Australia, Vietnam, Pakistan, Malaysia, New Zealand, China, and Republic of Korea make up 93% of the APAC countries using AI

9.2/10

Average rating of the APAC users on how helpful are the AI tools are

70%

Of total time spent per user, APAC users spend 70% more time on our AI apps compared to users from the west

Some feedback:

“

It translates Japanese to English so quickly.

- Japan

“

Easy to use as no separate application is needed.

- Nagoya University of Arts and Sciences, Japan

“

It does help to deliver the meaning and convey the message in appropriately manner in academic way.

- Othman Yeop Abdullah Graduate School of Business, Malaysia

“

Good to reduce the words. Additionally, I can check the alternative expressions.

- Kurume University – Japan

“

Wow! the hurdle for converting papers into academic English has been lowered.

- Federation University Australia



How to use AI ethically and effectively

GAI/GPTs/LLMs should NOT be used....

As a replacement for core human writing, research, or decision-making tasks



To generate scientific hypothesis

To support editorial screening and peer review decisions without human verification



Without a thorough review and validation of the content or recommendations



To generate sources or add citations to support text

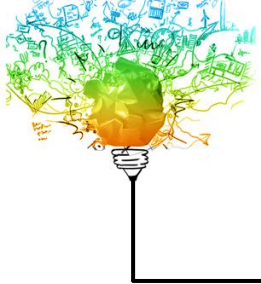


To generate data that will be used instead of, or as a supplement to original research and gathering primary data

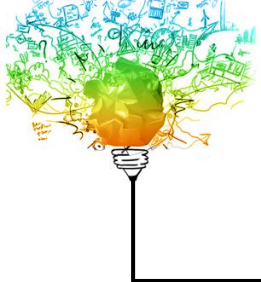


To independently analyze data, interpret findings and draw conclusions





Thank you!



Poll Question 3



Are you aware of any guidelines/recommendations governing the use of AI in medical publications?

- a) Yes
- b) No
- c) Not sure



AI and the Integrity of Scholarly Publishing

Jiayi Xu

Managing Editor, *CAAI Transactions on Intelligence Technology*, Chongqing University of Technology, China

Council Member, Committee on Publication Ethics (COPE)

Editor, Directory of Open Access Journals (DOAJ)

Advisory Cabinet Member, Asian Council of Science Editors (ACSE)

AI and Authorship

ChatGPT listed as author on research papers

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Posted December 21, 2022.

Performance of ChatGPT on USMLE: Potential for AI-Assisted Medical Education Using Large Language Models

Tiffany H. Kung, Morgan Cheatham, **ChatGPT**, Danielle Medenilla, Czarina Sillos, Lorie De Leon, Camille Elepaño, Maria Madriaga, Victor Paggodo, Giezel Diaz-Candido, James Maningo, Victor Tseng

doi: <https://doi.org/10.1101/2022.12.19.22283643>

This article is a preprint and has not been peer-reviewed [what does this mean?]. It reports new medical research that has yet to be evaluated and so should not be used to guide clinical practice.

[Abstract](#) [Full Text](#) [Info/History](#) [Metrics](#) [Preview PDF](#)

ABSTRACT

We evaluated the performance of a large language model called ChatGPT on the United States Medical Licensing Exam (USMLE), which consists of three exams: Step 1, Step 2CK, and Step 3. ChatGPT performed at or near the passing threshold for all three exams without any specialized training or reinforcement. Additionally, ChatGPT demonstrated a high level of concordance and insight in its explanations. These results suggest that large language models may have the potential to assist with medical education, and potentially, clinical decision-

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COVID-19 SARS-CoV-2 preprints from medRxiv and bioRxiv

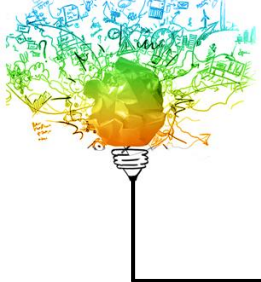
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Medical Education

Subject Areas

All Articles

Addiction Medicine



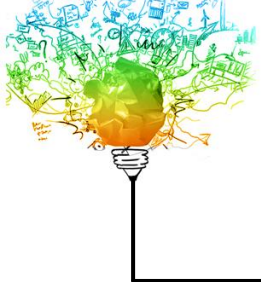
COPE Position Statement



The use of artificial intelligence (AI) tools such as ChatGPT or Large Language Models in research publications is expanding rapidly. COPE joins organizations, such as WAME and the JAMA Network among others, to state that **AI tools cannot be listed as an author of a paper.**

AI tools cannot meet the requirements for authorship as **they cannot take responsibility for the submitted work.** As non-legal entities, they cannot assert the presence or absence of conflicts of interest nor manage copyright and license agreements.

Authors who use AI tools in the writing of a manuscript, production of images or graphical elements of the paper, or in the collection and analysis of data, must be transparent in disclosing in the Materials and Methods (or similar section) of the paper how the AI tool was used and which tool was used. Authors are fully responsible for the content of their manuscript, even those parts produced by an AI tool, and are thus liable for any breach of publication ethics.



Guidance from JAMA/JAMA Network

To assist authors and after reminding them of these new policies, **JAMA and the JAMA Network** journals will ask authors to address this question in the manuscript submission systems:

- Did you use AI, a language model, machine learning, or similar technologies to create or assist with creation or editing of any of the content in this submission (eg, text, tables, figures, video)? (Note: this does not include basic tools for checking grammar, spelling, references, etc.)

And those authors who answer yes to this question will be prompted to address 2 follow-up questions:

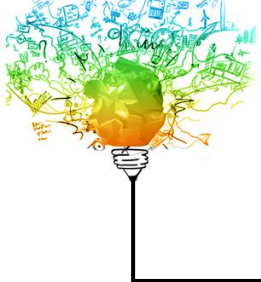
- Please provide a description of the AI-generated content that is included in this submission and the name of the model or tool used, version and extension numbers, and manufacturer in the space below.
- Please confirm that you take responsibility for the integrity of the content generated by these tools and that you have provided a description of such generated content and the name of the model or tool used, version and extension numbers, and manufacturer in the Acknowledgment or Methods section of the manuscript.



WAME Recommendations

WAME Recommendations on Chatbots and Generative AI in Relation to Scholarly Publication

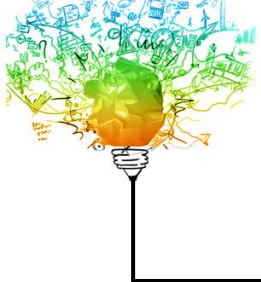
- Chatbots cannot be authors.
- Authors should be transparent when chatbots are used and provide information about how they were used.
- Authors are responsible for material provided by a chatbot in their paper (including the accuracy of what is presented and the absence of plagiarism) and for appropriate attribution of all sources (including original sources for material generated by the chatbot).
- Editors and peer reviewers should specify, to authors and each other, any use of chatbots in the evaluation of the manuscript and generation of reviews and correspondence. If they use chatbots in their communications with authors and each other, they should explain how they were used.
- Editors need appropriate tools to help them detect content generated or altered by AI. Such tools should be made available to editors regardless of ability to pay for them, for the good of science and the public, and to help ensure the integrity of healthcare information and reducing the risk of adverse health outcomes.



ICMJE Recommendations

ICMJE recommendations for scholarly work published in medical journals with specific directives related to AI-assisted technologies

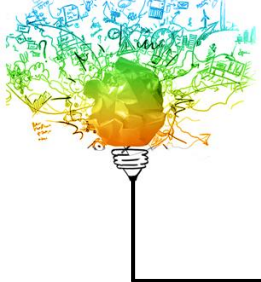
- At submission, the journal should require authors to disclose whether they used artificial intelligence (AI)– assisted technologies (such as Large Language Models [LLMs], chatbots, or image creators) in the production of submitted work.
- Authors who use such technology should describe, in both the cover letter and the submitted work, how they used it.
- Chatbots (such as ChatGPT) should not be listed as authors because they cannot be responsible for the accuracy, integrity, and originality of the work, and these responsibilities are required for authorship.
- Humans are responsible for any submitted material that included the use of AI-assisted technologies. Authors should carefully review and edit the result because AI can generate authoritative-sounding output that can be incorrect, incomplete, or biased.
- Authors should not list AI and AI-assisted technologies as an author or co-author, nor cite AI as an author.
- Authors should be able to assert that there is no plagiarism in their paper, including in text and images produced by the AI.
- Humans must ensure there is appropriate attribution of all quoted material, including full citations.



ISMPP Position Statement

International Society for Medical Publication Professionals (ISMPP) position statement

- Appropriate AI Utilization
- Maintaining Confidentiality
- Driving Accountability
- Appropriate Disclosure
- Ensuring Responsibility and Trust
- Data Transparency
- Eliminating Bias
- Enhancing Accessibility
- Respecting the Academic Integrity of AI
- Educating about AI
- Addressing AI Misconceptions



ISMPP Recommendations

Call to Action for International Society for Medical Publication Professionals (ISMPP) Members

- **Education and Training:** Stay up to date with AI advancements. Recognize that AI is revolutionizing scientific communication. All ISMPP members are encouraged to improve their AI literacy, understanding its potential and associated risks, and engage with ISMPP AI education and training.
- **Implementation and Use:** Ensure that AI is integrated responsibly, transparently, and fairly, always prioritizing confidentiality. Align the usage of AI with ISMPP's Code of Ethics to foster patient accessibility, ensure timely publication, and combat publication bias.
- **Advocacy and Community Engagement:** Engage within and beyond your organizations. Given ISMPP members' unique position bridging medical science, healthcare professionals, and patients, it's crucial to actively participate in AI policy formation due to its broader societal impacts.



AI and Authorship

Key Points

- AI and AI-assisted technologies cannot be listed as an author of a paper.
- AI tools cannot take responsibility for the submitted work.
- Authors should be transparent when AI are used and provide information about how they were used.



Detecting AI Assisted Writing

 OpenAI

VS

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ChatGPT
Killer



AI-Assisted Authorship

Nature's Position

Nature argues that crediting AI writers in the acknowledgements serves the goal of transparency. While this may be true in many cases, it could also help to hide or grossly understate the role and substantial contributions of AI writers to the paper, which is *counterproductive* to transparency.

Nature also argues AI writers should not be credited as authors on the grounds that they cannot be accountable for what they write. This line of argument needs to be considered more carefully. For instance, authors are sometimes *posthumously* credited, even though they cannot presently be held accountable for what they said when alive, nor can they approve of a posthumous submission of a manuscript; yet it would clearly be hasty to forbid the submission or publication of posthumous works.



AI-Assisted Authorship

What about when AI is generating content ex nihilo — when they perform a more active mediating role in the process of composition?

AI begins to resemble a capable student assistant, who might be tasked with providing a preliminary landscape research document, brainstorming understudied questions and arguments, finding sources, or even critiquing arguments, objections, evidence, and so on.

The relevant dimensions that separate some of these tasks into acceptable or unacceptable include the degree to which the contributions of AI make it into the final form of the deliverable. We call this consideration **continuity**.

Continuity

- How substantially are the contributions of AI writers carried through to the final product?
- To what extent does the final product resemble the contributions of AI?
- What is the relative contribution from AI versus a human?



AI-Assisted Authorship

A further consideration is the kind of final product that AI is used for. If someone is receiving credit for this product, then it should be clear how that credit should be apportioned to the human authors.

The more important consideration seems to be the extent to which the product redounds to the author's reputation as a scholar. This is the primary function that credit plays in an academic context, though it also plays an epistemic role by giving the reader information that helps them judge the trustworthiness of the content given its authorship.

All the more important to know whose ideas are represented in the final product. Together, we call these considerations **creditworthiness**.

Creditworthiness

- Is this the kind of product a human author would normally receive credit for?
- Consider whether the AI's contributions would typically result in academic or professional credit for a human author.



AI and Fake Papers

‘Paper mills’ = Manipulation of the publication process

COPE definition of the phenomenon is

Systematic manipulation of the publication process By an individual or a group of individuals

Use dishonest or fraudulent practices to:

- prevent independent peer review

- sell authorship

- publish fabricated or plagiarized research

The goal is to influence the publication record and/or achieve financial gain

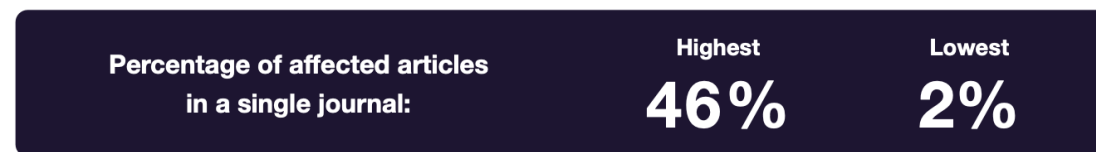
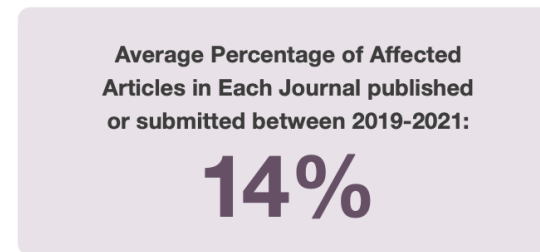


The Scale of the Problem

“Data on over 53,000 papers were analyzed. This was shared by six publishers and spans a wide range of subject areas; overall the percentage of suspect papers being submitted to journals ranges from 2-46%. The analysis shows that most journals will see 2% suspected fake papers submitted and then for journals where paper mills have been successful in getting papers accepted, they see a sharp increase in suspect submissions.”

Paper Mills – Research report from COPE & STM

Here is the summary submitted by another publisher:



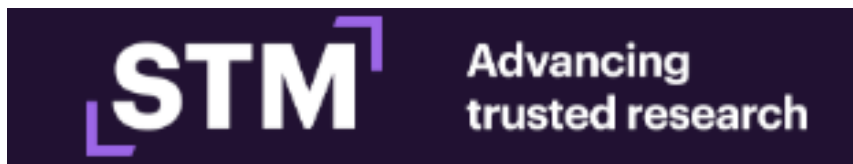


AI and Fake Papers

STM is continuing to develop its own paper-mill detection software, while also collating resources on similar tools available elsewhere through its integrity hub. The apparent rise in paper mills increases demand for such techniques — both for detecting fake papers at the point of submission and for identifying those that are already published.

STM Solutions, the operational arm of STM, announced the release of the MVP (minimal viable product) of a paper mill detection tool as part of the STM Integrity Hub. It is a stand-alone web application where submitted journal manuscripts can be uploaded and checked for a variety of signals indicative of paper mills.

At a high level, this is how the tool works: a publisher uploads a manuscript to the tool, which then scans it for pre-identified indications of potential fraud. If any potential issues with the paper are noted, the system generates a message alerting the research integrity managers and editors, allowing them to investigate and take action if needed.



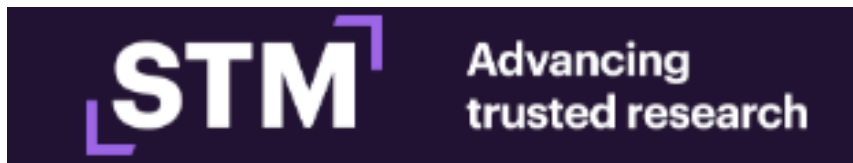


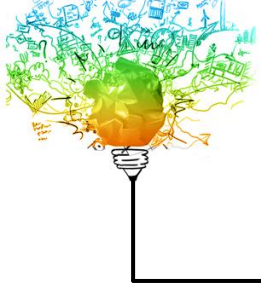
AI and Fake Papers

STM Integrity Hub incorporates Clear Skies' Papermill Alarm screening tool

STM Solutions and Clear Skies are pleased to announce the integration of the Clear Skies Papermill Alarm with the STM Integrity Hub. This integration further strengthens the Hub's capability to pinpoint potentially fraudulent manuscripts at the time of submission. Designed by STM Solutions, the Hub represents a pooling of new and existing technology, policy, and best practices to further safeguard research integrity.

The Clear Skies Papermill Alarm is a tool that offers a straightforward traffic-light rating system for research papers. A red alert indicates a high-similarity to known papermill-product content, an orange alert suggests a moderate similarity, and a green rating indicates no resemblance to such papers. The Papermill Alarm ratings help publishers direct limited resources to the papers that warrant it. The integration with the STM Integrity Hub pertains to the 'Public' version of the Papermill Alarm tool, which was launched in 2022 and is optimized for the general area of cancer research.





Thanks!

E-mail: pollyxjy@126.com



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Upcoming ISMPP U Webinars

Upcoming 2024 ISMPP U scheduled to be released in February 2024



**Webinar will
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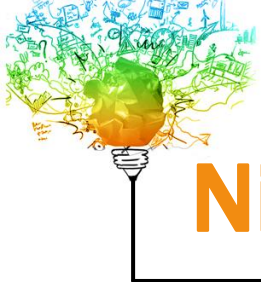
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Faculty Bios



Nishchay Shah, MBA, MS



- Business Head, Emerging Products, and Chief Technology Officer, Cactus Communications
- Over 17 years of experience in the technology sector
- Part of senior executive leadership at Cactus Communications, responsible for overseeing technology and innovation across all brands and products globally
- Responsible for setting up the Machine Learning and Artificial Intelligence vertical at Cactus, achieving excellence in products such as automated English editing, translations, concept extraction, document structuring, and summarization



Jiayi Xu, MSc



- Managing Editor, CAAI Transactions on Intelligence Technology, Chongqing University of Technology, China
- Council Member, Committee on Publication Ethics (COPE)
- Editor, Directory of Open Access Journals (DOAJ)
- Advisory Cabinet Member, Asian Council of Science Editors



Moderator: Shobana Ganesan, MSc, ELS



- Senior Manager, Quality & Training, at Cactus Life Sciences and member of the ISMPP Asia Pacific Education Task Force
- Over 10 years of experience in scientific communications with expertise in operations, training, and mentoring
- Currently trains new/aspiring medical writers and equips them with the key technical skills required to succeed in this profession