ABRCMS Online

"Engaging Diverse Student Populations in Undergraduate Research"

www.abrcms.org

Session Objectives
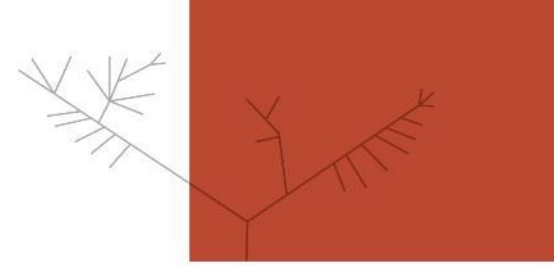
- **Review current statistics for undergraduate research among diverse students**
- **Discuss techniques for recruiting and retaining diverse students**
- **Explore innovative approaches to fostering diversity in student research and scientific interest**

AMERICAN SOCIETY FOR MICROBIOLOGY

ABRCMS ONLINE
The Year-Round ABRCMS Experience

Poll Question #1

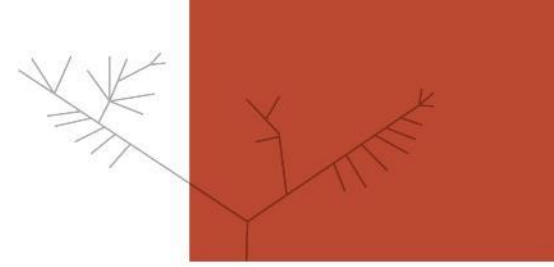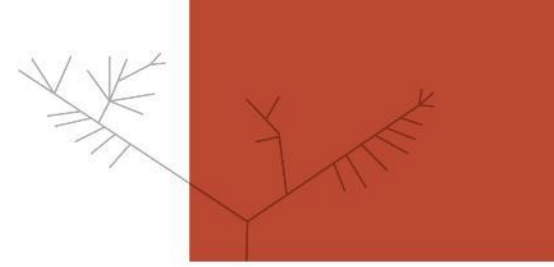What are the benefits of research experiences for your URM students?

Mentored Research

- **Enhanced science identity, sense of belonging and self-efficacy** (Palepu *et al*, 1998; Garman *et al*, 2001; Paglis *et al*, 2006; LopaRo, 2007; Bland *et al*, 2009; Feldman *et al*, 2010; Cho *et al*, 2011; Chemers *et al*, 2011; Thiry and Laursen, 2011; Byars-Winston et al., 2015)

- **Persistence** (Gloria *et al*, 2001; Solorzano 1993; McGee and Keller, 2007; Sambunjak *et al*, 2010; Williams *et al*, 2015; Bordes-Edgar et al., 2011; Campbell and Campbell, 1997)

- **Research productivity** (Steiner and Lanphear, 2002; 2007; Wingard *et al*, 2004)

- **Higher career satisfaction** (Schapira *et al*, 1992; Beech *et al*, 2013)

- **Enhanced recruitment of URMs** (Hathaway *et al*, 2002; Nagda *et al,* 1998)

National Research Mentoring Network **(NRMN)**

Poll Question #2

What are some challenges in research careers for URM students?
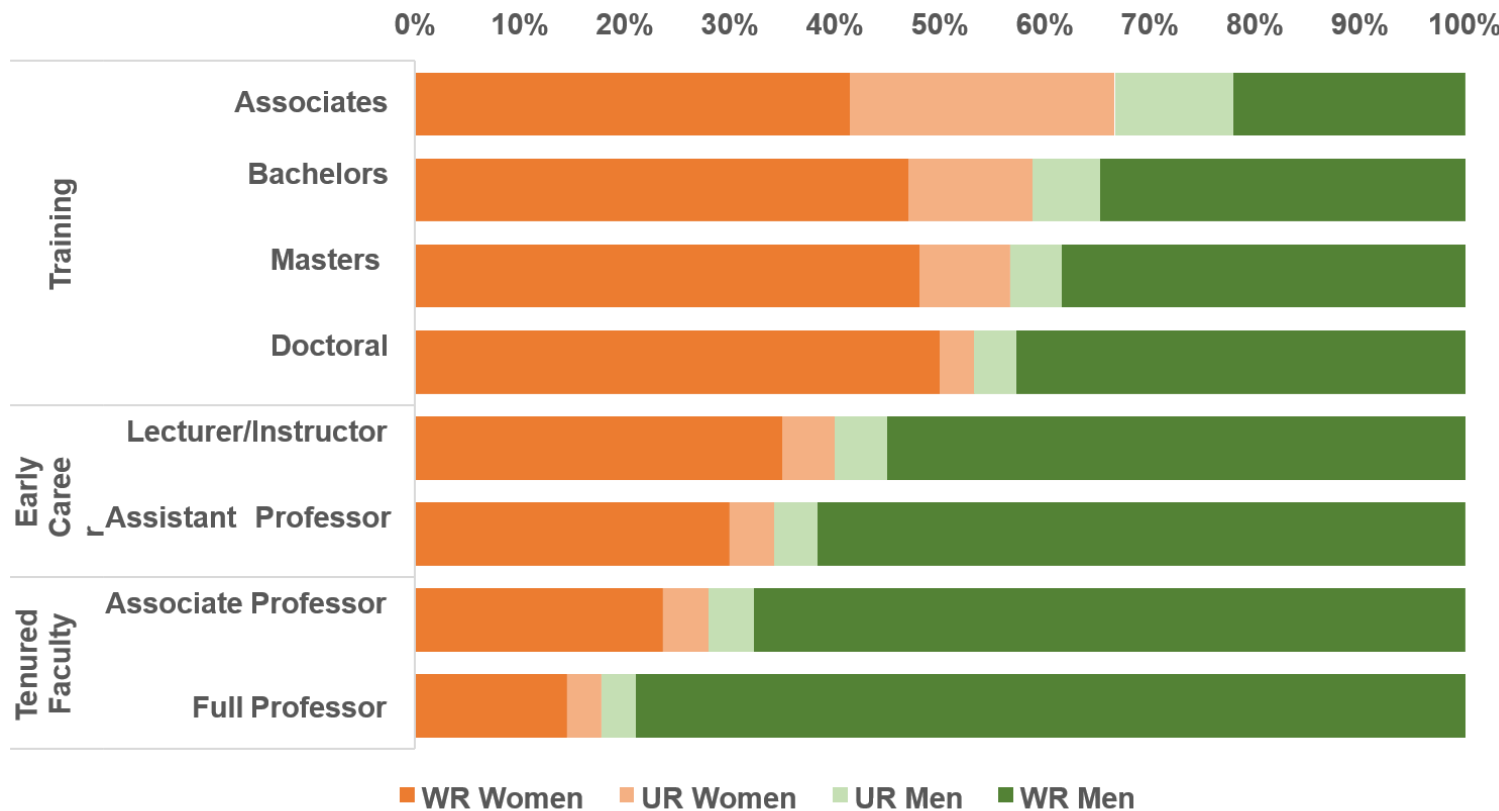
AMERICAN SOCIETY FOR MICROBIOLOGY
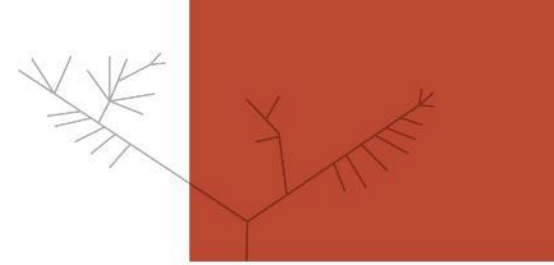
ABRCMS ONLINE
The Year-Round ABRCMS Experience

Career Landscape

UR, underrepresented: Hispanic, African American/Black, Native American
WR, well represented: White, Asian

ACSB, Committee for Postdocs and Students (COMPASS)

AMERICAN SOCIETY FOR MICROBIOLOGY

ABRCMS ONLINE
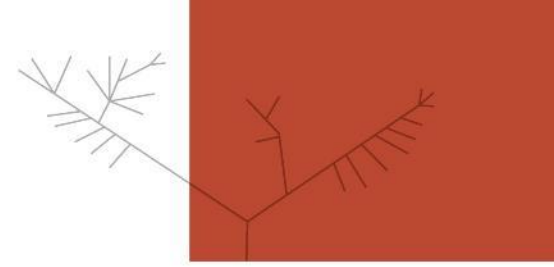The Year-Round ABRCMS Experience

Inequity in Research

- White investigators <u>significantly more likely</u> than Black and Hispanic investigators to win R01 awards; **inadequate mentoring posed obstacles to obtaining funding** (Ginther *et al.*, 2011)

- Science faculty **rated male applicant as more competent** than identical female applicant; offered male ~ $4,000 more in salary, more career mentoring than to female (Moss-Racussin et al., 2012)

- URMs and White women's **mentorship requests more ignored** than those by White men (Milkman et al., 2014)

- Male biologists **less likely to hire and train** women in their laboratories (Sheltzer & Smith, 2014)

- URMs typically **receive less mentoring** than their non-minority peers (Thomas *et al.*, 2001; Helm *et al.*, 2000; Morzinski *et al.*, 2002)

Poll Question #3

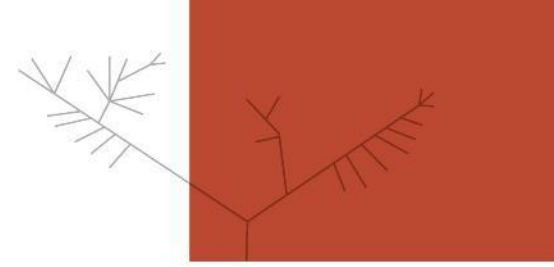How can research mentors learn to recruit and retain URM research students?

AMERICAN SOCIETY FOR MICROBIOLOGY

ABRCMS ONLINE
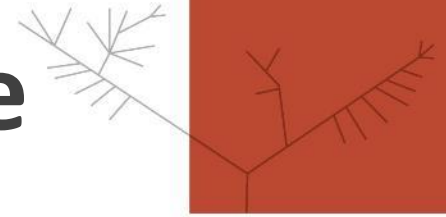The Year-Round ABRCMS Experience

Diverse Student Research

- **Gender, race, and ethnicity relate to how mentees perceive their mentored research experience, what they value in a research mentor, and their self-perceptions** (Byars-Winston et al., 2010; Blake-Beard et al., 2011; Carlone & Johnson, 2007; Hurtado et al., 2009; Ishiyama, 2007; Johnson et al., 2011; Laursen et al., 2010)

- **Cultural diversity is important in all aspects of human life, including scientific training.** Mentored research experiences are the foundation of scientific training and warrant further investigation into cultural diversity (Byars-Winston, Branchaw, Pfund, Leveritt, and Newton, 2015)

National Research Mentoring Network **(NRMN)**

Considerations for Diverse Students

- **Perspectives of others**
- **Differing experiences**
- **Unconscious reactions and biases**
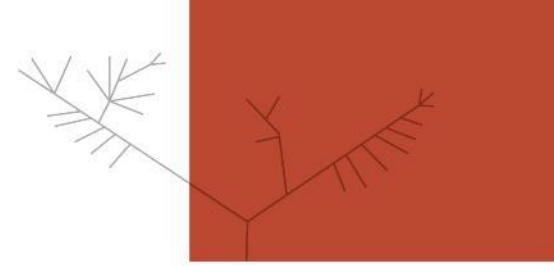- **Training and learning environment**

Expertise in Biosciences

TECHNICAL	OPERATIONAL		PROFESSIONAL
Methods & Technology	Quantitative & Computational	Acquiring Information, Experimental Design & Data Interpretation	Management & Leadership	Communication & Teamwork

Division of Training, Workforce Development and Diversity
National Institute of General Medical Sciences (NIGMS)

Our Speaker

Amanda Marie James, PhD

Chief Diversity Officer and Assistant Dean, Diversity, Inclusion, and Community Engagement, James T. Laney School of Graduate Studies at **Emory University**

Faculty, Department of Biology, College of Arts and Sciences at **Emory University**
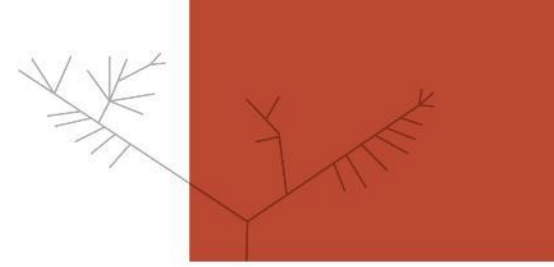
AMERICAN
SOCIETY FOR
MICROBIOLOGY

12

ABRCMS
ONLINE
The Year-Round ABRCMS Experience

Questions?

Type questions for the speaker(s) in the Q&A box.

We will address questions throughout the webinar.
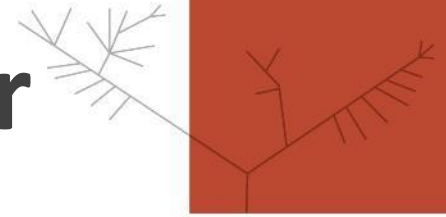
AMERICAN
SOCIETY FOR
MICROBIOLOGY

ABRCMS
ONLINE
The Year-Round ABRCMS Experience

Questions for Our Speaker

**Questions about structuring programs/experiences**
- How do you create programs that appeal to diverse students?
- How do you get administration to help align your program with diversity initiatives at your institution?

Questions about specific student populations
- Are there any REU summer programs that will provide support to foreign undergrads? I know NSF will not support them.
- I'm in position of having URM students to send to an REU and I've gotten a sense of what you're looking for, but are there any comments about what recommenders should say to show a student is a good fit?
- Community colleges are increasingly getting students from diverse backgrounds involved in research. What do you envision as the role of community colleges in furthering diversity efforts?
- Would you recommend any specific strategies for engaging first-gen college students?
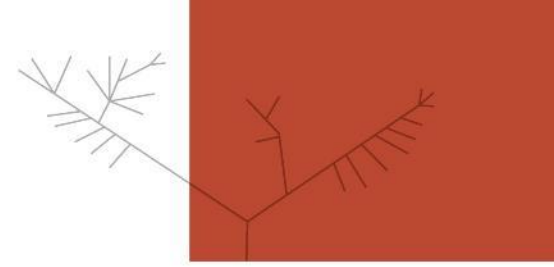
Questions for Our Speaker
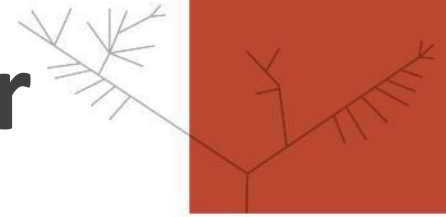
Questions about the future of diverse students in undergraduate research

- What do you think about how the NIH and NSF have led efforts to recruit diverse students to the biomedical sciences in the last 15 years and how will these efforts continue to nudge the community over the next 15 years?
- Follow-up to previous question: What would YOU like to see in next 15 years?
- What do you see being the future of institutional efforts to continue recruiting and retaining URM students in research experiences?

Questions about benefits of engaging diverse students

- What does undergraduate research and mentoring for URMs do for an advisor? There may be very little in terms of your own advancement in terms of supervising undergrad research. As a matter of the culture, what you accept and value, is there a way to make it possible for faculty to be rewarded in some way?

AMERICAN SOCIETY FOR MICROBIOLOGY

ABRCMS ONLINE
The Year-Round ABRCMS Experience

Additional Questions?

Type questions for the speaker(s) in the Q&A box.

We will address additional questions at this time.
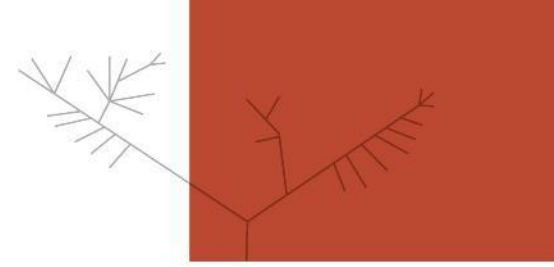
AMERICAN
SOCIETY FOR
MICROBIOLOGY

ABRCMS
ONLINE
The Year-Round ABRCMS Experience

Thank You!

This webinar will be recorded and posted to the **ABRCMS website:**

abrcms.org/online

Please remember to fill out your **post-webinar survey**!

AMERICAN SOCIETY FOR MICROBIOLOGY

ABRCMS ONLINE
The Year-Round ABRCMS Experience