

The National Academies of
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BOARD ON SCIENCE EDUCATION

BOARD ON HIGHER EDUCATION AND WORKFORCE

The Impacts on STEM Undergraduate and Graduate Student Experiences of Higher Education's response to COVID-19: Resilience and Innovation in Research and Mentoring

Sponsor: National Science Foundation

September 24, 2020



The Impacts on STEM Student Experiences of Higher Education's response to COVID-19

Planning Committee:

Tasha Inniss, Spelman College, Chair

Alfred Bryant, Campbell University

Jim Julius, MiraCosta College

Hironai Okahana, Council of Graduate Schools

Juan Ramírez-Lugo, University of Puerto Rico, Rio
Pedras

Viji Sathy, University of North Carolina, Chapel Hill

Heather Thiry, University of Colorado, Boulder

NASEM Staff:

Kerry Brenner, BOSE

Maria Lund Dahlberg,
BHEW

Matthew Lammers, BOSE

Student “Experience Reports” Flash Talks

Panelists:

Jezella Peraza, California State University, Monterey Bay

Jonathan Rivera, Kean University

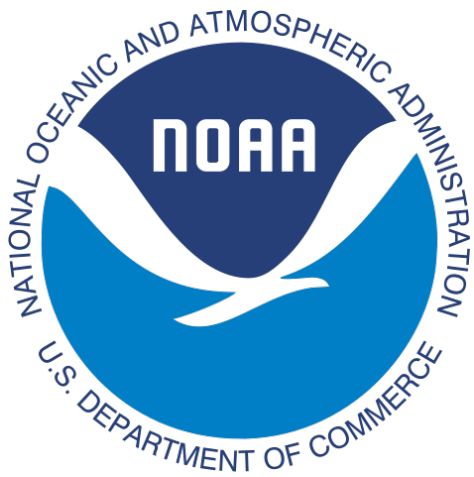
Camden Cutright, North Carolina State University

Jhoselin Padilla-Castro, University of Central Florida

Trevonn Gyles, Morehouse College

Moderator: Heather Thiry, University of Colorado Boulder

Jezella Peraza, California State University, Monterey Bay



Jezella Peraza

NOAA EPP/MSI Scholar

California State University, Monterey Bay



Spatial distribution of structurally complex *Modiolus modiolus* beds in the Northeast Atlantic continental shelf

Purpose: To understand impacts to community structure around *M. modiolus* beds and local fauna, and analyze impacts from mobile fishing gear.

NOAA Facility: Northeast Fisheries Science Center, Woods Hole, MA

Mentor: Dr. Burton Shank

Virtual Location: Hometown - El Centro, CA



My adaptations

Physically

- New environment!
- Family working around my schedule and vice versa

Mentally

- Had to be open and flexible to change at the last minute



Disruptive changes

Research related

- Laptop request
- NEFSC Sea Scallop Research Cruise
 - Unable to network with other scientists at Woods Hole, MA

Personally

- No desk at home



Benefits of Virtual Experience

New skills!

- Learned how to use different resources.
- Learned how to engage with others online - professional developments from NOAA EPP/MSI.
- Got more comfortable and familiar with coding.
- Learned to present virtually!



Jonathan Rivera, Kean University

My Virtual Research Experience

...

Jonathan Rivera
in Association with CAHSI



How CAHSI Adapted

- Weekly Zoom Meetings
- OneNote Journals
- Weekly Workshops
 - Probing Questions
 - Constructive Feedback
 - How to develop an Elevator Pitch



How COVID Affected VREU

- Virtual rather than physical
- Use the advantages of the Internet
 - Easy File Sharing, Easy Collaboration
- Communication hindered by virtual environment
- Adaptations make up for the change, overall good experience



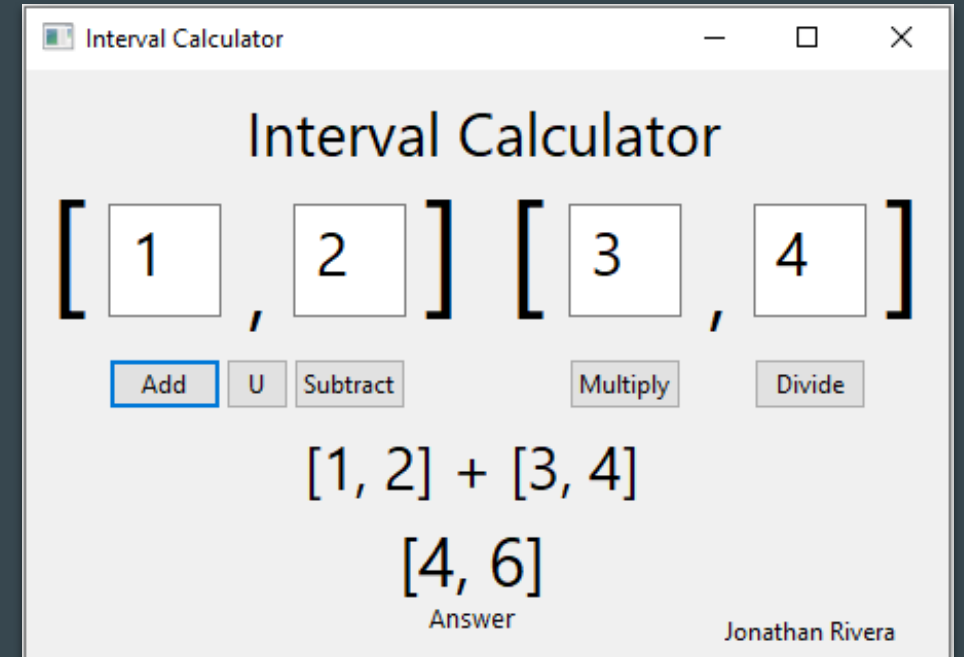
My Experience

- Collaborated with a team
- Learned valuable lessons
 - Elevator Speech
 - Constructive Criticism
- Overcame real challenges
- Summarized work in a professional manner
 - Abstract
 - Paper
 - Elevator Speech



What the VREU Gave Me

- An opportunity to exercise my skills
- Real experience
- Real achievement
 - Publishing a paper
 - Created my own app



Camden Cutright, North Carolina State University

Jhoselin Padilla-Castro, University of Central Florida

Trevonn Gyles, Morehouse College

Facilitated Breakout Discussions on Modalities of Research

Please self-select your preferred breakout session:

1. Field work and off-campus research sites

Facilitator: Corey Garza, California State University, Monterey Bay

2. Independent laboratory work, NSF REU programs, and computation-focus programs

Facilitator: Elsa Villa, University of Texas at El Paso

3. Internships or practicums

Facilitator: Laura Demarse, North Carolina State University

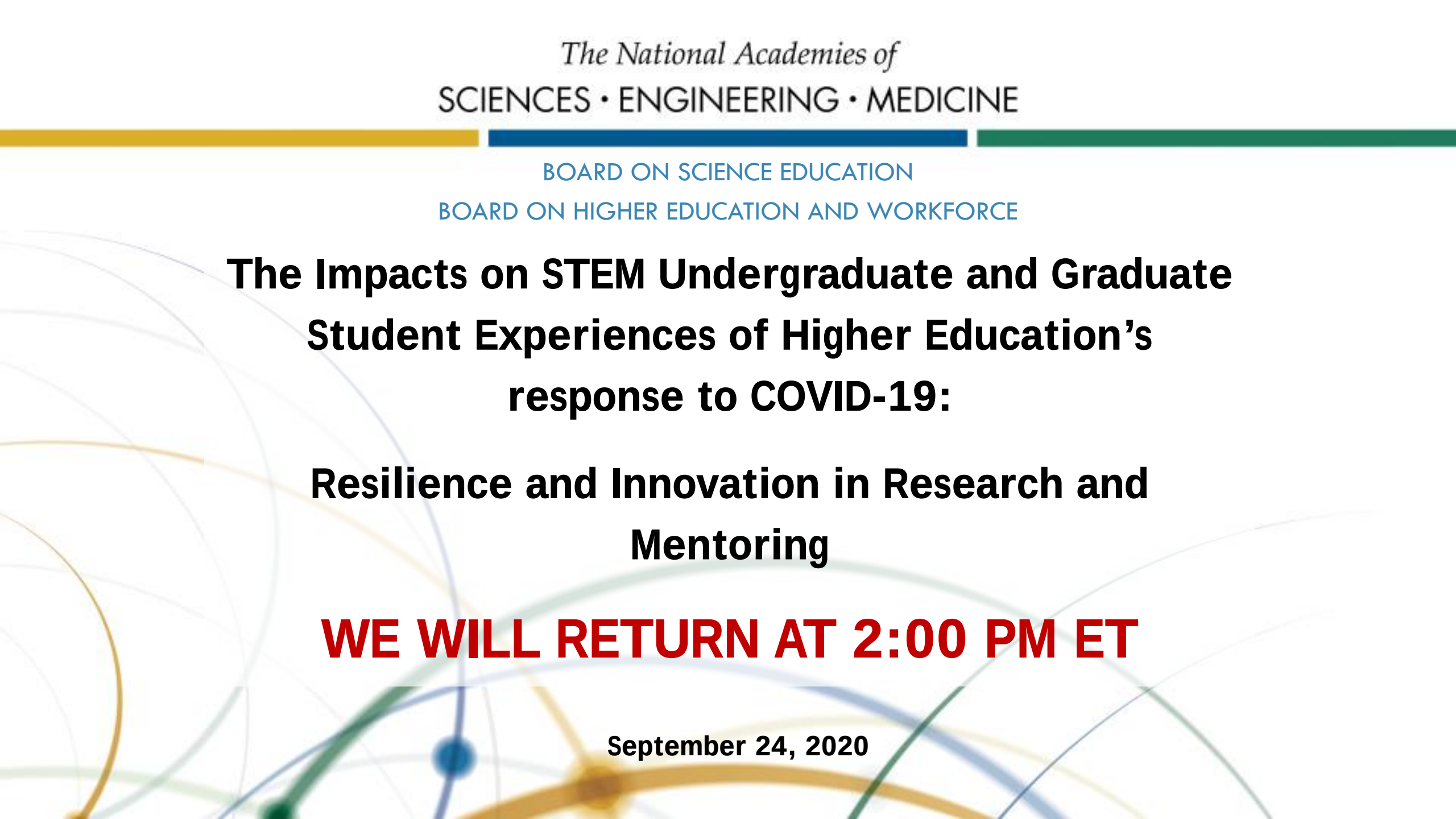
4. Clinical and other medical training programs

Facilitator: Francisco (Frank) Guido-Sanz, University of Central Florida

5. Other, research-based mentorship

Facilitator: Triscia Hendrickson, Morehouse College

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**Resilience and Innovation in Research and
Mentoring**

WE WILL RETURN AT 2:00 PM ET

September 24, 2020

Reflections on the Potential Paradigm Shift in Student Research

Panelists:

Sherilynn Black, Duke University

James Hewlett, Finger Lakes Community College, NY

Matthew Hora, University of Wisconsin, Madison

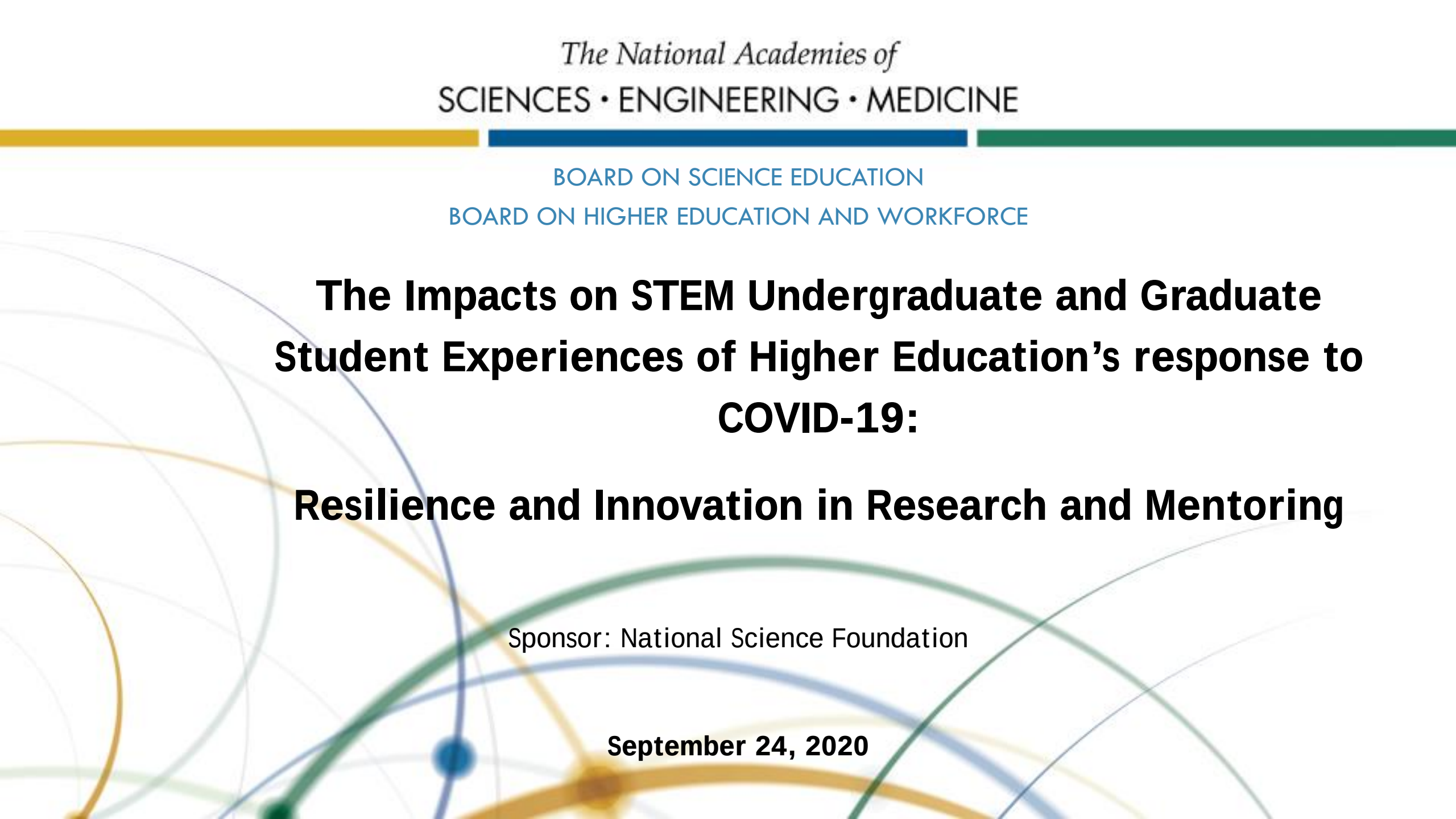
Clay Gloster, Jr., North Carolina A&T

Moderator: Juan Ramirez Lugo, University of Puerto Rico,
Rio Piedras

Summary

Hironao Okahana, Council of Graduate Schools

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