Climate Science & Cyberinfrastructure: Reflective Discussion Across Career Stages and Disciplines

1-Hour Moderated Panel
## SESSION AT-A-GLANCE

1-Hour Moderated Panel

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<td>10 Min</td>
<td>MentiMeter Poll and Background</td>
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<td>10 Min</td>
<td>2-Minute Thesis Style Introductions</td>
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<td>25 Min</td>
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<td>Session Close-Out</td>
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What words come to mind when you hear career pipeline or the "leaky pipeline?"

23 responses
Magandang Hapon

Good afternoon
Maganda = Beautiful

Let’s go beyond “good”
Fig. 1. A braided river system illustrates a new, holistic STEM workforce career development model.

PURPOSE

There is a need to reframe the conversation around STEAM workforce development away from a “pipeline” into a braided river – a framework with a multitude of entry points and diversity of pathways (Batchelor et al., 2021). Careers in climate science continue to be in demand with more than 4.2 million U.S. climate jobs in 2022 (Environmental and Energy Study Institute). Additionally, once on a climate science career path, what different approaches move research from intra-disciplinary to cross-disciplinary to eventually trans-disciplinary?

This 1-hour panel aims to create intentional space for an open, reflective discussion with climate scientists across career stages and disciplines. Moderator Rae Quadara, MS-CC Assistant Director Climate Science Program, is joined by her colleagues engaged in current climate science research and workforce development programming at or with HBCUs and MSIs. Perspectives include current graduate students, staff, and faculty on their career journeys, climate science infrastructure, and more!
PANELIST INTRODUCTIONS (2-Minute Thesis)

- Moderator
- Faculty
- Staff
- Early Career
- Graduate Student
RAE QUADARA (she/her) | Moderator

MS-CC Assistant Direction, Climate Science Program
Internet2, Minority Serving-Cyberinfrastructure Consortium

EARLY-MID CAREER

COLLEGE & RESEARCH

- B.S. Marine Biology and Conservation
- Sustainability and Behavior Change, Specialized Certificate
- Field and Laboratory Research Experience
- 3 jobs, volleyball team, and bad grades: A good mentor looked past what I looked like on paper

CAL POLY

- Grew up in San Diego, CA
- Scientist parents: 1st Gen Filipino-Americans
- HUGE secondhand aquarium in tiny apartment
- Art and nature
- Competitive Volleyball and coaching from age 9 - 25

NEW RAE RAE

YOUNG RAE RAE

- Fostering belonging in STEAM
- Informal educator, formal educator, workforce development
- Science communicator
- My/Your voice is NEEDED!
DR. SHERITTA FAGBODUN (she/her) | Panelist

Assistant Professor of Biology
BS in Biology and Chemistry
MS in Chemistry
PhD in Integrative Biosciences

Dissertation Title:
Molecular Elucidation of Phospholipid Biosynthetic Pathways in the goat parasite, Haemonchus contortus

Hometown: Bessemer, AL
DR. OSAGIE IDEHEN (he/him) | Panelist
Research Associate, Tuskegee University

Zoology: Parasitology (Roach microbiome)

Community Organizing Outreach and Technical Service Youth and Econ. Development

Nembe, Rivers State

Retail Banking

Environ. Sc. Integrative Biosc.

Bioremediation
Soil Biogeochemistry
Metagenomic
Plant stress responses
Climate smart Ag
Waste to Energy
Training & Mentoring
B.Sc. Biology, 2018
B.Sc. Food and Nutritional Sciences, 2018
Master of Public Health, 2024
PhD Integrative Biosciences, 2024

Perception of Water Quality in Macon County AL (Blackbelt)
A Review of Water Quality in AL vs. Upstate NY
Antimicrobial Resistance, Crop Science
Flint Water Crisis
Public Health

Cornell University, Yale University, University of IL, UIUC
DEVOTHA MWAZEMBE (she/her) | Panelist

Student: Integrative Biosciences PhD Program
Tuskegee University

MSc. Environmental Sciences
Climate change and crop production

B.SC. Agronomy

Integrative Biosciences (PhD candidate)
Climate change – crop production - Soil health
## Guidance and Guardrails

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<tr>
<th>PANELISTS</th>
<th>AUDIENCE</th>
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<tr>
<td>Panelists are encouraged to share responses in as much detail or general as feels comfortable and most appropriate. When tapping into your experience with climate science and access to technology - please do not feel limited to strictly professional experience (e.g. holistic lived experience)</td>
<td>Audience members are encouraged to engage respectfully with the panel through first active listening and being present to the best of their ability. Questions should be framed with inclusivity and equity lens and positive affirmation are encouraged throughout the presentation.</td>
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DISCUSSION PROMPT #1

How do you currently use data science and cyberinfrastructure resources in your research? Feel free to share some reflections on successes, frustrations, wish lists, etc.

RESPONSE ORDER:
- Graduate Student
- Early Career
- Staff
- Faculty
DISCUSSION PROMPT #2

Research, Workforce Development, and More: How do you collaborate with equity at its core?

- Within a single HBCU campus (e.g., connecting your research with IT)
- Externally, across entities (e.g., between 2 universities)

RESPONSE ORDER:
- Early Career
- Staff
- Faculty
- Graduate Student

Framework Example:
The Transformative Research Toolkit from the Othering and Belonging Institute
DISCUSSION PROMPT #3

Reflect on your work and the climate science field as a whole. What approaches do you currently incorporate (or believe are needed) to move research forward?

INTRADISCIPLINARY --> TRANSDISCIPLINARY

RESPONSE ORDER:
● Staff
● Faculty
● Graduate Student
● Early Career

Source: Virginia Tech, Center for Excellence in Teaching and Learning
DISCUSSION PROMPT #4

Reflecting on career pathways into CI-Enabled Climate Science: **Share your thoughts on moving away from “leaky pipeline” and encompassing a braided river framework.**

RESPONSE ORDER:
- Faculty
- Graduate Student
- Early Career
- Staff

OPEN DISCUSSION

Audience members are now invited to come to the microphone as ask questions to the panelists!

PANELISTS
- Graduate Student: Devotha Mwazembe
- Early Career: Dr. Sanchez Rolle
- Staff: Dr. Osagie Idehen
- Faculty: Dr. Sheritta Fagbodun
- Moderator: Rae Quadara
Let’s Stay Connected!

PANELISTS

- Graduate Student: Devotha Mwazembe dmwazembe6401@tuskegee.edu
- Early Career: Dr. Sanchez Rolle srolle0519@tuskegee.edu
- Staff: Dr. Osagie Idehen oidehen@tuskegee.edu
- Faculty: Dr. Sheritta Fagbodun sfagbodun@tuskegee.edu
- Moderator: Rae Quadara rquadara@internet2.edu