

in partnership with



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

1-Hour Moderated Panel



SESSION AT-A-GLANCE

1-Hour Moderated Panel

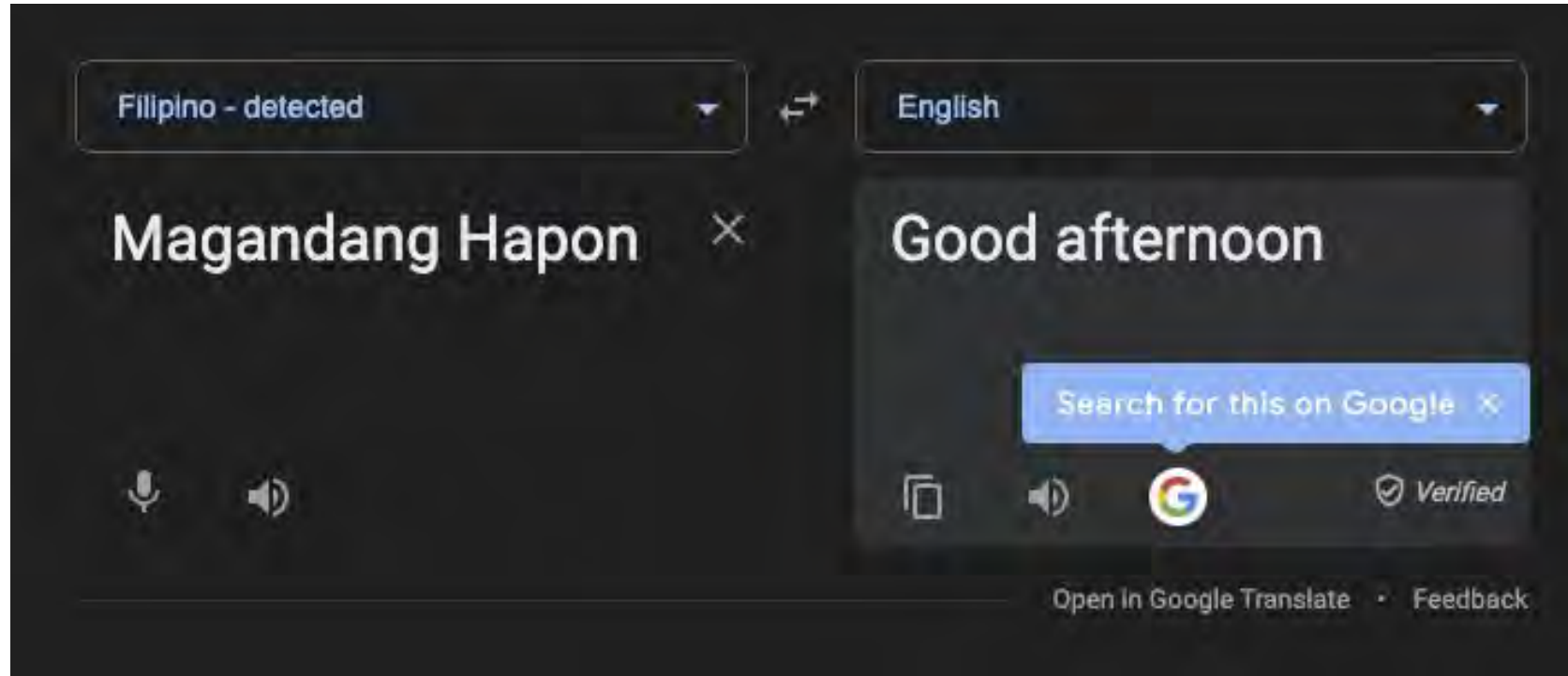
10 Minutes	MentiMeter Poll and Background
10 Minutes	2-Minute Thesis Style Introductions
25 Minutes	Moderated Discussion
10 Minutes	Open Discussion
5 Minutes	Session Close-Out

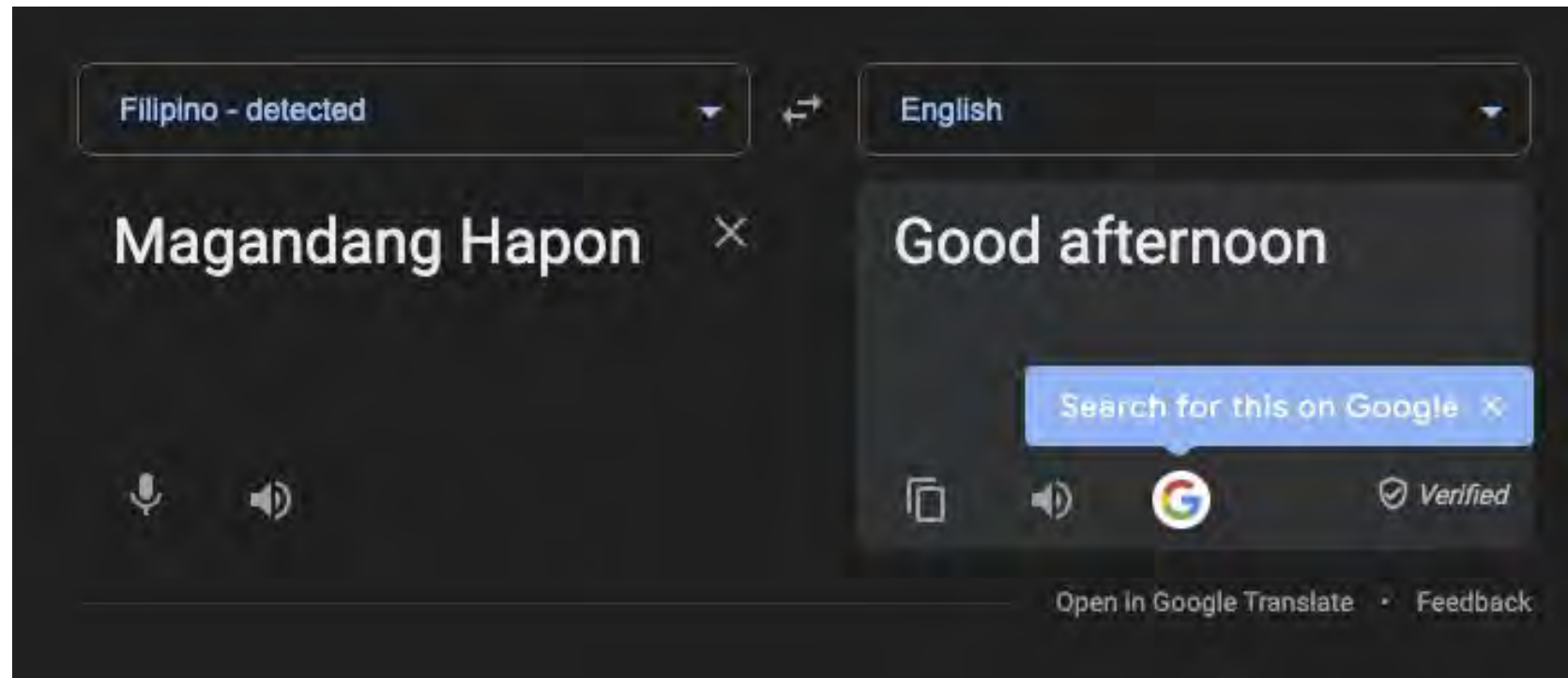


What words come to mind when you hear career pipeline or the "leaky pipeline?"

23 responses







Maganda = Beautiful

Let's go beyond "good"

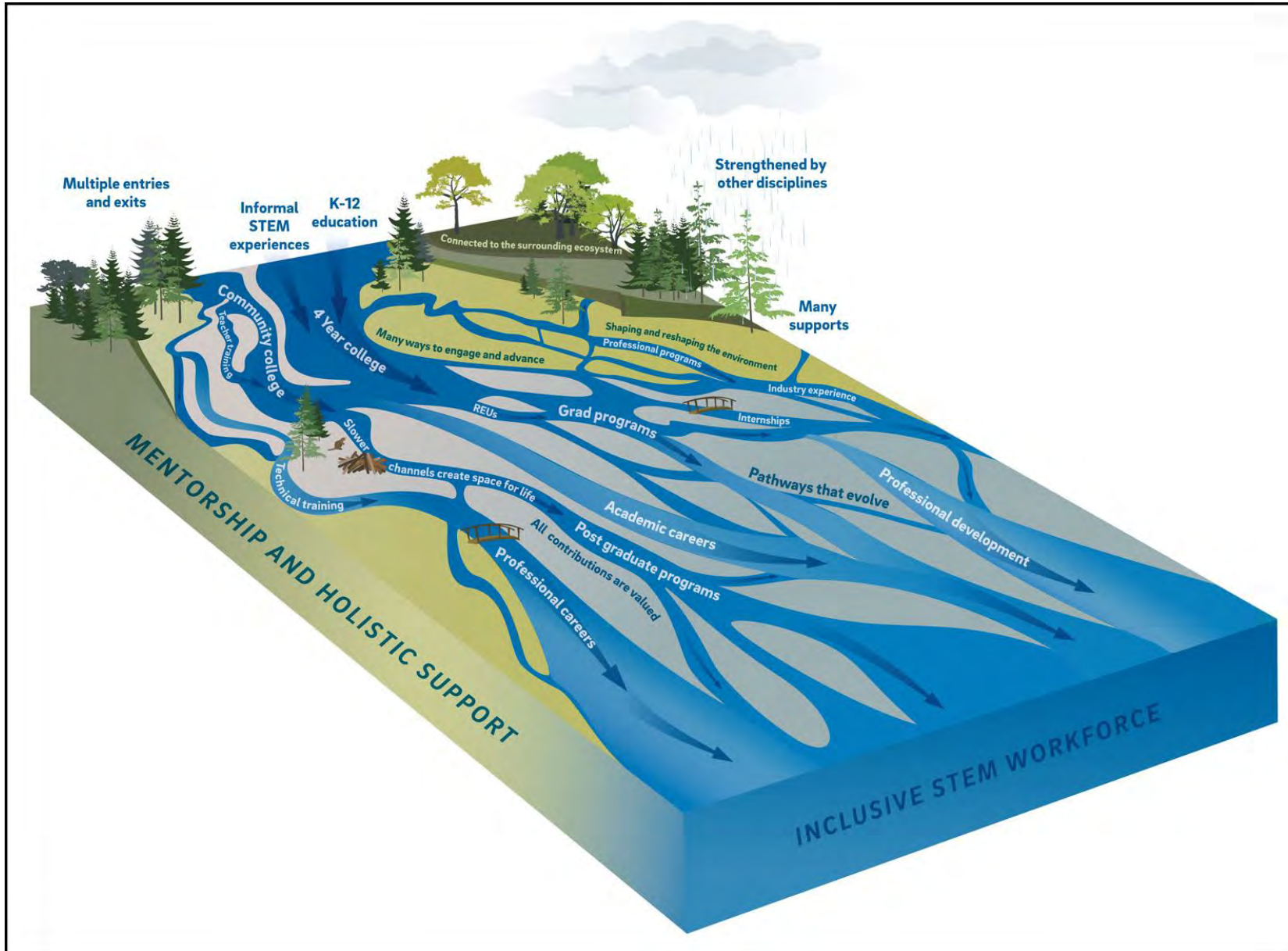


Fig. 1. A braided river system illustrates a new, holistic STEM workforce career development model.

Batchelor, R. L., H. Ali, K. G. Gardner-Vandy, A. U. Gold, J. A. MacKinnon, and P. M. Asher (2021), Reimagining STEM workforce development as a braided river, *Eos*, 102, <https://doi.org/10.1029/2021EO157277>. Published on 19 April 2021.



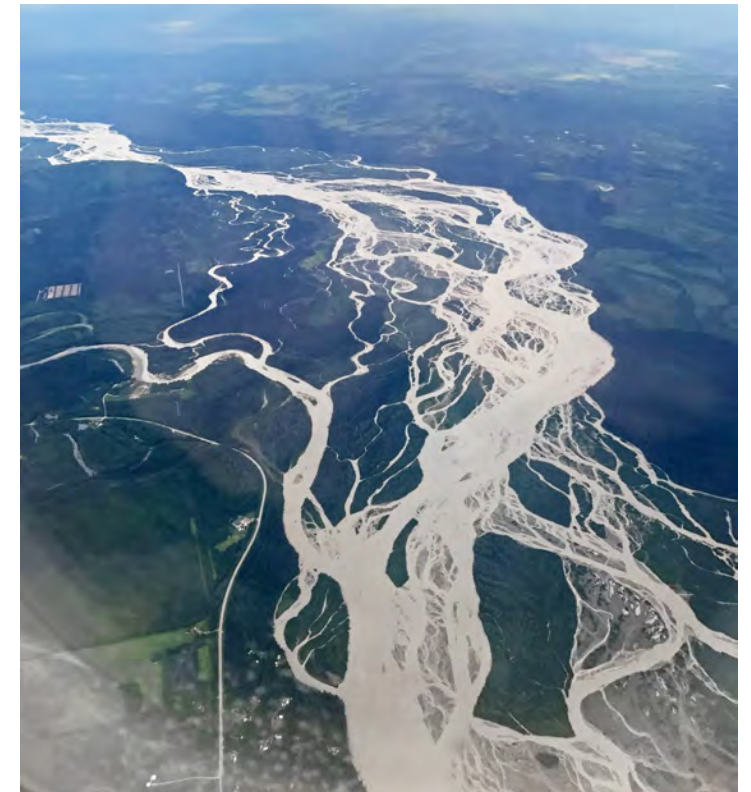
PURPOSE

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

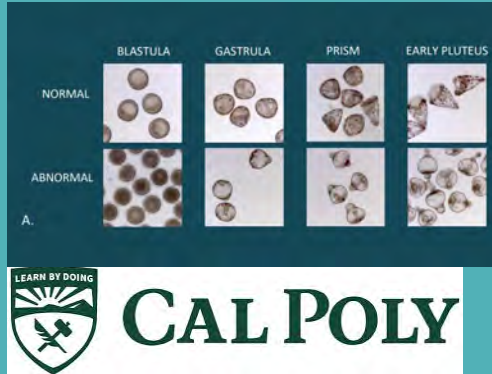


RAE QUADARA (she/her) | Moderator

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



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

- 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



EARLY-MID CAREER



CERF Inclusive Leadership Program (CERF ILP)



- Fostering belonging in STEAM
- Informal educator, formal educator, workforce development
- Science communicator
- My/Your voice is NEEDED!



Virtual Panel: Underrepresented Groups in Ocean Science

Organized by CoastWIS+ and the SOSE DEI Committee
Registration link: <https://tinyurl.com/SEPT2023panel>
Date: Friday, September 29, 2023
Time: 1-2:30 PM

Moderator:

Rae Quadara
Project manager, Marine Education Center, USM
Steering Committee Member, SWMS
<https://swmsmarinescience.com/>

Panelists:

Leslie Townsell
Community Director, Black in Marine Science
Graduate student, University of Georgia
<https://www.blackinmarinescience.org/>

Stephanie Lim
Steering Committee Member, AAPiG
Graduate student, Stanford
<https://www.aapienosci.org/>

Dr. Maria Wallace
Leadership team, GEMS
Assistant Professor, Science Education, USM
Faculty Affiliate, Women and Gender Studies
<https://www.usmgems.com/>



DR. SHERITTA FAGBODUN (she/her) | Panelist



LSAMP Summer Bridge Scholar (High School)
Research Experiences for Undergraduates
LSAMP Bridge to the Doctorate Scholar



Course-based Undergraduate Research Experiences
(CUREs)



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

STEM EDUCATION & MICROBIOLOGY



Tiny Earth/Small World Initiative

Research Experiences for High School Students



Equity and Diversity in Undergraduate STEM



[10]



NASA MUREP
HS Summer Institute



www.ms-cc.org

DR. OSAGIE IDEHEN (he/him) | Panelist

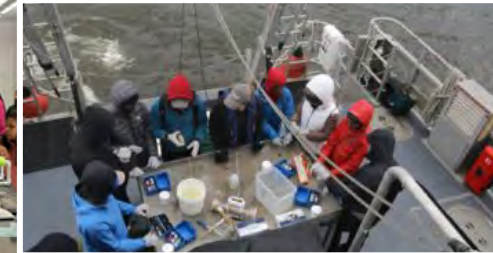
Research Associate, Tuskegee University



Environ. Sc.
Integrative Biosc.



Community Organizing
Outreach and Technical Service
Youth and Econ. Development



Bioremediation
Soil Biogeochemistry
Metagenomic
Plant stress responses
Climate smart Ag
Waste to Energy
Training & Mentoring



www.ms-cc.org



UNIVERSITY OF BENIN
BENIN CITY, NIGERIA

Knowledge for Service



Nembe, Rivers State



Zoology: Parasitology
(Roach microbiome)



Retail Banking

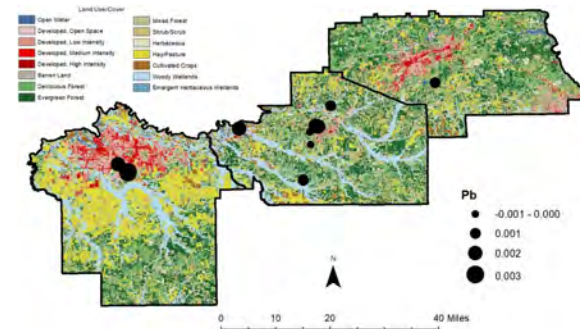
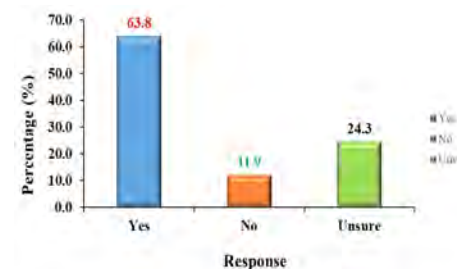
DR. SANCHEZ ROLLE (he/him) | Panelist



B.Sc. Biology, 2018
B.Sc. Food and Nutritional Sciences, 2018
Master of Public Health, 2024
PhD Integrative Biosciences, 2024



Exuma, The Bahamas



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



www.ms-cc.org

DEVOTHA MWAZEMBE (she/her) | Panelist

Student: Integrative Biosciences PhD Program
Tuskegee University



Integrative Biosciences (PhD candidate)
Climate change – crop production - Soil health

B.SC.Agronomy



Guidance and Guardrails

PANELISTS	AUDIENCE
<p>Panelists are encouraged to share responses in as much detail or general as feels comfortable and most appropriate.</p> <p>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)</p>	<p>Audience members are encouraged to engage respectfully with the panel through first active listening and being present to the best of their ability.</p> <p>Questions should be framed with inclusivity and equity lens and positive affirmation are encouraged throughout the presentation.</p>

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

Cyberinfrastructure (CI) = IT for scholarship

Data-dependent research and curricula increasingly require beyond-the-desktop IT resources.



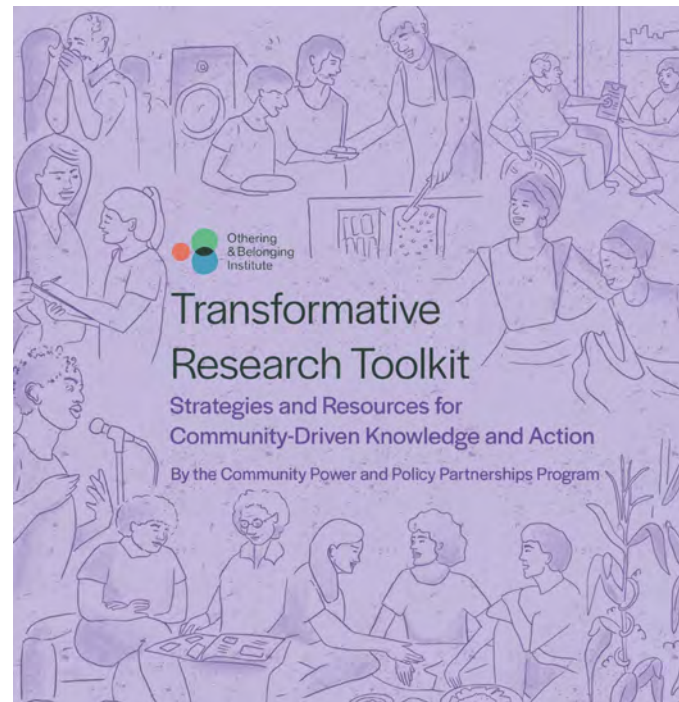
DISCUSSION PROMPT #2

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

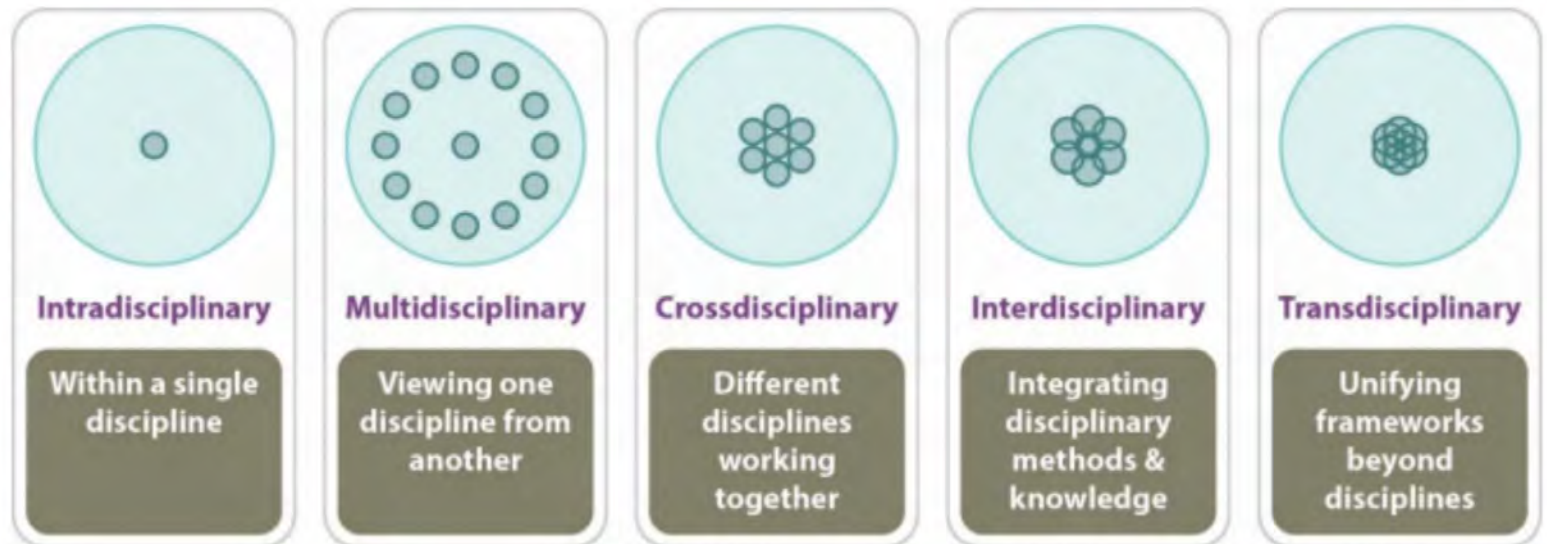
DISCUSSION PROMPT #3

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

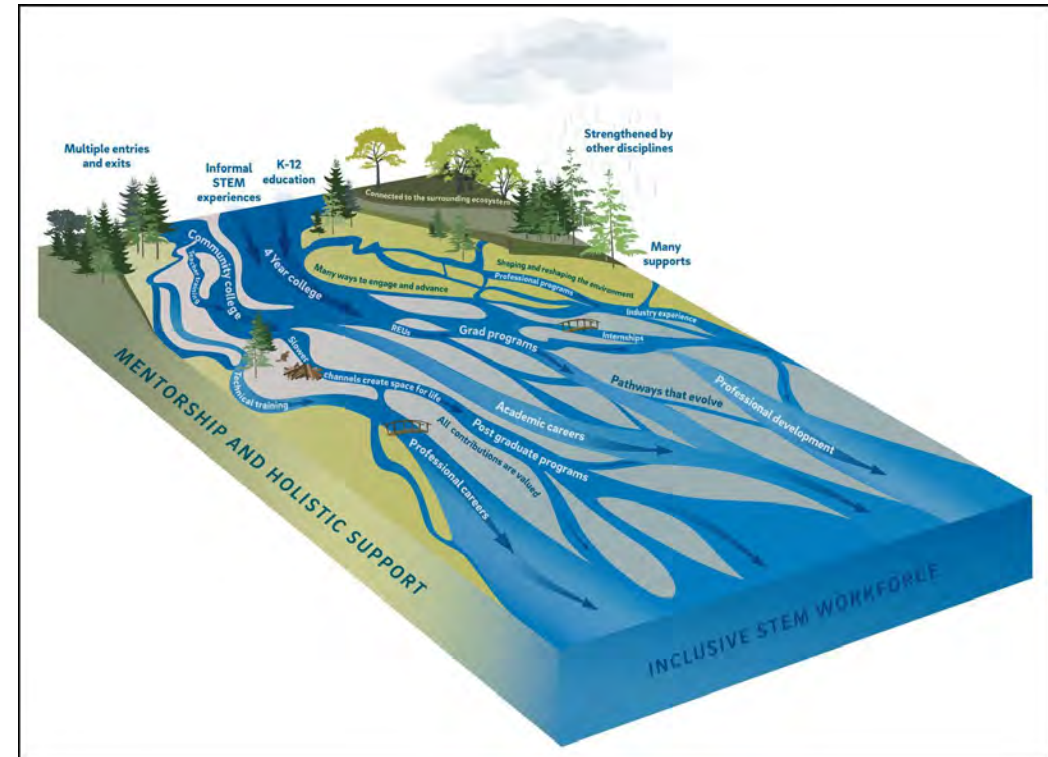


DISCUSSION PROMPT #4

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



Batchelor, R. L., H. Ali, K. G. Gardner-Vandy, A. U. Gold, J. A. MacKinnon, and P. M. Asher (2021), Reimagining STEM workforce development as a braided river, *Eos*, 102, <https://doi.org/10.1029/2021EO157277>. Published on 19 April 2021.

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