Exemplifying the Scientific Enterprise through Diversity, Equity, and Inclusion

Stephen D. Secules
School of Universal Computing, Construction, and Engineering Education, Florida International University, ssecules@fiu.edu

Darryl Dickerson
Department of Mechanical and Materials Engineering, Florida International University, ddickers@fiu.edu

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Exemplifying the Scientific Enterprise through Diversity, Equity, and Inclusion

Workshop at Carnegie Institute
Darryl Dickerson  
Associate Director  
Minority Engineering Program

Stephen Secules  
Visiting Assistant Professor of Engineering Education
Darryl Dickerson

PhD, Biomedical Engineering, Purdue University

Chair of Board of Directors, National Society of Black Engineers (NSBE), 2007 - 2008
Pre-College Initiative Chairperson, NSBE, 2004 - 2007

Associate Director, Minority Engineering Program, 2012 - present

President and Executive Director, National Association of Multicultural Engineering Program Advocates (NAMEPA)
Board Director, NAMEPA 2015 - present
Stephen Secules

B.E. Engineering, M.S. Acoustics, PhD Education

Visiting Assistant Professor, Purdue University

My research is on culture and equity in Science, Technology, Engineering, and Math (STEM) educational settings

I collaborate with faculty and staff to create more inclusive institutional culture for many student groups

As a social scientist, I think critically about STEM culture and help others to too
You shared with us...

Your goals

- “just to participate” x6
- “to learn how we might build more diverse audiences for our public programs”
- “to help people who aren't affected by them understand why those things are so important”
- “concrete steps for the Carnegie leadership to take in response to this discussion, and a plan to follow up on any progress in several month's time”
Purpose
and
Plan
Purpose

We are researchers focused on diversity, equity, and inclusion (DEI) in STEM education and professional settings.

We believe DEI concerns all members of the scientific community.

We have come to reflect with you on the DEI mission of Carnegie and to brainstorm ways to make progress.
Plan

**Monday:** Workshop to collectively brainstorm:

- What is the mission of Carnegie Institute?
- What are its key activities?
- What are its key characteristics?

And how do each of these relate to diversity, equity, and inclusion?

**After the workshop:** We will synthesize the findings and produce a framework to help guide future progress.

**Wednesday:** We will be following up with some constituent groups at the Observatories to present our initial findings and hear their perspectives.
Talking about Diversity
Suggested ground rules

Share from your personal experience as you feel comfortable
Lean in to your “learning edge” about diversity, equity, inclusion
Icebreaker 1

Talk in pairs:
What is one thing that people might not guess about you when first meeting you that is important to your experience or perspective?

2 minutes
Icebreaker 2

Talk in pairs:
What is one thing that people probably would guess about you that is important to your experience or perspective?
Diversity = differences among people

Diversity means the ways we differ.
It includes the readily visible differences and the differences that may be below the surface.
Identity =

- Who you are and how that positions you in relation to others
- Demographic social identities
- Roles (e.g., scientist, engineer, parent)
- We can hold multiple identities
- They can be more or less significant to us in different situations

Diversity = differences among people
# Diversity

## Think about Identity:

- How do you identify in each of the following categories?
- How do most scientists identify? Why does this matter?

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<th>Social Identity Categories</th>
<th>Social Group Members</th>
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<tbody>
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<td>Black, White, Asian, Latino, Native American, Multiracial</td>
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**Equity / Inequity**

- Social groups often have different status and power.
- This gives some social groups unearned advantages while others face barriers.
- Inequity can be created on group, institutional, systemic, or cultural levels.

**Think about Equity:**

- What does science have to do with equity/inequity?
Culture

The things we do automatically and don’t have to think about
Habits and norms
Climate
“The air we breathe”
Insiders and Outsiders may notice different aspects of culture

Inclusion / Exclusion

Inclusion of specific demographic groups.
Welcoming or hostile professional contexts.
Exclusion can be intentional or unintentional.

Think about Inclusion:
How inclusive is Carnegie? To whom? Would everyone agree with my assessment?
More suggested ground rules as we go on

Share from your personal experience as you feel comfortable
Lean in to learning about diversity, equity, and inclusion
Avoid generalizations about entire groups of people
Assume what is shared in the conversations is confidential
Be aware of letting everyone have a turn to speak
Listen to each other
Accept imperfection from others and be kind as you disagree
Institutional Context
Areas for reflection about an Institution

**Mission**
- Fundamental purpose

**Activities**
- Key areas of effort

**Characteristics**
- Aspects of the organization
Mission
Mission = Fundamental Purpose
Institutional Context:
Carnegie Institute for Science

Mission:

Andrew Carnegie established a unique organization dedicated to scientific discovery “to encourage, in the broadest and most liberal manner, investigation, research, and discovery and the application of knowledge to the improvement of mankind...” The philosophy was and is to devote the institution’s resources to “exceptional” individuals so that they can explore the most intriguing scientific questions in an atmosphere of complete freedom. Carnegie and his trustees realized that flexibility and independence were essential to the institution’s success and that tradition is the foundation of the institution today as it supports basic scientific research.
Mission:

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Over the time course of a year, what do you do within your professional role (job responsibilities) that advances the mission of Carnegie?

How can focus on diversity, equity, and inclusion advance the mission of Carnegie?
Group Brainstorm 1: Activities
Building Tools that Enable Research

Outreach

K-12 school work with STEM teachers.

What are the demographics of our partners schools?

How do we select student participants?

Other potential partner schools?

Research

Training

Development (Fundraising)
What are the demographics of our partners schools?

Other potential partner schools?

How do we select student participants?

K-12 school work with STEM teachers.
Group Brainstorm 2: Characteristics
Carnegie Institute of Science Characteristics

Policy
- Hiring processes

Finance

Strategy / Decision Making
- Are there guidelines for how many women or other demographics are recruited or invited to apply?

Personnel

Communication

Climate / Culture

Who are on hiring committees?

Statements of being an equal opportunity employer listed in calls for applicants
Conclusion
Individual Takeaways

Think about and write down...

● Your Ultimate Ideal Vision: What would you like to see happen in at Carnegie?

● The Challenge: What is most pressing at Carnegie regarding DEI?

● Shorter Term Vision: How could things look differently within a year?

● Your Influence: What can you do from your seat at Carnegie to advance towards the vision?
Community Takeaways

Holding Yourself and Each Other Accountable

Developing a Shared Vision for DEI at Carnegie (to be continued on Wednesday)

Resources from us (a checklist of questions to ask)
Thank you for participating!

If you have more thoughts, feel free to email us ssecules@purdue.edu, ddickerson@purdue.edu.

Or respond anonymously at: http://tinyurl.com/carnegieDEI