Center for the Improvement of Mentored Experiences in Research

https://bit.ly/DOE_Mentorship_January2022

Building Cultures of Inclusive Research Mentorship at Federally-Funded Research Centers (National Labs)

DOE Laboratories of the Future Series (LOFS)

Melissa McDaniels, Ph.D.
Co-Investigator, Inclusive Graduate Education Network
Associate Executive Director
Center for the Improvement of Mentored Experiences in Research
University of Wisconsin-Madison

Recognition

- Colleagues at Department of Energy
  - Steve Binkley
  - Victoria DiStefano
  - Susannah Howieson
  - Daniel Searer
- Fellow panelists
- National laboratory colleagues

Overview

- Amplify resources
- Making Your Case: Why Cultures of Inclusive Excellence?
- Recommendations for Institutional Leaders
- Steps towards building capacity for inclusive excellence in federally-funded research centers

Center for the Improvement of Mentored Experiences in Research (CIMER)

CIMER Mission

Improve the research mentoring relationships for mentees and mentors at all career stages and disciplines through the development, implementation, and study of evidence-based and culturally-responsive interventions.

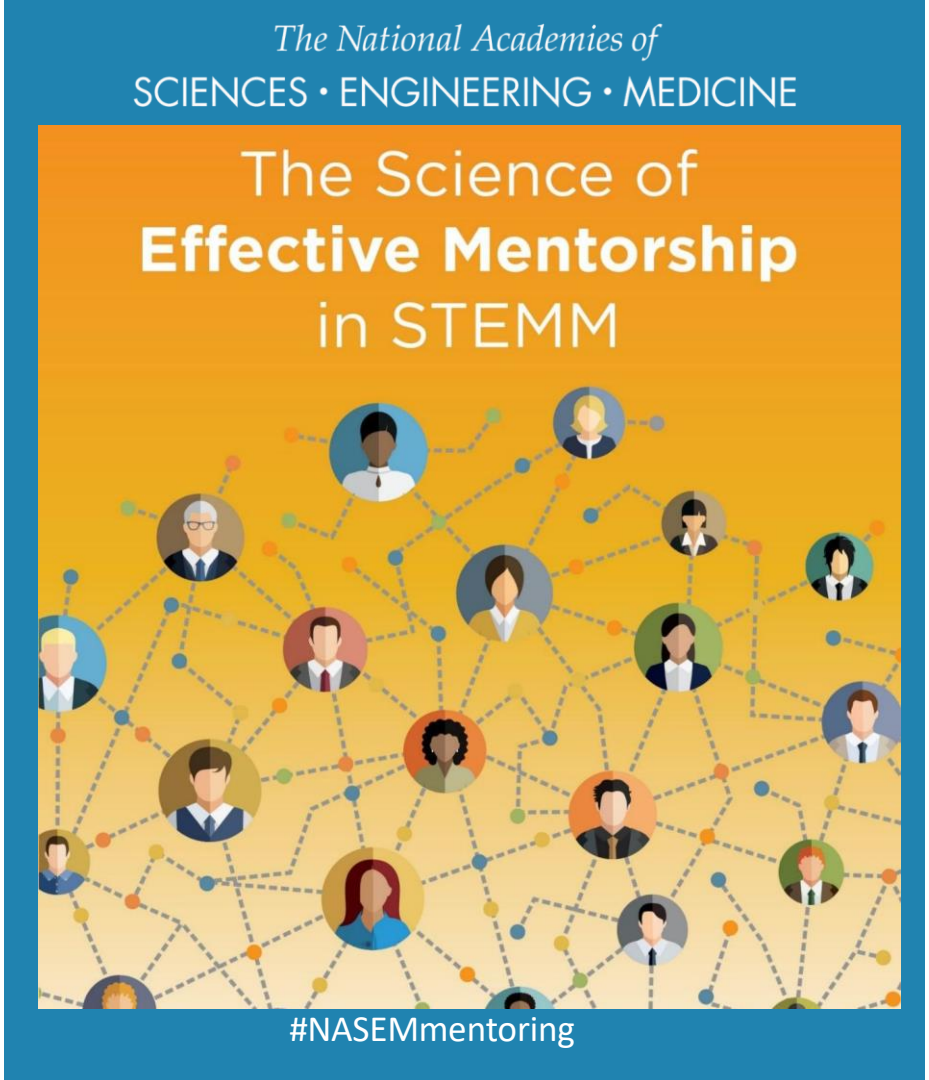
Project Overview

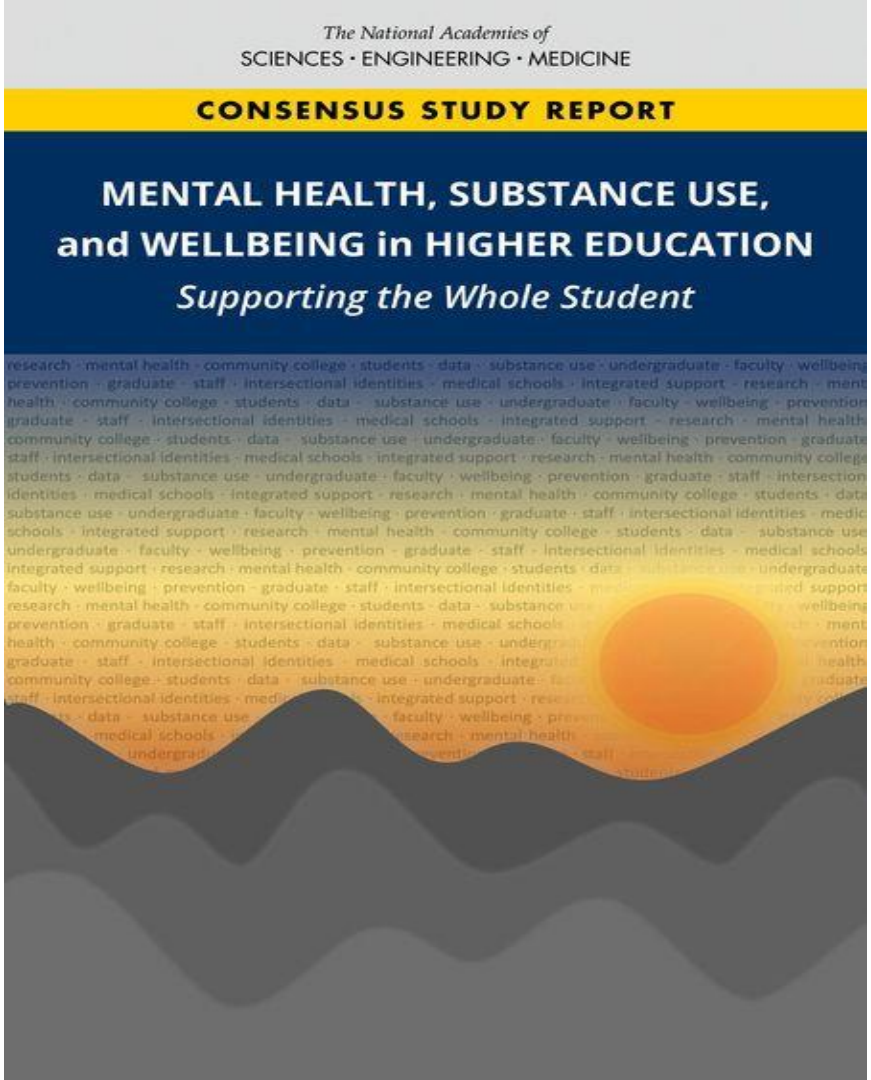
IGEN Goals:

- Increase the fraction of students from underrepresented groups who complete physical science doctoral degrees
- Catalyze the adoption of evidence-based inclusive practices in graduate education
- Establish sustained, cross-sector partnerships that support the advancement of underrepresented students

Mentorship Education Project Objectives

- To adapt an existing evidence-based mentor training curriculum primarily focused on mentorship in the university context to one that is salient to the federally funded research center context. Deliver a train-the-trainer program to build capacity in laboratories. Promote a community of practice among new “trained facilitators”.


The National Academies of
SCIENCES • ENGINEERING • MEDICINE
The Science of
Effective Mentorship
in STEMM
#NASEMmentoring


The National Academies of
SCIENCES • ENGINEERING • MEDICINE
CONSENSUS STUDY REPORT
MENTAL HEALTH, SUBSTANCE USE,
and WELLBEING in HIGHER EDUCATION
Supporting the Whole Student

Mentorship - A Definition

Mentorship is a professional, working alliance in which individuals work together over time to support the personal and professional growth, development, and success of the relational partners through the provision of career and psychosocial support.

Mentorship includes **career support functions** (e.g., career guidance, skill development, sponsorship) and **psychosocial support functions** (e.g., emotional support or role modeling) aimed at mentee talent development.

What does the scholarship say about why we should be concerned about cultures of inclusive mentorship at research institutions?

There is a Science of Mentorship

Science is “the intellectual and practical activity encompassing the systematic study of structures and behaviors through observation, experiment, and theory.”

The Science of Mentorship

- brings together multiple disciplinary perspectives—from organizational and social psychology to discipline-based education
- provides guidance on effective behaviors, theoretical frameworks, measures and assessment techniques, mentoring tools, possible structures of mentoring relationships, and the role of institutional support

1. Identities affect mentorship in STEMM (NASEM, 2019)

- Specific dimensions of identity—**science identity, cultural identities**—are linked empirically to:
  - academic and career development
  - the experience of mentoring relationships in STEMM

- Mentorship can ameliorate negative effects of trainees' feelings of being "othered" due to their non-science identities in STEMM by increasing inclusion and psychosocial support.

2. Individuals from historically and currently excluded groups have differential experiences of mentorship

- Students from UR racial/ethnic groups report that their primary advisor is less respectful of their ideas, less supportive compared to White students (Noy & Ray, 2012)
- White men are more likely to benefit from the impact of their novel innovations than UR women and men and White women (Hofstra et al., 2020)
- White investigators significantly more likely than Black and Hispanic investigators to win R01 awards; minority investigators indicate that **inadequate mentoring posed obstacles to obtaining funding** (Ginther *et al*., 2011)
- Trainees have unequal access to mentoring and quality mentorship (Milkman et al., 2014; (Thomas *et al*., 2001; Helm *et al*., 2000; Morzinski *et al*., 2002).

3. Recognizing and responding to cultural identities contributes to mentorship effectiveness

- Mentoring addressing cultural diversity matters and psychosocial needs of diverse students is positively correlated with their science identity, commitment to a research career, and satisfaction with a research career (Fresquez & Haeger, 2016)

- Mentorship can ameliorate negative effects of students' feelings of being "othered" due to their non-science identities in STEMM by increasing inclusion and psychosocial support

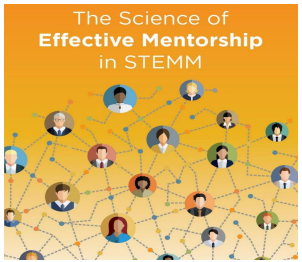
How can we Create a Culture of Effective Mentorship?

The NASEM presents **nine sets of recommendations** to encourage a shift away from a culture of ad hoc mentorship and toward one of intentional, inclusive, and effective mentorship in all institutional contexts.

The first seven outline specific roles for participants in the mentorship ecosystem:

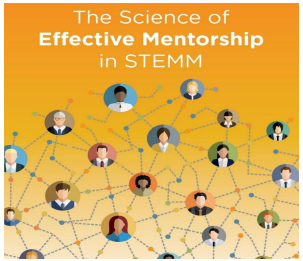
- institutional leadership,
- division leaders (department chairs)
- program leaders,
- mentors,
- mentees, and
- professional associations.

The final two sets of recommendations are directed at agencies that fund mentorship programs and scholars of mentorship



Research Institutions can **broaden access to quality mentorship and support systems**, which may entail significant institutional change.

- Use an evidence-based approaches to support mentorship (e.g., mentorship education, resources, tools)
- Establish and use structured feedback systems to improve mentorship
- Recognize and respond to identities in mentorship
- Support multiple mentorship structures
- Reward and incentivize mentorship
- Mitigate & prevent negative mentorship experiences



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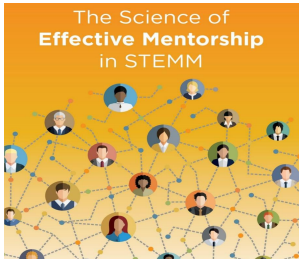
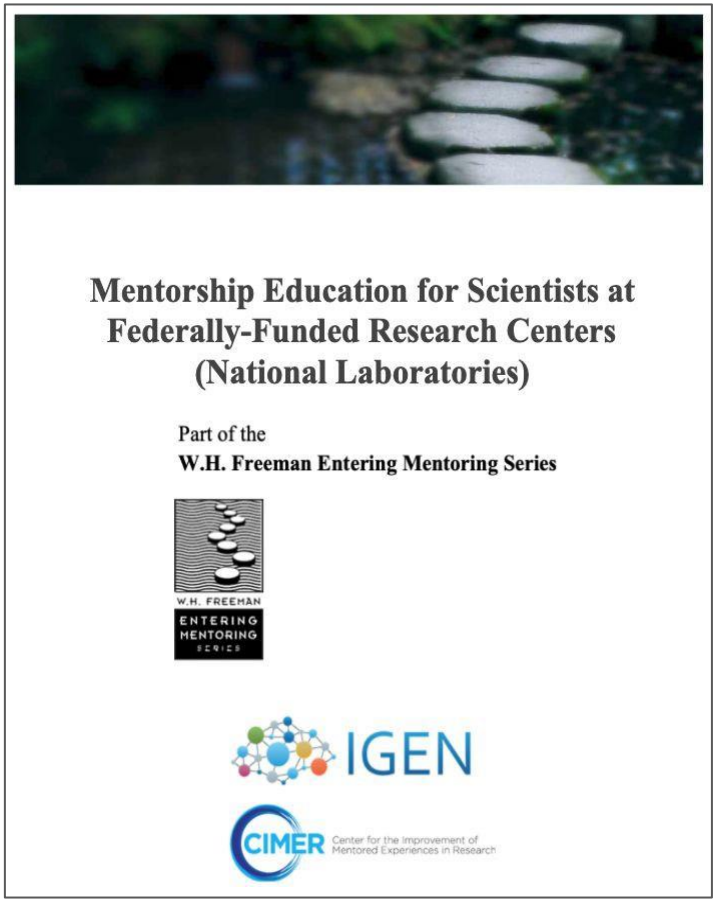


What have we done in partnership with Department of Energy National Laboratories?



Step 1: Adapt an empirically tested mentorship education model for national laboratories

CIMER

Curriculum

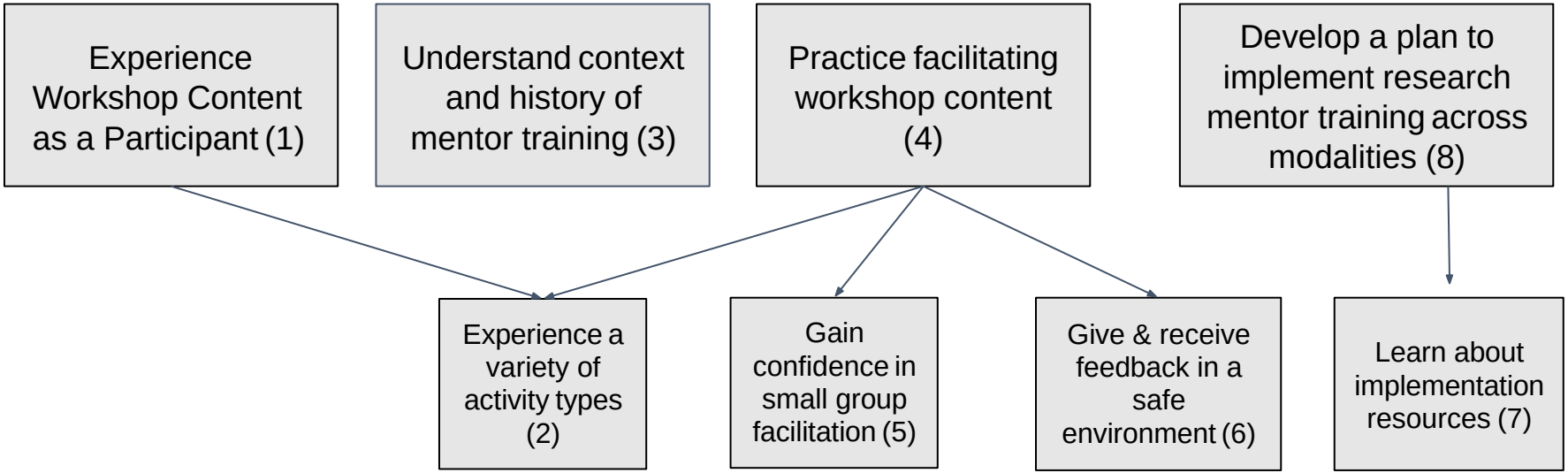
- **Audience:** research supervisor, technical manager, formally assigned career mentors of postdocs
- **Competencies:** equity and inclusion, maintaining effective communication, aligning expectations, promoting researcher independence, promoting professional development, supporting work life integration, assessing understanding
- **Materials:** facilitation guides, implementation models, handling facilitation challenges, participant materials.
- **Activities:** case studies plus other activities.

Step 2: Deliver an empirically tested train-the-trainer opportunity

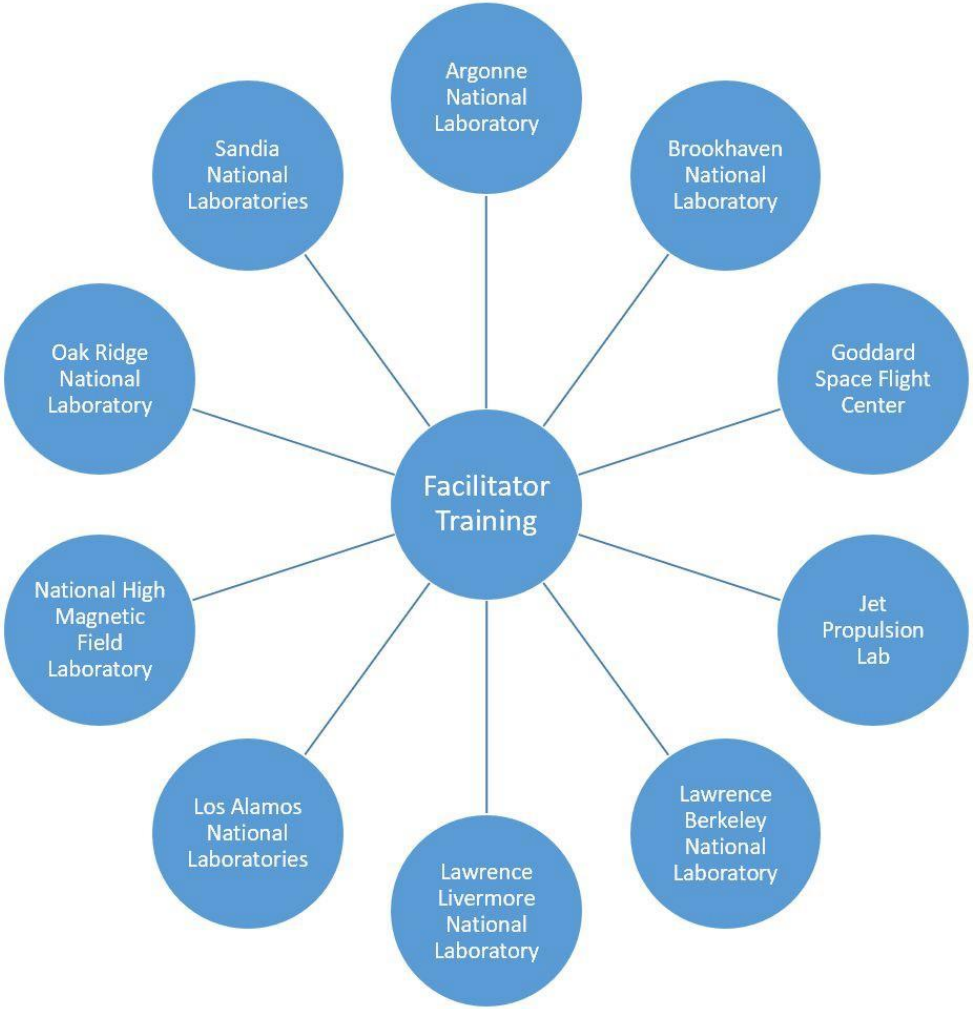
FACILITATING ENTERING MENTORING

October 18 - 22, 2021

Facilitating Entering Mentoring Workshop Objectives



Observe how facilitators foster community and engage with the content (2)



Department of Energy and NASA Federally-Funded Research Centers (National Labs)

Teams from Labs (27 participants)

November 1, 2021

Dear [redacted]

This letter recognizes you as a Trained Facilitator of the *Entering Mentoring* curricula series because of your participation in the *CIMER Train-the-Trainers Workshop: Facilitating Entering Mentoring* at IGEN on October 18-22, 2021. The Center for the Improvement of Mentored Experiences in Research (CIMER), supported by the Wisconsin Center for Education Research at the University of Wisconsin-Madison, is leading a nationwide initiative to improve the research mentoring relationships for mentees and mentors at all career stages through the development, implementation, and study of evidence-based and culturally-responsive interventions. This mentorship initiative builds upon previous work funded by the National Institutes of Health (NIH) to support the training and career development of individuals from groups underrepresented in biomedical, behavioral, clinical, and social science research careers.

As part of this effort, CIMER offers train-the-trainer workshops around the country like the one you attended. Our goal is for participants to:

- Develop the knowledge and skills to implement research mentor training
- Become familiar with the *Entering Mentoring* mentor training curricula
- Gain confidence in facilitation skills
- Practice facilitating activities from the *Entering Mentoring* curricula
- Be able to describe evidence supporting the effectiveness of mentor training
- Articulate practical plans for implementing mentor training at their home institution/organization

Step 3: Support a Community of Practice (in development)

- Monthly coffee hours
- Trained Facilitator newsletter
- Online conversational space
- Additional training opportunities (possible culturally aware mentorship training)

Resources

DOE Laboratories of the Future Series
January 25, 2022

Building Cultures of Inclusive Mentorship at Federally Funded Research Centers

Melissa McDaniels (mmcdaniels@wisc.edu)

Resources & Workshop Documents

Slides

Further Interest Form

- Please fill out this form if you want to learn more about mentorship education in the National Labs
  https://forms.gle/42xQKJiVB8Ew79fd8

Resources shared in workshop: