The National Academies of
SCIENCES · ENGINEERING · MEDICINE

PARTICIPATORY WORKSHOP ON EFFECTIVE MENTORING IN STEMM:
Practice, Research, and Future Directions

February 9-10, 2017
The National Academy of Sciences
Lecture Room
Washington, D.C.

Mentoring has long been understood as a beneficial component of academic and professional development. But investigations of the attributes of effective mentoring interactions in science, technology, engineering, mathematics, and medical (STEMM) education are only now starting to shed light on how exactly these complex and dynamic relationships form, evolve, and impact the lives and careers of the current and next generation of STEMM professionals.

To explore the conversation surrounding this highly interdisciplinary field, the Board on Higher Education and Workforce and the Committee on Women in Science, Engineering, and Medicine, and in collaboration with the Board on Science Education and the Teacher Advisory Council of the National Academies of Sciences, Engineering, and Medicine, will convene a 2-day workshop in Washington D.C. on February 9th and 10th, 2017.

Distinguished educators, scientists, engineers, industry leaders, and scholars will focus on identifying successful evidence-based practices and metrics for mentoring students in STEMM career pathways. A particular emphasis will be on identifying the evidence supporting the most successful mentoring practices for women and students of color across high school and postsecondary education.

AGENDA

February 9th, 2017

8:30 AM   Registration, Breakfast, and coffee

9:30 AM   Welcome and framing: Mentoring for exposure, access, and retention in STEMM and STEMM research
- *Angela Byars-Winston; University of Wisconsin—School of Medicine*

9:45 AM   Introduction Activity
- *Angela Byars-Winston*

9:55 AM   Co-plenary: Defining and operationalizing mentoring
- *Sandra Laursen; University of Colorado, Boulder*
- *Paul Hernandez; West Virginia University*

10:30 AM Interactive Break: Mapping mentoring—at the facilitated flipchart stations, write down different approaches to offering mentoring, definitions of contexts as it relates to mentoring (both career stages and learning environments), and definitions of mentees and mentors

11:00 AM Panel: Theories currently used to design and study mentoring
- *Kathy Kram; Mentoring at Work*
- *W. Brad Johnson; United States Naval Academy*
- *Kay Lund; NIH Division of Biomedical Research Workforce Programs*
- Moderator: *Kimberly Griffin; University of Maryland, College Park*

12:00 PM Break to pick up lunch / Bio-Break

12:15 PM Informal Breakout Lunch

1:00 PM   Panel: Innovations in mentoring and developmental relationships in STEMM
- *Renetta Tull; University of Maryland, Baltimore County*
- *Amy Prunuske; Medical College of Wisconsin*
- *Derrick Simmons; DC Public Schools—Eastern High School*
- Moderator: *Erin Dolan; University of Georgia*

2:00PM   Fireside chat: Outcomes of mentoring from the middle, out
- *Anthony Keyes; Jackson State University*
- *Taylor Johnson; The University of Texas at Austin*
- *Juan Pablo Ruiz; NIH/Oxford Scholar and Gilliam Fellow*

2:30 PM   Speaker: Themes of the panels and discussions
- *Meredith Manning; West Coast Analytics; Youel Systems Inc.*

2:35 PM   Interactive Break: Mapping Mentoring—at the facilitated flipchart stations, write down current knowledge and practices around mentor training, methods to develop relationship competencies for mentees and mentors, and barriers and opportunities with practical implementation

3:05 PM   Breakout sessions—1

4:20 PM   Reconnection Break

5:00 PM   Reception and Dinner

7:00 PM   Plenary: Examining why mentoring works and cultivates better outcomes for protégés—engaging new theoretical frameworks to understand mentoring practice
- *Audrey Murrell; University of Pittsburgh*

7:30 PM   Adjourn

February 10th, 2017

8:30 AM   Breakfast and coffee

9:00 AM   Welcome, introduction, and framing: Overview from Day 1
- *Angela Byars-Winston*
- *Layne Scherer; National Academies of Sciences, Engineering, and Medicine*

9:15 AM   Speaker: Outcomes of the facilitated flipcharts
- *Layne Scherer*

9:45 AM   Bio-Break / Distribute to rooms

10:00 AM Breakout sessions—2

11:15 AM Panel: Current state of knowledge on mentoring practices
- *Elizabeth Boylan; Sloan Foundation*
- *Anne Marie Weber-Main; University of Minnesota—School of Medicine*
- *Kirsten Busch Johnson; The College Board*
- Moderator: *Christine Pfund; University of Wisconsin-Madison*

12:15 PM Fireside chat: Reflections on identity and mentoring
- *Michael Summers; University of Maryland, Baltimore County*
- *Adegboyega Akinsiku; University of Maryland, Baltimore County*

12:40 PM Informal Lunch Discussion

1:30 PM   Discussion: Translating research and theory into practice – to what extent does practice reflect current state of knowledge? Where are there gaps and misalignments?

2:30 PM   Summary and closing remarks: Mapping Mentoring, reports from the Breakout groups
- *David Asai; Howard Hughes Medical Institute*
- *Angela Byars-Winston*

3:00 PM   Adjourn