

Improving Research Through Mentor and Mentee Training

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Research Mentoring Improves:



Science identity, sense of belonging and self-efficacy

Palepu et al, 1998; Garman et al, 2001; Paglis et al, 2006; Lopatto, 2007; Bland et al, 2009; Feldman et al, 2010; Cho et al, 2011; Chemers et al, 2011; Thiry and Laursen, 2011; Byars-Winston et al, 2015

Persistence and retention

Gloria et al, 2001; Solorzano 1993; McGee and Keller, 2007; Sambunjak et al, 2010; Williams et al, 2015; Bordes-Edgar et al., 2011; Campbell and Campbell, 1997

Career satisfaction

Schapira et al, 1992; Beech et al, 2013

Recruitment of URM

Hathaway et al, 2002; Nagda et al, 1998

Research productivity

Steiner et al, 2002, 2007; Wingard et al, 2004

National Visibility



National Academies of Science

Report on Mentored Undergraduate Research Experiences

Revitalizing Graduate Education for the 21st Century

The Next Generation of Biomedical and Behavioral Researchers:
Breaking Through

Consensus Study: The Science of Effective Mentoring In STEMM

National Institutes of Health (NIH)

Mentored K awards (e.g. K24)

National Research Mentoring Network (NRMN)

New T32 requirements

National Science Foundation (NSF)

Post-doctoral mentoring plans

AAAS/ PASEMEN STEM Mentoring 2030 Meeting

Some INCLUDES Alliance Projects (SCI-STEPS, IGEN, APLU-CIRTL)

Sloan Foundation

University Centers of Mentoring Excellence

Howard Hughes Medical Institute and Burroughs Wellcome Fund

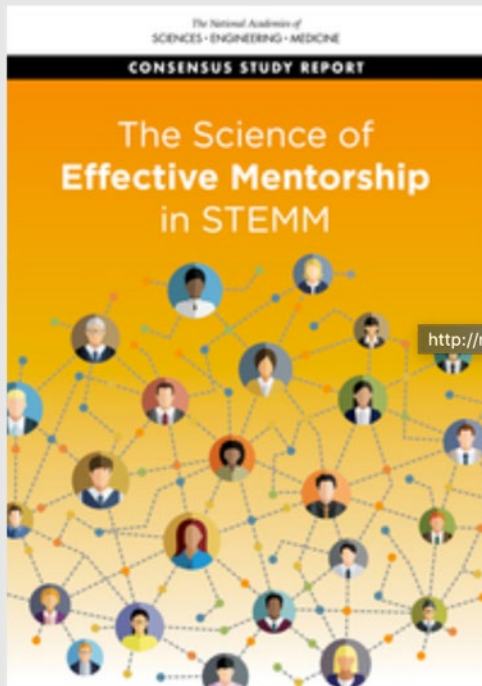
Mentor and mentee training for the Gilliam Fellow and PDEP Programs

How to Create a Culture of Effective Mentorship?



Recommendation #2: Use an evidence-based approach to support mentorship

Program leaders should support mentorship by ensuring there are evidence-based guidelines, tools, and processes for mentors and mentees to set clear expectations, engage in regular assessments, and participate in mentorship education.



National Academies of Sciences, Engineering, and Medicine.
2019. *The Science of Effective Mentorship in STEMM*.
Washington, DC: The National Academies Press.



Over the past decade, many organizations have made it possible for mentor and mentee training curricula to be developed and tested



HHMI

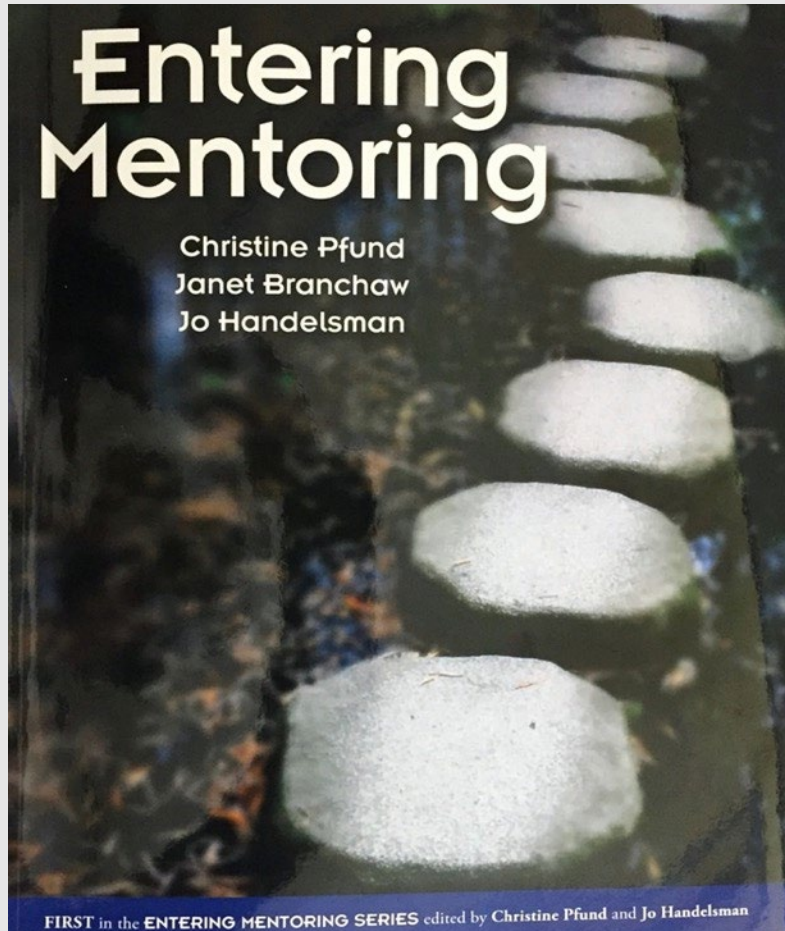


UW Institute for Clinical and Translational Research

UW ICTR



Mentor Training Curriculum

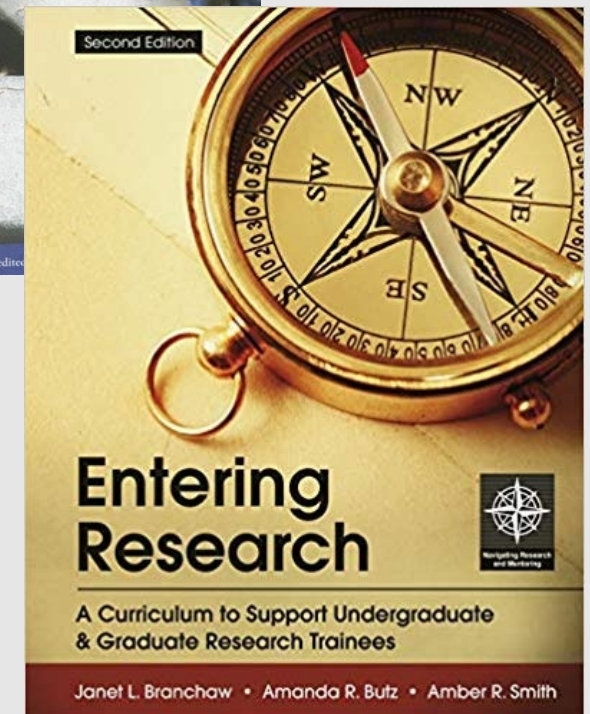
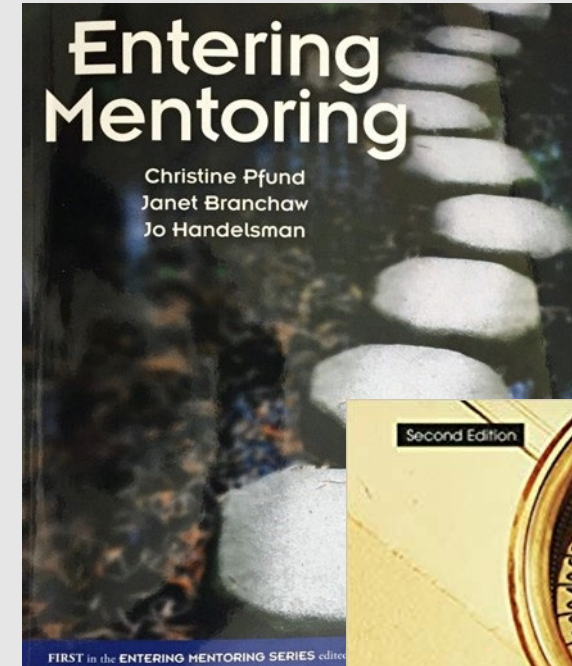


Key elements of mentor training:

1. Process-based: case studies and group problem solving
2. Awareness-raising and reflection
3. A confidential and brave forum to share the collective experience of mentors across a range of experiences
4. Distribute and adapt resources to improve mentoring

Standard Competencies

- Aligning expectations
- Maintaining effective communication
- Addressing equity and inclusion
- Assessing understanding
- Fostering independence
- Cultivating ethical behavior
- Promoting professional development
- Promoting self-efficacy
- Fostering wellbeing (beta)















Adaptations for Career Stage / Discipline

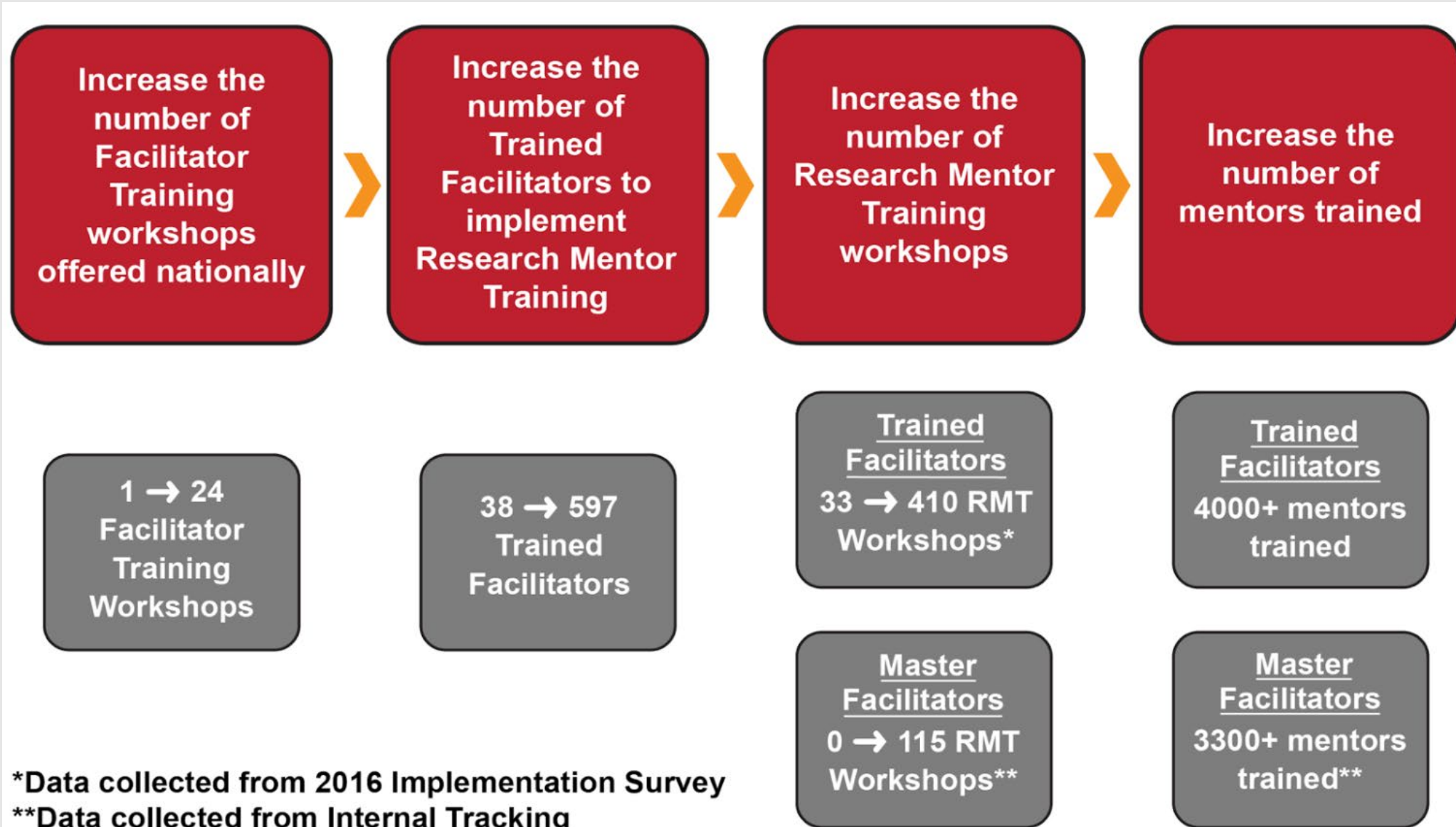


Complete Entering Mentoring Curricula

Curricula are organized by discipline. Each curriculum denotes the career stage of the mentee which whom the mentors work. Click on the magnifying glass to see a preview. Click on the lock to log in and download the curriculum as a PDF.

 Astrophysics <ul style="list-style-type: none">✓ Astronomy and Astrophysics✓ Undergraduate Preview Download	 Biology <ul style="list-style-type: none">✓ Biology✓ Undergraduate Preview Download	 Biomedical Research <ul style="list-style-type: none">✓ Biomedical✓ Graduate✓ Post Doc Preview Download	 Chemistry <ul style="list-style-type: none">✓ Chemistry✓ Undergraduate Preview Download	 Clinical and Behavioral Research <ul style="list-style-type: none">✓ Clinical and Behavioral Sciences✓ Junior Faculty✓ Post Doc Preview Download	 Clinical and Translational Research <ul style="list-style-type: none">✓ Clinical and Translational Sciences✓ Junior Faculty✓ Post Doc Preview Download
 Community Engaged Research <ul style="list-style-type: none">✓ Community Engaged Health Sciences✓ Junior Faculty✓ Post Doc Preview Download	 Engineering <ul style="list-style-type: none">✓ Engineering✓ Undergraduate Preview Download	 Faculty Mentor Training <ul style="list-style-type: none">✓ Multidisciplinary✓ Junior Faculty Preview Download	 Field Biology <ul style="list-style-type: none">✓ Field Biology✓ Undergraduate Preview Download	 Math <ul style="list-style-type: none">✓ Math✓ Undergraduate Preview Download	 Multidisciplinary <ul style="list-style-type: none">✓ Multidisciplinary✓ Undergraduate Preview Download

Train-the-Trainer → National Dissemination





Center for the Improvement of Mentored Experiences in Research



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Thank you:

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