

Diversity without Inclusion is an empty gesture

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Diversity, Equity, and Inclusion in Chemistry and Chemical Engineering

A Virtual Workshop from the
Chemical Sciences
Roundtable

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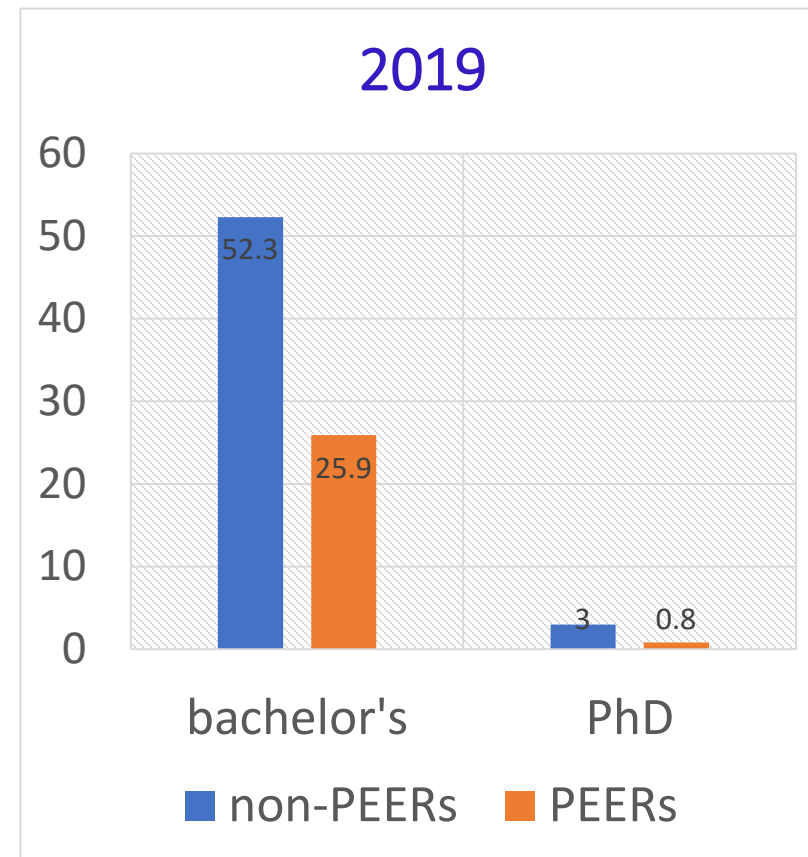
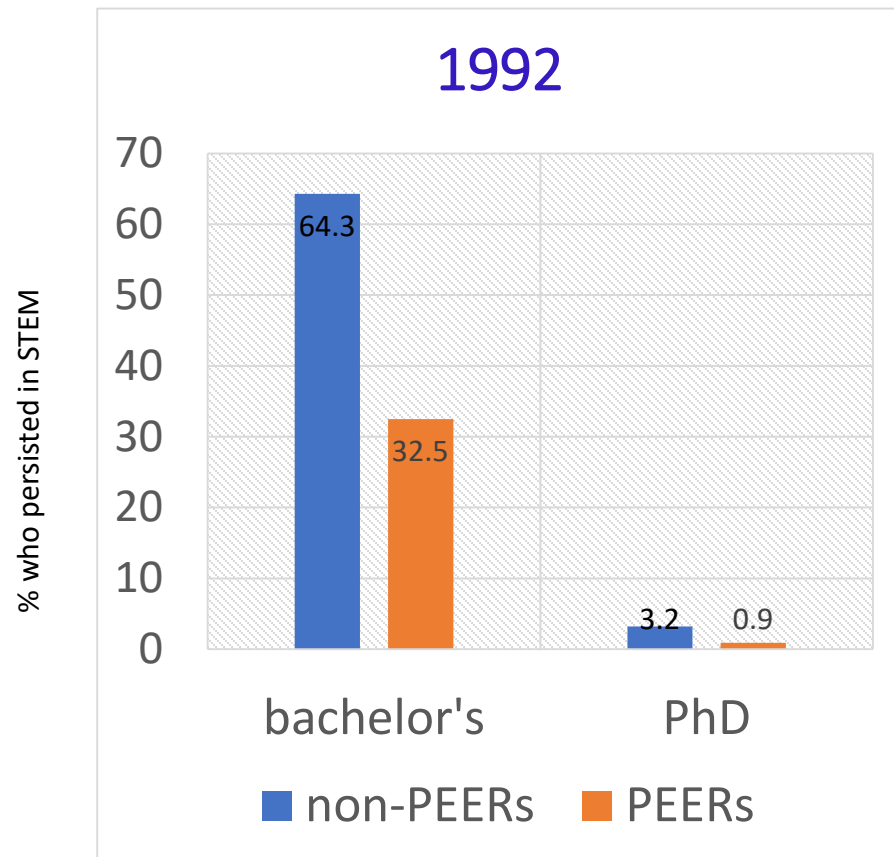


“PEERs”

Persons Excluded from science because of their Ethnicity or Race

Asai, 2020. Cell 181: 754-757

PEERs are disproportionately lost from STEM, and this hasn't changed in 3 decades



A strategy that focuses on
“Fixing the Student” is not
adequate

A two-pronged strategy is called for....

(1) Diversity framing: focus on helping the students

(2) Equity framing: focus on changing the system

- K.A. Griffin, 2020.
- L. Malcom-Piqueux, 2017.

HHMI Gilliam graduate fellowships program

<https://www.hhmi.org/gilliam>

- 2005 – 2013: Diversity-framed only
- 2014: paused to evaluate and re-design
- 2015 – present: Diversity- and Equity-framed

(1) Gilliam 2005 – 2013: Diversity-focused

“The goal is to ensure that a diverse and highly trained workforce is available to assume leadership roles in science, including college and university faculty”

- Student only
- Early in career – prior to starting graduate school
- Small program – averaged 7 Fellows per year 2005-2013
- Eligibility restricted to HHMI EXROP alumni

(2) Gilliam 2014: Paused to evaluate and re-design

- Make the program larger to create an energetic cohort of Fellows
- Open up the eligibility beyond EXROP alumni
- Begin the Fellowship later after the student has advanced to PhD candidacy and has a dissertation adviser
- **Emphasize the role of the adviser in developing the Fellow**

(3) Gilliam 2015 – present: Diversity and Equity

“The goals are to ensure that populations historically excluded from and underrepresented in science are prepared to assume leadership roles, including as college and university faculty, and to foster the development of a healthier, more inclusive academic scientific ecosystem.”

- Award to BOTH student and adviser
- Adviser is half of the application
- Award begins later: after student has advanced to candidacy
- Larger program – averaging 41 awards per year 2015-2021; 50 in 2021
- Nominations from > 120 universities

Gilliam program: Diversity AND Equity

Diversity-framed:

- Select students who will contribute to diversity
- Stipend, research allowance, meetings
- Professional development

Equity-framed:

- Nomination that includes data
- Select advisers who are committed to development as mentors
- Adviser's D&I allowance
- Mentor training for all advisers

Gilliam mentorship training by CIMER

<https://cimerproject.org>

- Year-long course: monthly webinars, 2 in-person workshops, 30 hours
- Facilitators:
 - Chris Pfund (U Wisconsin, NRMN co-PI)
 - Angela Byars-Winston (U Wisconsin)
 - Sherilynn Black (Duke)
 - Bruce Birren (Broad Institute)
 - Sonia Zárate (HHMI)
- 195 Gilliam advisers will have completed course by October, 2021

Gilliam training in culturally-aware mentorship (CIMER)

- The science of mentoring
- Exploring yourself as a cultural being
- Seizing opportunities to raise issues of culture
- Communication styles
- Exploring disparities using institutional data
- Putting culturally-aware mentoring principles into practice
- Institutional change

A. Byars-Winston and M.L. Dahlberg, 2019. *The Science of Effective Mentoring in STEMM*. National Academies

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Outcomes (CIMER)

- Mentors feel increased skill in addressing issues related to cultural awareness in mentoring.
- Mentors have an increased sense of themselves as cultural beings.
- Mentors feel empowered to disseminate the practices and initiate institutional change at their home institutions.
- Mentors formed a peer-peer cohort of support with fellow Gilliam mentors.
- Mentors and mentees have alignment in their experiences of the mentoring relationship.

Diversity + Equity = progress

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