Increasing the Success of Underrepresented STEM PhD Students

Presented by:

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CGS Annual Meeting
Brown Experience

- Low Attrition
- No differential: URM and non-URM

Potential Factors
- Culture
- Scale and Support
- Advising
- Outreach
Cultural Context

- Complex history (250 years in 2014!)
- Culture of tolerance
  - First in Ivy League to accept students from all religious affiliations
- Signs of inclusion
  - First Brown PhD awarded to a woman in 1897
  - Asian American in 1921
  - African American in 1932
  - Hispanic American in 1957
  - Native American in 1984
- Tolerance requires tending
- Home of Leadership Alliance
Scale and Support

- Scale May Foster Mentoring
- PhD support: 5-year guarantee
- Community and networking opportunities:
  - Multicultural Graduate Student events
  - LGBTQ support
  - Academy in Context dinner-seminars
Advising & Mentoring

- Guidelines, Individual Development Planning tool, and advising agreement template
- Clear process for advisor selection/assignment
- Ability to change/have multiple mentors
- Annual student evaluations
- Early research experience as mentoring tool
- Targeted mentoring in dissertation writing stage
- Mentoring training for faculty and graduate students
Life Sciences Initiative

- Initiative to Maximize Student Development (IMSD)
- Started in Pathobiology PhD program
- Now targets enrollment and achievement in 9 Life Sciences Programs
- Encourages applications at 4 partner schools
- Provides minicourses to address gaps in training
- Results in four years: Improved recruiting and performance of URM students

Andrew Campbell, Associate Professor of Medical Science, developed the program

A. G. Campbell et al., *CBE Life Sci Educ* 12, 394.
IMSD MiniCourses

- Examples:
  - Reading Scientific Publications
  - Demystifying the PhD Experiences
  - Giving and Receiving Criticism on Research Proposals
- Popular with students from all backgrounds
Advising and Mentoring

Graduate School:
- Assist students in identifying multiple faculty mentors
- Assist in developing peer mentoring programs
- Foster university-wide community of URM students
- Track students' academic progress
- Have process for grievances, conflict resolution, and access to ombudsperson
- Host seminars/workshops for URM students
- Convene routine meetings between graduate deans and program directors

Faculty members and departments:
- Provide graduate handbook to students
- Hold program/department orientation for new graduate students
- Assign designated advisor upon enrollment
- Offer clear process for selection/assignment of advisors
- Provide information on changing advisors
- Provide targeted mentoring for students in the dissertation writing stage
- Support peer mentoring programs
- Offer new faculty advising/mentoring workshops
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