National Mentoring Community

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Houston, TX

The APS Bridge Program

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URM Physics PhDs to Minority Population

Only ~30 students!

Sources: IPEDS Completion survey by race, US Census
Leadership / Oversight

National Advisory Committee
• Emilio Codecido (Grad student)
• J.D. Garcia (Arizona)
• Yolanda George (AAAS)
• Wendell Hill (UMCP)
• Renee Horton (NSBP)
• Anthony Johnson (Chair, UMBC)
• Ramon Lopez (UT Arlington)
• James Mathis (Grad student)
• Steve McGuire (Southern University)
• Jesús Pando (NSHP)
• Ritchie Patterson (Cornell)

Architect’s Council
• Marcel Agüeros (Columbia)
• Ed Bertschinger (MIT)
• Andreas Bill (CSU Long Beach)
• Simon Capstick (Florida State)
• Cagliyan Kurdak (Michigan)
• Garrett Matthews (USF)
• Jon Pelz (Ohio State)
• Talat Rahman (UCF)
• Kelly Holley-Bockelmann (Fisk/Vanderbilt)
• Jon Urheim (Indiana)

Research / Assessment
• Deepa Chari (FIU-Postdoctoral Assoc.)
• Geoff Potvin (FIU-Research advisor)
• Rachel Scherr (SPU-Project evaluator)

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APS Bridge Program: Key Features

- **Recruit** through graduate programs (unaccepted students), undergrad programs (promising, but uncompetitive students)
- **Establish** Bridge Sites (6):
  - Year 1: Advanced undergraduate or grad courses, introduction to grad-level research, active mentoring, progress monitoring, social integration into grad school (*Project funds*)
  - Year 2: Take 1\textsuperscript{st} year grad courses, apply to PhD program, research underway (*Department funds*)
- **Place** additional students (at Partnership Institutions):
  - 44 graduate programs looked at “other” applications (2016), recruited additional students; No direct support, some travel
  - “COM approved” Partnership Institutions; national recognition of program
- **Monitor** student/site progress
- **Research**
- **Disseminate / Advocate**
Student Eligibility

• Bachelor’s degree in physics or closely related discipline
• US citizen or permanent resident
• Either:
  • Applied but was not accepted
  • Did not apply to graduate program this year
• Be committed to improving diversity in physics
• Meet individual requirements of the institution
• Students may not be currently enrolled in a graduate program

We review applications AFTER April 15
Institutional Members

- Member Institutions
  - 108 in 36 states
- Partnership Institutions
  - 26 in 14 states
- Bridge Sites
  - Pre-existing: 4
  - APS: 6
  - Developing: 4
Bridge Sites and Partnership Institutions

- Admission decisions ("holistic" criteria)
- Financial support (timing)
- Coursework (induction advising critical, allow advanced undergrad courses, alternative plan)
- Progress monitoring (timing, tutors if needed)
- Multiple mentors (intervention, peer involvement)
  - Advisors, staff
  - Physics Graduate Student Associations
- Research (appropriate match)
Bridge Program Achievements

- **23% Female** (All: 20%)
- **93% URM** (All: 6%)
  - 64% Hispanic
  - 24% African American
  - 5% Native
- **88% Retention** (All: 60%)
Some reasons students are not admitted

**Students:**
- Low physics GRE score
- Apply to too few places
- Apply to wrong places
- “Feel” unprepared (self-esteem)
- Inadequate preparation: will fail in grad courses
- Application materials do not tell a predictive story

**Admissions Committees:**
- Members overwhelmed
- Members unaware of admissions research findings
Research Efforts

- Graduate admissions study
  - Doctoral institutions
  - Master’s institutions
- GRE (and other) admissions data: Correlations with student success; impact on diversity
- Holistic admissions practices: practical use of non-cognitive measures or other practical techniques for use by physics graduate admissions faculty (parallel effort by CGS)
- Student perspective on admissions
- INCLUDES / NRT
Physics GRE: Impact of Cutoff Scores

Fraction (White)

Fraction (Hispanic)

Fraction (Black)

Fraction (Asian)

0.09 (Black)

0.34 (Hispanic)

0.44 (White)

0.61 (Asian)
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