

USC / NSBP Pre-conference Workshop

2 November 2017

Atlanta, GA

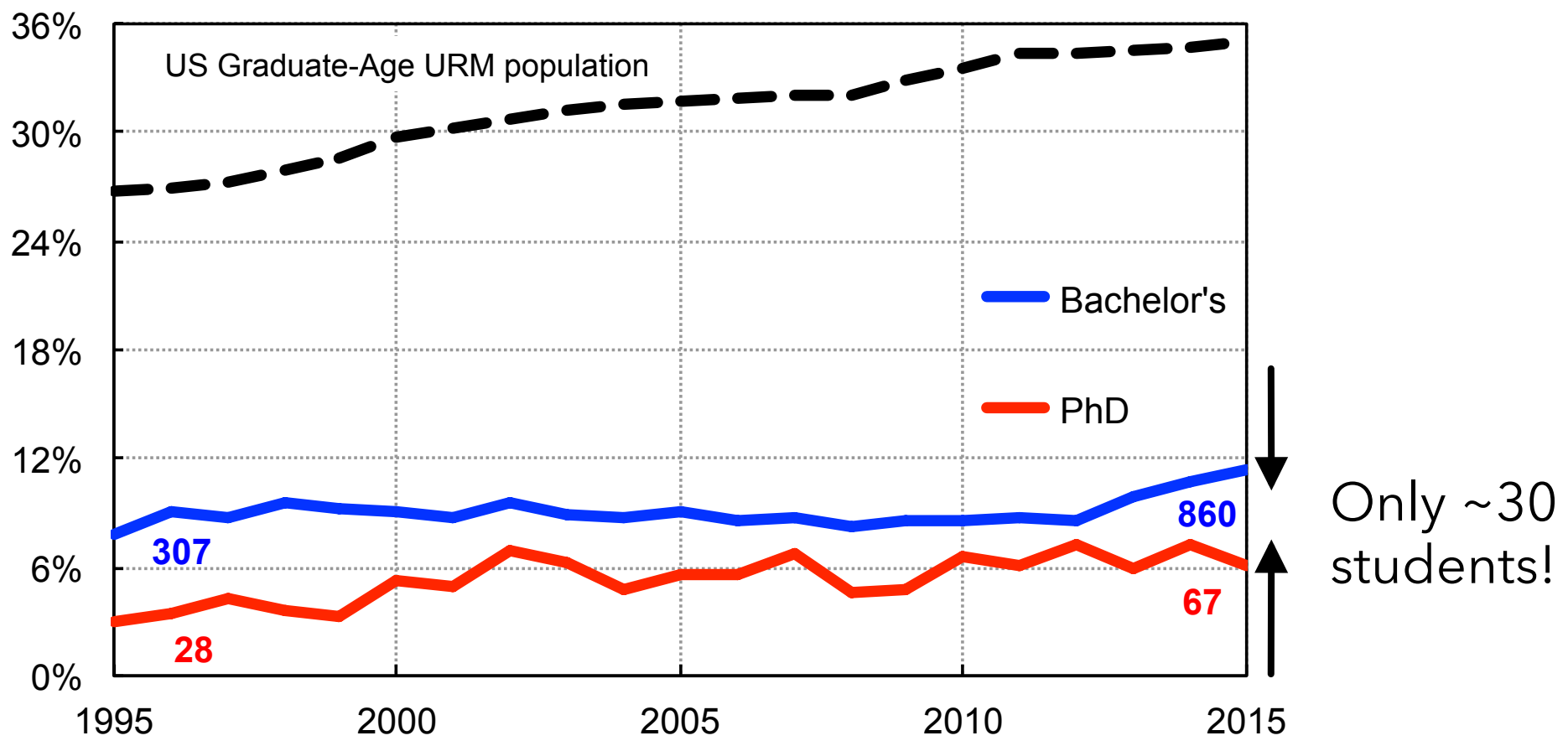
The APS Bridge Program: Changing the Face of Graduate Education

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Underrepresented Minority (URM) Physics degrees



Source: National Center for Education Statistics, US Census, and APS

APS Bridge Program: Key Features

- **Recruit** students through graduate programs (unaccepted), undergrad programs (promising but uncompetitive, or unsure)
- **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 1st year grad courses, apply to PhD program, research underway ([Department funds](#))
- **Place** additional students at Partnership Institutions (23):
 - 65 graduate programs looked at "other" applications (2017), recruited additional students; No direct support, some travel
 - "COM approved" Partnership Institutions; national recognition of program
- **Monitor** student/site progress
- **Research**
- **Disseminate / Advocate**

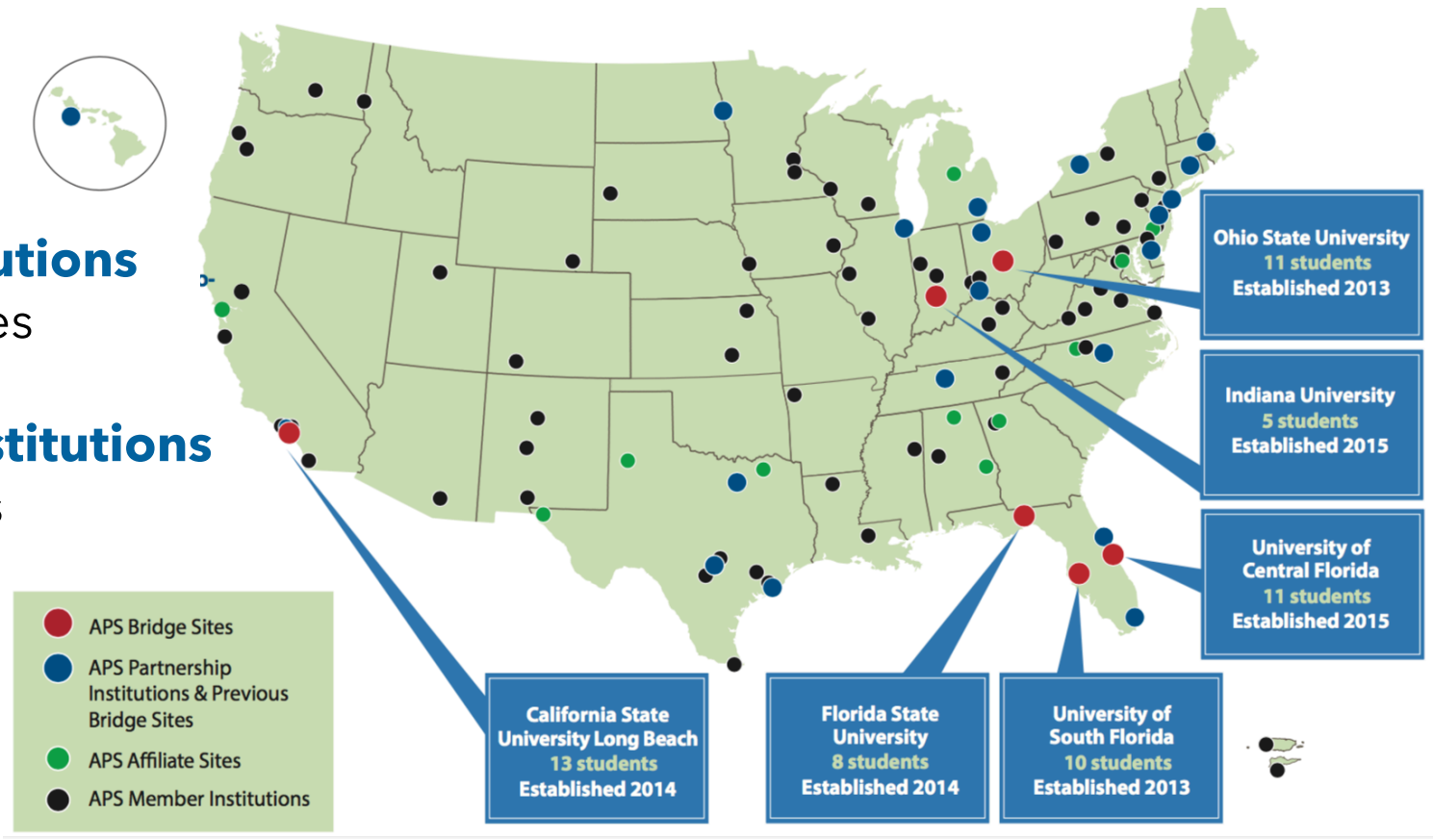
Member and Partner Institutions

Member Institutions

- 125 in 38 states

Partnership Institutions

- 32 in 18 states
 - 24 PhD
 - 8 MS

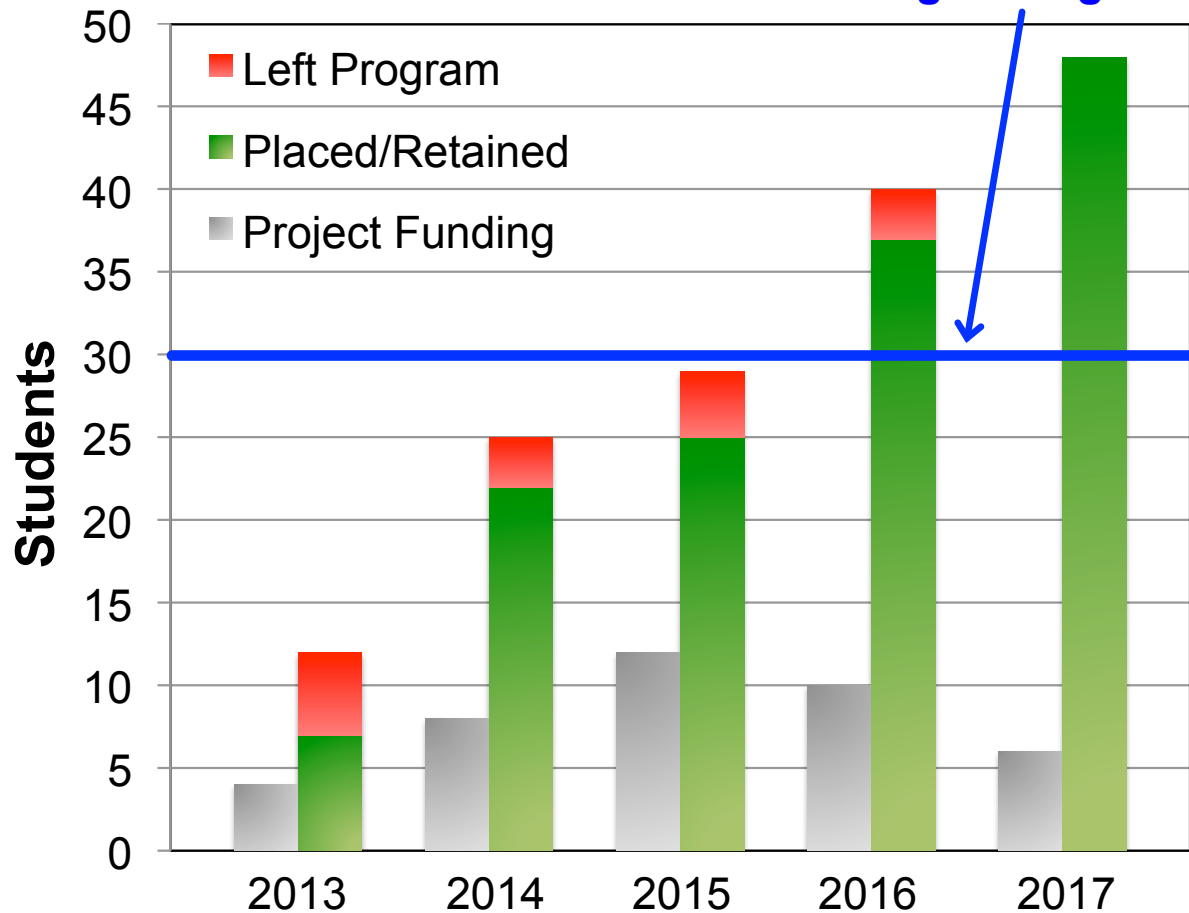


Bridge Program Achievements

Bridge Program Physics PhDs

- ✧ 23% Women (20%)
- ✧ 93% URM (6%)
 - 64% Hispanic
 - 24% African American
 - 5% Native
- ✧ 88% Retention (60%)

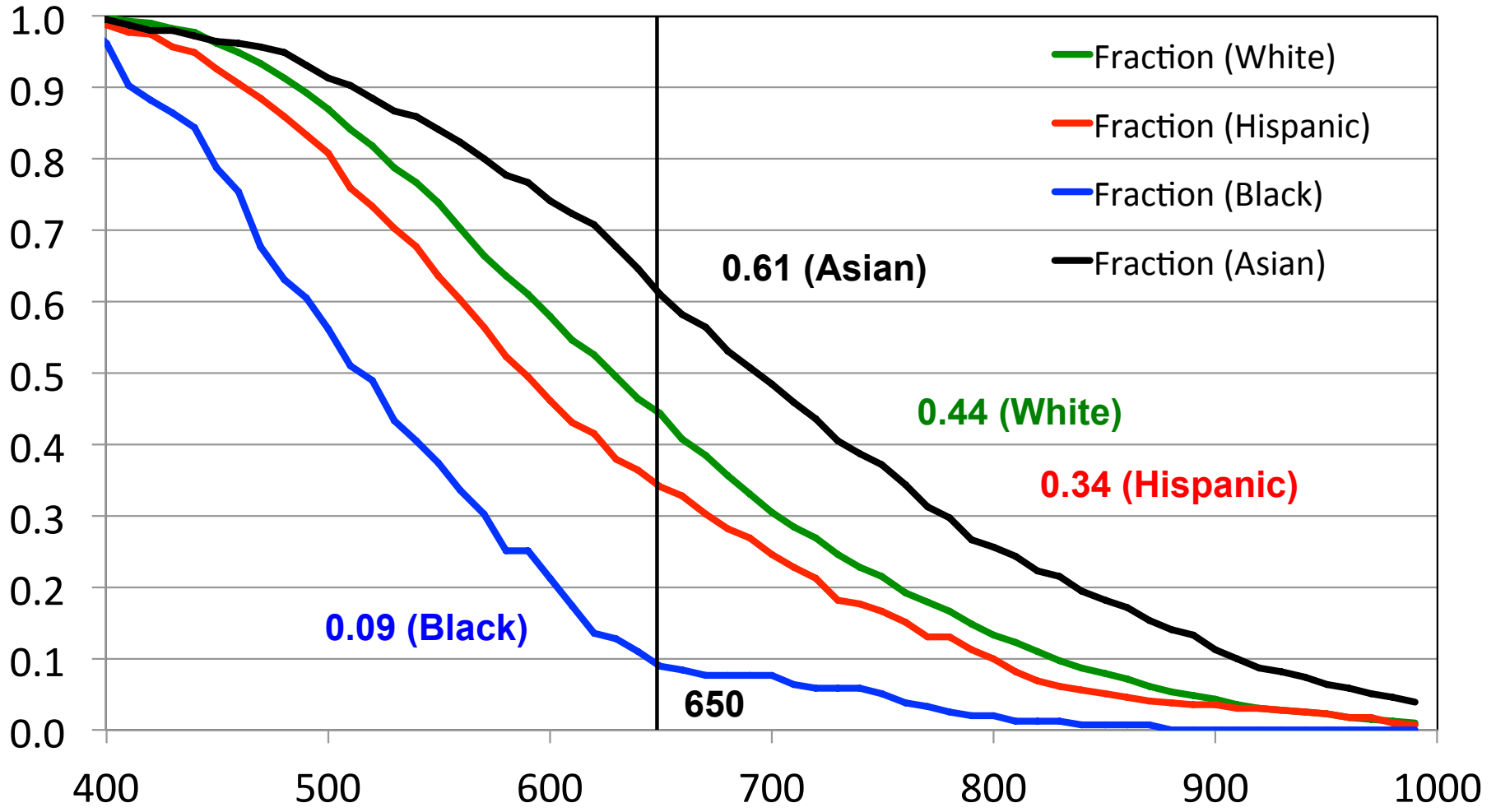
PhDs reach same fraction as undergrad degrees



Where did the 48 students go (2017)?

- Bowling Green State University
- CSU Long Beach (2)
- CSU Los Angeles (5)
- Delaware State University (2)
- DePaul University
- Fisk-Vanderbilt University (3)
- Florida State University (6)
- Indiana University (2)
- Ohio State University (3)
- Texas A&M University, Commerce
- Texas State University
- University of Central Florida (5)
- University of Cincinnati (3)
- University of Connecticut
- University of Houston, Clear Lake (3)
- University of Kansas (2)
- University of Massachusetts Dartmouth
- University of Minnesota Duluth
- University of North Carolina, Chapel Hill
- University of Rochester
- University of South Florida (2)
- University of Virginia

Physics GRE: Impact of Cutoff Scores



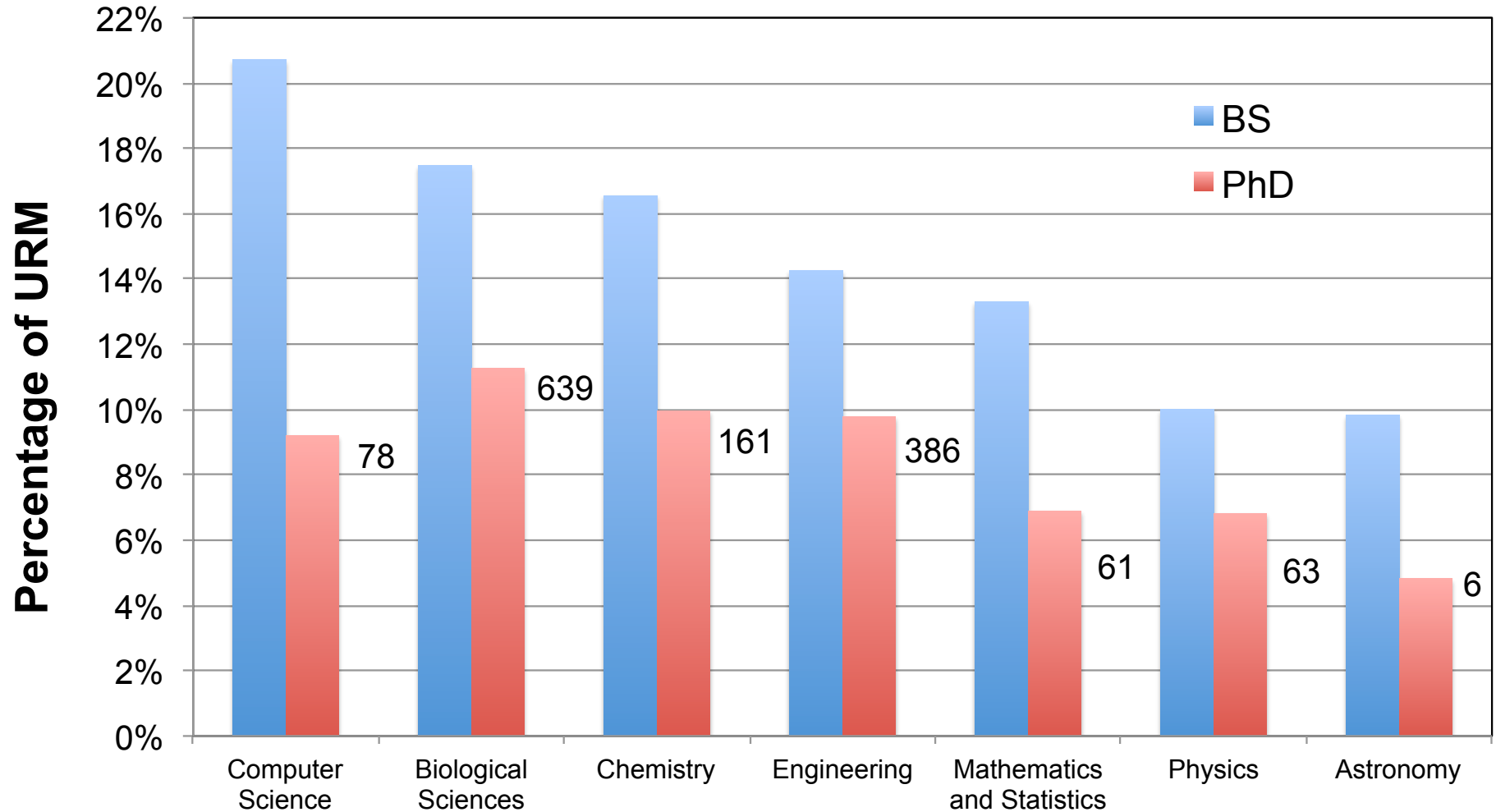
Admissions Committee

- Sense of “Merit” is not always commonly held
- “Standard measures” (e.g., GRE) is not measuring what we think it is measuring
- Student’s career choices are also important critical – academia is no longer the primary (or perhaps even desired) outcome
- Collective or shared decision making improves approach
- Many committees bring irrelevant factors to the discussion

Reform

- Revisit process
- Reconsider standard measures
- Holistic review (in terms everyone can understand)
- Approach the problem from everyone’s perspective
- Growth vs. Fixed mindset

Bachelor and PhD STEM Degrees



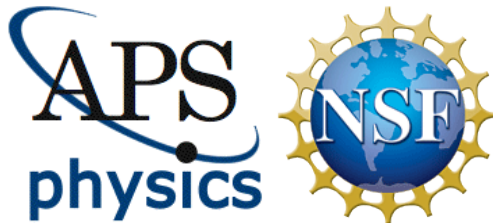
Leadership / Oversight

National Advisory Committee

- Emilio Codecido (OSU, 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 (UM, Grad student)
- Steve McGuire (Southern University)
- Jesús Pando (NSHP)
- Ritchie Patterson (Cornell)

Funding

- NSF
- APS
- Bridge sites



Architect's Council

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

Research / Assessment

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

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