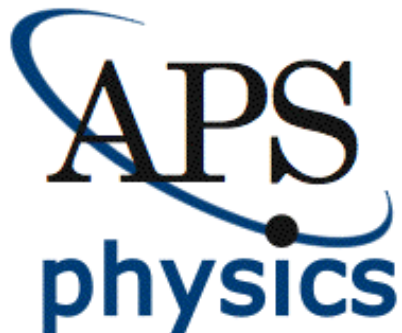




APS Bridge Program Webinar

5 September 2014

APS Bridge Program: Request for Proposals



Theodore Hodapp
American Physical Society
Director of Education and Diversity



Joint Diversity Statement

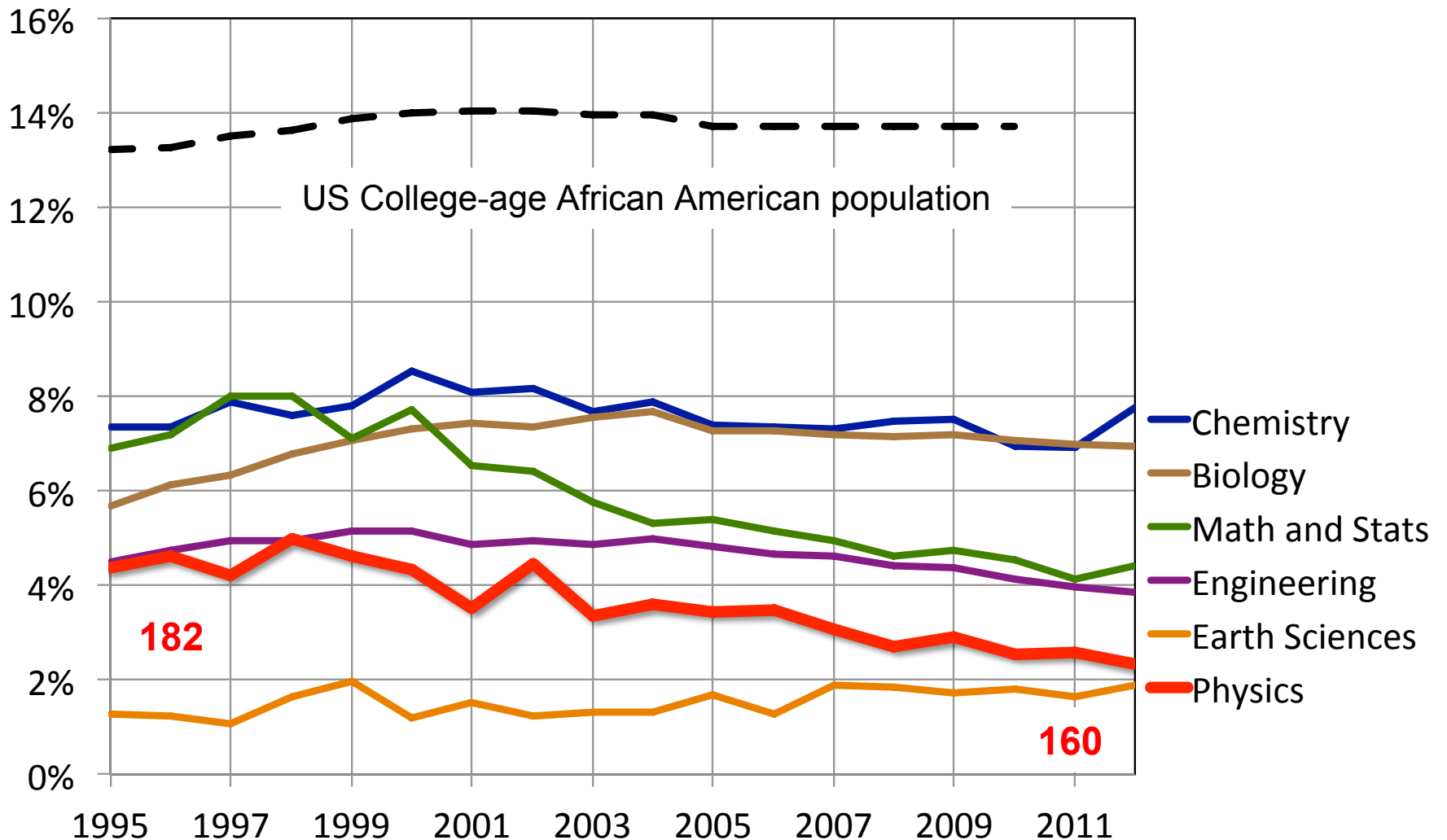
08.2 JOINT DIVERSITY STATEMENT

(Adopted by APS, NSBP, NSHP in 2008)

To ensure a productive future for science and technology in the United States, we must make physics more inclusive. The health of physics requires talent from the broadest demographic pool. Underrepresented groups constitute a largely untapped intellectual resource and a growing segment of the U.S. population.

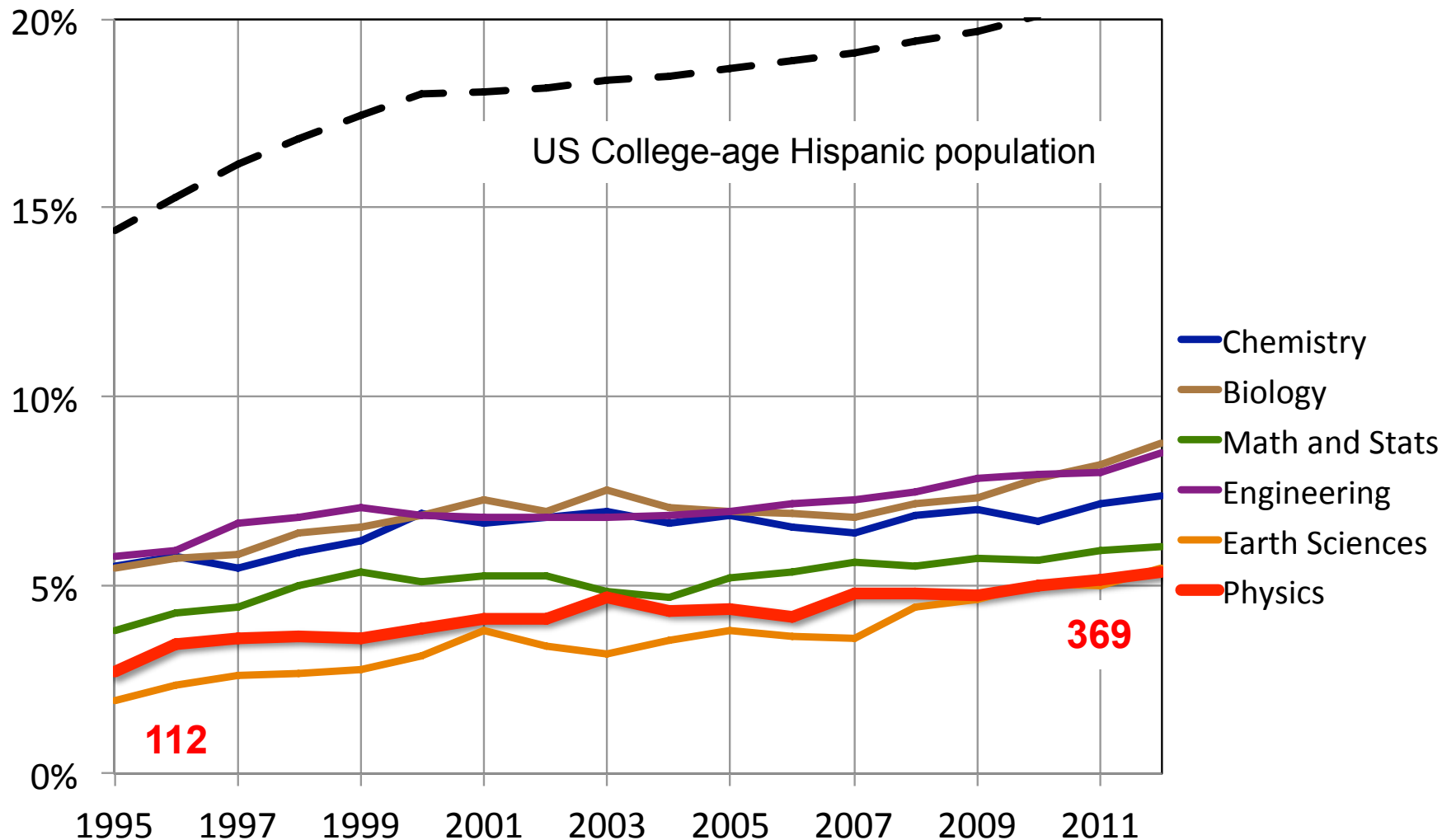
Therefore, we charge our membership with increasing the numbers of underrepresented minorities in physics in the pipeline and in all professional ranks, with becoming aware of barriers to implementing this change, and with taking an active role in organizational and institutional efforts to bring about such change. We call upon legislators, administrators, and managers at all levels to enact policies and promote budgets that will foster greater diversity in physics. We call upon employers to pursue recruitment, retention and promotion of underrepresented minority physicists at all ranks and to create a work environment that encourages inclusion. We call upon the physics community as a whole to work collectively to bring greater diversity wherever physicists are educated or employed.

African American Science/Math Majors



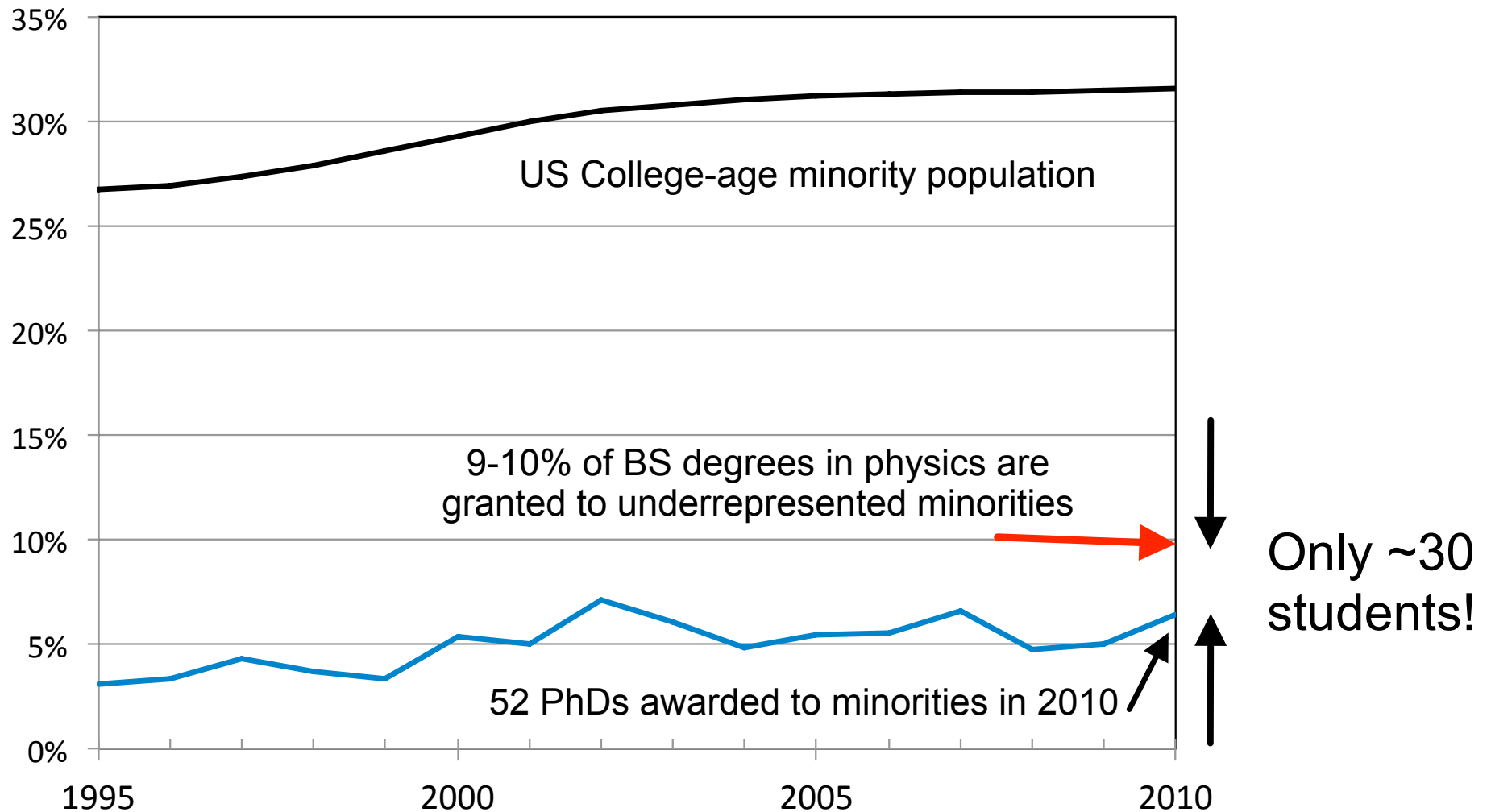
Sources: IPEDS Completion survey by race, US Census

Hispanic Science/Math Majors



Sources: IPEDS Completion survey by race, US Census

URM Physics PhDs to Minority Population

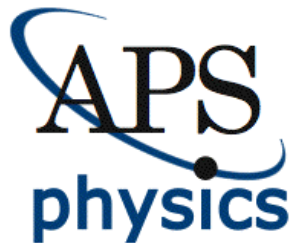


Sources: IPEDS Completion survey by race, US Census



APS Bridge Program: Project Goals

- Increase, within a decade, the fraction of physics PhDs awarded to *underrepresented minority* students to match the fraction of physics Bachelor's degrees granted to these groups
- Develop, evaluate, and document **sustainable** model bridging experiences that improve the access to and culture of graduate education for *all* students, with emphasis on those underrepresented in doctoral programs in physics
- Promote and disseminate successful program components to the physics community





Leadership / Oversight

National Advisory Committee

- J.D. Garcia (Arizona)
- Yolanda George (AAAS)
- Wendell Hill (UMCP)
- Anthony Johnson (UMBC)
- Ramon Lopez (UT Arlington)
- Steve McGuire (Southern University)
- Cherry Murray, **chair** (Harvard, APS President 2009)
- Luz Martinez-Miranda (President, NSHP)
- Paul Gueye (President, NSBP)
- Ximena Fernández (Grad Student)

Funding

- NSF (HRD, PHY, DMR)
- APS

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)
- Keivan Stassun (Fisk/Vanderbilt)

Project Leadership

- Brian Beckford (APS, Project Mgr.)
- Theodore Hodapp (APS, Project Dir.)
- Bushraa Khatib (APS, Project Coord.)
- Arlene Modeste Knowles (APS)
- Geoff Potvin (FIU-Research advisor)
- Monica Plisch (APS)
- Rachel Scherr (SPU-Project evaluator)



APS Bridge Program: Key Features

- Recruiting through graduate programs (now 115+ institutions, representing 73% of all doctoral students), undergrad programs
- **Bridge Sites:**
 - Year 1: Advanced undergrad/grad courses, grad-level research, active mentoring, progress monitoring, social integration (APS funds)
 - Year 2: Take 1st year grad courses, apply to PhD program, research underway (Department funds)
- **Affiliated Students (Partnership Institutions):**
 - 69 graduate programs look at overflow applications, offers to 22 of these students (2014)
 - Become APS “COM approved” Partnership Institutions; national recognition of program
 - No direct support for students, some travel support possible
- APS monitors progress of all students
- Research (admission standards, exit pathways, impact of GRE)



Bridge Programs in Physics

Existing Sites:

- Fisk / Vanderbilt
- Columbia University
- MIT
- University of Michigan

APS Sites :

- Cal State Long Beach
- Florida State
- Ohio State
- South Florida

APS adding 2 more in AY2014

- Selection by March 2015
- 3-years of funding to build a sustainable bridge program



Levels of Participation

- Member Institution
- Bridge Site (graduate only)
- Partnership Institutions



Levels of Participation

- Member Institution
 - All institution types
 - Free membership
 - Discounts to attend workshops
 - Annual reporting requirement
- Bridge Site (graduate only)
- Partnership Institutions



Levels of Participation

- Member Institution
- Bridge Site (graduate only)
 - This RFP
 - Provide bridging experience for students between undergrad and doctoral degrees
 - Funds to pay stipends for APS Bridge Fellows, small amount of management, travel
 - Success measured against number that successfully matriculate and then graduate from PhD programs
- Partnership Institutions



Levels of Participation

- Member Institution
- Bridge Site (graduate only)
- Partnership Institutions
 - Accept students into their program (either from APS application pool, or Bridge Fellows)
 - “Approved” by APS Committee on Minorities
 - Advertised on APS website
 - Follow guidelines of Bridge Programs



Bridge Site Eligibility

- Physics Doctoral or Master degree granting department
- Able to absorb 2 bridge students into research program annually
- Institutional support and commitment
- APS-BP Member Institution

- Can follow existing models, or a new one that is best suited to your institution
 - Master's directed toward a PhD (most following this model)
 - Post-baccalaureate program
- Build a *sustainable* model with institutional support
- Two students per year on average
- Success measured against student progress
- For existing MS programs, must show increases
- Do not need a “partner” institution



Bridge Sites: Key Components

- Admission decisions (criteria, process)
- Financial support (timing, amount)
- Coursework (induction advising critical)
- Multiple Mentoring (timing, intervention)
- Progress monitoring (coursework, tutors if needed)
- Community (induction, socialization)
- Research (appropriate match)
- Transition to PhD

Project Budgets

- \$20k per student (total, 2 max)
 - Institution supports students after first year
- \$10k operations per year
- Travel (site leader, student)
- No overhead on student stipends or travel
- Awards for 3 years

Student Eligibility

- Bachelor's degree in physics or closely related discipline
- US citizen or permanent resident
- Either:
 - Did not apply to graduate program this year
 - Applied but was not accepted
- Be committed to improving diversity in physics
- Meet individual requirements of the institution

Bridge students may not be currently enrolled or have an existing physics graduate degree



Site Selection Criteria

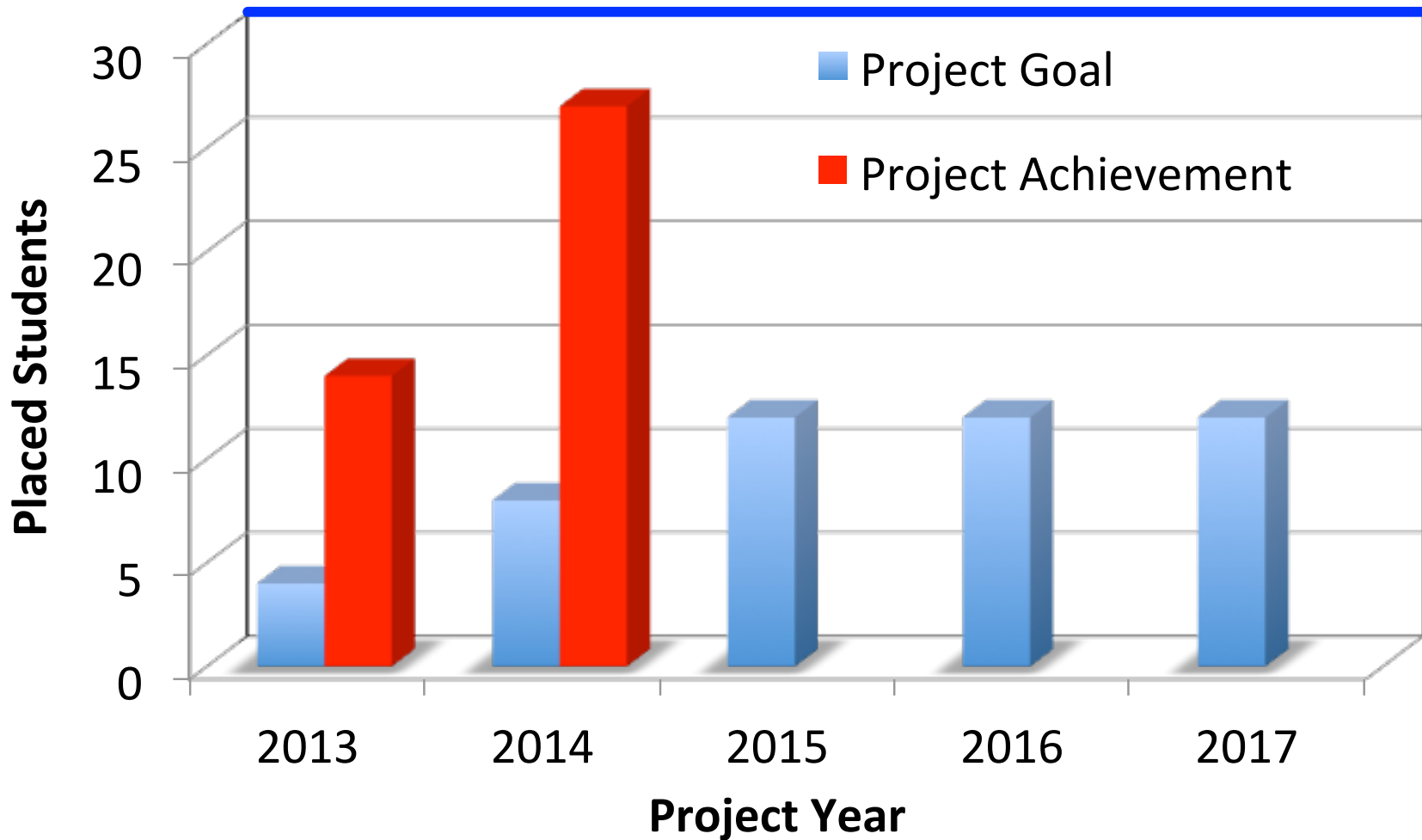
- Diverse set of institutions
- Robust graduate program
- Sustainability
- Commitment to students
- Follow demonstrated good practices
- Commitment to building diversity
- Comprehensive institutional programs to support students (including peer support)
- Clear departmental support
- Understood goal of ~100% success

Site Selection Process

- 3-page pre-proposals due **3 October, 5 p.m. ET**
- Review selects small number to go to full proposals by **mid-October**
- 15-page full proposals due **12 December, 5 p.m. ET**
- Review by external/internal panel
- Site selection by **early March**
- Student applications ready for review by **April**
- Funding starts **summer 2014**
- Annual meeting **October 2015**

Bridge Program Achievements

National Achievement Gap



2014 Student Data

- 45 applications through APS recruiting
- 18 attending Bridge Programs
 - CSULB:5, FSU:2, FV:4, OSU:3, USF:4
 - 8 funded by APS-BP
- 27 additional applications
 - 8 attending other (affiliated) sites
 - 14 others got offers (5 received no offers)
 - 8 withdrew / ineligible
- 93% URM
 - $\sim 2/3^{\text{rds}}$ Hispanic, $\sim 1/3^{\text{rd}}$ African American
- 29% female

Physics GRE: Impact of Cutoff Scores

