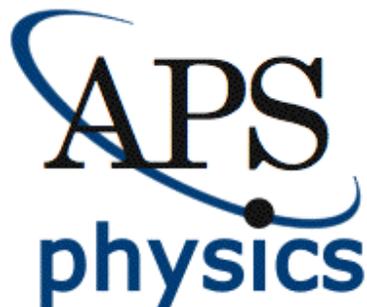


## New Faculty Workshop

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*20 November 2016  
College Park, MD*

# ***Departmental Ecosystems: Recruitment, Retention, Mentoring, Diversity, Leadership, and More***



*Theodore Hodapp*  
*American Physical Society*  
Director of Project Development  
Senior Advisor: Education and Diversity

- Take out a piece of paper
- What is the biggest issue you are facing or have recently faced in your department, or think you will face soon (but not time or money)

### In affinity groups:

- What has been the most successful in addressing your issue(s)?
- What has failed?
- What was the best idea to come out of the discussion?

# Physics Teacher Education Coalition (PhysTEC)

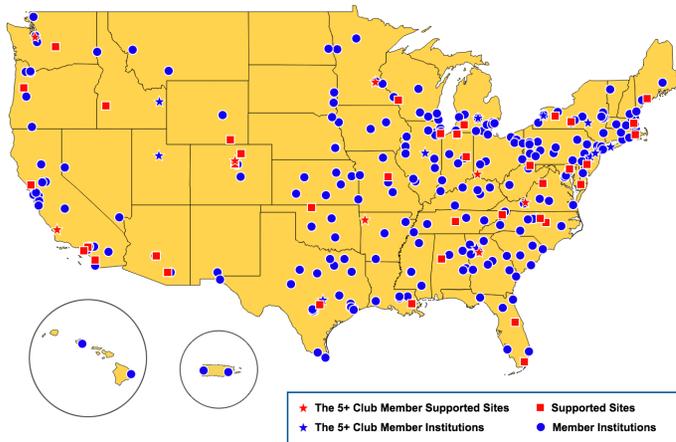
**Goal:** Increase the number of highly qualified high school physics teachers; Build a national coalition of universities engaged in this work

**Strategy:** Encourage and support physics departments to work proactively to recruit and educate future teachers. Provide best-practices and advocate for successful strategies (national meeting: 17-18 Feb 2017)

**Contact:** Monica Plisch, [plisch@aps.org](mailto:plisch@aps.org)

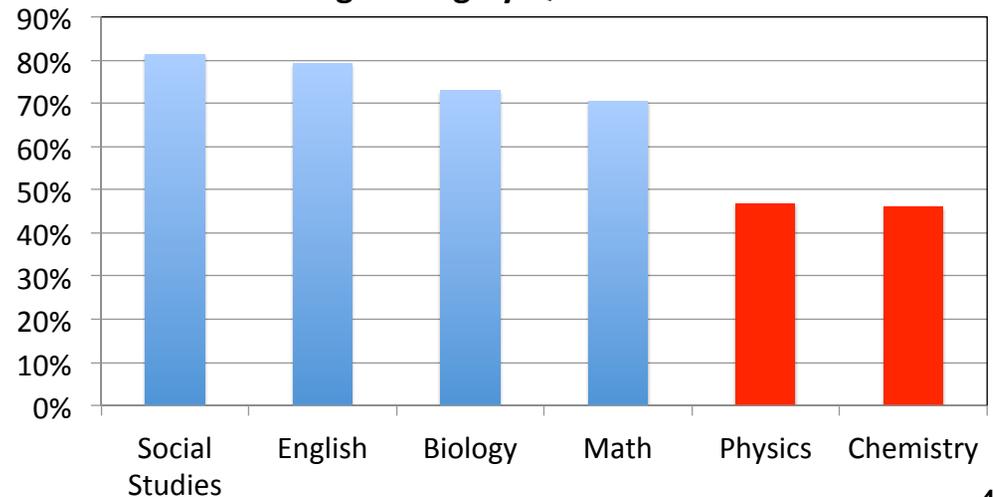
**Support:** NSF-0108787, 0808790, 1646913

**URL:** [www.phystec.org](http://www.phystec.org)



[www.aps.org](http://www.aps.org)

Percentage of Highly Qualified Teachers



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# APS Bridge Program

**Goal:** Increase the number of underrepresented (URM) students earning a PhD in physics or astrophysics

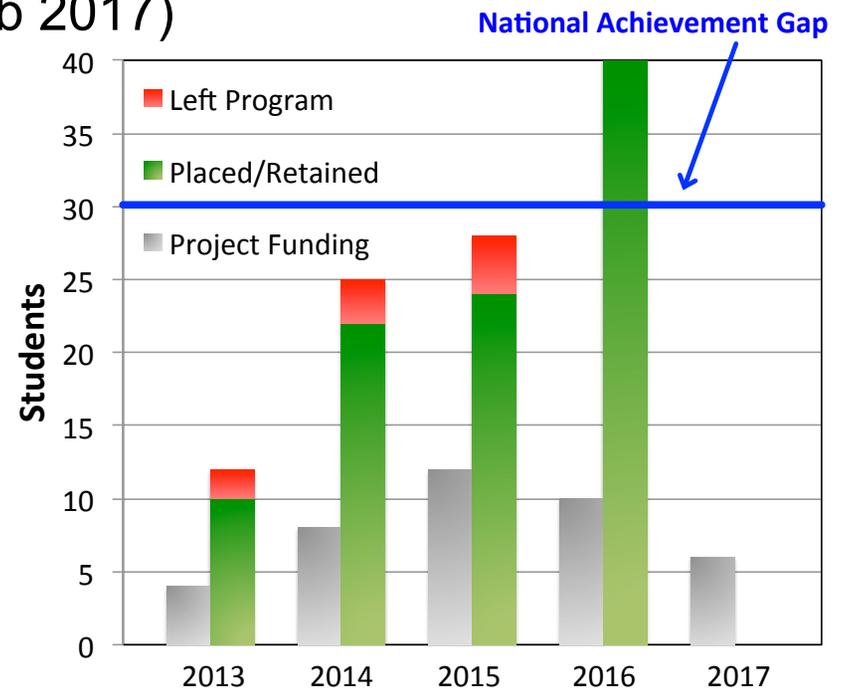
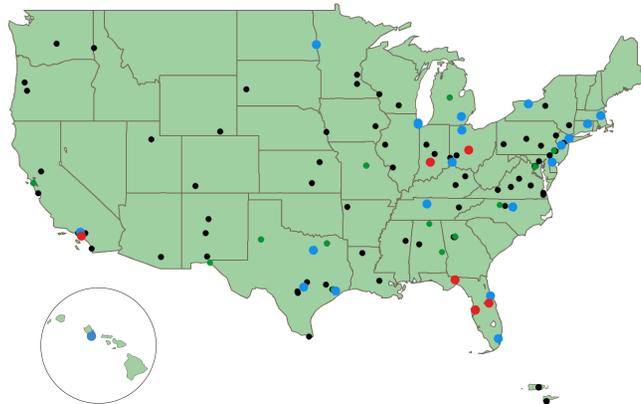
**Strategy:** Collect applications from URM students not admitted, and make available to departments. Provide best-practices in admissions, mentoring, retention and support (Meeting: 10-12 Feb 2017)

**Contact:** Erika Brown, [brown@aps.org](mailto:brown@aps.org)

**URL:** [www.apsbridgeprogram.org](http://www.apsbridgeprogram.org)

**Support:** NSF-0958333, 1143070

● APS Bridge Sites ● APS Partnership Institutions & Previous Bridge Sites ● APS Affiliate Sites ● APS Member Institutions



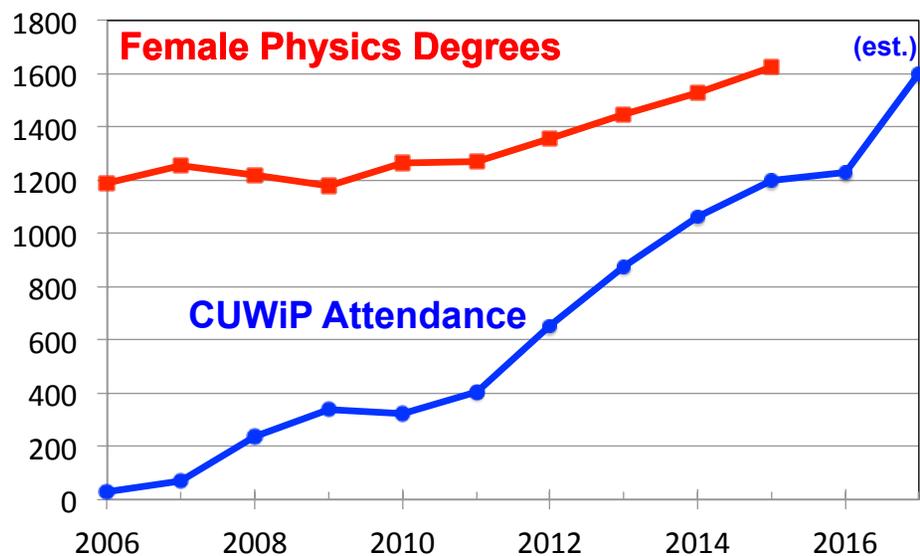
# Conferences for Undergraduate Women in Physics (CUWiP)

**Goal:** Three-day regional conferences for undergraduate physics majors, to help women continue in physics by providing them with information about graduate school, professional career advice, and networking opportunities with other women in physics (Next events: 13-15 Jan 2017)

**Contact:** Renee Michelle Goertzen, [goertzen@aps.org](mailto:goertzen@aps.org)

**Support:** NSF: 1346627, 1622510; DOE: DE-SC0011076

**URL:** [www.aps.org/cuwip](http://www.aps.org/cuwip)





# Society of Physics Students

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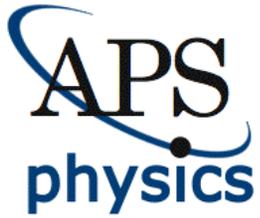
**Goal:** Support the professional development of undergraduate physics majors

**Strategy:** Sigma Pi Sigma – the physics honor society; leadership opportunities; department cohesion; scholarships; internships; outreach awards; undergrad research; conferences

**Strategy:** Careers Toolbox

**Contact:** Brad Conrad, [bconrad@aip.org](mailto:bconrad@aip.org)

**URL:** [www.spsnational.org](http://www.spsnational.org)



## Public Outreach

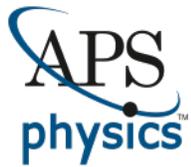
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**Goal:** Build excitement in populations beyond the physics/astronomy community for physics and science

**Strategy:** Mini-grants for outreach (\$10,000); comic books, posters, and science kits for middle school classrooms (PhysicsQuest); blogs and social media posts on “cool” science

**Contact:** Becky Thompson, [thompson@aps.org](mailto:thompson@aps.org)

**URL:** [www.physicscentral.org](http://www.physicscentral.org)



National  
Mentoring  
Community

# APS National Mentoring Community

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**Goal:** Increase the number of African American, Hispanic American, and Native American undergraduates obtaining physics bachelor's degrees

**Strategy:** Connect students with local faculty mentors and provide support and resources. Launching emergency financial aid fund to mentees. National recognition of mentoring service (coming).

**Contact:** Kathryne Woodle / Arlene Modeste Knowles, [nmc@aps.org](mailto:nmc@aps.org)

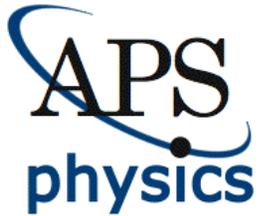
**URL:** [www.aps.org/nmc](http://www.aps.org/nmc)

**Goal:** Provide information on physics / astronomy graduate programs

**Strategy:** Online resource with data, and comparisons

**Contact:** Bo Hammer, [hammer@aip.org](mailto:hammer@aip.org)

**URL:** [gradschoolshopper.com](http://gradschoolshopper.com)



## Physics InSight Slideshow

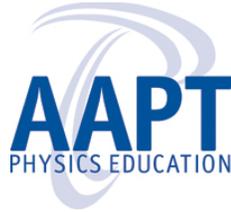
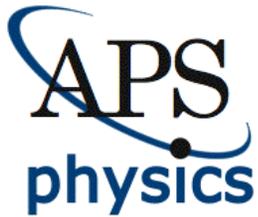
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**Goal:** Provide a careers-oriented hallway slideshow for recruitment

**Strategy:** Slideshow comes out ~2x/semester and features profiles of physicists in industry, national labs, and other non-academic (mostly) careers; focus on individuals without PhDs (students already get information on academic careers); editable to include local information; hundreds of slides available

**Contact:** Crystal Bailey, [bailey@aps.org](mailto:bailey@aps.org)

**URL:** [www.aps.org/careers/insight](http://www.aps.org/careers/insight)



## National Reports

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**Goal:** Provide best-practice advice on topics relevant to improving and supporting physics departments

**SPIN-UP:** Increase number of majors – [www.aps.org/programs/education/undergrad/faculty/spinup/spinup-report.cfm](http://www.aps.org/programs/education/undergrad/faculty/spinup/spinup-report.cfm)

**T-TEP:** Improve teacher education – [www.phystec.org/webdocs/TaskForce.cfm](http://www.phystec.org/webdocs/TaskForce.cfm)

**Phys21:** Enhance career readiness of majors – [www.compadre.org/JTUPP/report.cfm](http://www.compadre.org/JTUPP/report.cfm)

**LGBT+:** Improve climate for LGBT physicists – [www.aps.org/programs/lgbt/](http://www.aps.org/programs/lgbt/)

**GradEd:** Improve graduate education – [www.aps.org/programs/education/graduate/conf2013/report.cfm](http://www.aps.org/programs/education/graduate/conf2013/report.cfm)

**Goal:** Advocate for physicists, and the broader community

**Topics: Education**

**Ethics and Values**

**Human Rights**

**Internal Policy**

**National Policy**

**Education Topics:**

Undergraduate Research Statement

K-12 Education Statement

Career Options for Physicists

Advocacy for Science Education

Improving Education for Professional Ethics, Standards and Practices

Assessment and Science

Research in Physics Education

**URL:** [www.aps.org/policy/statements](http://www.aps.org/policy/statements)

**Goal:** Provide data to help faculty and departments understand the national picture and make comparisons

**AIP SRC:** Comprehensive data on faculty, students, careers, and diversity – [www.aip.org/statistics](http://www.aip.org/statistics)

**APS:** Graphics, data, and presentation-ready slides using national sources to inform departments on students, women, minorities, and trends; comparison tool to rank your department – [www.aps.org/programs/education/statistics](http://www.aps.org/programs/education/statistics)



# Portal: Introductory Physics for the Life Sciences

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**Goal:** Transformative web site for sharing, testing, and disseminating materials for IPLS and related courses. Being developed by AAPT and eight colleges and universities. Up and running by mid-2018

**Contact:** Bob Hilborn, [rhilborn@aapt.org](mailto:rhilborn@aapt.org)

**URL:** [www.compadre.org/ipls/](http://www.compadre.org/ipls/)

**Support:** NSF-1624185



# Partnership for Integrating Computation into UG Physics

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**Goal:** Survey of the current usage of computational work in undergraduate physics programs (report available early 2017). Annual Computational Physics Faculty Development Workshop. Computational Physics workshops at AAPT section meetings, and APS and AAPT national meetings

**Contact:** Bob Hilborn, [rhilborn@aapt.org](mailto:rhilborn@aapt.org)

**URL:** [www.compadre.org/picup](http://www.compadre.org/picup)

**Support:** NSF: 1432363, 1524963, 1505278

# Physics Research Mentor Training Seminar

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**Goal:** Help research mentors improve their mentoring skills

**Strategy:** Provide a guidebook and materials to facilitate a 10-week seminar for physics researchers. Includes guidance on how to run workshops, directed readings, and strategy tips

**Contact:** Monica Plisch, [plisch@aps.org](mailto:plisch@aps.org)

**URL:** [www.aps.org/programs/education/undergrad/faculty/mentor-training.cfm](http://www.aps.org/programs/education/undergrad/faculty/mentor-training.cfm)



# Council on Undergraduate Research

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**Goal:** Advocating for faculty's role in providing undergraduate research opportunities for students

**Strategy:** Develop faculty networks, develop tools and resources that support faculty, assess impact of undergraduate research, advocate and pilot new ways to engage students in research

**Contact:** Terry Oswalt (ERAU), [terry.oswalt@erau.edu](mailto:terry.oswalt@erau.edu)

**URL:** [www.cur.org](http://www.cur.org)



## eAlliances: Mutual Mentoring

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**Goal:** Enable women in physics and astronomy departments (particularly those who are isolated) to create their own eAlliance, a peer mentoring group of other women physicists or astronomers who share similar characteristics.

**Contact:** [eAlliances@aapt.org](mailto:eAlliances@aapt.org)

**URL:** [ealliances.aapt.org](http://ealliances.aapt.org)

**Support:** NSF-1500529

# Professional Skills Development Workshops

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**Goal:** Improve the negotiation and communication skills for women

**Strategy:** 1-day workshop at national APS meetings; facilitation by nationally recognized leaders in negotiation and communication strategies

**Contact:** Miranda Bard, [bard@aps.org](mailto:bard@aps.org)

**Support:** NSF-0347210, 0752540, 1012585, 1419913

**URL:** [www.womeninphysics.org](http://www.womeninphysics.org)

# CSWP Site Visits to Improve the Climate for Women and Minorities

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**Goal:** Improve the climate for underrepresented individuals in physics departments

**Strategy:** 1-2 day site visits resulting in a formal report to the chair; 1-year follow up; focus on Research Universities, National Laboratories, Scientific Collaborations; 79 visits over last 25 years; best-practices in hiring, retention, climate, etc. available on the website; led by the APS Committee on the Status of Women in Physics (CSWP)

**Contact:** Miranda Bard, [bard@aps.org](mailto:bard@aps.org)

**URL:** [www.womeninphysics.org](http://www.womeninphysics.org)

# Women in Physics Groups

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**Goal:** Improve recruitment and/or retention of women in physics (WiP)

**Strategy:** Provide mini-grants (up to \$1,000) to build, improve, or sustain WiP groups; collect and share ideas on activities

**Examples:** Workshops on careers, communication, negotiation, leadership, dealing with bias, other skills; high school or middle school classroom visits; lab tours or field trips; research expos; book club or journal club; group lunches, dinners, or social events

**Contact:** Miranda Bard, [bard@aps.org](mailto:bard@aps.org)

**URL:** [www.womeninphysics.org](http://www.womeninphysics.org)



# Undergraduate Curriculum Taskforce White Papers

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**Product:** AAPT recommendations for the Undergraduate Physics Laboratory Curriculum

**Product:** AAPT recommendations for Computational Physics in the Undergraduate Physics Curriculum

**Source:** Both available on your USB drive

**Contact:** Ernie Behringer, [ebehringe@emich.edu](mailto:ebehringe@emich.edu)

**URL:** [www.aapt.org](http://www.aapt.org)

# Guide for Program Assessment, Improvement, and Review

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**Goal:** Develop a working document to guide departmental review, assessment, and improvement

**Strategy:** Convening a national task force to design, write, vet, and disseminate a guide along with its inherent review structure; although not accreditation at this time, it will form the basis of a document that could be used in this fashion; first beta-test sections likely to come out next summer with the full guide released in 2018.

**Contact:** Theodore Hodapp, [hodapp@aps.org](mailto:hodapp@aps.org)

**Support:** American Physical Society