

2010 SPS Summer Intern Position Descriptions

Note: This is not an exclusive list of open positions. More position descriptions will be posted as they become available.

Policy: AIP Mather Intern

The primary purpose of the AIP Mather Policy Internships (supported by the John and Jane Mather Foundation for Science and the Arts) is to promote awareness of and interaction with the policy process in Washington DC for select undergraduate physics students. This is accomplished through direct engagement in science policy issues and efforts in the nation's capital.

The AIP Mather Policy Intern Program expands the SPS program into the public policy arena by providing for up to 2 policy interns in this pilot year. The AIP Mather Policy Interns will work with an appropriate set of advisors and mentors in Washington DC to provide new experiences for the intern concentrated on the workings of Congress. Another important aspect of the program is that the interns benefit from each other's internships. As part of this larger program, the AIP Mather Policy Interns will introduce other SPS interns to the public policy process through one or more field trips to appropriate science policy events or locales---Congressional hearings, governmental agencies and/or facilities, for example.

Outreach: SPS SOCK

Science Outreach Catalyst Kits, or SOCKs, contain exploratory physics and science activities specifically designed for SPS Chapters and collegiate physics departments to use in outreach presentations to local elementary, middle and high school students. Interns are responsible for creating and testing activities and writing instructions for lessons and demonstrations. This year the SPS theme is Exciting the Imagination, in celebration of 50 years since the first demonstration of a laser. The 2010 SOCK will have a laser science focus.

Qualifications

- Completion of at least two years of college physics
 - Interest in public outreach and informal education
 - Ability to work well with pre-college students
 - Ability to effectively communicate scientific topics to pre-college students
 - Previous education outreach experience
 - Excellent communication skills (including writing)
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Outreach: PhysicsQuest

American Physical Society, Public Outreach Department

The American Physical Society (APS) seeks an SPS intern to help design activities for the middle school level national science outreach project, PhysicsQuest.

The intern will develop extension activities to complement the core PhysicsQuest experiments and will be expected to help write teacher/student instructions for each activity. Examples of last year's PhysicsQuest manual and extension activities can be found on the PhysicsQuest website (www.physicscentral.com/physicsquest).

Qualifications:

- Completion of at least two years of college physics
- Demonstrated writing skills
- Interest in public outreach and informal education
- Excellent communication skills

Communication: History of Physics

Center for History of Physics

The Center for History of Physics seeks an undergraduate physics major with an interest in the history of physics to contribute to a historical web exhibit like those at www.aip.org/history. The topic of the exhibit is Physics at the Edge of Space, Exploration of the Magnetosphere. The intern will identify materials in the collections of the Niels Bohr Library and Archives at AIP related to the early years of space science--oral histories, autobiographies, photos, etc. The intern will work with the director of the Center for History of Physics and library specialists to weave these materials into a historical narrative and with the NBLA staff to design the web site. The intern will also use this project for outreach to young science students.

The American Institute of Physics' Center for History of Physics works to preserve and make known the historical record of modern physics and allied sciences. Through documentation, archival collections and educational initiatives, the Center ensures that the heritage of modern physics is safeguarded and its story accurately told.

Research: National Institute of Standards and Technology (NIST)

Intern will work in the Semiconductor Electronics Division at NIST, www.nist.gov. Specific project descriptions not available yet, but 2009 intern projects included "The Fabrication and Characterization of Flexible TiO₂ Memory Devices" and "Fabrication of Organic Photovoltaics by Spray Deposition".

Communication: Physics To Go Editor

American Physical Society (Education Department), ComPADRE

The American Physical Society (APS) seeks a summer intern to support Physics to Go, a web-based collection that is part of ComPADRE, the physics and astronomy digital library. Physics To Go (<http://www.physicstogo.org>) is both a collection of resources for informal physics learning and a bi-weekly physics mini-magazine.

Tasks

- Identifying resources (images, materials and websites) to include in the collection
- Writing a brief description of resources and cataloging them
- Choosing websites and images to feature on the homepage, and drafting homepage text
- Providing advice on usability

Qualifications

- Completion of at least two years of college physics
 - Demonstrated writing skills
 - Facility with the Internet, Google searches, and Microsoft Word
 - An interest in informal physics learning
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Communication: American Association of Physics Teachers and ComPADRE Digital Library

The AAPT/ComPADRE intern will be working with the Director of the ComPADRE Digital Library, the ComPADRE staff, and Associate Executive Officer of AAPT to improve the support for physics education through online resource collections. This project will involve identifying particular physics courses or topics in need of a better presence in the library and work to fulfill this need. Topics of particular interest are the introductory physics course for life sciences majors and upper division courses in mechanics, E&M, and quantum.

The intern will:

- Identify and understand education research related to the topic(s) of interest
- Identify best practices for instruction in the topic(s) of interest
- Search for, collect, and catalog resources that support effective instruction
- Work with faculty members and curriculum developers to help discover resources not currently available online that could be made available through ComPADRE
- Work with curriculum developers and ComPADRE staff to organize and present resources in a clear manner
- Report their progress regularly and summarize their results at the end of the internship.

The AAPT is the physics professional society that enhances the understanding and appreciation of physics through teaching. More information is available at <http://www.aapt.org>.

The ComPADRE digital library supports physics teachers and learners through online community-based resource collections and web-based services. More information is available at <http://www.compadre.org>.
