

# American Physical Society

## Committee on Education

### 2009 Annual Report

#### Meetings

Teleconferences were held on January 22, 2009 and June 8, 2009. Face-to-face meetings were held on April 4, 2009 (College Park) and October 12, 2009 (Chicago). Of the 12 committee members (not counting APS staff and others), an average of 10 people participated in the teleconferences and the average participation in the face-to-face meetings was 8. Although most of the communication within subcommittees was via email, there were a couple of subcommittee teleconferences also.

#### Committee Organization

This was the first year the Committee on Education (CoE) was enlarged by three people in hopes that this would allow it to deal with the increasing number of educational activities with the American Physical Society (APS). As an experiment, committee members were assigned to one of three subcommittees (K-12 Education, Undergraduate Education, and Graduate Education), and one member of each subcommittee was designated as its chair. The plan was to allow the subcommittees to work on issues and activities first, bringing their report and recommendations to the full committee for discussion at one of the teleconferences or face-to-face meetings. When a subcommittee put the necessary time into researching and discussing a topic, the plan worked well. However, there were several instances in which a subcommittee did not do its work well, which in turn made it difficult for the full committee to make progress.

#### Statement on Undergraduate Research

The committee discussed the importance of a meaningful research experience as part of a high quality undergraduate physics education. Also discussed were the many opportunities available to undergraduates and the challenges in affording all undergraduates such an experience. Several organizations have recently made statements concerning the importance of undergraduate research to both the quality and quantity of undergraduate physics majors, so the CoE decided to make a statement of its own. At the April 4 meeting, the statement was officially endorsed.

*"The Committee on Education of the American Physical Society calls upon this nation's physics and astronomy departments to provide, as an element of best practice, all undergraduate physics and astronomy majors with a significant research experience."*

#### Physics Education Research in *Physical Review Letters*

At the April 4 meeting, the CoE discussed the possible publication of physics education research in *Physical Review Letters* with Gene Sprouse, APS Editor-in-Chief. Physics education research is already being published in a special section of *Physical Review* and

the editor of the on-line APS publication *Physics*, David Voss, is interested in having “viewpoint” or “trend” articles on physics education research appear. But committee members and the APS Editor-in-Chief felt that once in a while a physics education research article might be appropriate for *Physical Review Letters*. CoE therefore approved the following statement.

*“Research involving physics and education can rise to the level of importance expected for Physical Review Letters. The Committee on Education urges that such Letters be considered for review, and its members are willing to assist PRL editors in rendering preliminary judgment and identifying reviewers.”*

### Lobbying Efforts

CoE worked with the APS DC office on educational lobbying priorities. After considerable discussion, CoE recommended that the APS DC office concentrate on the following: (1) appointment of a Science Technology, Engineering, and Mathematics (STEM) coordinator within the Department of Education, (2) including science in the measures of Adequate Yearly Progress, (3) large-scale adoption of proven models that effectively recruit, prepare, and support STEM teachers, and (4) use at the state level of ESEA Title IIA (Teacher Quality) and Title IIB (Math Science Partnership) funds to increase the number of university-prepared STEM teachers.

### Physics First

The committee familiarized itself with the Physics First concept and some of the discussion going on about its effectiveness. CoE thought the APS membership should be well informed concerning this initiative and arranged for an article to be published in *APS News*. CoE also considered endorsing the Physics First program, but for a variety of reasons decided against it. The main concerns were the wide variety of programs that are lumped together under the Physics First label, and the less than stellar track record of some of the programs.

### Ongoing Initiatives

A number of activities continue to be worked on by CoE. These include (1) whether Teacher’s Days should be moved from APS meetings twice a year to universities where they can occur year after year for the local physics teacher community, (2) a possible CoE award to physics departments that implement proven pedagogical methods and/or increase the number of majors considerably, (3) whether APS should get involved in brokering departmental reviews at universities and colleges, (4) a proposal for a conference of Directors of Graduate Studies in 2012, and (5) developing a list of physicists who can speak on physics education research.



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