

AIP PHYSICS EDUCATION GROUP - ANNUAL REPORT 2004

The energies of the Physics Education Group in 2004 have been largely focused on the nationwide AUTC project. There has been no further action in the area of drawing together secondary and tertiary physics educators as mentioned in last year's report. It may be that the time is ripe for the AIP as a whole to give thought and support to our education and community awareness of physics. A quick look at the AIP website revealed no statement to inform the public about what physics was, but neither the IOP, nor the American Institute of Physics did any better.

The AIP Prize for Excellence in University Physics Education

The inaugural award will be made at the 2005 AIP Congress.

AIP Congress 2005

Led by David Low as convenor, a team including Sandra Box and Kate Wilson has been responsible for the Education program. There was disappointment that the invited international speakers do not include someone in physics education.

AUTC Project – Learning Outcomes and Curriculum Development in Physics

The Australian Universities Teaching Committee (AUTC) commissioned a project to consider various aspects of tertiary physics in Australia, with the team largely drawn from members of the AIP PEG representing 13 universities. In 2004 (Stage 1), the project has ascertained the various ways in which physics teaching and learning has responded to changes, including new multidisciplinary areas, new technologies the changing nature of the student body and of student expectations, employment destinations and requirements, and physics teacher-training. All 34 universities with a recognizable group teaching physics participated in the study. A detailed report has been submitted and is expected to be released by AUTC in early February 2005, in the meantime a summary of "Key Findings and Future Directions" will be provided during the AIP Congress, in addition to congress papers and workshops. Details of the Project can be seen www.physics.usyd.edu.au/super/AUTC/autc.

There are two broad forms of benefit of this study to date: the formation of a network of contacts in all departments with an interest in improved physics learning outcomes, and a better understanding of the broad needs and resources within the tertiary physics community. What stands out is the tenacity and creativeness of physics departments in the face of many challenges.

AUTC has (of late 2004) been replaced by the Carrick Institute for Learning and Teaching in Higher Education, and the latter body has funded a second stage of the project in 2005. This stage will share good practices, aim to build a stronger network of tertiary physics educator, and find ways of sharing resources. It will in particular address issues of student and employer satisfaction, and tackle areas in which heads of

departments have suggested action would be helpful. One goal of this second stage will be to establish some mechanisms for the ongoing sharing of resources, the possibility of physics-specific staff development materials, and the encouragement of a network of peers.

Whilst this will primarily be a responsibility borne by Heads of Departments, we may wish, as an Institute, to consider what mechanisms may be appropriate for the Australian situation, and also to consider how best to lobby government for better funding for physics education.

David Mills,
PEG Convenor
17 January 2005

PEG Committee as formed at July 2002 AIP Congress, Sydney.

Convenor: David Mills

Deputy Convenors: Michelle Livett and Mario Zadnik

Secretary /Treasurer: David Low

UniServe Science Rep: Ian Johnston

AIP Education Convenor: Dan O'Keeffe

AIP Executive Rep: Moira Welch

State Reps: Manjula Sharma (NSW), Elizabeth Chelkowska (Tas), David Low(ACT),
Mario Zadnik (WA), Judith Pollard (SA), David Mills (Vic), Steve Shanahan (NT),
Anton Rayner (QLD)

Immediate Past Convenor: Peter Logan