

**Overview**

The Physics Education Group (PEG) of the AIP provides a forum for the advancement of physics education through research and practice. It is responsible for the education stream at the biennial AIP congress and in the last three years has been heavily involved in an AUTC/Carrick Institute funded physics project. PEG was formed in 1998 as the successor to OzCUPE and has no group funding. This report summarises the main activities of PEG and its members during 2005.

**AIP Congress (January/February 2005)**

The education stream at the 16<sup>th</sup> national congress of the AIP in Canberra was allocated three half day sessions. Although we were not selected to invite a plenary speaker, the education stream was a huge success. The lecture theatre (capacity of approx 90) overflowed or was otherwise relatively full. The PEG email distribution list was expanded to approximately 140 people. Physics education research and practice seems to be of more relevance to increasing numbers within the physics community.

During the conference (on 2/Feb/2005), PEG had its biennial general meeting and the following PEG national committee was elected:

<b>PEG POSITION</b>	<b>NAME</b>	<b>CONTACT</b>
Convenor	Geoff Swan	<a href="mailto:g.swan@ecu.edu.au">g.swan@ecu.edu.au</a>
Deputy Convenor	Pal Fekete	<a href="mailto:p.fekete@sga.edu.au">p.fekete@sga.edu.au</a>
Deputy Convenor	Kate Wilson	<a href="mailto:kathryn.wilson@anu.edu.au">kathryn.wilson@anu.edu.au</a>
Secretary/Treasurer	Damian Pope	<a href="mailto:d.pope@griffith.edu.au">d.pope@griffith.edu.au</a>
Immediate Past Convenor	David Mills	<a href="mailto:david.mills@sci.edu.au">david.mills@sci.edu.au</a>
Communications Officer	Kate Wilson	<a href="mailto:kathryn.wilson@anu.edu.au">kathryn.wilson@anu.edu.au</a>
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NSW representative	Manjula Sharma	<a href="mailto:m.sharma@physics.usyd.edu.au">m.sharma@physics.usyd.edu.au</a>
NT representative	vacant	
Qld representative	Patrick Keleher	<a href="mailto:p.keleher@cqu.edu.au">p.keleher@cqu.edu.au</a>
SA representative	Judith Pollard	<a href="mailto:jpollard@physics.adelaide.edu.au">jpollard@physics.adelaide.edu.au</a>
Tas representative	Elizabeth Chelkowska	<a href="mailto:Elizabeth.Chelkowska@utas.edu.au">Elizabeth.Chelkowska@utas.edu.au</a>
Vic representative	Michelle Livett	<a href="mailto:m.livett@physics.unimelb.edu.au">m.livett@physics.unimelb.edu.au</a>
WA representative	Mario Zadnik	<a href="mailto:m.zadnik@curtin.edu.au">m.zadnik@curtin.edu.au</a>
AIP Congress 2006 Rep	Margaret Wegener	<a href="mailto:Wegener@physics.uq.edu.au">Wegener@physics.uq.edu.au</a>
AIP Congress 2006 Rep (assisting)	Anton Rayner	<a href="mailto:rayner@physics.uq.edu.au">rayner@physics.uq.edu.au</a>

The inaugural AIP Prize for Physics Education was awarded to Marjan Zadnik.

**“Learning Outcomes and Curriculum Development in Physics” Project**

In early 2003, members of PEG put forward an expression of interest for an Australian Universities Teaching Committee (AUTC) funded project concerning undergraduate physics in Australian Universities. The subsequent application was successful and grew to include or

involve many in the university physics community in one way or another. Stage 1 of the project was mostly conducted in 2004 with funds provided from the AUTC of \$75,000. The stage 1 report on the state of undergraduate physics “Learning outcomes and curriculum development in physics”, was published in February 2005 and included many recommendations.

\$85,000 was provided by The Carrick Institute for Learning and Teaching in Higher Education to conduct stage 2 in 2005 which revolved around dissemination (good practice, opportunities for sharing etc) and issues regarding graduate skills and employment. A major national workshop was held at Sydney University in September 2005, and a booklet entitled “Snapshots: Good Learning and Teaching in Physics” was published in December 2005. The project officially concluded in December 2005 with the submission of a stage 2 report to the Carrick Institute. Work continues...

This project has been a nation-wide university physics endeavour, and would not have been possible without the cooperation and good will of people within all 34 identified physics departments in Australia. We were fortunate to have Alberto Mendez in the funded project officer role to collate and organise a large number of people and information – not an easy task. The physics community should also acknowledge the exceptional service given by David Mills and Manju Sharma, who generously gave their time in their leadership roles. Through this project we should now have a more knowledgeable and enhanced community of physicists able to move forward.

Further information (including documents and reports) can be found at the project website at: <http://www.physics.usyd.edu.au/super/AUTC/>

### **Other activities**

The national physics education project and the PEG stream at the national congress have been the two major activities in 2005. Some other activities or items of note include the following:

- PEG Website: Following minor PEG updates on the AIP server, Patrick Keleher has been looking at creating a more substantial web presence on a PEG operated server (The AIP preference is for groups to host their own web pages). A draft site is nearing completion. In the meantime, the physics project website is becoming a repository of physics education resources. Although we are looking at a more substantial web presence in 2006, exactly how this is best hosted/linked/maintained/updated is still under discussion.
- Accreditation: A suggestion was made for future PEG participation in the accreditation process. Peter Johnstone would be happy for a PEG rep to be involved in a planned Accreditation conference late 2006
- RiverPhys: The education stream for the next AIP congress in Brisbane is being coordinated by Margaret Wegener for PEG
- \$1000 Scholarship: Damian Pope offered \$1000 towards a PEG scholarship for an Australian high school student to attend a two week Physics Summer School at the Perimeter Institute, in Waterloo, Canada in August 2006 – Damian is the Director of Scientific outreach. The Queensland PEG committee members are looking at how this might be done, bearing in mind that a local student could also participate at the 2006 AIP congress in Brisbane.

Geoff Swan  
PEG Convenor  
February 2006