

PHYSICS AND ENGINEERING EDUCATION

A SEFI working group

OBJECTIVES

The SEFI Physics and Engineering Education Working Group (PWG) aims to promote discussions about the didactics of physics teaching and about the role and importance of physics in engineering education.

To do this PWG organises conferences, workshops and seminars on a regular basis.

Among topics of special interest are:

- **Information** on physics education of engineers
- **Establishment** of permanent contacts among physicists in higher education and industry
- **Preparation** of joint seminars and lectures.
- **Cooperation** in the development of teaching material (printware, software, netware).
- **The future of technical physics teaching** - specialist vs generalist.
- **Creation** of a core curriculum in physics with respect to a modularized system.
- **Design** of new courses - using high technology.
- **Exchange** of teachers between technical universities and colleges and exchange of study material of any kind.
- **Knowledge** and skills of students on entry.
- **Curriculum development and assessment** (and establishment of links to other subject area courses).
- **Technology** and new media in physics teaching.
- **Laboratory** exercises.
- **Project Based Learning.**

ACTIVITIES

PWG organises a **bi-annual conference** Physics Teaching in Engineering Education (PTEE). In between PWG organises seminars and mini-workshops. The board of PWG holds regular meetings.

Previous and coming **conferences and seminars** arranged through PWG:

- Curriculum Development, seminar, Prague, Czech Republic, 1994.
- Computer Physics, seminar, Prague, Czech Republic, 1995.
- The Role of Physics in Engineering Education, seminar, Kocovce, Slovak Republic, 1996.
- 1st Conference on Physics Teaching in Engineering Education (PTEE 1997), Engineering College of Copenhagen, Copenhagen, Denmark, 1997.
- Experiments and Measurements in Engineering Physics Education, seminar, Technical University of Brno, Czech Republic, 1998.
- Engineering aspect in physics education (EAPE 99), seminar, Smolenice, Slovak Republic, 1999.
- 2nd Conference on Physics Teaching in Engineering Education (PTEE 2000), Technical University of Budapest, Hungary, 2000.
- 3rd Conference on Physics Teaching in Engineering Education (PTEE 2002), Katholieke Universiteit Leuven, Leuven, Belgium, 2002.
- European Dimension of Physics in Engineering Education, 4th Conference on Physics Teaching in Engineering Education (PTEE 2005), Brno Technical University, Czech Republic, 2005.
- System dynamics and modelling in elementary physics teaching, workshop, Basel, Switzerland, 2006.
- How to optimise attractiveness and relevance of physics for engineers, 5th Conference on Physics Teaching in Engineering Education (PTEE 2007), Delft University of Technology, Delft, The Netherlands, 2007.
- Strengthening key competencies for engineers, 6th Conference on Physics Teaching in Engineering Education (PTEE 2009), Wroclaw University of Technology, Wroclaw, Poland, 2009.

COOPERATION

The PWG promotes exchange of views and personal contact between physics teachers at universities and colleges in different countries and with different background and experiences.

PWG also tries to establish links to other organisations and other working groups for better networking. Interested persons are invited to directly contact the PWG board.



Chairperson

Greetje Langie
De Nayer Instituut
J. De Nayerlaan 5,
2860 Sint Katelijne Waver, Belgium
Tel: +32 15 31 69 44
Email: greet.langie@denayer.wenk.be