

Report: 12th international conference on MPTL

Multimedia in Physics Teaching and Learning (<http://mptl12.ifd.uni.wroc.pl>)

This conference was held from 13 to 15 Sept. 2007 at the University of Wroclaw, organised by Prof. E.Dębowska and Dr. T.Greczyło in cooperation with the international advisory board. It belongs to a series of workshops (for details, see [1]), and was attended by 66 participants from 19 countries. In addition, members of the CoLoS group (Conceptual Learning of Science [2]) and the Supercomet 2 project [3] joined our meeting. On the day before the conference, a workshop for Polish high school physics teachers, on Modelling Science with Easy Java Simulations, led by Francisco Esquembre and Wolfgang Christian, was held.

The scientific program of MPTL12 contained 7 invited talks (see below), 29 interactive posters (traditional posters in combination with PC and internet connection) and 16 oral presentations.

- John Belcher (Massachusetts Institute of Technology, USA), *"The MIT TEAL Simulations and Visualizations in Electromagnetism"*
- Wolfgang Christian (Davidson College, USA) and Francisco Esquembre (University of Murcia, Spain), *"Modelling Science with Open Source Physics and Easy Java Simulations"*
- Fu-Kwun Hwang (National Taiwan Normal University, Taiwan), *"Integrating Java Simulations into Physics Teaching and Learning"*
- Robert Teese (Rochester Institute of Technology, USA), *"Video Analysis - A Multimedia Tool for Homework and Class Assignments"*
- Hartmut Schmidt (University of Applied Sciences, Darmstadt, Germany), *"Multimedia in testing industrial products"*
- Leopold Mathelitsch (University of Graz, Austria) and Hans-Jörg Jodl, (Technical University of Kaiserslautern, Germany): *"Evaluation of Multimedia Learning Materials in Condensed Matter Physics and Particle Physics"*

The oral presentations were grouped into 4 main topics:

- Possible uses of multimedia in creating courses in physics, especially the Open Source Physics (OSP) project, which is a synergy of curriculum development, computational physics, computer science, and physics education for scientists and students wishing to author interactive computer-based curricular material.
- Simulations and visualizations.
- Videos and remote controlled laboratories.
- Multimedia in applied sciences.

Further Conference highlights were:

- Interactive poster session (2 sessions, 2 hours each)
- Evaluation of multimedia material in the teaching and learning of Condensed Matter Physics and Particle Physics - worldwide offered software products were evaluated by the European working group "Multimedia in Physics Teaching and Learning" and the

MERLOT/Physics Editorial Board. Example of recommended materials were presented with a discussion of the common characteristics of these resources and general findings of the reviewers. Former reports about equivalent evaluations concerning Electricity and Magnetism (Szeged 2006), Statistical and Thermal Physics (Berlin 2005), Mechanics (Graz 2004), Optics (Prague 2003) and Quantum Mechanics (Parma 2002) can be found in the websites of the respective workshops [1]. A summarizing article with updated evaluations of all recommended material is planned.

- The Saturday morning session in the MultiCentre (Wroclaw Interactive Educational Centre). The aims of this institution are: to complement the more traditional methods of teaching and learning, to educate for the information society, to develop music, artistic and designing skills, as well as to cooperate with Wroclaw schools, community centres and teachers' education centres.

The message in all contributions to this workshop was to point out the importance of the use of MM in the teaching and learning of physics. The fact that only very few multimedia products available in www pages are excellent was stressed.

The e-proceedings of the Wroclaw meeting can be found under the address <http://mptl12.ifd.uni.wroc.pl/proceedings.html>. E-proceedings from former workshops on MPTL and the additional information about this series of workshops can be obtained at the web address [1] or by contacting jodl@physik.uni-kl.de or robert.sporken@fundp.ac.be, previous and present chairmen of these workshops.

In 2008 the 13th workshop on MPTL will be organized as a GIREP-MPTL Joint Meeting on August 18-22 in Nicosia, Cyprus (<http://www.ucy.ac.cy/girep2008/>, contact: girep2008@ucy.ac.cy).

Ewa Dębowska

References

[1] <http://www.mptl.eu/>

[2] <http://www.colos.org>

[3] http://supercomet.no/gb/supercomet_2