Report on the 8th Workshop on Multimedia in Physics Teaching and Learning

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Organization of the Workshop

This workshop presented itself the eighth continuation of the tradition of MPTL Workshops. It belonged to a series of workshops of European Physics Society (EPS), Educational Division, devoted to the topic "Multimedia in Physics Teaching and Learning". It was held in Prague, Czech Republic, in the period September 13-16, 2003. The Workshop was jointly organized by Faculty of Mathematics and Physics on Charles University, by Faculty of Nuclear Sciences and Engineering of the Czech Technical University and by Physics Section of Union of Czech Mathematicians and Physicists.
The organization committee worked in following composition: Hans-Jörg Jodl (the founder and leader of the MPTL workshop series), Urbaan Titulaer (member of EPS), Milan Tichy, Jaromir Kekule and Vitezslav Stranak (local organizers). There were 47 participants from 18 countries attending the Workshop. They reported on 29 active contributions consisting of 21 oral presentations and 8 posters.

Aims

The main themes of the workshop were optics and thermodynamics. Following the tradition, the Workshop was focused on new trends and research results as well as on the presentations of review talks illustrating experiences gained while developing, testing and applying devices in multimedia and computer aided physics teaching and learning in various European countries as well as in the USA.
Special attention was given to evaluation of multimedia materials and to formulation of a list of criteria on this theme.
The multimedia poster sessions were organized again, following good experience of MPTL 7 workshop in Parma.

Contributions

Five speakers were invited to this Workshop who presented four contributions.
Invited speaker Wolfgang Christian (Davidson College, USA) presented in his talk "Developing Open Source Programs for Upper Level Science and Mathematics" the interactive Physlet®-based curricular materials produced to support the understanding of students' difficulties in physics and mathematics. Christian presented also his new book on that topic and web pages with the material.
Invited speakers Stefan Altherr and Hans-Jörg Jodl (University of Kaiserslautern, Germany) covered the development of videos with physical experiments in their talk "Developing Videos for an Introductory Course on Physics - Examples and Experiences for Motivation, Demonstration and Exercises" and shared experiences with using such teaching aids for distance learners. They showed examples of their videos, too.
Invited speaker Bruce Mason (University of Oklahoma, USA) presented contribution "MERLOT resources for evaluation and sharing of learning objects". Mason reported on evaluation of multimedia materials, he gave criteria for evaluation and named the multimedia courses that were evaluated as good material.
Invited speaker Ladislav Drska (Czech Technical University, Czech Republic) communicated about quality criteria and development concepts for ICT (Information and Communication

Technology) – based knowledge transfer in exact sciences, contemporary development tools for web and multimedia and trends and chances in high-tech learning and teaching of physics. His contribution was entitled "Contemporary Development Concepts for E-Learning in Physics".
Other participants presented their projects or gave reviews of national multimedia scenes. During Workshop there was presented a lot of interesting contributions on teaching different parts of physics and also reported on useful ideas how to use multimedia in a better and more effective way and how to help students to overcome their difficulties in learning physics.

Discussions

Plenty of time was given to discussions. There were discussions after each contribution, general discussions at the end of each day and personal discussions during coffee breaks and at interactive posters. The topics of closing discussion you can find in the paper by Leopold Mathelitsch, which is presented at the web page
http://lucy.troja.mff.cuni.cz/~tichy/MPTL/contributions/mathelitsch/pragconclusions.doc.

Conclusion

Detailed information about the Workshop you can find on the Workshop web pages http://lucy.troja.mff.cuni.cz/~tichy/MPTL/. You can view all of oral contributions that were video recorded and read the papers.

In 2004 the 9th workshop will be held in Graz, Austria (http://physik.uni-graz.at/MPTL9/). Principal topics will be: (i) Lecturing with multimedia, (ii) Research and physics education and (iii) Multimedia in mechanics teaching and learning.
Detailed information about the whole series of these workshops you can find at the address http://pen.physik.uni-kl.de/w_jodl/Mmeuro.htm.