

## Report on the 14<sup>th</sup> International Conference on Multimedia in Physics Teaching and Learning (MPTL-14)

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The 14<sup>th</sup> International Conference on Multimedia in Physics Teaching and Learning (MPTL) was organized at the **University of Udine** (Italy) from Sept. 23 to 25, 2009 by Prof. **Marisa Michelini**. It was attended by about 100 participants representing more than 30 countries. This was the largest MPTL conference so far. 43 oral presentations were grouped in parallel sessions, in addition to 7 plenary talks. Moreover, hands-on workshops were offered on remote laboratories, interactive lecture demonstrations, 3D programming using VPython, Easy Java Simulations, and on the MOSEM2 project. Finally, more than 20 interactive posters and almost 40 regular posters attracted much interest. For the first time, a prize (donated by the European Physical Society) was awarded to the best students' poster presentation.

The workshop was very successful, in part thanks to the collaboration of many organizations, including the European Scientific Education Association, GIREP, the International Commission on Physics Education, the Latin American Physics Education Network, MERLOT, CoLoS, MOSEM, STEPS2, the Italian Association for Physics Teaching, and the Italian Physical Society.

Compared with previous meetings, one could notice a marked increase in contributions from high schools and especially from primary education, as well as more contributions from physics education research.

The plenary talks covered a wide range of topics :

**Wendy Adams** (University of Colorado, Boulder, USA) talked about research that showed actual improvements in student engagement and learning when they use PhET interactive simulations;

**Elena Sassi** (University of Naples, Italy) and **Sonja Feiner-Valkier** (Eindhoven University of Technology) discussed the use of multimedia in the more general context of student centred and project based learning. They also presented the activities of the STEPS-TWO project on this topic;

**Bruce Mason** (University of Oklahoma, USA) and **Robert Sporken** (University of Namur, Belgium) reported on the evaluation of MM software on waves and optics, performed in cooperation by an American (MERLOT) and a European (MPTL) group. This is the continuation of a program in which one field of physics is investigated each year: it starts with a worldwide search for MM programs, which are then surveyed and evaluated, resulting in recommendations for excellent products.

**Michael Ross** (University of Colorado, Boulder, USA) showed how a simple data collection and analysis tool can be taken into primary school to help elementary students develop scientific and communication skills;

**Wolfgang Christian** (Davidson College, North Carolina, USA) and **Bruce Mason** (University of Oklahoma, USA) presented pedagogical and technical features of curricular material developed under the Open Source Physics project and on the current effort to distribute it via a partnership with the comPADRE National Science Digital Library. Finally, **Francisco Esquembre** (University of Murcia, Spain) discussed recent developments in Easy Java Simulations, including the new 3D drawing framework.

On the occasion of MPTL-14, participants were invited to the beautiful Udine Castle, where they were greeted by the Mayor of Udine and had the privilege of listening to an inspiring talk by Professor **Anthony French** on the work of Galileo.

The next MPTL workshop will be a joint organization with GIREP. It will be held in **Reims**, France, from **August 22 - 27, 2010**.