

## ThEdu 2016: Theorem Provers Components for Educational Software

ThEdu is a forum to gather the research communities for computer Theorem Proving (TP), Automated Theorem Proving (ATP), Interactive Theorem Proving (ITP) as well as for Computer Algebra Systems (CAS) and Dynamic Geometry Systems (DGS). The goal of this gathering is to combine and focus systems of these areas and to enhance existing educational software as well as studying the design of a next generation of educational mathematical tools. ThEdu Web-page: <http://www.uc.pt/en/congressos/thedu/thedu16>.

Educational software tools have integrated technologies from CAS, from DGS, from Spreadsheets and others, but not from TP with few exceptions: the latter have been developed to model mathematical reasoning in software – rigorous reasoning as a companion of calculating, which guarantees the unsurpassed reliability of mathematics. Providing students with insight in and experience with this kind of reliability is considered an essential aim of mathematics education.

TPs intrude into science as well as into industry: They are used to tackle difficult proofs in the science of mathematics, like the Four Color Problem or the Kepler Conjecture. In industry TPs are successfully used to verify safety critical software. This workshop addresses a window of opportunity during the currently open development of TP.

The workshop provides a meeting place for educators and developers of educational mathematics software and experts in TP. The discussions shall clarify the requirements of education, identify advantages and promises of TP for learning and motivate development of a novel kind of educational mathematical tools probably establishing a new generation of such tools.

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