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Realities, and Challenges -- Perspective on Computer Science Education -- Didactics of Introduction to Computer Science in High School -- Software Design Course for Leading CS In-Service Teachers -- The Effect of Tangible Artifacts, Gender and Subjective Technical Competence on Teaching Programming to Seventh Graders -- The Difficulty of Programming Contests Increases -- Didactic Games for Teaching Information Theory -- Collaborative Initiatives for Promoting Computer Science in Secondary Schools -- Teaching Public-Key Cryptography in School -- Towards a Methodical Approach for an Empirically Proofed Competency Model -- Having Fun with Computer Programming and Games: Teacher and Student Experiences -- Showing Core-Concepts of Informatics to Kids and Their Teachers -- Object-Oriented Modeling of Object-Oriented Concepts -- Programming Camps: Letting Children Discover the Computer Science -- Mission to Mars – A Study on Naming and Referring -- Long-Term Development of Software Projects – Students' Self-appreciation and Expectations.

Sommario/riassunto

The International Conference on Informatics in Secondary Schools: Evolution and Perspective (ISSEP) is an emerging forum for researchers and practitioners in the area of computer science education with a focus on secondary schools. The ISSEP series started in 2005 in Klagenfurt, and continued in 2006 in Vilnius, and in 2008 in Torun. The 4th ISSEP took part in Zurich. This volume presents 4 of the 5 invited talks and 14 regular contributions chosen from 32 submissions to ISSEP 2010. The ISSEP conference series is devoted to all aspects of computer science teaching. In the preface of the proceedings of ISSEP 2006, Roland Mittermeir wrote: "ISSEP aims at educating 'informatics proper' by showing the beauty of the discipline, hoping to create interest in a later professional career in computing, and it will give answers different from the opinion of those who used to familiarize pupils with the basics of ICT in order to achieve computer literacy for the young generation." This is an important message at this time, when several countries have reduced teaching informatics to educating about current software packages that change from year to year. The goal of ISSEP is to support teaching of the basic concepts and methods of informatics, thereby making it a subject in secondary schools that is comparable in depth and requirements with mathematics or natural sciences. As we tried to present in our book "Algorithmic Adventures."
