Preface

It is our pleasure to bring you the volume of the selected papers of the seventh edition of the International Conference on Information and Communication Technologies (ICT) in Education, Research, and Industrial Applications: Integration, Harmonization, and Knowledge Transfer (ICTERI 2011) held at Kherson, Ukraine on May 5-7, 2011.

ICTERI 2011 is concerned with several interrelated topics that proved to be vibrant for the research and industrial communities judging by the number of submissions we have received this year:

- ICT infrastructures, integration and interoperability
- Machine Intelligence, knowledge engineering (KE), and knowledge management (KM) for ICT
- Cooperation between academia and industry in ICT
- Methodological and didactical aspects of teaching ICT and using ICT in education

This year we gave a particular encouragement to the submissions that facilitate bringing together academics and practitioners interested in the technological advances and business applications of Information and Communication Technologies and Infrastructures. Therefore, the call was primarily targeted to real world applications; highlighting the benefits of research results or experience for industry and services, in addition to academic world. Papers describing advanced prototypes, systems, tools and techniques and general survey papers indicating future directions were also encouraged.

We were lucky to attract quite a substantial number of submissions – a total of 128 – which broadly fell down into the four genres: full research papers (39), short research papers (61), discussion or problem analysis papers (15), and the papers on industrial experience or case study (13) – evenly covering the themes of the conference scope. Out of those we have selected 11 top quality and most interesting papers to be published in our proceedings. The acceptance rate was therefore 8.87 percent. In addition to those selected publications we included the papers of our invited speakers.

The invited paper by our keynote speaker Prof. Costin Bădică on dynamic negotiations in multi-agent systems for disaster management opens the proceedings. It is followed by the abstracts of the invited talks by Prof. Heinrich C. Mayr on integrated university information systems and information system strategy, Prof. Alexander Letichevsky on insertion modeling and its applications, and Prof. Abdel-Badeeh M. Salem on intelligent technologies and methodologies for medical knowledge engineering.

The selected contributions cover the issues of:

- **Foundations, Intelligence and Methodologies**. This theme is represented by full research papers on: a gnoseology-based approach to foundations of informatics; pre-automata as mathematical models of event flow recognizers; insertion modeling system and constraint programming; simulation of expanded iterated prisoner's dilemma, and a discussion paper entitled "Is Your Ontology a Burden or

a Gem? – Towards Xtreme Ontology Engineering" dealing with the methodological challenges in knowledge engineering for industries.
- **ICT infrastructures, integration and interoperability**. This theme is covered by a full research paper on design and implementation of a quality management system for electronic training information resources and short papers dealing with: optimization criteria for task assignment in cluster and wide-area computing; a lightweight approach to contact data synchronization in mobile social networks; and conceptual design and technology choices for building a virtual laboratory of distance learning.
- **Methodological and didactical aspects**. This theme is introduced by the case study report on the choices of topics and didactical support in a Software Engineering class and a short research paper on the influence of the labor market on the formation of competencies of the future IT specialists.

The conference would not have been possible without the support of many people. First of all we would like to thank the members of our Program Committee for providing timely and thorough reviews, and also for being cooperative in doing additional review work. We are also very grateful to all the authors who submitted papers to ICTERI and thus demonstrated their interest in the research problems within our scope. We would like also to thank the local organizers of the conference whose devotion and efficiency made ICTERI a very comfortable and effective scientific forum.

May, 2011   Vadim Ermolayev
                                                  Heinrich C. Mayr
                                                  Mykola Nikitchenko
                                                  Aleksander Spivakovsky
                                                  Mikhail Zavileysky
                                                  Grygoriy Zholtkevych