PREFACE

ITHEA International Scientific Society (ITHEA ISS) is aimed to support growing collaboration between scientists from all over the world. The scope of the books of the ITHEA ISS covers the area of Informatics and Computer Science. ITHEA ISS welcomes scientific papers and books connected with any information theory or its application. ITHEA ISS rules for preparing the manuscripts are compulsory. ITHEA Publishing House is the official publisher of the works of the ITHEA ISS.

Responsibility for papers and books published by ITHEA belongs to authors.

This book maintains articles on actual problems of research and application of information technologies, especially the new approaches, models, algorithms and methods for information modeling of knowledge in: Intelligence metasynthesis and knowledge processing in intelligent systems; Formalisms and methods of knowledge representation; Connectionism and neural nets; System analysis and synthesis; Modelling of the complex artificial systems; Image Processing and Computer Vision; Computer virtual reality; Virtual laboratories for computer-aided design; Decision support systems; Information models of knowledge of and for education; Open social info-educational platforms; Web-based educational information systems; Semantic Web Technologies; Mathematical foundations for information modeling of knowledge; Discrete mathematics; Mathematical methods for research of complex systems.

It is represented that book articles will be interesting for experts in the field of information technologies as well as for practical users.

The book is recommended for publication by the Scientific Council of the Institute of Information Theories and Applications FOI ITHEA.

Papers in this book are selected from the ITHEA ISS Joint International Events of Informatics "ITA 2010":

- **CFDM** Second International Conference "Classification, Forecasting, Data Mining"
- **i-Tech** International Conference "Information - Interaction – Intellect"
- **ISK** Eight International Conference "Information Research and Applications"
- **ISK** V-th International Conference "Informatics in the Scientific Knowledge"
- **MeL** V-th International Conference "Modern (e-) Learning"
- **KDS** XVI-th International Conference "Knowledge - Dialogue – Solution"
- **CML** XII-th International Conference "Cognitive Modeling in Linguistics"
- **INFOS** Thirth International Conference "Intelligent Information and Engineering Systems"
- **NIT** International Conference “Natural Information Technologies”
- **GIT** Eight International Workshop on General Information Theory
- **ISSI** Forth International Summer School on Informatics
ITA 2010 took place in Bulgaria, Croatia, Poland, Spain and Ukraine. It has been organized by

- ITHEA International Scientific Society

in collaboration with:

- ITHEA International Journal "Information Theories and Applications"
- ITHEA International Journal "Information Technologies and Knowledge"
- Institute of Information Theories and Applications FOI ITHEA
- Universidad Politecnica de Madrid (Spain)
- V.M.Glushkov Institute of Cybernetics of National Academy of Sciences of Ukraine
- Taras Shevchenko National University of Kiev (Ukraine)
- University of Calgary (Canada)
- BenGurion University (Israel)
- University of Hasselt (Belgium)
- Dorodnicyn Computing Centre of the Russian Academy of Sciences (Russia)
- Institute of Linguistics, Russian Academy of Sciences (Russia)
- Association of Developers and Users of Intelligent Systems (Ukraine)
- Institute of Mathematics and Informatics, BAS (Bulgaria)
- Institute of Mathematics of SD RAN (Russia)
- New Bulgarian University (Bulgaria)
- The University of Zadar (Croatia)
- Rzeszow University of Technology (Poland)
- Kharkiv National University of Radio Electronics (Ukraine)
- Kazan State University (Russia)
- Alexandru Ioan Cuza University (Romania)
- Moscow State Linguistic University (Russia)
- Astrakhan State University (Russia)

as well as many other scientific organizations. For more information: www.ithea.org.

We express our thanks to all authors, editors and collaborators as well as to the General Sponsor.


Kiev – Sofia
September 2010

K. Markov, V. Velychko, O. Voloshin