

## PREFACE

*Verba volant, scripta manent !*

The "**International Journal on Information Theory and Applications**" (IJ ITA) has been established in 1993 as independent scientific printed and electronic media. IJ ITA is edited by the *Institute of Information Theories and Applications FOI ITHEA* in collaboration with the leading researchers from the Institute of Cybernetics "V.M.Glushkov", NASU (Ukraine) and Institute of Mathematics and Informatics, BAS (Bulgaria).

During the years, IJ ITA became as well-known international journal. Till now, including this volume, more than 625 papers have been published. IJ ITA authors are widespread in 39 countries all over the world: *Armenia, Belarus, Brazil, Belgium, Bulgaria, Canada, Czech Republic, Denmark, Egypt, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Japan, Kirghizia, Latvia, Lithuania, Malta, Mexico, Moldavia, Netherlands, Poland, Portugal, Romania, Russia, Scotland, Senegal, Serbia and Montenegro, Spain, Sultanate of Oman, Turkey, UK, Ukraine, and USA.*

Volume 14/2007 of the IJ ITA contains 60 papers written by 121 authors from 10 countries (marked in italics above), selected from several international conferences, seminars and workshops organized or supported by the Journal.

At the first place, the main source for selection were the ITA 2006 Joint International Events on Information Theories and Applications, (June 20-30, 2006, Varna, Bulgaria):

- XII-th International Conference "Knowledge-Dialogue-Solution" (KDS 2006);
- V-th International Workshop on General Information Theory (GIT 2006);
- IV-th International Conference "Information Research and Applications" (i.TECH 2006);
- IV-th International Workshop on Multimedia Semantics (WMS 2006).

Several papers were selected from the pool of papers directly submitted to IJ ITA.

Main characteristic of ITA 2006 International Conferences was that the papers were combined into thematic sessions. Because of this, the selected papers are published in this volume following the thematic sessions' organisation.

Congratulations to **Juan Castellanos** (Spain) and **Georgi Totkov** (Bulgaria) who were awarded by the International Prize "**ITHEA**" for the year 2006. The "ITHEA" Prize has been established in 1995. It is aimed to mark the achievements in the field of the information theories and applications.

More information about the IJ ITA rules for preparing and submitting the papers as well as how to take out a subscription to the Journal may be obtained from [www.foibg.com/ijita](http://www.foibg.com/ijita).

*Krassimir Markov*

*IJ ITA Founder and Editor in chief*



## International Prize "ITHEA"

Awarded Scientists till 2006:

1995	Sandansky	K. Bankov, P. Barnev, G. Gargov, V. Gladun, R. Kirkova, S. Lazarov, S. Pironkov, V. Tomov
1996	Sofia	T. Hinova, K. Ivanova, I. Mitov, D. Shishkov, N. Vashchenko
1997	Yalta	Z. Rabinovich, V. Sgurev, A. Timofeev, A. Voloshin
1998	Sofia	V. Jotsov
1999	Sofia	L. Zainutdinova
2000	Varna	I. Arefiev, A. Palagin
2001	St.Peterburg	N. Ivanova, V. Koval
2002	Primorsko	A. Milani, M. Mintchev
2003	Varna	T. Gavrilova, A. Eskenazi, V. Lozovskiy, P. Stanchev
2004	Varna	B. Kokinov, T. Vamos
2005	Varna	L.F. de Mingo, M. Dobрева
2006	Varna	J. Castellanos, G. Totkov

**IJ ITA major topics of interest include, but are not limited to:**

### INFORMATION THEORIES

<i>Artificial Intelligence</i>	<i>Education Informatics</i>
<i>Computer Intellectualisation</i>	<i>General Information Theory</i>
<i>Intelligent Networks and Agents</i>	<i>Hyper Technologies</i>
<i>Intelligent Technologies</i>	<i>Information Models</i>
<i>Knowledge Discovery and Engineering</i>	<i>Intellectualisation of Data Processing</i>
<i>Knowledge Acquisition and Formation</i>	<i>Knowledge-based Society</i>
<i>Distributed Artificial Intelligence</i>	<i>Logical Inference</i>
<i>Models of Plausible Reasoning</i>	<i>Natural language Processing</i>
<i>AI Planning and Scheduling</i>	<i>Neuroinformatics</i>
<i>Bioinformatics</i>	<i>Philosophy and Methodology of Informatics</i>
<i>Business Informatics</i>	<i>Quality of the Programs</i>
<i>Cognitive Science</i>	<i>Software Engineering</i>
<i>Decision Making</i>	<i>Theory of Computation</i>

### APPLICATIONS

<i>Business Information Systems</i>	<i>Multimedia Systems</i>
<i>Communication Systems</i>	<i>Programming Technologies</i>
<i>Computer Art and Computer Music</i>	<i>Program Systems with Artificial Intelligence</i>
<i>Hyper Technologies</i>	<i>Pyramidal Information Systems</i>
<i>Intelligent Information Systems</i>	<i>Very Large Information Spaces</i>