



I T H E A



International Journal

INFORMATION TECHNOLOGIES
&
KNOWLEDGE



2007 Volume 1 Number 4



International Journal
INFORMATION TECHNOLOGIES & KNOWLEDGE
Volume 1 / 2007, Number 4

Editor in chief: **Krassimir Markov** (Bulgaria)

International Editorial Board

	Victor Gladun	(Ukraine)	
Alexey Voloshin	(Ukraine)	Koen Vanhoof	(Belgium)
Avram Eskenazi	(Bulgaria)	Larissa Zaynutdinova	(Russia)
Abdelmgeid Amin Ali	(Egypt)	Martin P. Mintchev	(Canada)
Adil Timofeev	(Russia)	Milena Dobrova	(Bulgaria)
Alexander Gerov	(Bulgaria)	Natalia Ivanova	(Russia)
Alexander Kuzemin	(Ukraine)	Nelly Maneva	(Bulgaria)
Alexander Lounev	(Russia)	Nikolay Lyutov	(Bulgaria)
Alexander Palagin	(Ukraine)	Orly Yadid-Pecht	(Israel)
Alfredo Milani	(Italy)	Petar Barnev	(Bulgaria)
Axel Lehmann	(Germany)	Peter Stanchev	(USA)
Darina Dicheva	(USA)	Radoslav Pavlov	(Bulgaria)
Ekaterina Solovyova	(Ukraine)	Rafael Yusupov	(Russia)
Eugene Nickolov	(Bulgaria)	Rumyana Kirkova	(Bulgaria)
George Totkov	(Bulgaria)	Sergey Nikitov	(Russia)
Hasmik Sahakyan	(Armenia)	Stefan Dodunekov	(Bulgaria)
Ilia Mitov	(Bulgaria)	Stoyan Poryazov	(Bulgaria)
Irina Petrova	(Russia)	Tatyana Gavrilova	(Russia)
Ivan Popchev	(Bulgaria)	Vadim Vagin	(Russia)
Jeanne Schreurs	(Belgium)	Vasil Sgurev	(Bulgaria)
Juan Castellanos	(Spain)	Vassil Vassilev	(Bulgaria)
Julita Vassileva	(Canada)	Velina Slavova	(Bulgaria)
Karola Witschurke	(Germany)	Vitaliy Lozovskiy	(Ukraine)
Krassimira Ivanova	(Bulgaria)	Vladimir Lovitskii	(UK)
Laura Ciocoiu	(Romania)	Vladimir Ryazanov	(Russia)
Luis F. de Mingo	(Spain)	Zhili Sun	(UK)

**IJ ITK is official publisher of the scientific papers of the members of
the Association of Developers and Users of Intellectualized Systems (ADUIS).**

IJ ITK rules for preparing the manuscripts are compulsory.

The rules for the papers for IJ ITK as well as the subscription fees are given on www.foibg.com.

The camera-ready copy of the paper should be received by e-mail: info@foibg.com.

Responsibility for papers published in IJ ITK belongs to authors.

General Sponsor of IJ ITK is the Consortium FOI Bulgaria (www.foibg.com).

International Journal "INFORMATION TECHNOLOGIES & KNOWLEDGE" Vol.1, Number 4, 2007

Printed in Bulgaria

Edited by the **Institute of Information Theories and Applications FOI ITHEA**, Bulgaria,
in collaboration with the **V.M.Glushkov Institute of Cybernetics of NAS**, Ukraine, and
the **Institute of Mathematics and Informatics** and the **Institute of Information Technologies, BAS**, Bulgaria.

Publisher: **Institute of Information Theories and Applications FOI ITHEA**
Sofia, 1000, P.O.B. 775, Bulgaria. www.foibg.com, e-mail: info@foibg.com

Copyright © 2007 All rights reserved for the publisher and all authors.

® 2007 "Information Technologies and Knowledge" is a trademark of Krassimir Markov

ISSN 1313-0455 (printed)

ISSN 1313-048X (online)

ISSN 1313-0501 (CD/DVD)