

TABLE OF CONTENTS

<i>Preface</i>	3
<i>Table of Contents</i>	5
<i>Index of Authors</i>	7

Papers in English

Hardware Implementations of Video Watermarking <i>Xin Li, Yonatan Shoshan, Alexander Fish, Graham Jullien, Orly Yadid-Pecht</i>	9
On the Feasibility of Steering Swallowable Microsystem Capsules Using Computer-Aided Magnetic Levitation <i>Billy Wu, Martin Mintchev</i>	17
Application of Fuzzy Logic on Image Edge Detection <i>Shashank Mathur, Anil Ahlawat</i>	24
Distance Matrix Approach to Content Image Retrieval <i>Dmitry Kinoshenko, Vladimir Mashtalir, Elena Yegorova</i>	29
Projective Methods of Image Recognition <i>Yevgeniy Putyatin, Vladimir Gorohovatsky, Alexey Gorohovatsky, Elena Peredriy</i>	37
On a Direct Approach to the Solution of Inverse Optical Problems <i>Peter Sharlandjiev, Georgi Stoilov</i>	43
Normal ECG Recognition for Express-diagnostics Based on Scale-space Representation and Dynamic Matching <i>Nataliya Bilous, Michael Bondarenko, Gleb Kobzar, Alexey Krasov, Artyom Rogozyanov</i>	47
Application of the Artificial Intelligence Algorithms with a Cognitive Graphic as a Tool for a System Analysis of Electrophysiological Processes <i>Nina Dmitrieva</i>	53
Minimum Mean Square Error Approach in Images Processing for Full-field Displacements and Deformation Measurements <i>Georgi Stoilov, Vasil Kavardzhikov, Dessislava Pashkouleva</i>	57
WLAN / WMAN Integration Architecture and Traffic Control for Voice Transmission <i>Boris Tsankov, Kiril Kassev, Radostin Pachamanov</i>	62
Improved Hybrid Model of HMM/GMM for Speech Recognition <i>Poonam Bansal, Anuj Kant, Sumit Kumar, Akash Sharda, Shitij Gupta</i>	69
Research of Influence of Medication Preparations on the Process of Renewal of the Broken Equilibrium of Man Organism on the Doctor of Phytotherapy Workstation <i>Anatoliy Bykh, Elena Visotska, Boris Samura, Olga Kozina, Andrei Porvan, Elena Chernikh, Sergey Parhomenko</i>	75

Smart Portable Tester for Bird Flue Express-Diagnostics: Principles of Design <i>Oleksandr Palagin, Volodymyr Romanov, Mykola Starodub, Igor Galelyuka, Oleksandra Skrypyk, Kyryl Skyba</i>	80
KFTKGA: Knowledge Flow Tracer and Growth Analyzer for Community Learning <i>S.M.F.D. Syed Mustapha, Charles A.H. Chong</i>	85
Easy Creation of Semantics-enhanced Digital Artwork Collections <i>Darina Dicheva, Christo Dichev, Cristan Brown, Dhanya Veetil, William Thomas</i>	92
One Approach to Knowledge Mapping for International Student Portal <i>Tatiana Gavrilova, HaiNan Jin</i>	99
Emotions and a Prior Knowledge Representation in Artificial General Intelligence <i>Andrey Gavrilov</i>	106
Ontology-based Model of Representation of Knowledge about Language Mappings <i>Margarita Knyazeva, Vadim Timchenko</i>	111
Upgradable Tree Levels Editor of Metaontologies, Ontologies and Knowledge for a Chemistry <i>Irene Artemieva, Natalia Reshtanenko, Vadim Tsvetnikov</i>	119
Multiple-valued Structures of Intellectual Systems <i>Mikhail Bondarenko, Irina Vechirskaya, Grigoriy Chetverikov</i>	125
Development of Generalized Nature Environment Model for Emergency Monitoring <i>Oleksandr Kuzomin, Ilyya Klymov, Asanbek Toroev</i>	131
Leveraging Existing Plasma Simulation Codes <i>Anna Malinova, Vasil Yordanov, Jan van Dijk</i>	136
Cognitive Approach in Castings' Quality Control <i>Jürgen Bast, Valeriy Kamaev, Irina Polyakova, Andrey Tikhonin, Maxim Zabolotsky, Natalia Kudashov</i>	143
<u>Papers in Russian</u>	
Распознавание сложных стерео и мульти-изображений в реальном времени <i>Адиль Тимофеев, Олег Дерин</i>	149
Структурная модель полутонного изображения и ее использование в задаче сегментации изображений <i>Владимир Калмыков, Виталий Вишневецкий, Татьяна Власова</i>	153