



# ACIT`2010 SCHEDULE



WEDNESDAY, June 16, 2010

## ICT - SIGNAL AND IMAGE PROCESSING – CONTINUED

### CHAIR:

Alexander Reznik (Institute of Automation and Electrometry SB of RAS, Novosibirsk, Russia)

### WEDNESDAY, June 16, 2010 SMALL HALL

Time	Paper #	Paper Title	Authors
09:00	691-063	Methods in the Multivariate Digital Signal Processing with using Spline-Interlineation	O.N. Lytvyn and O.P. Nechuyviter (Ukrainian Engineer-Pedagogical Academy, Department of Pure and Apply mathematics, Kharkiv, Ukraine)
09:20	691-064	The Decision of 3D and 4D Problems of a Computer Tomography using Interflatation Functions	O.N. Lytvyn and Y.I. Pershina (Ukrainian Engineer-Pedagogical Academy, Department of Pure and Apply mathematics, Kharkiv, Ukraine)
09:40	691-017	Extraction Method for Textural Watermarks of Various Linear Raster Patterns Orientation Type	V.A. Fedoseev and V.A. Mitekin (Image Processing Systems Institute of RAS, Samara, Russia)
10:00	691-019	A New Semi-Fragile Watermarking Algorithm for Image Tampering Detection and Information Hiding	N.I. Glumov and V.A. Mitekin (Image Processing Systems Institute of RAS, Samara, Russia)
10:20	691-024	Local Artificial Image's Changes Detection	N.I. Glumov and A.V. Kuznetsov (Image Processing Systems Institute of RAS, Samara, Russia)
10:40	691-049	The Detector of Abandoned Objects	V.A. Ivanov, V.S. Kirichuk, and S.I. Orlov (Institute of Automation and Electrometry SB of RAS, Novosibirsk, Russia)
<b>11:00 - 11:20</b>		<b>COFFEE BREAK</b>	
11:20	691-020	Hierarchical Approximation Method as a Solution of Multivariate Indirect Measurements Problem	V.N. Kopenkov, V.V. Sergeev, and E.I. Timbay (Image Processing Systems Institute of RAS, Samara, Russia)
11:40	691-021	Efficient Mutually-Calculated Features for Linear Local Description of Signals and Images	V. Myasnikov (Image Processing Systems Institute of RAS, Samara, Russia)
12:00	691-022	Research of Different Problem of Effective Linear Local Features Construction Solving	O.A. Titova (Image Processing Systems Institute of RAS, Samara, Russia)
12:20	691-028	Comparison of Algorithms for Efficient Linear Local Features Construction	A.Yu. Bavrina (Image Processing Systems Institute of RAS, Samara, Russia)
<b>13:00 - 14:00</b>		<b>DINNER</b>	

## ICT - COMPUTER VISUALIZATION AND SOFTWARE

### CHAIR:

Boris Dolgovesov (Institute of Automation and Electrometry SB of RAS, Novosibirsk, Russia)

### WEDNESDAY, June 16, 2010 SMALL HALL

14:00	691-002	GPU-based Binary Adaptive Ray Casting for Freeform Objects with Perturbation Functions	S.I. Vyatkin, M. Gorodilov, and B.S. Dolgovesov (Institute of Automation and Electrometry SB of RAS, Novosibirsk, Russia )
14:20	691-023	Some Aspects of Creating Presentation Systems based on the Technology of Integrated Virtual Reality	B.S. Dolgovesov, B.S. Mazurok, V.G. Vandanov, M.A. Kovalkov, A.V. Pavlov, and B.B. Morozov (Institute of Automation and Electrometry SB of RAS, Novosibirsk, Russia )

Time	Paper #	Paper Title	Authors
14:40	691-066	Generation of Isosurface on a Large Mesh	A.A. Akayev <sup>1</sup> , B.N. Chetverushkin <sup>2</sup> , A.K. Kuzin <sup>3</sup> , N.N. Shabrov <sup>3</sup> , S.G. Orlov <sup>3</sup> , and M.V. Iakovovski <sup>4</sup> ( <sup>1</sup> Moscow State University, <sup>2</sup> Institute for Mathematical Modeling of RAS, Moscow; <sup>3</sup> St. Petersburg State Polytechnical University, St. Petersburg; <sup>4</sup> Institute for Mathematical Modeling of RAS, Moscow, Russia)
15:00	691-081	Computer Visualization and Cognitive Graphics Tools for Applied Intelligent Systems	A.E. Yankovskaya <sup>1</sup> , D.V. Galkin <sup>2</sup> , and G.E. Chernogoryuk <sup>3</sup> ( <sup>1</sup> Tomsk State University of Architecture and Building; <sup>2</sup> Tomsk State University; <sup>3</sup> Siberian State Medical University, Tomsk, Russia)
15:20	691-029	Method of Surveillance Devices Arrangement on Terrain	M.V. Gashnikov and V.A. Fedoseev (Image Processing Systems Institute of RAS, Samara, Russia)
15:40	691-075	Ontology to Support Web Design Activities in E-Commerce Software Development Process	M. Bakaev and T. Avdeenko (Novosibirsk State Technical University, Novosibirsk, Russia)
16:00	691-072	Suppression of Patterning Effects in Digital Communications by an Adaptive Constrained Coding	A. Skidin <sup>1</sup> , M. Fedoruk <sup>1,2</sup> , A. Redyuk <sup>1</sup> , O. Shtyrina <sup>1</sup> , A. Shafarenko <sup>3</sup> , and S.K. Turitsyn <sup>4</sup> ( <sup>1</sup> Institute of Computational Technologies SB of RAS; <sup>2</sup> Novosibirsk State University, Novosibirsk, Russia; <sup>3</sup> Department of Computer Science University of Hertfordshire; <sup>4</sup> Photonics Research Group, Aston University, United Kingdom)

## ICT - DISTRIBUTED PROCESSING AND DATABASE TECHNOLOGY

### CHAIR:

Marat Khairtdinov (Institute of Computational Mathematics and Mathematical Geophysics SB of RAS, Novosibirsk, Russia)

### WEDNESDAY, June 16, 2010 Room # 223

14:00	691-012	A Parallel Version of the Particle-in-Cell Method with Adaptive Mass Alteration	A.V. Snytnikov, V.A. Vshivkov, and T.V. Snytnikova (Institute of Computational Mathematics and Mathematical Geophysics SB of RAS, Novosibirsk, Russia)
14:20	691-014	Corporate Network FEB RAS: New Ways of Development	S.I. Smagin, A.A. Sorokin, and S.V. Makogonov (Computer Centre FEB of RAS, Khabarovsk, Russia)
14:40	691-033	The Performance of Specialized Data Warehouses Increasing	K. Badmaeva (Institute of Computational Modelling SB of RAS, Krasnoyarsk, Russia)
15:00	691-034	Distributed Processing of Signals in Seismic Monitoring Networks	M.S. Khairtdinov, G.M. Voskoboinikova, and G.F. Seduhina (Institute of Computational Mathematics and Mathematical Geophysics SB of RAS, Novosibirsk, Russia)
15:20	691-010	Network Processing of Vibroseismic Data using the WOS Filters	A.P. Grigoruk and V.I. Znak (Institute of Computational Mathematics and Mathematical Geophysics SB of RAS, Novosibirsk, Russia)

Time	Paper #	Paper Title	Authors
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### CDA – CONTROL (CONTINUED)

#### CHAIRS:

Galina Frantsuzova (Novosibirsk State Technical University, Novosibirsk, Russia)

Anatoly Vostrikov (Novosibirsk State Technical University, Novosibirsk, Russia)

#### WEDNESDAY, June 16, 2010 Room # 220

09:00	692-044	Tracking in Linear MIMO Systems under Unknown External Disturbances	S.A. Krasnova and V.A. Utkin (Institute of Control Sciences of RAS, Moscow, Russia)
09:20	692-045	Application of Relay Controller for Extremum Seeking in Nonlinear System	G.A. Frantsuzova (Novosibirsk State Technical University, Novosibirsk, Russia)
09:40	692-048	Control System with Additive Adjustment on Basis of Velocity Vector Method	O.Ya. Shpilevaya (Novosibirsk State Technical University, Novosibirsk, Russia)
10:00	692-060	High-Frequency-Gain Identification and Gain Tuning in Nonlinear Singularly Perturbed Control Systems	O.V. Bocharova and V.D. Yurkevich (Novosibirsk State Technical University, Novosibirsk, Russia)
10:20	692-071	Computation of Reachable Sets Guaranteed Bounds	A.N. Rogalyov (Institute of Computational Modelling SB of RAS, Krasnoyarsk, Russia)
10:40	692-073	Robust Adaptive Control of Uncertain Input-Perturbed Systems via a Singular Perturbation Redesign through Dynamic High-Gain Scaling	P. Krishnamurthy and F. Khorrami (Polytechnic Institute of NYU, Brooklyn, NY, USA)
<b>11:00 - 11:20 COFFEE BREAK</b>			
11:20	692-017	World Dynamics Evolution Management Applying the Model of Forrester by Parametrical Regulation	A.A. Ashimov, B.T. Sultanov, Zh.M. Adilov, Yu.V. Borovskiy, D.T. Aidarkhanov, As.A. Ashimov, Yu Yaoguo (The Kazakh National Technical University, Almaty, Kazakhstan)
11:40	692-021	Elements of the Parametrical Regulation Theory based on One Class of Computable General Equilibrium Models	A.A. Ashimov, B.T. Sultanov, Zh.M. Adilov, Yu.V. Borovskiy, N.Yu. Borovskiy, As.A. Ashimov, Yu Yaoguo (The Kazakh National Technical University, Almaty, Kazakhstan)
12:00	692-042	Bifurcation of Extremals in the Parametric Control Problem for the Three-Sector Model of Economy	A.A. Ashimov <sup>1</sup> , Yu.V. Borowski <sup>1</sup> , D.B. Nurseitov <sup>2</sup> , S.Ya. Serovajski <sup>3</sup> , and B.T. Sultanov <sup>1</sup> ( <sup>1</sup> Satpayev KazNTU; <sup>2</sup> Abay KazNPU; <sup>3</sup> al-Farabi KazNU, Almaty, Kazakhstan)

#### 13:00 - 14:00 DINNER

### CDA - MODELING AND SIMULATION

#### CHAIRS:

Konstantin Budnikov (Institute of Automation and Electrometry SB of RAS, Novosibirsk, Russia)

Gennadiy Lbov (Sobolev Institute of Mathematics SB of RAS, Novosibirsk, Russia)

#### WEDNESDAY, June 16, 2010 Room # 223

09:00	692-031	New Algorithm for Klystrons Amplitude Frequency Characteristics Optimizing	G.M. Antonova (Institute of Control Sciences of RAS, Moscow, Russia)
09:20	692-059	A Method of Interval Prediction based on Logical Regularities	G.S. Lbov, M.K. Gerasimov, and G.L. Polyakova (Sobolev Institute of Mathematics SB of RAS, Novosibirsk, Russia)
09:40	692-053	Co-ordination of Expert Statements in Pattern Recognition Problems	A.A. Tolstik and G.S. Lbov (Sobolev Institute of Mathematics SB of RAS, Novosibirsk, Russia)

Time	Paper #	Paper Title	Authors
10:00	692-065	Modeling Stiff Hybrid Systems of High Dimension in ISMA	Yu.V. Shornikov <sup>1</sup> , E.A. Novikov <sup>2</sup> , M.S. Denisov <sup>1</sup> , I.N. Tomilov <sup>1</sup> , and D.N. Dostovalov ( <sup>1</sup> Novosibirsk State Technical University, Novosibirsk, <sup>2</sup> Institute of Computational Modelling SB of RAS, Krasnoyarsk, Russia)
10:20	692-030	Real Time Modeling of Flame Front Evolution by Kinematical Model	A.V. Menschikov <sup>1</sup> , B.S. Mazurok <sup>1</sup> , B.S. Dolgovesov <sup>1</sup> , R.V. Fursenko <sup>2</sup> , and S.S. Minaev <sup>2</sup> ( <sup>1</sup> Institute of Automation and Electrometry SB of RAS; <sup>2</sup> Khristianovich Institute of Theoretical and Applied Mechanics SB of RAS, Novosibirsk, Russia)
10:40	692-062	Distributed Plants Intelligent Monitoring using Information Models of States	S.K. Andryushkevich and S.P. Kovalyov (Design Technological Institute of Digital Techniques SB of RAS, Novosibirsk, Russia)
<b>11:00 - 11:20</b>		<b>COFFEE BREAK</b>	
11:20	691-018	Modern Hardware to Simulate Tsunami Wave Propagation	M.M. Lavrentiev <sup>1,2</sup> and A.A. Romanenko <sup>2</sup> ( <sup>1</sup> Sobolev Institute of Mathematics SB of RAS; <sup>2</sup> Novosibirsk State University, Novosibirsk, Russia)
11:40	692-055	Development and Testing of the Automated System of Supervisor Subway Traffic Control with the Use of the Relay-based Interlocking System Model	S.A. Belokon, V.V. Vasilev, M.N. Filippov, and A.P. Yan (Institute of Automation and Electrometry SB of RAS, Novosibirsk, Russia)
12:00	692-029	Software Modeling of Email Sensor	K.I. Budnikov, A.V. Kurochkin, and S.A. Lylov (Institute of Automation and Electrometry SB of RAS, Novosibirsk, Russia)
<b>13:00 - 14:00</b>		<b>DINNER</b>	

## ACIT - OIT

### OIT - OPTICAL INFORMATION TECHNOLOGY

#### CHAIRS:

Victor P. Korolkov (Institute of Automation and Electrometry SB of RAS, Novosibirsk, Russia)

Gennady G. Levin (All-Russian Research Institute of Optical and Physical Measurements (VNIIOFI), Moscow, Russia)

#### WEDNESDAY, June 16, 2010 Room # 220

14:00	693-007	Influence of Phase Changes on Reflection on Surface Measurements in Optical Profilometry	G.G. Levin, G.N. Vishnyakov, N.N. Moiseev, and V.L. Minaev (All-Russian Research Institute for Optical and Physical Measurements, Moscow, Russia)
14:20	693-008	Definition of Object Near Nanometer Shifting by 2D Optical Path Difference	G. Levin <sup>1</sup> , V. Minaev <sup>1</sup> , N. Moiseev <sup>1</sup> , and Ya. Ilyushin <sup>2</sup> (All-Russian Research Institute for Optical and Physical Measurements; <sup>2</sup> M.V. Lomonosov Moscow State University, Moscow, Russia)
14:40	693-018	Nano-Particle Material Classification by Focused Gaussian Beam Scattering	E. Hemo, B. Spektor, and J. Shamir (Department of Electrical Engineering, Technion – Israel Institute of Technology, Haifa, Israel)
15:00	693-013	Multilayer Microholographic Storage and Two-Photon Recording Materials	I. Steinberg, Yu.A. Shepetkin (Institute of Automation and Electrometry SB of RAS, Novosibirsk, Russia)

Time	Paper #	Paper Title	Authors
15:20	693-014	Table Top Terahertz Spectrometer based on Fiber Laser	V.D. Antsygin, A.A. Mamrashev, and N.A. Nikolaev (Institute of Automation and Electrometry SB of RAS, Novosibirsk, Russia)
16:00	693-015	Diffractive Polypropylene Lenses for Terahertz Radiation	V.M. Vedernikov <sup>1</sup> , P.M. Dutov <sup>1</sup> , A.I. Kokarev <sup>1</sup> , B.A. Knyazev <sup>2,3</sup> , I.G. Palchikova <sup>1,3</sup> , M.F. Stupak <sup>1,3</sup> , and Yu.V. Chugui <sup>1,3</sup> ( <sup>1</sup> Technological Design Institute of Scientific Instrument Engineering SB of RAS; <sup>2</sup> Budker Institute of Nuclear Physics SB of RAS; <sup>3</sup> Novosibirsk State University, Novosibirsk, Russia)
16:20 - 16:40	<b>COFFEE BREAK</b>		

### SOCIAL PROGRAM

#### **WEDNESDAY, June 16, 2010 Novosibirsk Opera and Ballet Theatre**

18:30                      Swan Lake (P. Tchaikovsky)                      Ballet in 4 acts  
Departure from House of Scientists at 16:40