

ECIT'2002

Iasi City, Romania, July 17-20, 2002

ROSYCS 2002

This Joint Conference is organized under the aegis of:

The Romanian Academy, Iasi Branch, and
The Romanian Academy, Section for Information Sciences

Local Organizers

The Municipality of Iasi

The Technical University of Iasi
Faculty of Electronics and Telecommunications
Faculty of Automatic Control and Computer Engineering

The University “Al. I. Cuza” of Iasi
Faculty of Mathematics
Faculty of Informatics

The National Institute for Inventics, Iasi

ECIT'2002

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Consortium of International Organizers and Supporting Institutions

BMFSA Biomedical Fuzzy Systems Association (Japan)
European Laboratory for Intelligent Technology (Germany)
SICC Societa Italiana 'Caos & Complessita', Italy
FLSI Fuzzy Logic Systems Institute, Iizuka, Japan
Faculty of Electronic Engineering and Neurolab, University “Mediterranea” of Reggio Calabria, Italy
Dipartimento Matematica e Informatica, Universita' degli Studi di Udine, Italy
National Institute for Research and Development in Informatics, Bucharest
BUFSA Balkan Union for Fuzzy Systems and Artificial Intelligence
The Institute for Artificial Intelligence (Bucharest) of the Romanian Academy
The Institute for Theoretical Informatics (Iasi) of the Romanian Academy
Faculty for Bio-Engineering, University of Medicine “Gr.T. Popa”, Iasi, Romania
SRSF The Romanian Society for Fuzzy Systems
The Commission for Fuzzy Systems and AI of the Romanian Academy, Iasi Branch
The Romanian Academy Commission for information Technology for the Romanian Language
The International Journal of Chaos Theory & Applications
Fuzzy Systems and AI Journal (Romanian Academy Publishing House)

Supported by

Romanian Academy - Iasi Branch
Technical University of Iasi
University “Al. I. Cuza” Iasi
The Institute for Theoretical Informatics (Iasi) of the Romanian Academy

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Iasi County Council
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ROSYCS 2002

ROSYCS'2002 Scientific Committee

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and Isaac Scherson, UCI, USA

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Bulgaria
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Marek Tudruj, ICS PAS/PJIT, Poland
Toshitsugu Yuba, University of
Electrocommunications, Japan
David Walker, Cardiff University, UK

ECIT'2002

Iasi City, Romania, July 17-20, 2002

July 16, 11:00 – 11:50 a.m.

Group of Laboratories for Intelligent Systems & BME, Technical University of Iasi

11:00 – 11:50 a.m.

Medical Devices Regulation on European Union

S. Loznen

Head of Medical Devices Evaluation Services

The Standards Institution of Israel, Tel Aviv, Israel

11:50-12:20

A new Science Frontier: Computing and Measuring with Attractors

H.N. Teodorescu

Romanian Academy

The fee for the Tutorials attendance is NOT included in the Conference fee. Please contact the ECIT2002 Conference organizers.

Program of ECIT'2002 & ROSYCS'2002 Joint Conference

ECIT'2002

Iasi City, Romania, July 17-20, 2002

ROSYCS 2002

Opening Session and Plenary Sessions (Joint opening session ROSYCS and ECIT)

July 17, 2002, 9:00 a.m. Historical Auditorium of the Technical University "Gh. Asachi" of Iasi

Press Conference 8:30-9:00

Opening Addresses 9:00-9:30

- Welcome Address, Chairman of the ECIT'2002 Conference
- Opening Address, Acad. V. Barbu, President, Iasi Branch of the Romanian Academy
- Opening Address, County Chief Officials
- Opening Address, City Chief Officials
- Opening Addresses, Vice-Rector Prof. Ion Giurma, Technical University "Gh. Asachi" of Iasi
- Opening Address, Vice-Rector Prof. Toader Jucan, University "Al.I. Cuza"
- Opening Address, Prof. Vitalie Belousov, General Director, National Institute for Inventics
- Address from the Guests: Prof. Junzo Watada, President BMFSA, Japan

Plenary lectures

First day Plenary Session

9.30- 10.20

On Recent Progresses of Soft-computing Approaches to Portfolio Selection Problems

Junzo Watada

President, BMFSA, Japan

10.20-10.40 Coffee break

10.40-11.30

Constructing Correct Communicating Systems of Mobile Objects

Traian Muntean

Marseille University, France

11.30-11.50 Coffee break

Second day Plenary Session (ECIT; also opened to ROSYCS participants)

July 19, 2002

Image Data Compression/Reconstruction using Fuzzy Relational Equation

K. Hirota

President, SOFT, University of Tokyo, Japan

Timetable

(tentative)

July 17

	Historic Hall TUI	Main Hall of the Romanian Academy – Iasi Branch	Auditorium P6, Technical University of Iasi	Auditorium P8, Technical University of Iasi	Council Hall of the Faculty of Electronics, TUI
11:50-13:00	ROSYCS	-	-	-	-
14:30-16:30	-	Genetic Algorithms	Speech Processing 1	Simulation of Electronic Systems	Hardware for Intelligent Systems
17:00-20:00	Iasi Sightseeing				

July 18

	Hall of the Faculty of Computer Science, UAIC	Hall of the Faculty of Mathematics, UAIC	Main Hall of Romanian Academy – Iasi Branch	Auditorium P6, Technical University of Iasi	Council Hall of Romanian Academy – Iasi Branch	Auditorium P8, Technical University of Iasi	Hall of the Group of Labs on Intelligent Systems & BME
9:00-10:30	ROSYCS	Mathematics of Fuzzy and Intelligent Systems	Fuzzy & Neuro-Fuzzy	Intelligent Software and Control	Dynamics and Chaos 1	Knowledge-based Systems 1	Demo Session Book Exhibition
10:30-10:45		BREAK					
10:45-12:30		Mathematics of Fuzzy and Intelligent Systems	Image Processing	Intelligent Software and Control	Internet-based Systems	Speech 2	
13:00-15:00		LUNCH					
15:00-16:30	ROSYCS		Fuzzy and Neuro-Fuzzy Systems	Intelligent Software and Control	Dynamics and Chaos 2	Intelligent Systems in Medicine 1	-
16:30-16:45	ROSYCS	BREAK					
16:45-18:00		-	Intelligent Systems in Medicine 2		Dynamics and Chaos 3		-

July 19

	Hall of the Faculty of Computer Science, UAIC	Main Hall of Romanian Academy – Iasi Branch	Auditorium P6, Technical University of Iasi	Hall Group of Labs on Intelligent Systems & BME
9:00-10:30	ROSYCS	Intelligent Systems in Medicine 3	KBS 2 (Knowledge-based Systems 2)	Demo Session Book Exhibition
10:30-10:45	BREAK			
10:45-12:30	ROSYCS	PLENARY SESSION #2 ECIT (Speakers Prof. K. Hirota) Awards Ceremony including MOISIL PRIZE Ceremony		
12:30-15:00	LUNCH			
15:00-16:30		Round-Table on Medical Applications		

Symposium on Mathematics of Intelligent Systems

Thursday, July 18, 9:00-10:30 and 15:00-16:30

Council Hall of the Mathematics Faculty, "AL. I. Cuza" University, Iasi

Chairman: Prof. Dr. C. Ilioi ("AL. I. Cuza" University, Iasi)

Development of Algebra for Intelligent Technologies

M. Stefanescu

University of Constanta, Constanta, Romania

Fuzzy Sets, Rough Sets and Hyperstructures

P. Corsini

University of Udine, Udine, Italy

Fuzzy structures and Galois Theory

C. Volf

"Al. I. Cuza" University, Iasi, Romania

First Step in Hypermodules Homology

M. Gontineac

"Al. I. Cuza", University, Iasi, Romania

Finite Fields and Cryptography

Ennio Cortellini

Dept. MET, University of Teramo, Italy

Semigroups and Hyperstructures

V. Leoreanu

"Al. I. Cuza", University, Iasi, Romania

True Defuzzification – The Average Level of a Fuzzy Set

D. Ralescu

University of Cincinnati, Cincinnati, USA

An Algebra of Fuzzyness Concepts, the Operation of Subcategorization and Derivative Categories of Logics

G. Ceausu

University "Al. I. Cuza", Iasi, Romania

Special Classes of Hypergroups Representations

M. Tarnauceanu

University "Al.I. Cuza", Iasi, Romania

Session on Genetic and Evolutionary Algorithms and Programming

Main Hall of the Romanian Academy, Iasi Branch July 17, 14:30-16:30

Chairman: Prof. D. Dumitrescu

Evolutionary Reorganization in MAS

D. Dumitrescu, C. Florea, P. Patranjan

University "Babes-Bolyai", Cluj-Napoca, Romania

Electrical Load Time Series Analysis and Forecasting Approaches (Preliminary Results)

A. Brezulianu

Technical University "Gh. Asachi", Iasi, Romania

Changing the Fuzzy Rules in Crossover Stage (Genetic Algorithm Optimization)

L. V. Boiculese, H. Costin

University of Medicine and Pharmacy "Gr.T.Popa", Iasi, Romania

Classic Genetic Algorithm Approach for Solving Multiple Traveling Salesman Problem

A. Brezulianu, I. Gradinaru, A. Vinca

Technical University "Gh. Asachi", Iasi, Romania

Symposium on Fuzzy, Neuro-Fuzzy, and Neural Systems

Symposium Co-Chairs: Prof. Junzo Watada, Prof. Sadayasu Shibata

Organizers:

BMFSA (Japan), SRSF, BUFSA, Commission for Fuzzy Systems & AI, Romanian Academy, TT Ltd.

Advisory Committee Members

Masaharu Mizumoto, Torao Yanaru, Junzo Watada, Hideyasu Hirano,
Sadayasu Shibata, Masahiro Nakano, Mikio Maeda

Session 1

Main Hall of the Romanian Academy, 18 July, 9:00-10:30

Chairman: Prof. J. Watada, Japan

Co-Chairman: Prof. S. Arita

Formulation of Fuzzy Switching Autoregression Model (FSAI)

J. Watada

School of Industrial Management Osaka Institute of Technology, Osaka, Japan

Fuzzy Adaptive Controller for Monitoring and Maintaining in Normal Parameters of Glycemia

C. M. Dumitrascu

Iasi, Romania

Improving Dynamic Personalisation Using a Neuro-Fuzzy System for Wireless Applications

M. Cremene, S. Zahan, I. Benta, R. Padureanu

Technical University, Cluj-Napoca, Romania

Muscle Rehabilitation using a Fuzzy Controlled Stimulator

R. Ciorap, I. Raducanu, F. Topoliceanu, A. Stratone

University of Medicine and Pharmacy "Gr.T.Popa", Iasi, Romania

Contributions to Decision Theory with Fuzzy Characteristics

P. Tacu¹, V. Stefan²

University "AL. I. Cuza", Iasi, Romania¹, Technical University "Gh. Asachi", Iasi, Romania²

Modeling of Intelligent Training System by Generalized Nets

K. Atanassov, D. Orozova, H. Aladjov

Center for Biomedical Engineering, Bulgarian Academy of Sciences, Sofia, Bulgaria

Session 2

Main Hall of the Romanian Academy, 18 July, 15:00-16:30

Chairman: Prof. J. Watada, Japan

Co-Chairman: Prof. S. Ogata

VLSI Implementation of the Fuzzy Image Filtering

N. Bizon, R. Raducu

Pitesti University, Pitesti, Romania

Level Predictive Control for a Drum Boiled

D. Andone

University "Politehnica", Bucharest, Romania

Fuzzy Model of the Fly Electroretinogram

D. E. Creanga

"Al. I. Cuza" University, Iasi, Romania

Adaptive Fuzzy Control for Audio System

M. Hnatiuc

Technical University "Gh. Asachi", Iasi, Romania

On the Generalized Net Representation of Multi-Agent Systems

T. Trifonov, K. Atanassov

Center for Biomedical Engineering, Bulgarian Academy of Sciences, Sofia, Bulgaria

A Gradient Based Algorithm for a Sugeno (Type 0) Fuzzy System

B. Branzila, O. Geman, L. Fira

Technical University "Gh. Asachi", Iasi, Romania

Symposium on Dynamic Systems, Chaos Theory and Applications

Chairman: Prof. S. Arita

Co-Chairman: Prof. S. Ogata

Symposium Scientific Committee

S. Arita (Japan), S. Ogata (Japan), J. Watada (Japan), C. Ciubotariu (Romania), E. Sofron (Romania)

Session 1. Methods and Theoretical Issues

Council Hall, Romanian Academy-Iasi Branch, July 18, 9:00 – 10:30

Chairman: Prof. S. Arita, Japan

Co-Chairman: Prof. J. Watada

Organizers:

Group of Labs for Intelligent Systems and BME
BMFSA

Characteristics of Chaotic Behavior Based on the Logistic Model and Its Application

K. Yoshii¹, S. Arita²

Kansai Medical University, Kansai, Japan¹

Kansai Medical School, Kansai, Japan²

Time Series Analysis of Electrocardiogram and Pulse Wave Responses

Seizaburo Arita¹, Kengo Yoshii², Shunichi Ishihara³, Takahisa Takeda³

Kansai Medical School, Kansai, Japan¹,

Kansai Medical University, Kansai, Japan²,

Takeda Hospital, Takeda, Japan³

Chaotic Beltrami Fields and Applications

C. Ciubotariu, C. Marin

Technical University “Gh. Asachi”, Iasi, Romania

A New Nonlinear Control Method: The Open + Closed Loop (OPCL) Method for Complex Systems

I. Grosu

University of Medicine and Pharmacy “Gr.T. Popa”, Iasi, Romania

Evaluation of Load of Multi-Task Unix OS by Fractal Theory and ITS Generation Mechanism

Masaya Sechimoto¹⁾ and Sumitoshi Ogata²⁾

¹⁾*Implex, Ltd., Kitakushu, Japan*

²⁾*Dept. Control Eng. And Science, Kyushu Institute of Technology, Iizuka, Japan,*

Session 2. Applications

Council Hall, Romanian Academy-Iasi Branch, Iasi, July 18, 15:00-16:30

Chairman: Prof. S. Ogata

Co-Chairman: Prof. E. Sofron

Search for Evidence of Chaotic Behavior of the Human Hemoglobin-A upon Molecular Oxygen Binding

A. Isvoran

University of the West Timisoara, Timisoara, Romania

Chaotic Behavior of Hourly-based Tide Level Fluctuations Influenced by A Strong Ocean Current and

Visualization of Its Phase Shift Process by Wavelet by Transform

Kenta Kirimoto and Sumitoshi Ogata

Kyushu Institute of Technology, Iizuka, Fukuoka 820-8502, Japan

Deflection Reduction Control for a Simply Supported Beam with a Travelling Mass

Y. G. Sung¹, H. H. Joo²

Chousun University, Korea¹

Yeungnam University, Korea²

Applications of Dynamic Chaotic Systems

I. Tutanescu, E. Sofron, D. Scheianu, C. Irimia

University of Pitesti, Pitesti, Romania

Controlling Arbitrary Chaotic Systems

I. Grosu

University of Medicine and Pharmacy “Gr.T. Popa”, Iasi, Romania

Fractal Dimension in *Quercus* Leaves

I.Al.Creanga¹, S. Oancea², D. Creanga³

Forestry Territorial Office, Iasi, Romania¹,

“Ion Ionescu Dela Brad” University of Agronomy and Veterinary Medicine, Iasi, Romania²,

“Al. I. Cuza” University, Iasi, Romania³

Session 3. Session on Ganglions and T-ganglions

Council Hall, Romanian Academy-Iasi Branch, Iasi, July 19, 16:45-18:00

Chairman: Prof. S. Arita

Co-Chairman: Prof. C. Ciubotariu

Artificial Ganglions, the Measuring with Chaos Fundamentals, and T-Ganglions

H. N. Teodorescu

Technical University "Gh. Asachi", Iasi, Romania

Soft Implementation of T-Ganglions

B. Branzila

Technical University "Gh. Asachi", Iasi, Romania

Dynamic Behavior of Artificial Ganglions and T-Ganglions

M. Babii, B. Branzila, M. Peredelcu, M. Hnatiuc

Technical University "Gh. Asachi", Iasi, Romania

Experimental Results for an Artificial Retina Based on Chaotic T-Ganglions

H. N. Teodorescu, C. Iov, R. Corban, D. Dobrea, C. Zamfir

Technical University "Gh. Asachi", Iasi, Romania

A Temperature Sensor Based on T-Ganglions Mimicking Natural Sensing

C. Zamfir

Technical University "Gh. Asachi", Iasi, Romania

Symposium on Knowledge-based Systems, Expert Systems, and Knowledge Discovery

Session 1

Auditorium P8 TUI, July 18, 9:00-10:30

Chairman: Prof. K. Pusztai

Co-Chairman: Prof. D. Galea

A Prolog Remote Predicate Call Protocol

A. Suci, K. Pusztai, T. Muresan

Technical University, Cluj-Napoca, Romania

Knowledge Acquisition for a System's Flowchart Elaboration –A Model of an Expert System

A. Clime, D. Galea, C. Nita, C. S. Vicol

Institute of Theoretical Informatics, Romanian Academy, Iasi Branch, Romania

Expert System Use in Telemedicine

M. N. Stefanescu¹, S. Puscoci²

Clinical Hospital "Coltea", Bucharest, Romania¹,

National Communication Research Institute, Bucharest, Romania²

An Model for Manufacturing Systems Analysis

C. Ciufudean, G. Mahalu

"Stefan Cel Mare" University, Suceava, Romania

Using the Base of Global Implications Resulting from the Association Rule Problem

L. Dumitriu

"Dunarea de Jos" University, Galati, Romania

Knowledge Representation through Interactive Networks

F. Leon, D. Galea, M. Zbancioc

Institute Of Theoretical Informatics, Romanian Academy, Iasi Branch, Romania

Session 2

Hall P6 TUI, July 19, 9:00 – 10:30

Chairman: Prof. K. Puszta

Co-Chairman: Prof. D. Pop

On Computational Knowledge: A Semiotic Approach

T. D. Stanculescu

“Al. I. Cuza” University, Iasi, Romania

Nonmonotonic Inference Operation for Default Logic

M. Lupea

University “Babes-Bolyai”, Cluj-Napoca, Romania

Combining Expert System Shells with Database Management System

D. Pop, V. Negru, H. Popa

University of the West, Timisoara, Romania

Toward a Diagnosis System Using Nuclear Medicine Image Processing

M. Costin, M. Zbancioc, A. Ciobanu, C. Stefanescu

Institute Of Theoretical Informatics, Romanian Academy, Iasi Branch, Romania

Material Computer-Aided Selection in Engineering Design

G. Musca, E. Musca

Institute for Theoretical Informatics, Romanian Academy, Iasi Branch, Romania

Symposium on Speech Processing and Natural Language

Co-organized by

Technical University of Iasi and

The Commission for the Information Sciences for the Romanian Language, Romanian Academy

Scientific Committee

Corneliu Burileanu (Romania), Dan Tufis (Romania), Dan Cristea (Romania), Florin Grigoras (Romania), Horia-

Nicolai Teodorescu (Romania)

Session 1. Speech Synthesis

Auditorium P6, Technical University, Iasi 18 July, 14:30-16:30

Chairman: Prof. C. Burileanu

Co-Chairman: Prof. F. Grigoras

Speech Coding Techniques on Motorola DSP-Based Platforms

C. Burileanu, A. Fecioru, D. Ion, R. Preda

Politehnica University, Bucharest, Romania

An ANN-Based Method to Improve the Phonetic Transcription Module of a TTS System for the Romanian Language

D. Jitca, V. Apopei, F. Grigoras

Institute of Theoretical Informatics, Romanian Academy, Iasi Branch, Romania

Text-to-Speech System for Romanian Language Based on Formantic Synthesis

D. Jitca, V. Apopei, F. Grigoras

Institute of Theoretical Informatics, Romanian Academy, Iasi Branch, Romania

Session 2. Speech Analysis and Recognition. Natural Languages

Auditorium P8, Technical University, Iasi 18 July, 10:45-16:30

Chairman: Prof. M. Costin

A Neural Network Approach in Acoustic Speech Recognition

C. Burileanu, A. Roman, L. Guta, C. Ciochina

Politehnica University, Bucharest, Romania

Segmentation Algorithm for Clause-Type Textual Units

D. Galea, C. Lintes, G. Holban, C. Bolea

Institute of Theoretical Informatics, Romanian Academy, Iasi Branch, Romania

Linguistic Expert System for Syllable Decomposition in order to Establish the Accent for Speech Processing

M. Costin, M. Zbancioc

Institute of Theoretical Informatics, Romanian Academy, Iasi Branch, Romania

Elements of a Functional X-Bar Theory within the SCD Linguistic Strategy

N. Curteanu

Institute of Theoretical Informatics, Romanian Academy, Iasi Branch, Romania

Session on Image Processing and Recognition

Main Hall of the Romanian Academy- Iasi Branch, July 18, 10:45-12:30

Chairman: R. Oliveira

Co-Chairman: S. Bejinariu

Organizer: Institute for Information Science, Iasi

Advances in Portuguese Geographical Document Analysis

H. Shahbazkia, T. Candeias, F. Tomaz, R. Oliveira

Universidade Do Algarve – UCEH, BIF Laboratory, Campus De Gambelas, Portugal

3D Surface Simplification Algorithm

S. Bejinariu, M. Roman, F. Rotaru

Institute for Computer Science, Romanian Academy, Iasi, Romania

Graphic Symbols Generator for the Phonetic Transcription of the Romanian Language

V. Apopei, S. Bejinariu, M. Roman

Institute for Computer Science, Romanian Academy, Iasi, Romania

Graph Based Image Pre-Processing and Segmentation

M. Roman, S. Bejinariu

Institute for Computer Science, Romanian Academy, Iasi, Romania

Binary Image Processing Operations with Modified Cellular Neural Networks

Radu P. Matei

Technical University “Gh. Asachi”, Iasi, Romania

A Face Recognition Algorithm Based on Geometrical Model

I. Mitrache

Power SRL, Bucharest, Romania

Iconographic Image Processing in 2D and 3D systems

I. Sandu, N. Slitanu, I.C.A. Sandu, I.G. Sandu

Univ. Al. I. Cuza Iasi, Romania

The Use of Wavelet Transform in Multi-dimension of Images

A. Liviu

Technical University “Gh. Asachi”, Iasi, Romania

Automatic Two-Dimensional Mesh Generation

I. Pavaloi, C. Bolea

Institute for Computer Science, Romanian Academy, Iasi, Romania

Session on Hardware for Intelligent Systems

Council Hall of Faculty of Electronics, Technical University “Gh. Asachi”, Iasi, July 17, 14:30-16:30

Chairman: C. Ciufudean

Co-Chairman: H. Carstea

Volterra Analyses in F.E.T. Microwave Oscillators

G. Anastasiu, C. Ciufudean

Faculty of Electrical Engineering, Suceava, Romania

Radio-Transmitter System for PC Controlled Structures

G. Mahalu, C. Ciufudean

Suceava University, Suceava, Romania

An equivalent Model of Noise for the Bipolar Operational Amplifier

H. C. Carstea, A. Avram

West University, Timisoara, Romania

Using X-ray Irradiation Model for Study of Integrated Circuits Behavior under Ionizing Conditions

A. Avram, H. C. Carstea

West University, Timisoara, Romania

Resonant – PWM Converter

I. Pletea, I. Raducanu

Technical University “Gh. Asachi”, Iasi, Romania

A 12-Bit Low-Pass Passive Sigma Delta Modulator With Built-In Mixer For 100 MHz IF Input

Dan Grosu

Technical University “Gh. Asachi”, Iasi, Romania

Controlling Harmonics while Improving Power Factor

I. Pletea

Technical University “Gh. Asachi”, Iasi, Romania

Symposium on Intelligent Systems and AI. Methods in Medicine and Biology (including Virtual Reality)

Session 1. Methods

Auditorium P8, TUI, Technical University, Iasi 18 July, 15:00-16:30

Chairman: Prof. S. Arita

Co-Chairman: Prof. C. Morabito

The *Whats* and the *Hows* of Risk Management

Steli Loznen

The Standards Institution of Israel, Tel Aviv 69977, Israel

Estimation of Model Parameters from Chaotic Time Series

M. Negoita, R. Ciorap, F. Topoliceanu, I. Grosu

University of Medicine and Pharmacy "Gr.T. Popa", Iasi, Romania

Discrete Wavelet Transform for Noise Removing in EMG Signal

Mihaela Ungureanu, Rodica Strungaru, Vasile Lazarescu

Politehnica University of Bucharest

Improving Cochlear Implant Parameters by Simulation Techniques

M. Costin, M. Zbancioc

Institute for Theoretical Informatics, Romanian Academy, Iasi Branch, Romania

Knowledge – Based System for Tremor Diagnosis and Medical Prescriptions

O. Geman

Technical University "Gh. Asachi", Iasi, Romania

Session 2 A. Methods

Main Hall of the Romanian Academy-Iasi Branch, July 18, 16:45-17:30

Chairman: Prof. V. Lazarescu

Co-Chairman: Prof. R. Strungaru

Time Series Analysis of Electrocardiogram and Pulse Waves Response

S. Arita¹, K. Yoshii¹, S. Ishimare², T. Takeda²

*Kansai Medical University, Kansai, Japan*¹

*Takeda Hospital, Japan*²

Wavelet Domain Independent Component Analysis (ICA) of Experimental Biomedical Data

C. F. Morabito

University "Mediterranea" of Reggio, Calabria, Italy

Artificial Neural Networks – An Alternative Method in the Selection of Human Origin Meant for the Varum

Correcting Tibial Osteotomy

A. Sfarghiu¹, M. Serban¹, H. Follet², R. Bardonnnet³

*University of Medicine and Pharmacy "Gr.T. Popa", Iasi, Romania*¹,

*Solid Mechanics Laboratory (LMSO), INSA Lyon, France*²

*TBF Laboratory, Lyon, France*³

Session 2 B. Methods

Main Hall of the Romanian Academy-Iasi Branch, July 19, 9:00-10:30

Chairman: Prof. V. Lazarescu

Co-Chairman: Prof. R. Strungaru

The Analysis of Isometric Loading on Biceps EMG Dynamics Using Linear and Nonlinear Tools

M. Negoita, C. Corciova, F. Topoliceanu, R. Ciorap

University of Medicine and Pharmacy "Gr.T. Popa", Iasi, Romania

A New Type of Noncontact 3D Multimodal Interface to Track and Acquire Hand Position and Tremor Signal

D. Dobrea

Technical University "Gh. Asachi", Iasi, Romania

Analysis of a Neuro-Fuzzy Predictor for ECG-Signal

L. Fira

Technical University "Gh. Asachi", Iasi, Romania

Session on Internet-based Systems and E-Commerce
Main Hall of the Romanian Academy-Iasi Branch, 19 July, 9:00-10:30
Chairman: Prof. S. Zahan

Firewalls: an Effective Solution for Internet Security

V. Iordan

West University, Timisoara, Romania

Designing Agent-Based Systems Using UML and Extensions

M. Dinsoreanu, I. Salomie, K. Pusztai

Technical University, Cluj-Napoca, Romania

Service Provider Intelligent Decision System for a Free 3G Market

S. Zahan¹, J. Bigham², M. Cremene¹, I. Benta¹

Technical University, Cluj-Napoca, Romania¹,

Queen Mary College, University of London, UK²

Content Management System of a new generation

A. Colesnicov, Ludmila Malahov

Institute for Applied Mathematics and Informatics, Chisinau (Kishnew), R. Moldova

Special Session on Simulation Techniques in Electronics

Auditorium P8, Technical University "Gh. Asachi", Iasi, July 17, 14:30-16:30

Chairman: Prof. A. Sarbu

Optimal Design of Three-Phase Rectifiers with Almost Sinusoidal Input Current

A. Sarbu, D. Alexa, I. Cleju

Technical University "Gh. Asachi", Iasi, Romania

Analysis of the Basic Elements for the Design of Printed Circuit Board Coreless Transformers

T. Goras, L. Goras, A. Maiorescu, R. Ghinea

Technical University "Gh. Asachi", Iasi, Romania

A VHDL Delay Modeling of Submicrometer CMOS Logic Inverters

D. Burdia

Technical University "Gh. Asachi", Iasi, Romania

Simulation Model for Mobile Radio Channels

C. Comsa, I. Alexandrescu, A. Maiorescu, I. Bogdan

Technical University "Gh. Asachi", Iasi, Romania

Ring Oscillator based on Current Conveyor.

N. Cojan, M. Derevlean, C. M. Pavaluta

Technical University "Gh. Asachi", Iasi, Romania

Symposium on Intelligent Software and Control Systems

Organizer: Faculty of Automatic Control and Computer Engineering, Technical University of Iasi

Chairman: Mihail Voicu (RO)

INTERNATIONAL PROGRAM COMMITTEE:

Mihai Bulea (CAN), Emil Ceanga (RO), Ion Dumitrache (RO), Paul M. Frank (GER), Dan Gâlea (RO), John Hallam (UK), Costin Hariton (RO), Traian Ionescu (RO), Mircea Ivanescu (RO), Robin De Keyser (B), Tiberiu Letia (RO), Neil Mort (UK), Roland J. Patton (UK), Mircea Petrescu (RO), Stefan Preitl (RO), Florin Rotaru (CAN), Roland Strietzel (GER), Alexandru Valachi (RO), Mihail Voicu (RO)

LOCAL ORGANIZING COMMITTEE:

Corneliu Lazar (chairman), Vasile Apopei, Letitia Mirea, Doru Panescu, Mihai Zaharia

Session 1. Intelligent Control Systems-1

Auditorium P6, Technical University, Iasi, 15:00-16:30

Chairman: Prof.dr.ing. Corneliu Lazar Co-Chairman: Prof.dr.ing. Doru Panescu

On Artificial Intelligence Use in Flexible Manufacturing Systems

D. Panescu, C. Lazar, S. Dumbrava, C. Braescu, V. Dorin

Technical University "Gh. Asachi", Iasi, Romania

Modeling Ca²⁺ Transients In A Burst Firing Neocortical Layer V Pyramidal Neuron

O. Paduraru

Institute for Theoretical Computer Science, Romanian Academy, Iasi Branch, Romania

Fuzzy reasoning method in sparse rule-based systems

L. Mastacan, I. Olah, C.C. Dosoftei

Technical University "Gh. Asachi", Iasi, Romania

Evolutionary Dynamic General Neural Networks Applied to System Identification

L. Ferariu, D. Brânzea

Technical University "Gh. Asachi", Iasi, Romania

Reliability Indexes Evaluation in Uncertainty Conditions

Gh. Cartina, Gh. Grigoras

Technical University "Gh. Asachi", Iasi, Romania

System Identification Using a Neuro-Fuzzy Technique

L. Mirea¹, T. Marcu²

¹*Technical University "Gh. Asachi", Iasi, Romania*

²*Gerhard-Mercator-Universität Duisburg, Germany*

Session 1. Intelligent Control Systems-2

Auditorium P6, Technical University, Iasi, 16:45-18:00

Chairman: Prof.dr.ing. Mihail Voicu Co-Chairman: Prof.dr.ing. Dan Gâlea

Improving Computer Supported Environmental-Friendly Product Development by Analysis of Data

I. Hamburg

Institut Arbeit und Technik, Wissenschaftszentrum Nordrhein-Westfalen Gelsenkirchen, Germany

Security related aspects of IT-Infrastructures

B. Kother, D. Hamburg

Institut Arbeit und Technik, Wissenschaftszentrum Nordrhein-Westfalen Gelsenkirchen, Germany

Unit Commitment Optimization by Interior-Point Method

Gh. Cartina, Gh. Grigoras

Technical University "Gh. Asachi", Iasi, Romania

Generalised Petri Nets in Performance Evaluation for Queueing Networks

M.-H. Matcovschi, C. Mahulea

Technical University "Gh. Asachi", Iasi, Romania

A statistical simulator based on a Monte Carlo method

C. Tugurlan¹, D. Secieru²

¹ "Gh.Asachi" Technical University of Iasi

² "Ovidius" University of Constanta

A Fast Method in Machine Printed Words Filtering

D. Cojocaru, E. Grimberg

Technical University "Gh. Asachi", Iasi, Romania

Demonstration Session

Hall of the Group of Laboratories for Intelligent Systems and Biomedical Engineering

Technical University "Gh. Asachi", Iasi

July 18, 9:00-12:30

July 19, 9:00-10:30

Organizers: H.N. Teodorescu, B.C. Branzila

Demonstration of Speech Compression Techniques on Motorola DSP Based Platforms

Corneliu Burileanu*, Radu Preda**, Andrei Fecioru*, Dragos Ion*

**Faculty of Electronics and Telecommunications, Politehnica University Bucharest, Romania*

***Motorola DSP Center Romania*

Speech Recognition based on Neural Networks

A. Roman

"Politehnica" University, Bucharest, Romania

A Virtual Mouse

D. M. Dobrea

Technical University "Gh. Asachi", Iasi, Romania

Digital Videoclip The [ARTE]FACT

F. Grigoras and D. Darvariu-Mereuta,

Arts University, Iasi

Multimedia Products by Team from Arts University, Utrecht, Holland – A Review

F. Grigoras

Arts University, Iasi

Digital Visual Arts Works by Students from the Arts University, Iasi – A Survey

F. Grigoras

Arts University, Iasi

Analyzing Chaotic Ganglions (Software Demonstration)

H. N. Teodorescu

Technical University "Gh. Asachi", Iasi, Romania

Software for ECG-Signal Prediction based on Neuro-Fuzzy Systems

L. Fira

Technical University "Gh. Asachi", Iasi, Romania

Chaotic Thermometer based on Teodorescu's Measuring Concept (Hardware Demonstration)

C. Zamfir

Technical University "Gh. Asachi", Iasi, Romania

An Artificial Ganglionic System

H. N. Teodorescu, C. Capra

Technical University "Gh. Asachi", Iasi, Romania

ROSYCS 2002



Symposium on Advanced Algorithms, Parallel Computing and Grid Computing

Wednesday, July 17

Session 1: Methods, Algorithms, Tools

11.50-12.10 Parallel Extension of a Dynamic Performance Forecasting Tool

E. Caron, F. Suter

Ecole Normale Supérieure de Lyon, Lyon, France

12.10-12.30 Distributed Threads in Java

D. Weyns, E. Truyen, P. Verbaeten

Katholieke Universiteit Leuven, Belgium

14.00-15.00 Agent Technology in Support of e-Commerce

Marcin Paprzycki

15.00-15.30 Coffee break

Session 2: Scheduling and load balancing

15.30-15.50 Designing and Developing Multi-Agent Systems

S. Alboaie, G. Ciobanu

Romanian Academy

15.50-16.10 A Recursive Method for Graph Scheduling

C. Taddonki

University of Geneva, Geneva, Switzerland

16.10-16.30 A Convergence Proof of FGDLS when the Workload is Monotonous

T. Tabirca¹, L. Freeman¹, S. Tabirca²

University of Manchester, Manchester, UK¹,

University College Cork, Cork, Ireland²

18.00-19.00 Cocktail ROSYCS'2002

Thursday, July 18

9.00-10.00 Grid Computing and Applications to Computational Biology

D. C. Marinescu

UCF, USA

10.00- 10.15 Coffee break

Session 3: Methods, Algorithms, Tools

10.15-10.35 Dynamic Load Balancing Strategies for Parallel Computers

A. Osman, H. Ammar

West Virginia University, Virginia, USA

10.35-10.55 A Database for Dynamic Distributed Content and its Application

W. Hoschek

CERN IT Division, Geneva, Switzerland

10.55-11.15 Implementing the WebCom 2 Distributed Computing Platform with XML

J. P. Morrison, P. Healy

University College Cork, Cork, Ireland

11.15-11.30 Coffee break

Session 4: Applications

11.30-11.50 Decomposition of the Computation Area in the Parallel Implementation of the FDTD Algorithm

W. Walendziuk, J. Forenc

Technical University of Bialystok, Bialystok, Poland

11.50-12.10 Implementation of the Approximate String Matching Application on a Cluster of Heterogeneous Workstations

P. D. Michailidis

University of Macedonia, Macedonia, Yugoslav Republic

12.10-12.30 Constructing Energy-Efficient Broadcast Trees in Wireless Ad Hoc Networks

A. T. Chronopoulos¹, S. Ponipireddy¹, J. Sarangapani²

University of Texas at San Antonio, San Antonio, USA¹,

University of Missouri-Rolla, Missouri-Rolla, USA²

12.30-14.00 Lunch

14.00-15.00 Utpal Banerjee - reserved topic

15.00-15.30 Coffee break

Session 5: Process Algebra

15.30-15.50 Testing Theories for Broadcasting Processes

C. Ene, T. Muntean

University of Marseilles, Marseilles, France

15.50-16.10 A Process Algebra for Predictable Control Systems

N. Marian

Danfoss A/S, Denmark

16.10-16.30 Development Methodology of Multichannel Symmetric Block Cypher Processors

A. Melnyk¹, T. Korkishk²

Lviv Polytechnic National University¹

Academy of National Economy, Ukraine²

17.00-19.00 Tour of Iasi (participants to ROSYCS'2002 only)

Friday, July 19

Hall of Computer Science Faculty, "AL. I. Cuza" University, Iasi

9.00-10.00 Hardware-Software Tradeoffs for High-Performance Application Specific Processors

A. Nicolau

10.00- 10.30 Coffee break

10.30-11.30 The UK e-Science Programme and the Grid

Tony Hey

Director UK e-Science, UK

11.30-11.40 Coffee break

Session 6: Grid, Cluster and P2P

11.40-12.00 Impact of a Realistic Workload in Peer-to-Peer Systems. A Case Study: Freenet

G. Da Costa, O. Richard

Laboratoire ID-IMAG, France

12.00-12.20 Ad hoc Metacomputing with Compeer

K. Power, P. Morrison

University College Cork, Cork, Ireland

12.20-12.40 Probes Coordination Protocol for Network Performance Measurement in GRID Computing Environment

R. Harakaly, P. Primet, F. Bonassieux, B. Gaidioz
INRIA-RESO, Lyon, France

12.40-13.00 Communication on the Fly in a System of Dynamic SMP Clusters

M. Tudruj, L. Masko
Polish Academy of Sciences, Poland

13.00-14.30 Lunch

15.00-22.00 North Moldavia Tour and Symposium Banquet

Saturday, July 20

9.00-10.00 Agent based Semantic Grids: Research Issues and Challenges

O. Rana
Cardiff University, Cardiff, UK

10.00- 10.30 Coffee break

Session 7: Methods, Algorithms, Tools

10.30-10.50 On the Speedup of Parallel Iterative Numerical Methods

D. Petcu
West University of Timisoara, Timisoara, Romania

10.50-11.10 Comparison of WebCom in the Context of Job Management Systems

J. P. Morrison, B. Clayton, A. Patil
University College Cork, Cork, Ireland

11.10-11.30 Agent-Client Interaction in a Web-based E-Commerce System

M. Gordon¹, M. Paprzycki¹, V. Galant²
Oklahoma State University, Oklahoma, USA¹
Wroclaw University of Economics, USA²

11.30-11.50 RT-DIS-COM: a Protocol to Manage Distributed Real-Time Transaction Commit

L. Amanton, B. Sadeg, S. Saad-Bouzeffane
Faculte des Sciences et Techniques du Havre, Havre, France

11.50-12.10 Distributed Data Mining

V. Fiolet, B. Toursel
University of Lille, Lille, France

12.10-12.30 Average Case Analysis Based Protocols to Initialize Packet Radio Networks

J. F. Myoupo¹, V. Ravelomanana²
University of Picardie, Picardie, France¹
Universite Paris-Nord 99, Paris, France²

12.30-14.00 Lunch

14.00 Departure of participants

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