

**Program of the 5th WSES International Conference on
Circuits, Systems, Communications and Computers
(CSCC 2001)
Technical Co-Sponsored by IEEE SP Society**

**Program of the 3rd WSES International Conference on
Mathematics and Computers in Physics
(MCP 2001)**

**Program of the 3rd WSES International Conference on
Mathematics and Computers in Mechanical Engineering
(MCME 2001)**

Sunday, July 8, 2001

9:00-13:30 and 17:00-19:30: Preregistration – Distribution of the conferences material

Monday, July 9, 2001

8:00: Opening of the Secretariat Desk. Distribution of the conferences material.

10:00: Official Ceremony.

**Address of the Co-Chairmen of the Multiconference
(address for SIR JOHN AMBROSE FLEMING, 1855-1945)**

Address of Mayor of Rethymnon, Mr. Archontakis

11:00-11:30: Coffee-Break

Chair (moderators) Panel for the morning Plenary Lectures:

R. Choras, A. Grmela, Z. Votruba, Z. Woznicki

11:30-12:30: Plenary Lecture 1:

Artificial systems operation – problems in safety and reliability

Prof. Dr. Mirko Novák,

Joint Laboratory of System Reliability,

Czech Technical University, Prague, Faculty of Transportation Sciences,

Konviktská 20, 11000 Prague 1, Czech Republic

Institute of Computer Science,

Academy of Sciences of the Czech Republic,

Pod vodárenskou věží 2, 18207, Prague 8, Czech Republic

Abstract: In this lecture a selection of the main problems concerning the reliability and safety of artificial systems operation are discussed.

One of the most important aspects of all existing systems consists of the ability for their reliable and safe operation. This concerns not only all artificial technical systems, but also in general all the existing natural systems and organisms. The same holds, of course for all information systems realizing any information processing. As long as the particular system is able to operate well, it is able to compete in the struggle for survival.

In recent years almost all the artificial systems that the human population create and use are still more complex and complicated and often they operate with still much greater amount of energy, mass and money. Their eventual failures can cause still higher harms or even disasters.

In this respect are of special importance the transportation systems, because of the influence of the transportation phenomena on the life of human population. This impact is now more and more significant, whether it concerns the transportation of goods, people, energy, information of money.

Therefore it is worth to discuss the reliable and safe operation problems of transportation systems as a good example of the artificial systems operation at all.

The transportation systems function depends in general on interaction of three main kinds of components:

- the transportation tools (vehicles, pipes, wires etc.),
- the transportation control (supervising systems),
- the interaction with human factor.

This causes that all the existing transportation systems are of the heterogeneous nature in principle and therefore their operation ability depend not only on the regular operation of the particular functional blocks, but also on reliable and safe operation of all the existing interfaces. More over:

Though the existence and appropriate function of relevant information subsystem can be considered as necessary (but not sufficient) condition for existence and proper operation of any real systems, the reliability of respective information processing of such subsystem is of the top importance.

Even in the case of transportation systems, all the factors of reasonable, reliable and safe information processing form a quite complicated concert, which analysis, well design and operation optimization needs a good part of knowledge, utilization of advanced scientific approaches and long experience and skill. Neglecting the necessity to understand the rules of proper operation of such concert can unfortunately cause quite often very serious accidents, even fatal catastrophes – like it were in the case of Taurus tunnel, Mont Blanc tunnel, Kaprun, or also in the case of the Czernobyl tragedy.

It is not possible to discuss all the main aspects concerning the respective problems in one presentation. Therefore, I shall concentrate here on some of them, which I consider as top important and which were in the focus of interest of our research group in recent about 10 years.

The topics, which I would like to mention subsequently here are:

- the problem of operation reliability of interfaces,
- the problem of artificial system – human subject interaction reliability and
- the problem of tools and methods for system reliability and safety improvement.

12:30-13:30: Plenary Lecture 2:

Transforms and Filter Banks

Prof. Bruce Suter

United States Air Force Research Laboratory,
IFGC, 525 Brooks Rd., Rome, NY 13441-4505
USA

Abstract: This talk will present recently developed results in integral transform theory. In addition, the implications of these results on filter bank design will be discussed.

Chair (moderators) Panel for the afternoon Plenary Lectures:

D.Biolek, P.Linardis, A.Varonides, L.J. Wang

16:00-17:00: Plenary Lecture 3:

Technology trends: Evolution or Revolution

Dr. Oleg Panfilov,

Motorola Corporation

1501 West Shure Drive,
Arlington Heights, IL 60004,
USA

Abstract: We live in the wonderful times. To support that notion it is enough to recall that it took one hundred years to connect the first billion people. The second will take only five. The wireless revolution is at hand. I am inviting you to have a brief glimpse at the crystal ball and see what is in the store for our future. So, fasten your seatbelts and be ready for a virtual trip to the future-land supported by about forty slides. The first ten slides will show advances in the basic technologies such as microelectronics while the remaining slides will be devoted to showing how other high tech technologies capitalize on these advances.

We know from our past experience that more superhighways we have, less road rage we face. So, the future-land would leave in the past data jams, system crashes, Internet interruptions. These were problems from growing too fast when the demand for system resources at the peak hours exceeded what the system's infrastructure could support. Lucky folks in the future-land will cure these problems by providing higher throughput along with the system's physical and logical redundancy. Fast automatic recovery from system faults will also help to improve system availability. So, the high availability systems will be the tall order for the years to come.

Can silicon based computer technology sustain Moore's law beyond 2020? Infallible following that law in the past was the reason why kids assume that it's their birthright to get a new video game each Christmas that's almost twice as powerful as the one they got last Christmas. It's the reason you can receive (and later throw away) a musical birthday card that contain more processing power than the combined computers of the ALLIED FORCES in World War 2. However, the laws of physics state that this doubling of the computer processing power each twelve to eighteen months cannot be sustained forever. Currently about 1000 electrons provide the transistor switch. Eventually transistors will become so tiny that their silicon components will approach the size of molecules. At that moment the laws of quantum mechanics will take over. Possible alternatives to silicon computers are: Optical, DNA, molecular and quantum.

Computer and other high tech technologies possess a unique feature: they are self-accelerating. That means the new computer chips are immediately put to develop the next generation of more powerful chips at even higher pace than before. That process receives additional acceleration from using more advanced software tools and software libraries allowing reusing already developed software components. Result - increased productivity of high tech developers. The same dynamics drives biotech and nanotech. Computers are rapidly mapping the DNA in the human genome, and now DNA is being explored as a future frontier of computer technology.

So, let's stop for the moment, catch our breath and find out where we are at the moment. We've found that a major socioeconomic revolution is taking place that is firmly rooted in high-tech. The

driving force for this phenomenon is convergence. Convergence is reshaping the technology for computing, telecommunications, consumer electronics, and electronic media industries. To accelerate the pace of technological revolution we need risk takers and dreamers and thinkers and builders - now more than ever before. We need YOU and YOUR ideas. Our future is in your caring hands!!!

17:00-17:30: Coffee-Break

17:30-18:30: Plenary Lecture 4:

On-Chip ESD Protection Design for ICs

Prof. Albert Z. Wang
Integrated Electronics Laboratory,
Dept. of Electrical & Computer Engineering
Illinois Institute of Technology
3301 S. Dearborn St., Chicago, IL 60616,
USA

Abstract: This lecture reviews the state of knowledge of on-chip ESD (electrostatic discharging) protection circuit design for integrated circuits. The discussion covers critical issues in ESD design, such as, ESD test models, ESD failure mechanism, ESD protection structures, ESD device modeling, ESD simulation, ESD layout issues, and ESD influences on circuit functionality, etc. This review serves to provide industrial IC designers with a thorough and heady reference in dealing with ESD protection design.

Tuesday, July 10, 2001

ROOM A'

Time: 8:00-11:00

Session: *Modern Communications and Internet I*

Chair: S.Bregni, Z.Bojkovic

All the papers of this session are published in the pages 7 – 47 of the “COMMUNICATIONS WORLD”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

QoS-based Transmissions in AD HOC Networks

Dimitris Kagaris, Spyros Tragoudas

WAP against Competing Technologies and Solutions

George Kormentzas, Dimitrios Vergados

Deploying ip-based virtual private network across the global corporation

Stanislav Milanovic, Zoran Petrovic

State of the Art of Optical Switching Technology for All-Optical Networks

Stefano Bregni, Giacomo Guerra, Achille Pattavina

Split and Merge - an algorithm to implement security on the Internet

Joao Paulo Pimentao, Pedro A. C. Sousa, Adolfo Steiger Garcao

Advanced Computer Applications in Tele Dermatology

Bogdan Dugonik, Aleksandra Dugonik, Zmago Brezonenik

Multi-stations telemonitoring system using the Internet

J.A. Fernandez, J.C. Bago, J.E. Munoz, F.J. Sanchez-Roselly, P.J. Perez

An Interference Analyzing System for CDMA Signals Utilizing Lone Pilot Responses and Additional Dummy Pilot Response

Mitsuhiro Tomita, Noriyoshi Kuroyanagi, Satoru Ozawa, Naoki Suehiro

Internet based tools for remote measurement systems

Luigino Benetazzo, Matteo Bertocco

ROOM B'

Time: 8:00-11:00

Session: *Neural Networks I*

Chair: Aleš Grmela, K.Manikopoulos

All the papers of this session are published in the pages 203 – 255 of the “ADVANCES IN SCIENTIFIC COMPUTING, COMPUTATIONAL INTELLIGENCE AND APPLICATIONS”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Neural networks in statistical anomaly intrusion detection

Zheng Zhang, Jun Li, C.N. Manikopoulos, Jay Jorgenson, Jose Ucles

A Comparative Evaluation of Neural Classification Techniques for Identifying Multiple Fault Conditions

A. J. Hoffman, N. T. van der Merwe

Network optimization using linear programming and genetic algorithm

Ahmad Sadegheih, P. R. Drake

Neural Network Adaptive Control for Underwater Robotic Systems

V. S. Kodogiannis

Neural Network Weight Space Symmetries Can Speed up Genetic Learning

Roman Neruda

Connections in the Human Brain

Ales Grmela

Application of neural networks on cursive text recognition

Habib Goraine

Musical Instrument Classification through the Model of Auditory Periphery and a Neural Network

Ladislava Janku, Lenka Lhotska

An Empirical Study of Software Metrics in Artificial Neural Networks

Wing Kai Leung

ROOM C'

Time: 8:00-11:00

Session: *Signal Processing*

Chair: Panagiotis Bamidis, George-Othon Glentis

All the papers of this session are published in the pages 9 – 54 of the “ADVANCES IN SIGNAL PROCESSING AND COMPUTER TECHNOLOGIES”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

A modified median filter for the removal of impulse noise based on the support vector machines

H. Gomez-Moreno, S. Maldonado-Bascon, F. Lopez-Ferrerias, M. Utrilla-Manso, P. Gil-Jimenez

Robust Filter Design based on Generalized Maximum-Likelihood Estimation

Stefan Leischner, Robert Klinski, Holger Hutzelmann, Rudi Knorr

Image Processing Issues Involved In The Analysis Of Unaveraged MEG Data With Magnetic Field Tomography (MFT)

P.D. Bamidis, E. Hellstrand, C. Pappas

Low-delay pipelined architectures for the TD-LMS adaptive filter

George-Othon Glentis

Joint Time-frequency Coding of Audio Signals

Karthikeyan Umapathy, Sridhar Krishnan

A new variable wordlength direct form filter structure and finite wordlength analysis with SARON

N.T. van der Merwe, C.P. Bodenstein

On a Signal Detector using Wavelet-based Quadratic Time-Frequency Distribution

Hiroshi Ijima, Akira Ohsumi, Tatsuya Sodeoka, Hideaki Sato

Subtractive-type algorithm utilizing the human ear masking characteristics

Jiri Poruba

High-Order Allpass Filter Design Using Current Conveyors

Kamil Vrba, Radimir Vrba, Josef Cajka

ROOM D'

Time: 8:00-11:00

Session: *Systems Theory and Control*

Chair: Maria Elena Valcher, Mauro Bisiacco

All the papers of this session are published in the pages 204 – 258 of the “ADVANCES IN SYSTEMS SCIENCE: MEASUREMENT, CIRCUITS AND CONTROL”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Applications of the Agents Reference Model for Intelligent Distributed Control Systems

Jose Aguilar, Mariela Cerrada, Hermes Diaz, Francisco Hidrobo, Gloria Mousalli, Francklin Rivas

An iterative method for pole assignment

Nian Li

Hierarchical Hybrid Control for Innovative Air-conditioning Equipment

Luis Gomes, Francisco Henriques, Aniko Costa, Carlos Frade, Pedro Malo

Existence of space periodic solutions for semi-linear hyperbolic systems controlability

Andrzej Nowakowski, Andrzej Rogowski

On the decomposition of differential behaviors into the direct sum of irreducible components

Mauro Bisiacco, Maria Elena Valcher

Improving disturbance rejection by using a model-based approach

D. Vran I., S. Strm Nik, M. Huba

Robot Kinematics Development Environment: Application to a Configurable Redundant Manipulator for Heavy Robotics

David Puig, Martin Mellado, Juan V. Catret, Emilio Ruiz

Stochastic Monitoring and Testing of Digital LTI Filters

Christoforos N. Hadjicostis

The Direct Kinematics for Path Control of Redundant Parallel Robots

Kvitoslav Belda, Josef Bohm, Michael Valasek

11:00-11:30: Coffee-Break

ROOM A'

Time: 11:30-13:30

Session: *Circuits and Electronics*

Chair: N.Nikitakos

All the papers of this session are published in the pages 143 – 168 of the “ADVANCES IN SYSTEMS SCIENCE: MEASUREMENT, CIRCUITS AND CONTROL”, WSES Press Post-

Conference Book as well as in the CD-ROM Proceedings.

A Methodology for Easily Testable Core-Based SOCs

Dimitris Kagaris, Spyros Tragoudas

General Sensitivity Function and its Application to a Fourth-order Low-pass Filter with CCII+

Lukas Matejicek, Kamil Vrba

A low-power 2GHZ CMOS LNA with active inductor and negative conductance generator

Jyh-neng Yang, Chen-yi Lee, Yi-chang Cheng, Terng-yin Hsu, Terng-ren Hsu

Novel bipolar current buffered amplifiers

Ivo Lattenberg, Kamil Vrba

A Pad-Oriented Novel Electrostatic Discharge Protection Structure For Mixed-Signal ICs

H. G. Feng, K. Gong, R. Y. Zhan, Albert Z. Wang

Cache-sorting-based cam for VPI/VCI translation in ATM switch

Yingtao Jiang, Yiyan Tang, Yuke Wang

ROOM B'

Time: 11:30-13:30

Session: *Algorithms Theory and Information Theory*

Chair: S. Bregni

All the papers of this session are published in the pages 163 – 194 of the “ADVANCES IN SIGNAL PROCESSING AND COMPUTER TECHNOLOGIES”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Fast Algorithms for TVAR and MTIE Computation in Characterization of Network Synchronization Performance

Stefano Bregni

A high level synthesizable divider-multiplier core for rapid prototyping

M.A.Sacristan, V. Rodellar, A. Diaz, V. Peinado, P. Gomez

A Tool for Evaluation of Scheduling Algorithms in Real-Time Systems

Goran Martinovic, Zeljko Hoceski, Leo Budin

Prototype-Based Approximate Nearest Neighbor Search

Igor Dozorets, Isak Gath, Hadas Shachnai

A fast VLSI hardware modular multiplication/division algorithm

Satnam Singh Dlay, Raouf Naguib

Separation Algorithm for Second Degree Convex Polygons

Reif Mordechai N.

ROOM C'

Time: 11:30-13:30

Session: *Automatic Control*

Chair: I.Taralova, A.Czornik

All the papers of this session are published in the pages 169 – 203 of the “ADVANCES IN SYSTEMS SCIENCE: MEASUREMENT, CIRCUITS AND CONTROL”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Disturbance rejection tuning of a state-space predictive controller for a gas conditioning unit

Samo Gerksic, Stanko Strmcnik

Robust control for gas turbine in electric power plant

Francisco Jurado, Blas Ogayar, Manuel Ortega

Stability Criteria of an “Elastic” Universal Fuzzy Position Controller for Motor Drives

Jose Carlos Quadrado, Jose Fernando Silva

Artificial neural networks for on-line trained controllers

Petr Pivonka

Attitude and vibration control of space structures by singular perturbation approach

Xu Bo, Ichijo Hodaka, Masayuki Suzuki

Continuity of the algebraic Riccati equation for stochastic linear systems

Adam Czornik, Aleksander Nawrat

ROOM D'

Time: 11:30-13:30

Session: *Power Engineering I*

Chair: P.Ekel, J.Leuchter

All the papers of this session are published in the pages 110 – 142 of the “ADVANCES IN SYSTEMS SCIENCE: MEASUREMENT, CIRCUITS AND CONTROL”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Mobile electrical power sources

Jan Leuchter

Voltage and reactive power control at distribution substations

Petr Ekel, Marcio Junges, Francisco Oliveira, Ambrosio Melek, Romao Kowaltschuk

A Direct modulation of electrical conversions for a multilevel NPC chopper

Bruno Francois, Jean-Paul Hautier

Space vectors simulations for references fault detection in the field oriented

control of induction motor drive

Ovidiu Neamtu

Design of SF₆ Switchgear Components by Means of Electric Field Calculations

Joze Pihler, Igor Ticar, Joze Vorzic, Oszkar Biro, Kurt Preis

Discovery of conflicting data for neural-network-based transient stability classification of power systems

X. P. Gu, S. K. Tso

ROOM A'

Time: 15:00-17:00

Session: *Software and Hardware Engineering I*

Chair: O.Panfilov

All the papers of this session are published in the pages 195 – 232 of the “ADVANCES IN SIGNAL PROCESSING AND COMPUTER TECHNOLOGIES”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Proposal for the Extension of MER for Knowledge Management and Fuzzy Consultations

Angelica Urrutia S., Mario Piattini V., Leoncio Jimenez C.

Experiments In Farsi Text Retrieval

Farhad Oroumchian, M. Zolfy, N. Karimi

AutoTRANS: Hardware and Software Architecture for Mobile Robots

Jesus M. Aparicio, Ricardo Piza, Josep Tornero

Embedding audio into multimedia cal programs

Rodica Ramer

Integrated System Reliability Estimates in a Multisystem Environment

Oleg Panfilov

A tool for the management of the software maintenance process

Felix Garcia, Luis Marquez, Francisco Ruiz, Mario Piattini, Macario Polo

ROOM B'

Time: 15:00-17:00

Session: *Image Processing*

Chair: G.Antoniou, Y. Attikiouzel

All the papers of this session are published in the pages 55 – 89 of the “ADVANCES IN SIGNAL PROCESSING AND COMPUTER TECHNOLOGIES”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Segmentation of the pectoral muscle edge on mammograms by tunable parametric edge detection

Ramachandran Chandrasekhar, Yianni Attikiouzel

Hierarchical Factor Analysis

Hsiao-Fan Wang, Ching-Yi Kuo

Perceptually-driven moment thresholds for shape description in image databases

P. Androutsos, D. Androutsos, K.N. Plataniotis, A.N. Venetsanopoulos

Simulation of Image Sensor Design and other parallel signal processing structures using pictures as an input and output

Petr Simandl, Zdenek Burian

Multisensor Particle Estimation of 3D Motion and Structure

Christophe Boucher, Jean-Charles Noyer, Mohammed Benjelloun

Target segmentation and extraction from geographic images based on multiscale analysis

Xiao-ping Zhang

ROOM C'

Time: 15:00-17:00

Session: *Instrumentation and Measurement*

Chair: G.Adam, S. Bregni

All the papers of this session are published in the pages 46 – 73 of the “ADVANCES IN SYSTEMS SCIENCE: MEASUREMENT, CIRCUITS AND CONTROL”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

A simple technique for thermal resistance measurement in electron devices

Giorgia Zucchelli, Alberto Costantini, Alberto Santarelli, Giorgio Vannini

Analysis and Measurement of the Modal Power Distribution for Guiding Multimode Fibres

D.Tomtsis, V.Kodogiannis, D.Zissopoulos

Synchronization Processes and Jitter Generation along a SDH Transmission Chain: a Review and Measurement Results

Stefano Bregni

Qualitative Modelling of Lime-mash Flow Processes and Measurements

George K. Adam, Edward Grant

A System Architecture of Networked Pressure Sensors

Miroslav Sveda, Radimir Vrba, Petr Benes

Means of Pressure Analysis using Nitride Silicon Diaphragm

Frantisek Matejka, Jirina Matejkova, Radimir Vrba, Petr Benes

ROOM D'

Time: 15:00-17:00

Session: *Communication Systems I*

Chair: Z.Bojkovic, T.Kapus

All the papers of this session are published in the pages 115 – 151 of the “COMMUNICATIONS WORLD”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

FSK message indication service for analog telephone

Simon Nedok, Bostjan Vlaovic, Tatjana Kapus, Zmago Brezocnik

A new amplifier placement scheme to reduce noise in WDM networks

G.M. de Mercado, I. de Miguel, F. Gonzalez, P. Fernandez, J.C. Aguado, R.M. Lorenzo, J. Blas, E.J. Abril, M. Lopez

A soft handoff scheme for improving utilization efficiency of traffic channels

Xiaomin Ma, Yun Liu, K. S. Trivedi, Yue Ma, J. J. Han

Reasoning about mobile processes in an ambient using the temporal logic of actions

Tatjana Kapus

A Double Quadrature Low IF Receiver for the GSM band

S. Katsouraki, A. Chimonaki, L. Dermentzoglou, A. Arapoyanni

An efficient - high performance traffic scheduling and shaping component for ATM systems.

Spiros Dilis, Grigorios Doumenis, George Korinthios, George Konstantoulakis, George Lykakis, Dionysios Reisis, George Synnefakis

17:00-17:30: Coffee-Break

ROOM A'

Time: 17:30-19:30

Session: *Systems Theory I*

Chair: M.Novak, Z.Votruba

All the papers of this session are published in the pages 474 – 504 of the “ADVANCES IN SYSTEMS SCIENCE: MEASUREMENT, CIRCUITS AND CONTROL”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Homogenisation of the heterogeneous whole. Reliability and homogenisation of heterogeneous systems

Zdenek Votruba, Mirko Novak

Paradigm-Independent Design of Composite Systems

Stefano Ferrari, Mariagiovanna Sami, Vincenzo Piuri

Design Considerations and prototype implementation of a piezoelectrically driven micro-vehicle for the internal inspection of small diameter pipes

Ioannis Katsikas, Ilias Katsoulis, Ioannis Antoniadis

On stability of jump linear systems

Adam Czornik, Andrzej Swierniak

Considering Causality In Data Mining

Lawrence Mazlack

Reliability and homogenisation of heterogeneous systems

Mirko Novak, Zdenek Votruba

ROOM B'

Time: 17:30-19:30

Session: *Communication Systems II*

Chair: T.Imoto, M.Longo

All the papers of this session are published in the pages 152 – 186 of the “COMMUNICATIONS WORLD”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Interdomain communications in IP telephony

Maurizio Longo, Vincenzo Langone, Giuseppe Folino

Communities of broadcasting and communities of interactivity

Lelia Green

New periodic sequence sets without corsscorrelation and new zccz sequence sets

Naoki Suehiro, Toshiaki Imoto, Noriyoshi Kuroyanagi, Pingzhi Fan

Priority-Based Quality of Service in IP Routers

Grigoris Baklavas, Stavros Souravlas, Manos Roumeliotis

Server-Side Scripting With Databases using ASP, PHP, Cold Fusion and Java Servlets

Eduardo Carrillo Zambrano,

On The Analysis of CDMA AAL2 Backhaul Voice Efficiency

David T. Chen

ROOM C'

Time: 17:30-19:30

Session: *Signal processing and Neural Networks*

Chair: Ryszard S. Choras, Ivan Nunes Da Silva

All the papers of this session are published in the pages 434 – 465 of the “ADVANCES IN SCIENTIFIC COMPUTING, COMPUTATIONAL INTELLIGENCE AND APPLICATIONS”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Handwritten numerals recognition using moment invariants

Ryszard S. Choras

A new method for trajectory control of mobile robots using artificial neural

networks

Ivan Nunes Da Silva, Andre Nunes De Souza, Jose Alfredo Ulson

Neural networks applied in linear programming problems: design and complexity analysis

Ivan Nunes Da Silva, Andre Nunes De Souza, Jose Alfredo Ulson

The development of surface inspection system using the real-time image processing

Jonghak Lee, Changhyun Park, Jinyang Jung

A Proposed Method for Improved Sound-Print Selection for Identification Purposes

Rego Kozma, Gabor Richly, Gabor Hosszu, Ferenc Kovacs

Classification of Taste using a Neural Network: A Case Study in Mineral Water and Drinking Water Classification

Teo Jau Shya, Mohd Noor Ahmad, Muhammad Suzuri Hitam, Ali Yeon Shakaff

ROOM D'

Time: 17:30-19:30

Session: *Mathematical Methods and Computational Techniques in Physics and Engineering I*

Chair: Zbigniew Woznicki

All the papers of this session are published in the pages 167 – 202 of the “ADVANCES IN SCIENTIFIC COMPUTING, COMPUTATIONAL INTELLIGENCE AND APPLICATIONS”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Matrix Splitting Properties

Zbigniew Woznicki

An Interval Branch and Bound Method Dedicated to the Optimal Design of Piezoelectric Actuators

Frederic Messine, Valerie Monturet, Bertrand Nogarede

Variational principles and algorithms in contact problem with friction

Vladimir Zozulya

Optimisation of Cotton Fibre Blends using AI Machine Learning Techniques

Zoran Stjepanović, Anton Jezernik

On Z-Isograded Isovector Space and Z-Isograded Isotensor Product

G. R. Rezaei, N. Gerami, M. R. Molaei

Integration of Simulation and Optimization for Solving Complex Decision Making Problems

S. Iassinovski, A. Artiba, V. Bachelet, F. Riane

Tuesday, July 10: Drink in the Sunset: 20:00
(with live music)

Wednesday, July 11, 2001.

ROOM A'

Time: 8:00-11:00

Session: *Communication Systems III*

Chair: N.Nikitakos

All the papers of this session are published in the pages 187 – 236 of the “COMMUNICATIONS WORLD”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Local Area Network Videconference System

A.J. Yuste, J.A. Fernandez, J.C. Bago, L.R. Lopez, S.G. Galan

Low Complexity Blind Channel Identification for OFDM Systems

Robert Klinski, Holger Hutzelmann, Rudi Knorr

Comparison of Diversity Schemes for LEO Satellite Communication Systems

Stephan Fischer, Volker Kuhn, Karl Dirk Kammeyer,

Technologies Supporting Programmability of Future Military Networks: A Review and a Critical View

D. Vergados, J. Soldatos, N. Protopsaltis, E. Vayias

Active Adaptation in QoS Architecture Model

Drago Zagar, Snjezana Rimac-Drlje

Channel estimation using Sinc-Interpolation for UTRA FDD Downlink

Klaus Knoche, Jurgen Rinas, Karl-Dirk Kammeyer

Design of a configurable integrated circuit to support the Transmission Convergence sub-layer of ADSL and VDSL systems

Euripides Zervanos, Ioanna Theologitou, Vassilis Kaloudis, Kyriakos Satlas

Influence of a microwave transistor amplifier on the electromagnetic noise radiation of a passive resistor

A.P.Venguer, J.L.Medina, R.A.Chavez

Clustering-based blind equalization for time varying channels

Kristina Georgoulakis

ROOM B'

Time: 8:00-11:00

Session: *Neural Networks II*

Chair: Maratos, V.Mladenov

All the papers of this session are published in the pages 256 – 309 of the “ADVANCES IN SCIENTIFIC COMPUTING, COMPUTATIONAL INTELLIGENCE AND APPLICATIONS”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Feature Extraction Approach for Recognition of Handwritten Electrical Symbols

V. M. Mladenov, Hans Hegt, Hans Tolboom

The Performance of Backpropagation Networks which uses Gradient Descent on Sigmoidal Steepness

Wing Kai Leung

On Neural Networks for Solving Nonlinear Programming Problems

V. M. Mladenov, N. G. Maratos, A. C. Tsakoumis, T. A. Tashev and N.E.Mastorakis

Active control of trusses under heavy static loads

Abdoreza Joghataie

Expert systems for the configuration of measurement stations: The supply section module

T. A. Tashev, V. M. Mladenov, A. C. Tsakoumis

Neural Network-based auto-tuning for PID controllers

Francklin Rivas-Echeverria, Addison Rios-Bolivar, Jeanette Casales-Echeverria

Using artificial neural networks as an image segmentation module of an OCR-system: A Preliminary Study

Regina Bernhaupt, Sandra Schonert

Improving neural detectors for slow fluctuating radar targets

Pilar Jarabo Amores, Manuel Rosa Zurera, Francisco Lopez Ferreras, Pablo Lopez Espi

Controlling Lorenz Chaos with Neural Networks

Hernandez C., Martinez A., Mingo L.F., Castellanos J.

ROOM C'

Time: 8:00-11:00

Session: *Mathematical Methods and Computational Techniques in Physics and Engineering II*

Chair: Ling Jun Wang

All the papers of this session are published in the pages 45 – 97 of the “ADVANCES IN

SCIENTIFIC COMPUTING, COMPUTATIONAL INTELLIGENCE AND APPLICATIONS”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Modelling of the photonic bandgap materials used as distributed reflectors

F. Abdelmalek , M. Shadaram

Saving energy using the sun as a lighting source

Patricia Romeiro Da Silva Jota, Mirna Suely Dos Santos Bracarense

Monotone Iterative Method for Parallel Numerical Solution of 3D Semiconductor Poisson Equation

Yiming Li, T. S. Chao, C. S. Wang, S. M. Sze

A novel parallel approach for numerical solution of the Schrodinger and Poisson equations in semiconductor devices

Yiming Li, Chuan-Sheng Wang, Jam-Wem Lee, Tien-Sheng Chao, S. M. Sze

Neutrality Equation and Fermi Level Shifting in Selectively Doped GaAs/AlGaAs Superlattices

A. C. Varonides, W. A. Berger, K. Barhight

Rotational Time Dilation and Angle Contraction

Ling Jun Wang

Adapting temperature for some randomized local search algorithms

John Shawe-Taylor, Janez Zerovnik

An Implementation Parallel Monte Carlo Method for Traffic Flow Simulation

Hsun-Jung Cho, Fang-Yu Lai

IIR PRQMF Bank Design Based on Lagrangian Method

Emir Tufan Akman, Koray Kayabol, Vedat Tavsanoglu

ROOM D'

Time: 8:00-11:00

Session: *Circuits and Systems I*

Chair: D.Biolek, V.Biolkova

All the papers of this session are published in the pages 259 – 300 of the “ADVANCES IN SYSTEMS SCIENCE: MEASUREMENT, CIRCUITS AND CONTROL”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

A microcontroller-based precision ECG signal generator

M. J. Burke, M. Nasor

Memory Synthesis for Low Power

Wen-Tsong Shiue

Simplified approach to quasi-linear amplifier design

Alberto Costantini, Giorgio Vannini, Fabio Filicori, Alberto Santarelli, Antonio Cetronio

Comparison of two analog realizations of linear-phase discrete-time FIR filters

Michal Lares, Dalibor Biolek

Analysis of circuits containing active elements by using modified T - graphs

Dalibor Biolek, Viera Biolkova

Optimized Mains Filter for Grid Connected Solar Power Inverter

Karl Edelmoser

Step-Down Converter with Inductive Input

Lutz. L. Erhartt, Karl Edelmoser

Formal Equivalence Checking of Folded Architectures

Tay-Jyi Lin, Chein-Wei Jen

Modelling of electromagnetic transducers generating ultrasonic waves lamba-type in silicon microsensors

Jacek Golebiowski

11:00-11:30: Coffee-Break

ROOM A'

Time: 11:30-13:30

Session: *Soft Computing*

Chair: P.Linardis

All the papers of this session are published in the pages 367 – 400 of the “ADVANCES IN SCIENTIFIC COMPUTING, COMPUTATIONAL INTELLIGENCE AND APPLICATIONS”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Improvement of Energy Characteristics of Semiconductor Detectors Using Genetic Algorithms

Noha Shaaban, Hiroyuki Takahashi, Shuichi Hasegawa, Atsuyuki Suzuki

Improving a GA-based ATPG for Sequential Circuits by Exploiting Dynamically Generated "Essential Sequences"

Michael Dimopoulos, Panagiotis Linardis

A Fuzzy Logic Approach to Flow Control of Reentrant Manufacturing Networks

E.K. Dretoulakis, N.C. Tsourveloudis

A Production Scheduling Strategy for an Assembly Plant based on Reinforcement Learning

Dimitris Dranidis, Evangelos Kehris

Generation of multi low cost multicast trees for load balancing

Lan Tran Ngoc, Kris Steenhaut, Ann Nowe

Genetic algorithm with upgrading operator

Nidapan Sureerattanan

ROOM B'

Time: 11:30-13:30

Session: *Multirate Systems and Wavelet Analysis*

Chair: B.Suter

All the papers of this session are published in the pages 7 – 44 of the “ADVANCES IN SCIENTIFIC COMPUTING, COMPUTATIONAL INTELLIGENCE AND APPLICATIONS”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Texture Classification Using Shift-Invariant Wavelet Packet Decomposition

Pun Chi-Man, Lee Moon-Chuen

Application of Wavelet Packets in Bearing Fault Diagnosis

Nikolaos Nikolaou, Ioannis Antoniadis

The Diagonally Optimized Spread: A Tool for Quantifying Local Stationarity

Robert A. Hedges, Bruce W. Suter

ECG analysis using the mexican-hat wavelet

M. J. Burke, M. Nasor

Design of PR-QMF CDMA codes adapted to the multipath channel profile

Isabel Barbancho, Lorenzo J. Tardon, J. Tomas Entrambasaguas

A Text Wavelet-based Watermarking Technique

S. Armeni, M. Sifakaki, D. Christodoulakis

ROOM C'

Time: 11:30-13:30

Session: *Mathematical Methods and Computational Techniques in Physics and Engineering III*

Chair: Ling Jun Wang

All the papers of this session are published in the pages 98 – 129 of the “ADVANCES IN SCIENTIFIC COMPUTING, COMPUTATIONAL INTELLIGENCE AND APPLICATIONS”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Fuzzy Membership Function Generation and Defuzzification Through Analog Circuitry

I. Andraedis, Y. Boutalis, A. Giannakidis

Two New Computational Methods to Evaluate Limit Cycles in Fixed-Point

Digital Filters

Manuel Utrilla-Manso, Francisco Lopez-Ferrerias, Hilario Gomez-Moreno, Pilar Martin-Martin, Pablo-Luis Lopez-Espi

Iterative geometric representations for multi-way partitioning

Pascale Kuntz, Francois Velin, Henri Briand

Improving condensation methods in the presence of general masters by a modified Rayleigh functional

Heinrich Voss

Synchronization of hyperchaotic circuits using a one-dimensional signal: Robustness Analysis

Donato Cafagna, Leonarda Carnimeo

Study of a 1.3 μm micromachined tunable all air-gap vertical cavity surface emitting laser

F. Abdelmalek, M. Shadaram

ROOM D'

Time: 11:30-13:30

Session: *Power Systems II*

Chair: *L.A.Pecorelli Peres*

All the papers of this session are published in the pages 74 – 109 of the “ADVANCES IN SYSTEMS SCIENCE: MEASUREMENT, CIRCUITS AND CONTROL”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

A Method to Determine Battery Charge/Discharge Resistance in Stand-Alone PV Power Systems

Yahia Baghzouz, Robert Boehm

Generalization of Fuzzy and Classic Logic in NPL2v

Helga Gonzaga, Claudio Inacio de Almeida Costa, Germano Lambert-Torres

Gain scheduling values definition for disturbances control of an electrical automobile active suspension

Paulo Gamboa, Ismenio Martins, Jorge Esteves, Elmano Margato, Pina da Silva

Finite Element Analysis of Linear Reluctance Motor

Anton Hamler, Mladen Trlep, Bojan Stumberger, Marko Jesenik

Influence of the Soil Non-uniformity to the Potential Distribution around a Driven Rod

I.F.Gonos, F.V.Topalis, I.A.Stathopoulos

Diesel Power Generation on Rural Areas in Brazil and Effective Opportunities for Renewable Sources

L.A.Pecorelli Peres, Luiz Augusto, Horta Nogueira, Germano Lambert-Torres

A Comparison Between Multilayer Perceptron and Fuzzy ARTMAP Neural Network in Power System Dynamic Stability

Shahram Javadi, Nasser Sadati, Mehdi Ehsan

ROOM A'

Time: 15:00-17:00

Session: *Communication Protocols*

Chair: E.Markatos

All the papers of this session are published in the pages 79 – 114 of the “COMMUNICATIONS WORLD”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

The T broker platform for the interoperability of communications systems

Ousmane Kone, Richard Catanet

Performance Evaluation of the IEEE 802.16.1 MAC Protocol According to the Structure of a MAP Message

Kwangoh Cho, Jongha Ko, Jongkyu Lee

Design and implementation of a high performance metropolitan multicasting infrastructure

Francesco Palmieri

Subjective Hierarchical Neighborhood Load Profile Driven Routing

Markus Borschbach, Ralph Jansen, Wolfram-M. Lippe, Bernd Freisleben

DIVISOR: DIstributed Video Server fOR stReaming

Ekaterini M. Gialama, Evangelos P. Markatos, Julia E. Sevasslidou, Dimitrios N. Serpanos, Xenia A. Asimakopoulou, Evangelos N. Kotsovinos

A New H-ARQ Scheme Using BCH Codes with Unequal data and Parity Frames

K. D. R. Jagath-Kumara

ROOM B'

Time: 15:00-17:00

Session: *Computer Systems and Networks I*

Chair: A.Veglis, A.Pombortsis

All the papers of this session are published in the pages 296 – 331 of the “ADVANCES IN SIGNAL PROCESSING AND COMPUTER TECHNOLOGIES”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

An Overview of Library Digitization Projects and the Current State of the "Digital Library"

Terry D. Webb

Increasing Fault Simulation Performance Using Pre-Synthesis Behavioral Model

Zainalabedin Navabi, Mina Zolfy, Meisam Lavasani, Shahrzad Mirkhani

A 64-bit, scalable file system for storage area networks

Gyoung-Bae Kim, Chang-Soo Kim, Bum-Joo Shin

Design and Implementation of Synthetic Humans for Virtual Environments and Simulation Systems

Spyros Vosinakis, Themis Panayiotopoulos

Towards Model Checking of Finite State Machines Extended with Memory through Refinement

George Eleftherakis, Petros Kefalas

Performance evaluation of buffered multiple-path ATM switch architectures

Andreas A.Veglis, Andreas S.Pombortsis

ROOM C'

Time: 15:00-17:00

Session: *Mathematical Methods and Computational Techniques in Physics and Engineering IV*

Chair: G.Stavroulakis

All the papers of this session are published in the pages 130 – 166 of the “ADVANCES IN SCIENTIFIC COMPUTING, COMPUTATIONAL INTELLIGENCE AND APPLICATIONS”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Feedback control of a Nitinol wire actuator

G. R. Dunlop

Operation principles of the curvature gauge

YuZhu Hi, Alexandar Djordjevich

Application of Kinematic Modeling Methods to Wheeled Mobile Robots

Luis Gracia, Josep Tornero

GMDH-Type Neural Network Modelling of Explosive Welding Process of Plates Using Singular Value Decomposition

N. Nariman-zadeh, A. Darvizeh, M. Darvizeh, H. Gharababei

Educational simulations using MATLAB/Web toolbox over the World Wide Web

P. S. Shiakolas, D. C. Wilhite J. Kebrle, P. Trogos

Applicability of Wavelet Galerkin Method for Solving High Level radioactive Waste Transport Model

Hesham Nasif, Atsushi Neyama, Hiroyuki Umeki, Keiichiro Wakasugi, Yoshinao Ishihara, Shuichi Hasegawa, Atsuyuki Suzuki

ROOM D'

Time: 15:00-17:00

Session: *Circuits and Systems II*

Chair: S.Dlay

All the papers of this session are published in the pages 301 – 333 of the “ADVANCES IN SYSTEMS SCIENCE: MEASUREMENT, CIRCUITS AND CONTROL”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Unified Architecture for discrete Fourier and inverse cosine transforms

Tuomas Jarvinen, Jarmo Takala, Jukka Saarinen

Analysis and synthesis of stacking charge pump voltage tripler

M. Zhang, N. Ilaser, F. Devos

B

Area-Energy Tradeoffs in Memory Design

Wen-Tsong Shiue

Unified Architecture for 8x8 DCT/IDCT with Register-Based Matrix Transposition

Jari Nikara, Jarmo Takala, Jukka Saarinen

Low Power 4-2 Compressor with Fully Restored Node Voltages

Damu Radhakrishnan

Second order ARC filters using transconductance amplifiers and voltage buffers for high-frequency applications.

Tomas Dostal

17:00-17:30: Coffee-Break

ROOM A'

Time: 17:30-19:30

Session: *Communication Systems IV*

Chair: D.Politis

All the papers of this session are published in the pages 237 – 278 of the “COMMUNICATIONS WORLD”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Generation of Pseudo-Random Power-Law Noise Sequences by Spectral Shaping

Stefano Bregni

An implementation of Rinjdael algorithm through programmable logic devices

J.E. Munoz, A.J. Yuste, F.J. Sanchez-Roselly, S.G. Galan

Remote Network Fault Management based on the GSM Short Message Service

Stavros Vougioukas, Manos Roumeliotis

Proposal of sub-optimum decoding algorithm and analysis of a bound of

voronoi region $v(c_0)$

Walter Jr., Emilio C. G, Walter Godoy, Emilio Wille

Data mining of Personal Information: Perspectives and Legal Barriers

Dionysios Politis, Konstantinos Gogos

Electronic News Gathering via a wireless broadband infrastructure

E. Pallis, A. Kourtis, G. Gardikis, G. Xilouris

Modelling and simulation of optical communication systems

P. L. Lopez-Espi, J. Alpuente-Hermosilla, F. Lopez-Ferreras, M. P. Jarabo-Amores

ROOM B'

Time: 17:30-19:30

Session: *Computer Systems and Networks II*

Chair: K.Saeed, J.Silc

All the papers of this session are published in the pages 332 – 366 of the “ADVANCES IN SIGNAL PROCESSING AND COMPUTER TECHNOLOGIES”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Fast indexing: a comparative evaluation

Vincenzo Dilecce, Giovanni Dimauro, Andrea Guerriero, R. Modugno, Giuseppe Pirlo, Sebastiano Impedovo, Anna Salso

Simultaneous Multithreading - Blending Thread-level and Instruction-level Parallelism in Advanced Microprocessor

Jurij Silc, Borut Robic, Theo Ungerer

An inductive approach for the selection of innovative enterprises

Nadine Meskens, Philippe Levecq, Alix Dontaine

Text and Image Processing: Non-Interrupted Skeletonization

Khalid Saeed

Automated Code Generation from Petri Nets based System Specification

Luis Gomes, Joao-Paulo Barros

Availability work products - a strategic approach

Gregory Ignatious, Mohammad Malkawi, Brian Moore, Larry Votta

ROOM C'

Time: 17:30-19:30

Session: *Filters and Filtering Techniques*

Chair: I. Antoniadis

All the papers of this session are published in the pages 437 – 473 of the “ADVANCES IN SYSTEMS SCIENCE: MEASUREMENT, CIRCUITS AND CONTROL”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

A Frisch filtering approach to blind identification and equalization in unbalanced noise environments

Roberto Guidorzi, Paolo Guidorzi

Influence of Signal Processor Architecture on Generating Optimum Algorithm of Digital Signal Processing Methods

Zdenik Smekal, Petr Sysel

Bearing Fault Diagnosis Using Shifted Wavelet Filters

Nikolaos Nikolaou, Ioannis Antoniadis

Polyphase Filter Design with Reduced Phase Non-Linearity

Artur Krukowski, Izzet Kale

Using calibration in RSSI-based location tracking system

Marko Helen, Juha Latvala, Hannu Ikonen, Jarkko Niittylahti

Op Amp Noise in Dynamic Range Maximization of Integrated Active-RC Filters

N. G. Maratos, V. M. Mladenov

ROOM D'

Time: 17:30-19:30

Session: *Communications and Security*

Chair: *V.Zorkadis, D.Karras*

All the papers of this session are published in the pages 313 – 346 of the “COMMUNICATIONS WORLD”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Requirements for Privacy – Enhancing Electronic Copyright Management Systems

Vasilis Zorkadis, Dimitris A. Karras

Neural Network Techniques for Improved Intrusion Detection in Communication Systems

Dimitris A. Karras, Vasilis Zorkadis

Information Security and Privacy Audit Modeling

V. Zorkadis, E. Siougle

Substrate-coupling noise analysis of a mixed-signal RF IC using an efficient technique for substrate parasitic extraction

Nasser Masoumi, M. I. Elmasry, S. Safavi-Naeini, S. J. Kovacic

Location-dependent comparison of downlink capacities between two DS-CDMA mobile systems

Dongwoo Kim

Visualisation and Optimisation of Motorhome Prototypes

Using Virtual Environment Techniques

Gorazd Hren, Borut Golob, Anton Jezernik

Wednesday, July 11: Banquet: 21:00

(with live music and folklore dances)

Thursday, July 12, 2001.

ROOM A'

Time: 8:00-11:00

Session: Fuzzy Sets and Fuzzy Systems

Chair: D.Politis

All the papers of this session are published in the pages 310 – 366 of the “ADVANCES IN SCIENTIFIC COMPUTING, COMPUTATIONAL INTELLIGENCE AND APPLICATIONS”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Evolutionary Learning Through Growth of the Domain Coverage Using a Classifier System

S.G. Galan, J. R. Velasco, L. Magdalena

Fuzzy betweenness and indistinguishability in modelling and control of uncertain systems

Andrzej Swierniak, Adam Galuszka

Intra-parametric analysis of a fuzzy Molp

Hsiao-Fan Wang, Miao-Ling Wang

Fuzzy logic resource management and genetic algorithm based co-evolutionary data mining

James F. Smith III, Robert D. Rhyne II

Comparative Analysis of Some Objective Function Based Fuzzy Clustering Algorithms Applied in Fuzzy Systems Modeling

Dragan Z. Saletic, Dusan M. Velasevic, Nikos E. Mastorakis

CACSD Using Fuzzy Sets and Optimization with Surrogate Functions

Hilton Cleber Pietrobom, Karl Heinz Kienitz

A Novel Fuzzy Logic Controller for IPMSM Drive System

M. Nasir Uddin, M. Azizur Rahman and Arifur Rahman

Fuzzy linear programming for the optimization of land use scenarios

Arkadiusz Salski, Christian Noell

XFL3: A New Fuzzy System Specification Language

F.J. Moreno-Velo, S. Sanchez-Solano, A. Barriga, I. Baturone, D.R. Lopez

ROOM B'

Time: 8:00-11:00

Session: *Circuits and Systems III*

Chair: J.Pospisil

All the papers of this session are published in the pages 334 – 381 of the “ADVANCES IN SYSTEMS SCIENCE: MEASUREMENT, CIRCUITS AND CONTROL”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Solving Application Problems involving Large Real Type Data Sets by Single Layered Backpropagation Networks

Wing Kai Leung

A method for obtaining the input-to-node transfer function in order to calculate roundoff noise in ladder wave digital filters (LDWDF)

Antonio Alvarez-vellisco, Diego Andina, Francisco Ballesteros

“program2circuit”

Eric Hehner, Theodore Norvell

Biquadratic Resonant Filter based on a Fully Differential Multiple Differences Amplifier

Antonio J. Gano, Nuno F. Especial

Optimized State Model of Chaotic Oscillator

Jiri Pospisil Zdenek Kolka, Jana Horska, Vaclav Michalek, Stanislav Hanus

An all-analog time-walk free SCA for event counting pixel detectors

Munir A. Abdalla, Christer Frojdh, Sture Petersson

Improvement of digital filtration in time domain of chirp-signals

Wlodzimierz Pogribny, Ihor Rozhankivsky, Andrzej Milewski

Discrete-time Hoo control of a flexible sprayer

K.G. Arvanitis, E.C. Zacharenakis, A.G. Soldatos, G.E. Stavroulakis

Rise-time and fall-time profile of erbium luminescence in silicon

M. Q. Huda, S. I. Ali, S. A. Siddiqui

ROOM C'

Time: 8:00-11:00

Session: *Computer Systems and Networks III*

Chair: K.Saeed, S. Ziavras

All the papers of this session are published in the pages 367 – 417 of the “ADVANCES IN SIGNAL PROCESSING AND COMPUTER TECHNOLOGIES”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Dataflow Computation On Reconfigurable Gate Arrays

Segreen Ingersoll, Sotirios G. Ziavras

Cursive-Script Recognition using Muqla Word-Processing Model as a Tool for Segmentation

Khalid Saeed, Agnieszka Dardzinska

A Digit-Serial Systolic Multiplier for Finite Fields $GF(2^m)$

Chan hun Kim, Sang duk Han, Chun Pyo Hong

Low-cost embedded systems design using Statecharts

Luis Gomes, Carlos Soares

Configurable Address Computation in a Parallel Memory Architecture

Eero Aho, Jarno Vanne, Kimmo Kuusilinna, Timo Hamalainen, Jukka Saarinen

Chip Multiprocessors - A Cost-effective Alternative to Simultaneous Multithreading

Borut Robic, Jurij Silc, Theo Ungerer

Representing block diagrams with Xml: an application for production flow specification in Workflow area

Vincenza Carchiolo, Alessandro Longheu, Michele Malgeri

Multidimensional modeling using MIDEA

Jose Maria Caverro, Mario Piattini, Esperanza Marcos

Object-oriented modeling in Model Vision Studium

Yuri Kolesov, Yuri Senichenkov

ROOM D'

Time: 8:00-11:00

Session: *Modelling and Computational Methods in Systems Theory*

Chair: K.Saeed

All the papers of this session are published in the pages 382 – 436 of the “ADVANCES IN SYSTEMS SCIENCE: MEASUREMENT, CIRCUITS AND CONTROL”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Model reduction for electromechanical systems with application to TOKAMAK control

Alessandro Beghi, Vincenzo Coccorese, Alfredo Portone

Modelling the Cooperative Information Filtering Problem

Sueli Mendes, Claudia Motta

On the validity of realizable physical approximations to dirac/s delta input impulses to obtain impulse responses. Application to synthesize discrete-time models for LTI systems

Aitor J. Garrido, M. De La Sen, Rafael Barcena

Integration of Computational Techniques for the Modelling of Signal Transduction

Pedro Pablo Gonzalez, Maura Cardenas, Carlos Gershenson, Jaime Lagunez-Otero

Robust detection of actuator faults in linear systems

Mina Zele, Dani Juricic

Model of temperature microsystem with wireless communication

Miroslav Husak, Jiri Jakovenko

Rapid assessment of an incoming business based on resource capacity aggregation

Frederic Pereyrol, Pascale Baillet-Farhouat, Jean Paul Bourrieres

Reliability Estimate using Degradation Data

G. Eghbali, E. A. Elsayed

ISM : Intelligent Scenario Management

V. S. Belessiotis, N. Alexandris, T. Panayiotopoulos, S. Dimitroukas

11:00-11:30: Coffee-Break

ROOM A'

Time: 11:30-13:30

Session: *Intelligent Systems*

Chair: I.Taralova-Roux

All the papers of this session are published in the pages 401 – 433 of the “ADVANCES IN SCIENTIFIC COMPUTING, COMPUTATIONAL INTELLIGENCE AND APPLICATIONS”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Solving the Probabilistic Decoding Problems Using Evolutionary Computation Techniques

Mahmoud Ahmed Ismail, Reda Abdul-Wahab Elkhoribi

Optimizing game strategies using Genetic Algorithms in a multi-coach framework

A. Cincotti, V. Cutello, G. Sorace

Analysis of Some Deterministic Models for TCP Congestion Window

Control

Ina Taralova-Roux

Increasing Natural Gas Production Using a Hybrid Intelligent System

Shahab Mohaghegh, Steve Wolhart, David Hill

Non parametric learning of sensori-motor maps. Application to the control of multi joint systems

Marteau Pierre-Francois, Gibet Sylvie, Frederic Julliard

Diagnosis Decision Support for Airplane Maintenance

Oscar Kipersztok

ROOM B'

Time: 11:30-13:30

Session: *Communication Systems V*

Chair: S. Ziavras

All the papers of this session are published in the pages 279 – 312 of the “COMMUNICATIONS WORLD”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

A Replica-Aware Extension for Object Replacement Algorithms in Distributed Web Caching

T. T. Tay, M. N. Wijesundara

Novel variable step size blind adaptive algorithms for smart antenna applications

Zhimin Du, Peng Wan, Lu Gao, Weiling Wu

Assurance of Secure Sessions for Security Policy Negotiation

Geon-Woo KIM, Ji-Hoon JEONG, Sung-Won SOHN

Consolidation Problems and Solutions for ABR Multicasting Service in ATM Networks

Dong-Ho Kim, Yong-Beum Park, Jang-Kyung Kim, Chee-Hang Park

New Methods for Classification of CPM and Spread Spectrum Communications Signals

Vis Ramakonar, Daryoush Habibi, Abdesselam Bouzerdoum

HF Broadcasting System Design Based on a Overlapping Coverage Concept

Pilar Jarabo Amores, Jesus Alpuente Hermosilla, Francisco Lopez Ferreras, Pablo Lopez Espi

ROOM C'

Time: 11:30-13:30

Session: *Systems Theory II*

Chair: B. Castagnolo, J.Lagunez-Otero

All the papers of this session are published in the pages 505 – 537 of the “ADVANCES IN SYSTEMS SCIENCE: MEASUREMENT, CIRCUITS AND CONTROL”, WSES Press Post-

Conference Book as well as in the CD-ROM Proceedings.

Innovative knowledge system for project risk management

Konstantinos Kirytopoulos, Vrassidas Leopoulos, Charalampos Malandrakis, Ilias Tatsiopoulos

Verification of an IP Interface Prototype Design through Simulation and Emulation

Vesa Lahtinen, Kimmo Kuusilinna, Timo Hamalainen, Jukka Saarinen

Implementation of Error-Feedback RLS Lattice on Virtex using logarithmic arithmetic

Felix Albu, Jiri Kadlec, Anthony Fagan, Nick Coleman

A new self-calibration technique in successive approximation A/D converters

Roberto Antonicelli, Maria Rizzi

Blind identification of FIR systems and deconvolution of white input sequences

Umberto Soverini, Paolo Castaldi, Roberto Diversi, Roberto Guidorzi

Sampling and Bandlimitation of Nonstationary Time Signals

Yumi Takizawa, Atsushi Fukasawa

ROOM D'

Time: 11:30-13:30

Session: *Digital Systems and Filters*

Chair: I. Antoniadis

All the papers of this session are published in the pages 11 – 45 of the “ADVANCES IN SYSTEMS SCIENCE: MEASUREMENT, CIRCUITS AND CONTROL”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Investigations of Online/Offline Tests for Integrated Sensors in the Operating Phase

Michael Fischell, Andrew Weigl, Walter Anheier

Frequency response of sampled data systems by multirate techniques

Carlos Camina, Julian Salt, Josep Tornero

Vibration Reduction of Gantry Crane Loads with Hoisting Using Finite Impulse Response (FIR) Digital Filters

Dimitrios Economou, Ioannis Antoniadis

RNS Implementation of Two Dimensional Discrete Cosine Transform over FPL Devices

Pedro G. Fernandez, Javier Ramirez, Antonio Garcia, Luis Parrilla, Antonio Lloris

An FDI filter based-on inversion for nonlinear systems

Addison Rios-Bolivar, Ferenc Szigeti

A set of novel multiplexer-based architectures for full adder designs
Yingtao Jiang, Abdulkarim Al-Sheraidah, Yuke Wang, Edwin Sha

ROOM A'

Time: 15:00-17:00

Session: *Modern Communications and Internet II*

Chair: Z.Bojkovic

All the papers of this session are published in the pages 48 – 78 of the “COMMUNICATIONS WORLD”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

A Study of Telephony Domain Name System (T-DNS) for Internet Telephony Service at All IP Network

Miryong Park, Changmin Park, Jonghyup Lee

Quality of Service (QoS) in multimedia communications: modeling, architecture, management

Zoran Bojkovic, Dragorad Milovanovic, Zoran Perisic

Analysis of IEEE 802.11 in a power line system

Torsten Langguth, Markus Zeller, Helmut Steckenbiller, Rudi Knorr

A Web-Based Course-Support Environment

A.A.Veglis, C. A. Barbargires

Bringing Internet to the Wireless World

Eduardo Carrillo Zambrano, Ramon Cirilo, Juan Jose Martinez Dura, Gregorio Martin Quetglas, Jose Javier Samper

WWW Cache Updating: An Active Networking Approach

Rohan De Silva, William Dewar, Graham Low

ROOM B'

Time: 15:00-17:00

Session: *Multidimensional Systems and Signal Processing*

Chair: G.Antoniou

All the papers of this session are published in the pages 90 – 127 of the “ADVANCES IN SIGNAL PROCESSING AND COMPUTER TECHNOLOGIES”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Factorization of Interval Multidimensional Polynomials into interval one-dimensional factors. Interval Multidimensional Systems

N.E.Mastorakis

Approximate Multidimensional (m-D) Polynomial Factorization into Linear m-D Polynomial Factors Using Genetic Algorithms

N.E.Mastorakis, I.F.Gonos

A Review of Network Server Based Distributed Speech Recognition

Yimin Xie, Joe Chicharo, Jiangtao Xi

Wavelet based approach towards noise detection and filtration

D.S.Bormane , Dr.T.R.Sontakke

Text Analysis for the New Slovenian Text-to-Speech System

Tomaz Sef

Fast Algorithm for Two-Dimensional Linear-Phase Complex FIR Filter Design

Javier Davila

ROOM C'

Time: 15:00-17:00

Session: *Multimedia and Video Engineering*

Chair: D.Korze, G.Adam

All the papers of this session are published in the pages 265 – 295 of the “ADVANCES IN SIGNAL PROCESSING AND COMPUTER TECHNOLOGIES”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Distance education and multimedia information systems

Danilo Korze, Marjan Krasna

Video Proxy System for a Large-scale VOD System

Kwun-chung Chan, Kwok-wai Cheung

InfoSystem: An Interactive Educational Tool for Information Management

George K. Adam

OO Based Development of a Multi Media Application Server Prototype

E. Gul, G. Willekens, F. Hoste, T. Batsle, R. Selderslagh, N. Quartien

Compressed Domain Detection Of Gradual Scene Changes in MPEG Video

Amarnag Subramanya

A Sublinear Algorithm for Split-Merge Displacement Estimation on an Optical Architecture

Bruno Carpentieri

ROOM A'

Time: 15:00-17:00

Session: *Software and Hardware Engineering II*

Chair: O.Panfilov

All the papers of this session are published in the pages 233 – 264 of the “ADVANCES IN SIGNAL PROCESSING AND COMPUTER TECHNOLOGIES”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Optimized Implementations of Emerging H.26L Video Decoder on Pentium III

Ville Lappalainen, Antti Hallapuro, Timo D. Hamalainen

Prediction and observation of chaos in the buck converter

Denis Pelin, Ivan Flegar, Darko Fischer

Cooperative Sensation: A Mechanism For Robust Human-Computer Interaction

Parham Aarabi, Keyvan Mohajer, Majid Emami

An evaluation of string search algorithms at users standing

Ohdan Masanori, Takeuchi Ryo, Satou Tadamasa

Patterns For Databases Design

Javier Garzas, Mario Piattini

Correlation coprocessor for multichannel CDMA receiver

Peter Vicman, Filip S. Balan, Zmago Brezocnik

17:00-17:30: Coffee-Break

ROOM A'

Time: 17:30-19:30

Session: *Signal Processing in Systems Theory*

Chair: P.Aarabi

All the papers of this session are published in the pages 128 – 162 of the “ADVANCES IN SIGNAL PROCESSING AND COMPUTER TECHNOLOGIES”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

A Simple Two-Microphone Array Devoted to Speech Enhancement and Source Tracking

A. Alvarez, P. Gomez, R. Martinez, V. Nieto

Determination of QCA Parameters using Optimal Angiographic Viewing Angles

Joeri Christiaens, Rik Van de Walle, Ignace Lemahieu, Peter Gheeraert, Yves Taeymans

The analysis of nuclear tracks with confocal microscopy and image restoration

Filip Rooms, Wilfried Philips, Geert Meesen, Patric Van Oostveldt

Automated estimation of blood volume around the ovarian follicles

Damjan Zazula, Nicolas Sergent, Veljko Vlasisavljevic

A Realized SONY PS2 1-to-4 Joystick Multiplexer Interface

Chua-Chin Wang, Rong-Sui Kao, Po-Ming Lee, Yo-Lih Huang

Comparison of sinogram and reconstruction based correction for partial

volume effects in ECT imaging

Michel Koole, Rik Van de Walle, Koen Van Laere, Yves D'Asseler, Stefaan Vandenberghe, Ignace Lemahieu, Rudi Dierckx

ROOM B'

Time: 17:30-19:30

Session: *Systems Theory III*

Chair: D.Andina

All the papers of this session are published in the pages 538 – 572 of the “ADVANCES IN SYSTEMS SCIENCE: MEASUREMENT, CIRCUITS AND CONTROL”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

A Variance Reduction Method for Monte Carlo Traffic Flow Simulation

H.J. Cho, H.M. Lu, Y.J. Jou, F.Y. Lai

Specific Self-Organized System Architecture optimized and controlled via a Load Profile driven ad hoc Network Routing Scheme

Markus Borschbach, Ralph Jansen, Wolfram-M. Lippe, Bernd Freisleben

Approximation of Optimal Value Stability

Iwona Nowakowska

Calculating the node-to-output transfer in ladder wave digital filters (LDWDF)

Antonio Alvarez-Vellisco, Diego Andina, Francisco Ballesteros

Two-dimensional maximally-linear digital differentiators based on Taylor series

Ishtiaq Rasool Khan, Ryoji Ohba

Normalization and Lack of Proportion in MLP Training: A Practical Purposal

Carlos E. Vivaracho, Luis A. Romero, Javier Ortega, Q. Isaac Moro

ROOM C'

Time: 17:30-19:30

Session: *Algorithms and Modern Information Systems*

Chair: Dan Ionescu

All the papers of this session are published in the pages 418 – 455 of the “ADVANCES IN SIGNAL PROCESSING AND COMPUTER TECHNOLOGIES”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

Development of a medical guideline server

Gert Funkat, Anne-Kathrin Kaeding, Vesselin Detschew

An Improved Apriori for Mining Association Rules “Apriori+”

Issam Moghrabi

The Comparison of Deterministic and Stochastic VTG Schemes in the Application of MLP to Time Series Prediction

Taeho Charles Jo

A CORBA-based Collaborative Environment for Java Applications

Bodgan Ionescu, Hadi Nasrallah, Dan Ionescu

Dynamic Versioning of CORBA Applications

Derek Elssesaer, Dan Ionescu

Evolving Finite State Machines for the Propulsion Control of Hybrid Vehicles

Jonas Hellgren, Mattias Wahde

ROOM D'

Time: 17:30-19:50

Session: *Circuits and Systems: Theory and Applications*

Chair: D.Andina, W.Dosch

The first six papers of this session are published in the pages 573 – 605 of the “ADVANCES IN SYSTEMS SCIENCE: MEASUREMENT, CIRCUITS AND CONTROL”, WSES Press Post-Conference Book as well as in the CD-ROM Proceedings.

A Neurofuzzy Training Method for Mamdani-Like Structures

L. Schnitman, J.A.M. Felipe de Souza, T. Yoneyama

Simultaneous pole placement and optimal state or output feedback controller design

D. P. Iracleous, N. E. Mastorakis

High-Level Synthesis of Digital Comparators

Walter Dosch

A dynamical system approach to performance monitoring of plasma cutting process

Sam YS Yang, Trevor N Kearney

Novel Fiber-Optical Refractometric Sensor Employing Hemispherically-Shaped Detection Element

Sergei Khotiaintsev, Vladimir Svirid, Pieter L. Swart

Target estimation using multimodel partitioning techniques

N. V. Nikitakos, A. Leros, S. K. Katsikas

Fluidice: A New Theory of Interdimensional Transduction

Eugenia Macer-Story

The paper was not available at the time of publication, it will be published in a later volume of WSES.

Friday, July 13, 2001

Conference Excursion to

Minoan Palace of Knossos,

Fodele (village where **El Greco** was born),

Archaeological Museum of Herakleion.

Sightseeing of **Palaeochristianic Churches** and **Venetian Buildings and Fortresses** of Herakleion.

Saturday, July 14, 2001

Festival of Rethymnon

Sunday, July 15, 2001

Departure from Rethymno and Greece.