



CSCS-12
12th INTERNATIONAL CONFERENCE
ON CONTROL SYSTEMS AND
COMPUTER SCIENCE

PROGRAMME

May 26-29, 1999
Bucharest, Romania

12th INTERNATIONAL CONFERENCE ON CONTROL SYSTEMS AND COMPUTER SCIENCE

CSCS12 is the 12th biennial conference to be held at "POLITEHNICA" University of Bucharest, Bucharest, Romania, from 26 to 29 May 1999.

The technical programme reflects the aims of the Conference. It consists of specialized sections dedicated to major topics in theory and applications of systems science and computer science.

CSCS12 is taking place under the patronage of:

The Ministry of Education
The National Agency for Science and Technology (ANSTI)
The Romanian Society of Control Engineering and Technical Informatics

ORGANIZERS

CSCS12 is organized by The Romanian Society of Control Engineering and Technical Informatics and The Faculty of Control and Computers of "POLITEHNICA" University of Bucharest, in cooperation with The Institute of Electronic and Electrical Engineering (IEEE).

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TIMETABLE

Tuesday 25 May 1999

14.00 - 20.00 Registration

Wednesday 26 May 1999

08.30 - 09.00 Opening
09.00 - 09.45 Plenary Paper
10.00 - 12.30 Conference Sessions
12.30 - 13.30 Lunch
13.30 - 16.00 Conference Sessions
16.15 - 18.30 Conference Sessions
19.00 Get Acquainted Cocktail Party

Thursday 27 May 1999

09.00 - 09.45 Plenary Paper
10.00 - 12.30 Conference Sessions
12.30 - 13.30 Lunch
13.30 - 14.15 Plenary Paper
14.15 - 16.15 Conference Sessions
16.30 - 18.45 Conference Sessions

Friday 28 May 1999

09.00 - 09.45 Plenary Paper
10.00 - 12.30 Conference Sessions
12.30 - 13.30 Lunch
13.30 - 14.15 Plenary Paper
14.15 - 16.15 Conference Sessions
16.30 - 17.30 Conference Session
17.30 - 18.45 Round Tables
20.00 Conference Dinner

PLENARY PAPERS

- 11 A Model Based Predictive Control Tutorial
Robin DE KEYSER - BELGIUM
- 12 THE BRAIN – AN INFORMATION PROCESSOR
Mihai DRĂGĂNESCU - ROMANIA
- 13 New Directions in Computer Engineering
S. VASSILIADIS - THE NETHERLANDS
- 14 Generalized signature condition: The discrete case
Vlad IONESCU - ROMANIA
- 15 SENSE TYPE DECISION TREES FOR NATURAL LANGUAGE PROCESING
Maria Zamfir BLEYBERG - USA

PARALLEL SESIONS

Session 1I. APPLIED SYSTEMS THEORY (I)

Session Chair: V. IONESCU – ROMANIA, I. DUGARD - FRANCE

- 1I.1 An Exact Sylvester Equations Solver
Alain BARRAUD, Suzanne LESECQ, Siana PETROPOL - FRANCE
- 1I.2 Multivariable QFT Controller for a System with Singular TF Matrix and Parameter Uncertainty
Mario GARCIA-SANZ, Igor EGAÑA - SPAIN
- 1I.3 On the use of Popov theory and comparison principle for stabilizing time – delay systems
Dan IVĂNESCU, Jean-Michel DION, Luc DUGARD, S.I. NICULESCU - FRANCE
- 1I.4 ADVANCED ADAPTIVE CONTROL FOR COMPLEX NONLINEAR PROCESSES
Nicolae CONSTANTIN, Ion DUMITRACHE - ROMANIA
- 1I.5 Improvements of Rank-Revealing Decomposition Algorithms
Boris JORA, Corneliu POPEEA, Bogdan DUMITRESCU - ROMANIA
- 1I.6 H_2/H_∞ PID Robust Control via Genetic Algorithms
Catalin Nicolae CALISTRU - ROMANIA
- 1I.7 ROBUSTNESS WITH SMALL CHATTERING IN VARIABLE STRUCTURE ADAPTIVE CONTROL FOR NON-LINEAR PLANT
Adrian FILIPESCU - ROMANIA

Session 1II. APPLIED SYSTEMS THEORY (II)

Session Chair: I. DUGARD – FRANCE, V. IONESCU – ROMANIA

- 1II.1 ROBUSTNESS OF ADAPTIVE CONTROL SYSTEMS; A FIRST-ORDER CASE
A. KRÓLIKOWSKY, R. STAWSKY - POLAND
- 1II.2 Self-oscillations analysis of a class of two-relay feedback systems
Alina BESANÇON-VODA - FRANCE
- 1II.3 Model Reference Robust Control in the Frequency Domain: Observer-Controller configuration approach
C. PEDRET, R. VILANOVA, I. SERRA - SPAIN

III.4 ROBUSTNESS PROPERTIES OF H^∞ CONTROLLERS WITH RESPECT TO PARAMETRIC UNCERTAINTY

Adrian STOICA ROMANIA

III.5 Analysis of H_∞ Feedback Systems Using the Gap Metric

Iyad BALLOUL, Mazen ALAMIR - FRANCE

III.6 An Optimization Criterion for the Structure Obtained through Selforganization

Gheorghe PETRACHE, Sorin BARBULEA - ROMANIA

Session 2 MODELING AND IDENTIFICATION

Session Chair: Tiberiu COLOȘI, Sergiu ILIESCU - ROMANIA

- 2.1 Analogical Modeling and Numerical Simulation Method for Distributed Parameters Processes
Tiberiu COLOȘI, Paula RAICA, I. NAȘCU, M. ABRUDEAN, Éva SZAKÁCS - ROMANIA
- 2.2 Modelling and Simulation of Two-Rate State-Space Models for Stochastic Multivariable Continuous-Time Control Systems
Igor ASTROV, Ennu RÜSTERN - ESTONIA
- 2.3 MODELLING, SIMULATION AND DIAGNOSIS OF THE ELECTRICAL WELDING PROCESS BASED ON SPECTRAL ANALYSIS OF THE NOISE ARC SIGNALS
Constantin MIHOLCĂ, Dorel AIORDĂCHIOAIE - ROMANIA
- 2.4 SOME ASPECTS OF THE PRACTICE OF SYSTEMS IDENTIFICATION USING FUZZY MODELS
Dorin ISOC, Attila GAL, Marilena HAIDUC - ROMANIA
- 2.5 SOME ASPECTS ON THE MODELING AND IDENTIFICATION OF A CROSS-FLOW HEAT EXCHANGER
S. St. ILIESCU, P. ARSENE, I. FĂGĂRĂȘAN, I. SECUIU, S. BARBULEA - ROMANIA
- 2.6 SYSTEMS IDENTIFICATION BY THE METHOD OF WEIGHTED MOMENTS
Constantin MARIN - ROMANIA
- 2.7 IDENTIFICATION ALGORITHMS BASED ON WEIGHTED MOMENTS EVALUATED ON FINITE TIME INTERVALS
C. MARIN, D. POPESCU, E. PETRE, D. ȘENDRESCU, A. PETRIȘOR - ROMANIA
- 2.8 On a Fuzzy Identification Method
Ștefan PREITL, Radu-Emil PRECUP, Ștefan SOLYOM - ROMANIA

Session 3 CONTROL ALGORITHMS

Session Chair: Silviu DUMITRIU, Nicolae CONSTANTIN ROMANIA

- 3.1 Multi-Model Adaptive Smith Predictor Controller
Ion DUMITRACHE, Ioana MIHU, Laurențiu MĂRGĂRIT - ROMANIA
- 3.2 Model Reference Adaptive Control using Multiple Models
Laurențiu MĂRGĂRIT, Ion DUMITRACHE - ROMANIA
- 3.3 THE INCREASING PERFORMANCES USING MULTIGRID METHOD
Gheorghe PETRESCU, Vasile LUNGU, Victor ISPAS - ROMANIA
- 3.4 MULTI MODEL ADAPTIVE CONTROL
C. LUPU, D. POPESCU - ROMANIA, J. LOTTIN, S. MANZA - FRANCE
- 3.5 Robust power-frequency controller for a double feed induction machine connected to a grid
Clement FEȘTILĂ, Éva SZAKÁCS, Julien CIURA - ROMANIA

Session 4I. PROCESS CONTROL APPLICATIONS (I)

Session Chair: Dumitru POPESCU, Cornel VÎNĂTORU - ROMANIA

- 4I.1 MODERN POWER PLANT CONTROL PHILOSOPHIES
Daniela ANDONE, Daniel MEREZEANU - ROMANIA
- 4I.2 Dealing with the Year 2000 Problem in Process Control and Embedded Systems
Dorin IRIMESCU - ROMANIA
- 4I.3 H_{∞} DESIGN OF ACTIVE VEHICLE SUSPENSION CONTROLLER
Cosmin IONETE, Dan POPESCU - ROMANIA
- 4I.4 Decomposition relaxation and partitioning techniques in large scale systems optimization - Software tools
M. ȘERBĂNESCU, D. POPESCU, M. ALEXANDRU - ROMANIA
- 4I.5 PLANT-WIDE CONTROL STRUCTURE OF A HYDROCARBON DISTILLATION PROCESS
V. MARINOIU, Cr. PĂTRĂȘCIOIU, S. FRÂNCU - ROMANIA
- 4I.6 USE OF THE DELAY INTERCONNECTION FOR MODELING AND DECENTRALISED STABILISATION CONTROL OF THE STEAM SUPERHEATERS
Cornel VÎNĂTORU, Cristian VÎNĂTORU, Eugen IANCU, Matei VÎNĂTORU - ROMANIA

Session 4II. PROCESS CONTROL APPLICATIONS (II)

Session Chair: Dorin ISOC - ROMANIA

- 4II.1 Some issues on the intelligent control of CAE systems
Dorin ISOC ROMANIA
- 4II.2 INTELLIGENT QUALITY CONTROL, APPLIED TO INDUSTRIAL SYSTEM
Edson Pacheco PALADINI - BRASIL
- 4II.3 CONTROL OF MOVING OBJECTS USING VIDEO SIGNAL PROCESSING
Natalie OBOUKHOVA - RUSSIA, Alexandru TERTIȘCO, Mihai TERTIȘCO, Crina VLAD - ROMANIA
- 4II.4 Real Time System for Process Optimization Used in Metallurgical Plants
Florin HĂRȚESCU - ROMANIA
- 4II.5 A Service-Based Distributed Real-Time Control System
Gheorghe SEBESTYEN, Kalman PUSZTAI - ROMANIA

Session 5. APPLIED MODELING

Session Chair: Ștefan PREITL, Laurențiu MĂRGĂRIT - ROMANIA

- 5.1 Robust Stability Analysis of an Electrical Driving Systems with Variable Moment of Inertia
Radu-Emil PRECUP, Ștefan PREITL, Ștefan SOLYOM - ROMANIA
- 5.2 Distributed-Environment Finite Integral Method for Electromagnetic Devices Analysis
Irina MUNTEANU, Daniel IOAN - ROMANIA
- 5.3 SIMULATION OF A SPEED FUZZY CONTROL SYSTEM FOR INDUCTION MOTORS
Constantin VOLOȘENCU - ROMANIA
- 5.4 MODELING AND OPTIMIZATION OF THE PROPORTIONAL SOLENOIDS FOR CONTROL SYSTEMS
Vergil MURARU, Nicolae VASILIU, Laurențiu MĂRGĂRIT - ROMANIA

Session 6I. ROBOT CONTROL AND FLEXIBLE MANUFACTURING SYSTEMS (I)

Session Chair: Hubert ROTH - GERMANY, A. M. STĂNESCU - ROMANIA

- 6I.1 An Active Marking Sensor for Detection of Concave Obstacles
Hubert ROTH, Klaus SHILLING - GERMANY
- 6I.2 INTEGRATED FORCE AND VISUAL SENSING FOR ROBOTISED ASSEMBLY
Theodor BORANGIU, Mitică MANU - ROMANIA, Lucas Roca NIETO - SPAIN
- 6I.3 ROBOT-OBJECT CALIBRATION TECHNIQUES USING VISION TOOLS
Theodor BORANGIU - ROMANIA, Luis M. TOMAS BALIBREA, Lucas ROCA - SPAIN, Mitică MANU, Cristian NIS - ROMANIA
- 6I.4 WHEELED MOBILE ROBOTS, PATH TRACKING ALGORITHMS AND EXPERIMENTS
Mircea NIȚULESCU - ROMANIA
- 6I.5 MOBILE ROBOTS PATH PLANNING ALGORITHM USING HIERARCHICALLY STRUCTURED GRID
Mircea NIȚULESCU - ROMANIA
- 6I.6 A Robust FLC for Cooperative Robots
Mircea IVĂNESCU, Viorel STOIAN, Nicu BIZDOACĂ - ROMANIA

Session 6II. ROBOT CONTROL AND FLEXIBLE MANUFACTURING SYSTEMS (II)

Session Chair: Viorel MÎNZU - ROMANIA

- 6II.1 Reducing the chattering using the Generalized Variable Structure control applied to a manipulator arm
T. YOUSSEF, K. BOUYOUCHEF, M. HAMERLAIN - ALGERIA
- 6II.2 Equivalence between a given set of assembly sequences and a set of precedence graphs
Antoneta BRATCU, Viorel MÎNZU - ROMANIA, Jean-Michel HENRIOUD - FRANCE
- 6II.3 Assembly Workstation Control Using Supervisory Technique
Daniela Cristina CERNEGA, Viorel MÎNZU - ROMANIA
- 6II.4 Robots PID control simulation using Matlab - Simulink soft
Claudiu POZNA, Dorin DIACONESCU - ROMANIA
- 6II.5 Distributed control system used in industrial environment
Sorin BROTAC, Nick IVĂNESCU - ROMANIA
- 6II.6 ASPECTS OF DETERMINANT SPECIFICATIONS SET FOR VISION SYSTEMS
Andrei HOSSU - ROMANIA

Invited Session 7. HYBRID SYSTEMS

Session Chair: Hassane ALLA - FRANCE, Simona CARAMIHAI - ROMANIA

- 7.1 Transition enabling and reachability properties for a class of continuous-linear hybrid systems
Antonio FAVELA, Hassane ALLA - FRANCE
- 7.2 A SUPERVISOR FOR HYBRID DYNAMICAL SYSTEMS
M.C. Vera ESTRADA, H. ALLA, J. M. FLAUS - FRANCE
- 7.3 THE OBSERVABILITY OF THE DES-PLANT MODEL IN A CLASS OF HYBRID CONTROL SYSTEMS
Ecaterina OLTEAN - ROMANIA
- 7.4 THE SWITCHING CONTROL LAW IN A CLASS OF HYBRID CONTROL SYSTEMS
Ecaterina OLTEAN - ROMANIA

- 7.5 Control Sequences Synthesis Method for Deterministic Discrete Event Systems
A. AȘTILEAN, C. GRUIȚĂ, T. -S. LEȚIA - ROMANIA
- 7.6 ABOUT THE 1^1 - HYBRID CONTROL PROBLEM
Cosmin IONETE - ROMANIA
- 7.7 TIMED HIGH LEVEL PETRI NETS FOR DISCRETE EVENTS SYSTEMS CONTROL
Marius BREZOVAN, Dumitru Dan BURDESCU - ROMANIA

Session 8. BIOENGINEERING, SENSORS AND INSTRUMENTATION

Session Chair: Gabriel IONESCU, Adrian PETRESCU - ROMANIA

- 8.1 ABOUT NEW APPROACHES FOR SENSOR SIGNAL PROCESSING
Gabriel IONESCU - ROMANIA
- 8.2 Fuzzy Expert Systems for Medical Investigations
Nirvana POPESCU, Decebal POPESCU, Adrian PETRESCU - ROMANIA
- 8.3 Fuzzy Methods for the Identification of Periodical Electrical Signals
Nirvana POPESCU, Decebal POPESCU, Adrian PETRESCU - ROMANIA
- 8.4 An Internet Application in ASP - National Medical Database System
Gheorghe MUSCĂ, Ariana POPESCU, Florin MUNTEANU - ROMANIA
- 8.5 ON NONLINEAR ADAPTIVE CONTROL OF A LIPASE PRODUCTION PROCESS
Dan SELIȘTEANU, Emil PETRE - ROMANIA

Session 9. NATURAL LANGUAGE PROCESSING AND SPEECH RECOGNITION

Session Chair: Maria Zamfir BLEYBERG - USA, Trandafir MOISA - ROMANIA

- 9.1 NATURAL LANGUAGE PROCESSING FOR SPEECH SYNTHESIS IN ROMANIAN LANGUAGE
Dragoș BURILEANU - ROMANIA
- 9.2 Speaker Independent Phoneme Recognition in Romanian
Marian BOLDEA - ROMANIA
- 9.3 A Spoken E-Mail System
Trandafir MOISA, Dan ONȚANU - ROMANIA
- 9.4 FULL-CUSTOM SOFTWARE FOR START/END POINT DETECTION OF ISOLATED-SPOKEN WORDS
M. SIMA, D. BURILEANU, C. BURILEANU, V. CROITORU - ROMANIA

Session 10. NEURAL NETWORKS

Session Chair: Paul CRISTEA - ROMANIA

- 10.1 FAULT DIAGNOSIS IN CONDUCTIVE FLOW SYSTEMS USING PRODUCTIVE NEURAL NETWORKS
Viorel ARITON, Severin BUMBARU - ROMANIA
- 10.2 SUB-SYMBOLIC NEURAL NETWORK KNOWLEDGE REPRESENTATION
P. CRISTEA - ROMANIA, Alexandra CRISTEA - JAPAN
- 10.3 Explicit Knowledge Representation using Multi Purpose Neural Networks
Ciprian-Daniel NEAGU, Severin BUMBARU - ROMANIA
- 10.4 Adaptive Data Clustering Model
Gabriela SIMION, Consuela HARAS - ROMANIA
- 10.5 LEARNING REGULARIZATION IN LOCAL MODEL NETWORKS
Nicolae CONSTANTIN - ROMANIA

CONFERENCE

Wednesday 26 May 1999				
Time	Room A	Room B	Room C	Room A
8:30 - 9:00	Opening			
9:00 - 9:45	Plenary Paper I1			Plenary Paper I2
9:45 - 10:00				
10:00 - 12:30	S4I PROCESS CONTROL APPLICATIONS (I)	S18 DISTRIBUTED SYSTEMS	S22 APPLICATIONS	S14 VLSI <i>INVITED SESSION</i>
12:30 - 13:30				
13:30 - 14:15	S4II PROCESS CONTROL APPLICATIONS (II)	S11 KNOWLEDGE PROCESSING	S6I ROBOT CONTROL AND FLEXIBLE MANUFACTURING SYSTEMS (I)	Plenary Paper I3
14:15 - 16:00				S3 CONTROL ALGORITHMS
16:00 - 16:15	Coffee break			
16:15 - 16:30	S13 SIGNAL PROCESSING <i>INVITED SESSION</i>	S10 NEURAL NETWORKS	S6II ROBOT CONTROL AND FLEXIBLE MANUFACTURING SYSTEMS (II)	
16:30 - 17:30				S2 MODELING AND IDENTIFICATION
17:30 - 18:45				
19:00	Get Acquainted Cocktail Party			
20:00				

Room A - Senat Room, R Building

Room B - AN034 UNESCO Room, A

E TIMETABLE

Thursday 27 May 1999		Friday 28 May 1999		
Room B	Room C	Room A	Room B	Room C
		Plenary Paper I4		
Coffee break				
S16 HPC <i>INVITED SESSION</i>	S20 IMAGE PROCESSING	S11 APPLIED SYSTEMS THEORY (I)	S15 COMPUTER ENGINEERING <i>INVITED SESSION</i>	S7 HYBRID SYSTEMS <i>INVITED SESSION</i>
Lunch break				
		Plenary Paper I5		
S17 PARALLEL PROCESSING AND COMPUTER ARCHITECTURE	S21 DATA BASES AND I.T.	S11 I APPLIED SYSTEMS THEORY (II)	S9 NATURAL LANGUAGE PROCESSING AND SPEECH RECOGNITION	S5 APPLIED MODELING
Coffee break				
S19 COMPUTER NETWORKS	S8 BIOENGINEERING, SENSORS AND INSTRUMENTATION	Round table I	Round table II	S12 APPLIED FORMAL METHODS
Conference dinner				

Building

Room C - 3rd Floor, UNESCO Room, R Building

Session 11. KNOWLEDGE PROCESSING

**Session Chair: Shaun MARRIOTT - UNITED KINGDOM,
Adina Magda FLOREA - ROMANIA**

- 11.1 The Reduction of No Fault Found Incidents Through the Sequential Optimisation of Maintenance Strategies using Posterior Knowledge Integration
S. MARRIOTT, R. F. HARRISON - UNITED KINGDOM
- 11.2 Artificial Collaborative Agents in a Virtual World
Cătălin BUIU, Cristian CECONVICIUC - ROMANIA, Pierre DILLENBOURG - SWITZERLAND
- 11.3 Cost-based Cooperation of Self-interested Agents
Adina Magda FLOREA - ROMANIA
- 11.4 StreamNET – Collaborative Knowledge Management System
Jim Van ERDEN, Ashton R. ADAMS - USA, Trandafir MOISA - ROMANIA
- 11.5 AN EXPERT SYSTEM TO DIAGNOSE POLLUTANT SPILLS ON THE WATER SURFACE
*V.V. KLIMOV, V.I. KOVALEV, V.F. KRAPIVIN, F.A. MKRTCHYAN - RUSSIA,
C. NITU - ROMANIA*

Session 12. APPLIED FORMAL METHODS

Session Chair: Cristian GIUMALE, Lorina NEGREANU - ROMANIA

- 12.1 GENERATING FUNCTIONAL CODE FROM Z SPECIFICATIONS
Lorina NEGREANU, Cristian GIUMALE - ROMANIA
- 12.2 TURNING PROGRAM SPECIFICATIONS INTO CODE
Cristian GIUMALE, Lorina NEGREANU - ROMANIA
- 12.3 A Propositional Vector Logic Theory
Xinmin WANG, Bingyong TANG - PRC, Lida XU - USA
- 12.4 A framework for task analysis in human-computer interaction
Costin PRIBEANU - ROMANIA

Invited Session 13. SIGNAL PROCESSING

Session Chair: Ioan TĂBUȘ – FINLAND, Dan ȘTEFĂNOIU - ROMANIA

- 13.1 Index Assignment using an Ant System Approach
Razvan IORDACHE, Ioan TĂBUȘ - FINLAND
- 13.2 Forward and backward design of predictors for lossless audio coding
Ciprian Doru GIURCĂNEANU, Ioan TĂBUȘ, Jaakko ASTOLA - FINLAND
- 13.3 A Comparison of Deflation Algorithms
Bogdan DUMITRESCU - ROMANIA, Ioan TĂBUȘ - FINLAND
- 13.4 EFFICIENT NUMERICAL AND SPECTRAL METHODS FOR PERIODICAL SIGNAL PARAMETERS ESTIMATION
Costin ȘTEFĂNESCU, Nicolae CUPCEA - ROMANIA
- 13.5 ON THE MOST INFORMATIONAL LINEAR FEATURES IN DATA COMPRESSION
Anda IONESCU, Luminița STATE - ROMANIA
- 13.6 ON NON UNIFORM SAMPLING OF SIGNALS
Dan ȘTEFĂNOIU - ROMANIA
- 13.7 Quadtree Wavelet Coding for Image Compression
A. MUNTEANU, J. CORNELIS, G. VAN DER AUWERA - BELGIUM, P. CRISTEA - ROMANIA

Invited Session 14. VLSI

Session Chair: M.D. PROFIRESCU, S.-A. SPÂNOCHE - ROMANIA

- 14.1 A Method for Smooth Statistical Interpolation
Wim SCHOENMAKER - BELGIUM
- 14.2 Efficient 3D Approach to the Modeling of Leakage Effects in MOSFETs
R. VISSARION, M. LORENZINI, M. RUDAN - ITALY
- 14.3 Online Presentation Service An e-Business Solution
Christopher von KOSCHEMBAHR - BELGIUM
- 14.4 HEMT Optimization Using RSM
M.D. PROFIRESCU, G. DIMA, B. GOVOREANU, O. MITREA - ROMANIA
- 14.5 Electrical Transient Noise Modeling In SPICE-like simulators
S.-A. SPÂNOCHE, Ș.-M. POPESCU, M. BODEA, D. CRIȘU, C. GAVRILESCU, R. IONIȚĂ, M. PĂDURE, A. POPA - ROMANIA
- 14.6 Genetic Algorithm for FPGA Placement
Zoltan BARUCH, Octavian CREȚ, Horia GIURGIU - ROMANIA
- 14.7 An Optimal Technology Mapping for Delay Optimization of Lookup Table-Based FPGAs
Ion I. BUCUR - ROMANIA
- 14.8 Extending Unix/X-Windows Spice and Magic for MS-Windows
Claudius DAN, Mircea BODEA - ROMANIA

Invited Session 15. COMPUTER ENGINEERING

Session Chair: S. COȚOFANĂ, S. VASSILIADIS - THE NETHERLANDS

- 15.1 Caching Data According to their Locality
Jesús SÁNCHEZ, Antonio GONZÁLEZ - SPAIN
- 15.2 REDUCING COLD START MISPREDECTIONS IN TWO-LEVEL ADAPTIVE BRANCH PREDICTORS
G.B.STEVEN, C. EGAN, P. QUICK - UNITED KINGDOM, L.VINȚAN - ROMANIA
- 15.3 A High-Performance Wave-Pipelined Router
José G. DELGADO-FRIAS, Jabulani NYATHI - USA
- 15.4 A Multi-Thread Approach in Order to Avoid Pipeline Penalties
Gheorghe ȘTEFAN - ROMANIA
- 15.5 Superscalar Branch Instruction Processor
T.L. JEREMIAH - USA, S. VASSILIADIS - THE NETHERLANDS, B. BLANER - USA

Invited Session 16. HPC

Session Chair: Valentin CRISTEA, Irina ATHANASIU - ROMANIA

- 16.1 Recent Benchmark Results for HPC Systems
Daniel IOAN, Cătălin DUMITRESCU, Suzana STĂNESCU - ROMANIA
- 16.2 HPC Techniques used in Electromagnetic Field Numerical Computation
Daniel IOAN, Gabriela CIUPRINA, Suzana STĂNESCU, Mihai REBICAN - ROMANIA
- 16.3 Some Synchronization and Performance Aspects in Message Passing Based Application Development
Valentin CRISTEA, Gavril GODZA - ROMANIA

- 16.4 Developing Distributed Applications in Heterogeneous Environments: a comparative study
Valentin CRISTEA, Gavril GODZA - ROMANIA
- 16.5 High Performance Computing and Java
Irina ATHANASIU - ROMANIA
- 16.6 A new approach of parallel computing
Nicolae ȚĂPUȘ - ROMANIA
- 16.7 Interconnection Networks: Graph- and Group-Theoretic Modelling
Christian LAVAULT - FRANCE

Session 17. PARALLEL PROCESSING AND COMPUTER ARCHITECTURE

Session Chair: N. ȚĂPUȘ - ROMANIA, R. GUERRERO - ARGENTINA

- 17.1 DSM on ATM Clusters
Nicolae ȚĂPUȘ, Bogdan COSTINESCU - ROMANIA
- 17.2 MOORE RESERVE – AN ABSOLUTE MEASURE OF INTERCONNECTION STRUCTURAL LOCALITY
Cristian LUPU - ROMANIA
- 17.3 ADVANCED TECHNIQUES FOR IMPROVING PROCESSOR PERFORMANCE IN A SUPERSCALAR ARCHITECTURE
Gordon B. STEVEN – UNITED KINGDOM, Lucian VINȚAN, Adrian FLOREA - ROMANIA
- 17.4 Parallelism and Granularity in an Echo Elimination System
Roberto GUERRERO, Fabiana PICCOLI, Marcela PRINTISTA - ARGENTINA
- 17.5 Parallel algorithms in multithreading systems. Quicksort
A. JALBA, Felicia IONESCU - ROMANIA

Session 18. DISTRIBUTED SYSTEMS

Session Chair: Traian C. IONESCU, Ioan SALOMIE - ROMANIA

- 18.1 Improving Processor Selection Complexity in List Scheduling Algorithms
Andrei RĂDULESCU, Arjan J.C. van GEMUND - THE NETHERLANDS
- 18.2 THE DESIGN OF A DISTRIBUTED TROUBLE MANAGEMENT APPLICATION
Liliana DOBRICĂ, Anca Daniela IONIȚĂ, Traian C. IONESCU, Dorin CĂRSTOIU - ROMANIA
- 18.3 Distributed System Management and Monitoring Tools for Computer Clusters
Cristian MARINESCU, Dan DRAGOMIRESCU, Antonio LLOY - ITALY, Marian DOBRE - ROMANIA
- 18.4 JAVA AGLETS IN DISTRIBUTED COOPERATIVE APPLICATIONS
Ioan SALOMIE, Emil STETCO, Anca RARĂU, Mihaela DINSOREANU - ROMANIA
- 18.5 MOBILE COMPUTING USING JAVA AGLETS
Anca RARĂU, Kalman PUSZTAI, Ioan SALOMIE - ROMANIA
- 18.6 The Use of Distributed Genetic Algorithms for Resource Mapping in Distributed Systems
Cătălin L. DUMITRESCU, Marian DOBRE - ROMANIA
- 18.7 Distributed Scalable Server Architecture for Multi-User Environments
Erich R. SCHMIDT, Cristian ȚĂPUȘ, Joseph KINIRY, Daniel M. ZIMMERMAN - USA

Session 19. COMPUTER NETWORKS

Session Chair: Marian DOBRE, Kalman PUSZTAI - ROMANIA

- 19.1 Charging Schemes for Network Systems
Marian DOBRE - ROMANIA, Alexandru SOCEANU - GERMANY, Marius Dorian ZAHARIA, Dorin IRIMESCU - ROMANIA
- 19.2 Design and Planing of a Policy based Management for switched Networks
Florica MOLDOVEANU - ROMANIA, Alexandru SOCEANU - GERMANY, Panagiotis SENIOROS - GREECE
- 19.3 NETWORK SERVICES FOR MOBILE USERS
Marius GURAN, Dana TRIFĂNESCU, Cristina NICULESCU - ROMANIA
- 19.4 Management Aspects of Cluj Academic Metropolitan Area Network, CAMAN
Kalman PUSZTAI, Emil CEBUC, Vasile-Teodor DĂDĂRLAT - ROMANIA
- 19.5 THE TECHNICAL AND ECONOMICAL PERFORMANCES IN THE CONVERGED NETWORKS WITH SHARED SERVICES CENTERS
Marius GURAN - ROMANIA

Session 20. IMAGE PROCESSING

Session Chair: Marius Dorian ZAHARIA - ROMANIA, Vlad C. CĂRDEI - CANADA

- 20.1 Issues in Color Correcting Digital Images of Unknown Origin
Vlad C. CĂRDEI, Brian FUNT, Michael BROCKINGTON - CANADA
- 20.2 WINDOWS APPLICATION FOR ENVELOPE RECONSTRUCTION OF ATOMIC FORCE MICROSCOPY IMAGES
Stelian NĂSTASE, Nicoleta NĂSTASE, Ștefan IOVAN - ROMANIA
- 20.3 FRACTAL DIMENSION FOR SURFACE TOPOGRAPHY MODELLING; SIMULATION AND CHARACTERIZATION
Ștefan IOVAN, Stelian NĂSTASE - ROMANIA
- 20.4 Procedural Modeling of Natural Phenomena
Marius Dorian ZAHARIA - ROMANIA
- 20.5 ADVANCED SOFTWARE IN IMAGE PATTERN RECOGNITION APPLICATIONS
Mircea VAIDA, Arghir SUCIU, Silviu SOPCO, Titus MOLDOVAN - ROMANIA
- 20.6 STATISTICAL BASED APPROACHES OF IMAGE RESTORATION
Luminița STATE, Cătălina COCIANU - ROMANIA, Panagiotis VLAMOS - GREECE
- 20.7 A NEW METHOD FOR BINARY IMAGE PROCESSING
Dorina-Mioara PURCARU - ROMANIA

Session 21. DATA BASES AND I.T.

Session Chair: Mircea PETRESCU, Florin RĂDULESCU - ROMANIA

- 21.1 PERFORMANCE EVALUATION IN DATABASES
Mircea PETRESCU - ROMANIA
- 21.2 Distributed Query Optimization by Database Design
Florin RĂDULESCU - ROMANIA
- 21.3 Design of a Credits Management System
Silviu DUMITRIU, Florin RĂDULESCU - ROMANIA
- 21.4 Descriptive Database for an Application Generator of Panorama Supervisor
Zoea RACOVIȚĂ, Irina MOCANU - ROMANIA

- 21.5 Some Aspects Concerning the IT Project Management
Mariana MOCANU - ROMANIA
- 21.6 A DECISION SUPPORT PROTOTYPE FOR THE KANSAS STATE UNIVERSITY LIBRARIES
Maria Zamfir BLEYBERG, Raghunath MYSORE, Dongsheng ZHU, Radhika BODAPATLA, Karen COLE, Michael SOMERS - USA

Session 22. APPLICATIONS

Session Chair: Sergiu ILIESCU, Radu DOBRESCU - ROMANIA

- 22.1 INTELLIGENT TECHNIQS IN ECOINFORMATION SYSTEMS
C.I. NITU - ROMANIA, V.F. KRAPIVIN - RUSSIA
- 22.2 NEW CODING ALGORITHM FOR MULTIMEDIA APPLICATIONS
Radu DOBRESCU - ROMANIA
- 22.3 MODERN CONTROL SYSTEM FOR INLAND SHIPING
M. Andrei, V. Marinoiu, N. Paraschiv - ROMANIA
- 22.4 A THREE-TIER SOLUTION FOR INDUSTRIAL APLICATION
D. PUPĂZĂ, S. St. ILIESCU, I. FĂGĂRĂȘAN - ROMANIA
- 22.5 Designing Multilayer Mirrors by using Genetic Algorithms
Octavian BUIU - UNITED KINGDOM, Cătălin BUIU - ROMANIA
- 22.6 VEHICLE TRACKING SYSTEM, THE MOBILE UNIT 'VTS 2000-M'
Ș. PETRESCU, Zoa RACOVIȚĂ, D. RADU, F. SĂDULESCU, T. METEA, A. FÖLDI - ROMANIA
- 22.7 A Dynamic Web Interface for a Geographical Information System
Ariana POPESCU, Gheorghe MUSCĂ, Alin MOLDOVEANU - ROMANIA

GENERAL INFORMATION

LOCATION

CSCS12 will be held at the "POLITEHNICA" University of Bucharest, Spl. Independentei nr. 313, Bucharest, Romania. The Formal Opening will be organized in the Senat Room.

ACCESS TO CONFERENCE SITE

The Conference site can be accessed by the following means of transportation:

- | | |
|----------------|---|
| By underground | - The Conference site is at 5 minute walk from POLITEHNICA underground stations |
| By bus | - Nos. 136, 180, 336, |
| By trolley bus | - No. 62 |

CAR PARKING

There are free and ample parking facilities in the immediate vicinity of the Conference site.

MAIL

Correspondence in connection to the CSCS12 Conference should be addressed as it follows:

CSCS12

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CONFERENCE LITERATURE

The texts of the contributions included in the final programme are published before the beginning of the Conference and distributed to all registered participants who have payed the registration fee.

WORKING LANGUAGE

The working language of CSCS12 is English and will be used for presentation and discussion.

NAME BADGE

An admission badge bearing the participant's name will be issued to all registered participants, thus authorizing access to all Conference sessions.

GET ACQUAINTED COCKTAIL PARTY

A Get Acquainted Cocktail Party will be held on Wednesday 26 May 1999 from 19.00 hours at Casa Oamenilor de Știință Restaurant. The cost of attendance is covered by the registration fee.

CONFERENCE DINNER

The Conference Dinner will take place on 28 May 1999 in TEZAL Club in Bucharest. The cost of attendance is covered by the registration fee.

REFRESHMENTS

Refreshments will be available at the Conference site daily.

LUNCHESES

Self-service lunches will be available in the University Refectory and in a number of outlets around the Conference site.

REGISTRATION AND INFORMATION DESK

The CSCS12 Registration Desk will be open at the Conference site starting from 25 May 1999, 14.00 hrs.

REGISTRATION FEE

The registration fee is of US\$300.00. It covers attendance to all sessions of the scientific programme, a copy of the CSCS12 Preprints, coffee breaks, a ticket for the Get Acquainted Cocktail Party, and a ticket for the Conference Dinner. For details please see the Registration Form.

CLIMATE

The weather in Bucharest is warm at the end of May. Temperatures between 15° to 25° C are to be expected.

INSURANCE

The organizers cannot be held liable for accidents to participants or for damage to, or loss of their personal property, howsoever caused. Participants are advised to make their own insurance arrangements.

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