Sessions Index

Oral Session MM1: Motors

TIME: 09:30 – 11:30 ROOM: Stevenson
CHAIRS: R. Hanna, W. Kinser

Monday, May 14

MM1.1 09:30 – 09:50
Intelligent monitoring and full-digital automatic control of dc machine drive control system for mine hoist *
Jiang Jianguo, Zhao Yulin, Shao Zhongming, Yang Fengzhong and Ma Jianmin
China University of Mining and Technology,Xuzhou, P. R. China
035 Page 0001

MM1.2 09:50 – 10:10
An improved nonlinear control strategy for induction Motor drive
Guang Feng Yanfei Liu
Queens University, Kingston, Ontario, K7L 3N6
109 Page 0007

MM1.3 10:10 – 10:30
Investigation of a robust adaptive nonlinear Controller for induction motors
D. Zimmer, M. Bector, W. Kinsner, and R. Menzies
University of Manitoba, Winnipeg, Manitoba, Canada
333 Page 0013

MM1.4 10:30 – 10:50 * Program Revision
Design of One-Degree and Two-Degrees of Freedom Controllers for Indirect Field Orientation Control Induction Machine Drive System
Fayez F. M. El-Sousy, Faeka M. H. Khater* and Farouk I. Ahmed***
* Electronics Research Institute, NRC, Dokki, Cairo, Egypt
** Faculty of Engineering, Cairo University, Giza, Egypt
365 Page 0021

MM1.5 10:50 - 11:10
Machines oscillatoires et leur place dans la totalite des machines electriques
Sigitas Kudarauskas
Université de Klaip da, Lituanie
163 Page 0029

MM1.6 11:10 – 11:30
Robustness of control design for axial flow compressors
Ali Tahmasebi and Xiang Chen
University of Windsor, Windsor, Ontrario, Canada N9B 3P4
142 Page0035

Oral Session MM2: Software Systems

TIME: 09:30 – 11:30 ROOM: Scott
CHAIR: T.B.A.

Monday, May 14

MM2.1 09:30 – 09:50
Component interaction testing using model-checking
Wayne Liu and P. Dasiewicz
University of Waterloo, Waterloo, Ontario Canada N2L 3G1
034 Page 0041

MM2.2 09:50 – 10:10
A portable real-time extension set for java
Hsin-Ta Chiao and Shyan-Ming Yuan
National Chiao Tung University, Hsinchu 300, Taiwan
Shen-Tzay Huang and Scott Hsu-Jing Kao
National Pingtung University of Science and Technology
1 Hseuh-Fu Rd., Nei-Pu Hshiang 91207, Taiwan
156 Page 0047

MM2.3 10:10 – 10:30
A new family of stream ciphers based on cascaded small s-boxes
Lin Gan, Stan Simmons and Stafford Tavares
Department of Electrical and Computer Engineering, Queen's University, Kingston, Canada, K7L 3N6
377 Page 0053

MM2.4 10:30 – 10:50
A web-based graduate application database system
Lin Han and Xining Li
Department of Computer Science, Lakehead University
Thunder Bay, ON, Canada P7B 5E1
065 Page 0059

MM2.5 10:50 – 11:10
Mobile Multi-Agent System for Medical Image Retrieval
A. Liu, R. Martens, R. Paranjape, L. Benedicenti
University of Regina, Regina, SK., S4S 0A2
187 Page 0065

MM2.6 11:10 – 11:30
Design of One Kind of Transactional Platform System for Electronic Banking
Jiang Dehong
China Construction Bank ShenZhen Branch,
ShenZhen, Guangdong Province, P.R.China, 518010
246 Page 0071

Special Session MM3: Computional Intelligence

TIME: 09:30 – 11:30 ROOM: Wren
CHAIRS: W. Pedrycz
B. DiStefano

Monday, May 14

MM3.1 09:30 - 09:50
Intelligent Design of Product Lines in Holmes
Giancarlo Succi, Witold Pedrycz, Jason Yip, Iliyan Kaytazov
University of Alberta, Edmonton, AB
149 Page 0075

MM3.2 09:50 - 10:10
Quantitative assessment of extreme programming practices
Giancarlo Succi, Milorad Stefanovic, Witold Pedrycz
University of Alberta, Edmonton, AB
112 Page 0081

MM3.3 10:10 - 10:30
Severe storm cell classification using suport vector machines and radial basis function approaches
L. Ramirez, W. Pedrycz
University of Alberta, Edmonton AB, T6G 2G7
N. Pizzi
National Research Council, 435 Ellice Ave., Winnipeg MB, R3B 1Y6
174 Page 0087

MM3.4 10:30 - 10:50
Self organizing maps as a tool for software analysis
W. Pedrycz, G. Succi, M. Reformat, P. Musilek, X. Bai
University of Alberta, Edmonton, AB, Canada T6G 2G7
376 Page 0093

MM3.5 10:50 - 11:10
Adaptive fuzzy force control of an anti-personnel (ap) mine detector robot
Ali M. Shahri, Reza A. Moghadam
Electronic Research Center
Iran University of Science and Technology, Narmak, Teharan
140 Page 0099

MM3.6 11:10 – 12:00
Computional Intelligence in Software Engineering
A Panel Discussion, a Round Table Discussion facilitated by Prof. Witold Pedricz,University of Alberta, Edmonton AB.

See detail next page

MONDAY, MAY 14 11:10 – 12:00

"Computational Intelligence in Software Engineering"

A Panel Discussion, a Round Table Discussion
- facilitated by Prof. Witold Pedricz,University of Alberta, Edmonton AB.

Software Engineering is a rapidly expanding applied research area coming with many success stories and a plethora of challenges and open question. As the software complexity grows and the diversity of software systems skyrocket, it becomes apparent that there is a genuine need for solid, efficient, designer-oriented vehicle to support design activities at various levels. This need becomes particularly visible when dealing with a number of critical aspects of software products and software processes such as risk assessment, cost estimation, quality assurance, and system reliability.

The objective of this panel is to identify a role of Computational Intelligence (CI) as a sound methodological and algorithmic environment for Software Engineering and discuss the already existing trends and research pursuits. By its very nature, Software Engineering and CI are highly compatible: they are knowledge-intensive, human-oriented, and have to deal with various manifestations of the abstract world of software constructs and thought processes. This multifaceted conceptual compatibility is a prerequisite for the development of vital synergistic links that bring the technology of CI into Software Engineering. The symbiosis accrues considerable benefit for both technologies by posing new categories of challenging and highly stimulating problems.

The panel is aimed at all those in academia and industry interested in expanding the frontiers of CI beyond the boundaries of physics-driven systems and entering the challenging world of human-centered world Software Engineering. The panel will be of interest to all software practitioners looking for new innovative solutions for timely problems relative to a variety of products of a typical software process.

Oral Session MM4: Communications Systems I

TIME: 09:30 – 11:30 ROOM: Rossetti
CHAIRS: D. O'Shaugnessy
M. McGuire

Monday, May 14

MM4.1 09:30 - 09:50
Performance of turbo coded multicarrier cdma with iterative multiuser detection and decoding
Padam L. Kafle, Abu B. Sesay
University of Calgary, Calgary, AB, Canada, T2N 1N4
021 Page 0105

MM4.2 09:50 - 10:10
Two-stage maximum likelihood estimation (tsmle) for mt-cdma Signals
Quazi Mehbubar Rahman and Abu B. Sesay
University of Calgary, Calgary, Canada
027 Page 0111

MM4.3 10:10 - 10:30
A transmit-diversity coding framework for cellularsystems
Michaël Godbout and Harry Leib
McGill University, Montreal, Quebec, Canada, H3A 2A7
338 Page 0117

MM4.4 10:30 - 10:50
Broadband array design for performance improvement
Qingsheng Zeng and Douglas O'Shaughnessy
INRS-Telecommunications, University of Quebec, Quebec, CANADA
151 Page 0123

MM4.5 10:50 - 11:10
Estimating position of mobile terminals from delay measurements with survey data
M. McGuire, K.N. Plataniotis, A.N. Venetsanopoulos
University of Toronto, Toronto, ON M5S 3G4 Canada
309 Page 0129

MM4.6 11:10 - 11:30
Performance Analysis of a Direct-Sequence Spread-Spectrum Packet Radio Network
F. Wang and S. K. O'Leary
University of Regina, Regina, Saskatchewan, Canada S4S 0A2
200 Page 0135

Oral Session MM5: Signal Processing

TIME: 09:30 – 11:30 ROOM: Carlyle
CHAIRS: Ferial El-Hawary

Monday, May 14

MM5.1 09:30 - 09:50
Instantaneous mean frequency estimation using adaptive time-frequency distributions
Sridhar Krishnan
Ryerson Polytechnic University, Toronto, ON M5B 2K3, CANADA.
212 Page 0141

MM5.2 09:50 - 10:10
Multirate signal estimation
Omid S. Jahromi, Bruce A. Francis, Raymond H. Kwong
University of Toronto, Toronto, ON, M5S 3G4 Canada
372 Page 0147

MM5.3 10:10 - 10:30
A relationship between external noise and the ocean clutter modelsfor bistatic operation of a pulsed high-frequency radar
Eric W. Gill John Walsh
Memorial University of Newfoundland, St. John's, NF, A1B 3X5
318 Page 0153

MM5.4 10:30 - 10:50
Proof of a result relating to orthogonal scaling functions series expansions
Ting Liu, Christopher J. Zarowski
Queen's University, Kingston, Ontario, Canada K7L 3N6
387 Page 0159

MM5.5 10:50 - 11:10
Software radio receiver for seismic data processing
Yannick Ernou, Paul Fortiey, Université Laval, Quebec City
Christian Grouffal, Institut Français du Pétrole
255 Page 0165

MM5.6 11:10 - 11:30
A cross-relation matched field inversion for geoacoustic parameter estimation
Reza M. Dizaji, Raytheon Systems Canada Ltd., Waterloo, Ontario
N. Ross Chapman, R. Lynn Kirlin, University of Victoria, Victoria, BC
Manigeh M. Dizaji, Tarbiat Modarres University, Tehran, Iran
030 Page 0171

Poster Session MP: Poster Presentations

TIME: 13:15 – 15:15
CHAIR: M. McGuire

ROOM: Mountbatten

Monday, May 14

MP 1
A Physical Model for Characteristics of PIN/QW-LD Optoelectronic Integrated Device
M. H. Sheikhi (1), Vahid Ahmadi (1,2), M. K. Moravvej-Farshi (1)
(1) Tarbiat Modares Univ., P. O. Box 14155-4838, Tehran, Iran
(2) Semiconductor Group , Laser Research Center, AEOI, Tehran, Iran
010 Page 0177

MP 2
A Low-Voltage CMOS Filter for Hearing Aids using Dynamic Gate Biasing
L. Pylarinos, N. W. Wong, and K. Phang
University of Toronto
018 Page 0183

MP 3
Optimal active power flow solutions using a modified hopfield neural network
Rukmi Sari Hartati & M.E. El-Hawary
Dalhousie University, Halifax, NS Canada
041 Page 0189

MP 4
Including effects of cross-saturation and leakage path saturatioon together in the generalized model of the three phase induction machine.
A.F. Almarshoud,
College of Technology, Riyadh, Saudi Arabia
M.A. Adbel-Halim,
Cairo University, Giza, Egypt
A.I. Alolah,
King Saud University, Riyadh, Saudi Arabia
066 Page 0195

MP 5
A new method of the electromagnetic simulation of 3D microwave integrated circuits *
Yazhu Ke, Mei Yu, June Chen and Jufeng Dai
Tianjin University, Tianjin, 300072, P.R. China
079 Page 0201

MP 26
Automatic extraction method of facial regions for occlusion faces in moving pictures
Atushi Hurusawa, Noriyoshi Okamoto
Kanto Gakuin University
384 Page 0329

MP 27
Delivering end-to-end quality of service through an internet protocol based differentiated services domain
J.C. Dullaert 1 , M.H. Rahman 1 , and H.T. Mouftah 2
1. Royal Military College of Canada, Kingston, Ontario, K7K 5L0
2. Queens University, Kingston, Ontario, K7L 3N6
249 Page 0335

MP 28
Implementation of dsp-ram: an architecture for parallel digital signal processing in memory
Bill S.-H. Kwan, Bruce F. Cockburn, Duncan G. Elliott
University of Alberta
332 Page 0341

MP 29
A broadband integrated services network architecture based on dwdm
Shaowen Song, and Zongsen Wu
Wilfrid Laurier University, Waterloo, ON, Canada N2L 3C5
349 Page 0347

MP 30
An efficient FPGA implementation of a pulse-shaping IIR filter
N. Batani , C. Thibeault, C.S. Gargour
École de technologie supérieure (ETS), University of Québec
061 Page 0353

Oral Session MA1: Power Systems I

TIME: 15:30 - 17:30
CHAIR: Mohammed El-Hawary

ROOM: Stevenson

Monday, May 14

MA1.1 15:30 – 15:50
A novel zero voltage switched (zvs) buck converter using coupled inductor
Yingqi Zhang,, Yan-Fei Liu
Queen's University, Kingston, Ontario, Canada, K7L 3N6
058 Page 0357

MA1.2 15:50 – 16:10
Power system adequacy evaluation incorporating a unified power flow controller
R. Billinton M. Fotuhi-Firuzabad S.O. Faried
University of Saskatchewan, Saskatoon, Canada
S. Aboreshaid
Gen. Org. for Tech., Ed., and Voc. Training, Riyadh, Saudi Arabia
069 Page 0363

MA1.3 16:10 – 16:30
Model and applications for harmonic analysis of ac/dc power systems coupled by power electronic converters in high-power industrial drives
Zhao Yulin and Jiang Jianguo
China University of Mining and Technology
Xuzhou, Jiangsu 221008, P. R. China
036 Page 0369

MA1.4 16:30 – 16:50
Partially Coupled Electro-Thermal Analysis for Accurate Prediction of Switching Devices
A. Lakhsasi (a) , Y. Hamri (a) and A. Skorek (b)
(aUniversité du Québec à Hull, Hull,(PQ) J8X-3X7, Canada.,
(bUniversité du Québec à Trois-Rivières, , Canada.
047 Page 0375

MA1.5 16:50 – 17:10
A comparison of alternative hvdc converter schemes
S. M. Al-Dhalaan
Gen. Org. for Tech., Ed., and Voc. Training, Riyadh, Saudi Arabia
086 Page 0381

MA1.6 17:10 – 17:30
Control of dc bus voltage in single-stage ac-to-dc converter
M.M.A. Rahman, A.K.S. Bhat
University of Victoria, Victoria, BC, V8W 3P6
145 Page 0387

Oral Session MA2: Computer Achitecture

TIME: 15:30 – 17:50 ROOM: Scott
CHAIR: Samuel Pierre

Monday, May 14

MA2.1 15:30 - 15:50
Algorithme de maintien de cohérence pour les bases de données sur grappes d'ordinateurs
Constant Wette Samuel Pierre, École Polytechnique de Montréal, Montréal, Canada
359 Page 0393

MA2.2 15:50 - 16:10
The impact of out-of-order message delivery on cache coherence protocols
M. Toncev,1 M. Tomaševic, 2 J. Đordevic , 2 M. Aleksic 3
1 Alcatel, Vancouver, Canada, 2 School of Electrical Engineering, Belgrade, Yugoslavia
3 ATI Technologies, Toronto, Canada
099 Page 0399

MA2.3 16:10 - 16:30
Scalability of Computer Clusters
Vu Anh Nguyen Samuel Pierre, École Polytechnique de Montréal, Montréal, Canada
361 Page 0405

MA2.4 16:30 - 16:50
Simulation support for integrated multiprocessing and memory access scheduling
Linda Wang and Naraig Manjikian, Queen's University, Kingston, Ontario
290 Page 0411

MA2.5 16:50 - 17:10
Checkpointing and Error Recovery in a Uniprocessor System with On-Chip Cache
Rana Ejaz Ahmed, Research In Motion (RIM) Ltd., Waterloo, ON, Canada
132 Page 0417

MA2.6 17:10 - 17:30
Adressage materiel dans les systemes a microprocesseur avec un adressage physique etendu
Mountassar Maamoun et Ghania Zérari, Université de Blida, Algérie.
056 Page 0423

MA2.7 17:30 - 17:50
Multithreaded communication controller for efficient dsm multiprocessors
M. Tonev,(1) J. Đorevi , (2) M. Tomaševi , (2) M. Aleksi (3)
1 Alcatel, Vancouver, Canada
2 School of Electrical Engineering, Belgrade, Yugoslavia
3 ATI Technologies, Toronto, Canada
098 Page 0429

Oral Session MA3: Optics and Applications

TIME: 15:30 – 17:30 ROOM: Wren
CHAIRS: K. Phang

Monday, May 14

MA3.1 15:30 - 15:50
Technologies for hybrid wavelength/time optical cdma transmission
Lawrence R. Chen
McGill University Montreal, Quebec, Canada H3A 2A7
007 Page 0435

MA3.2 15:50 - 16:10
Towards optimal design of wavelength-convertible optical switches for the all-optical next-generation internet
Xueli Hou and H.T.Mouftah
Queen's University, Kingston, Ontario, Canada K7L 3N6
032 Page 0441

MA3.3 16:10 - 16:30
Spanning tree algorithm for spare network capacity
Lech Szymanski and Oliver W. W. Yang
University of Ottawa, Ottawa, Ontario K1N 6N5
148 Page 0447

MA3.4 16:30 - 16:50
Tunable phase-shifted long-period gratings by refractive index-shifting
Lawrence R. Chen
McGill University, Montreal, Quebec, Canada H3A 2A7
008 Page 0453

MA3.5 16:50 - 17:10
Mise en oeuvre de modele electromagnetique 3d dans le domaine temporal dans l'optique d'etudes d'elements de circuits pour l'integration monolitique millimetrique
F. A. Mohammadi, K. Raahemifar, F. Yuan
Ryerson Polytechnic University, Toronto, Ontario, Canada
197 Page 0459

MA3.6 17:10 - 17:30
20ghz ultra-short optical pulse source generated by dfb-ld and pulse compression technology
Jufeng Dai, Xiaohong Ma, Jinlong Yu, Enze Yang
Tianjin University, Tianjin 300072, P.R. China
078 Page 0465

Oral Session MA4: Communicatioons Systems II

TIME: 15:30 – 17:30 ROOM: Rossetti
CHAIR: Victor C.M. Leung

Monday, May 14

MA4.1 15:30 - 15:50
Nonlinear channel estimation using correlation properties of pn sequences
Xavier N. Fernando and Abu B. Sesay
TRLabs and University of Calgary
060 Page 0469

MA4.2 15:50 - 16:10
On the use of jensen's inequality for mimo channel capacity estimation
S. Loyka, A. Kouki
Ecole de Technologie Superieure, Montreal (Quebec), Canada
167 Page 0475

MA4.3 16:10 - 16:30
Performance Analysis of CAR: Centralized Adaptive Reservation
Henry C. B. Chan 1 , Victor O. K. Li 2 and Victor C. M. Leung 3
1 Dept. of Computing, Hong Kong Polytechnic University, Hong Kong
2 Dept. of Electrical & Electronic Eng. University of Hong Kong
3 Department of Electrical and Computer Eng., UBC, Canada
113 Page 0481

MA4.4 16:30 - 16:50
A Markov Chain and Quadrature Amplitude Modulation Fading Based Statistical Discrete Time Model for Multi-WSSUS Multipath Channel
Messaoud Ahmed Ouameur and Daniel Massicotte
Université du Québec à Trois-Rivières, Canada, G9A 5H7
231 Page 0487

MA4.5 16:50 - 17:10
Fade depth prediction on wireless microwave links using two-ray multipath model
S. Loyka, A. Kouki, F. Gagnon
Ecole de Technologie Superieure, Montreal (Quebec), Canada
162 Page 0493

MA4.6 17:10 - 17:30
A qos-sensitive sdma-tdma access in fixed broadband wireless networks *
Qiang Wang and Anjali Agarwal
Concordia University, Montreal, Quebec, Canada
072 Page 0499

Oral Session MA5: Speech Processing

TIME: 15:30 – 17:30 ROOM: Carlyle
CHAIR: D.O. Shaughnessy

Monday, May 14

MA5.1 15:30 - 15:50
Efficient recognition of continuously-spoken numbers
Douglas O'Shaughnessy and Marcel Gabrea
INRS- Télécommunications, Montreal, Québec, Canada H5A 1C6
042 Page 0505

MA5.2 15:50 - 16:10
New wavelet packet model for automatic speech recognition system
Jalal R. Karam, William J. Phillips, William Robertson, Maen M. Artimy
Department of Engineering Mathematics, Dalhousie University
002 Page 0511

MA5.3 16:10 - 16:30
Prediction of hearing aid performance using the multiple model least squares technique
Vijay Parsa and Donald G. Jamieson
University of Western Ontario, London, Ontario, Canada N6G 1H1.
379 Page 0515

MA5.4 16:30 - 16:50
Adaptive kalman filtering-based speech enhancement algorithm
Marcel Gabreal´
École de Technologie Supérieure, Montreal, Quebec, Canada
256 Page 0521

MA5.5 16:50 - 17:10
Reconnaissance automatique de la parole par la technique msdtw
T. Mohamadi, A. Hacine Gharbi, S. Mezaache, A. Harrag
Universite Ferhat Abbas Setif, Cite Maabouda,Setif 19000,Algerie
219 Page 0527

MA5.6 17:10 - 17:30
Evaluation of the G.729 speech coder with pathological voice samples
Vijay Parsa and Donald G. Jamieson
University of Western Ontario, London, Ontario, Canada
221 Page 0533

Oral Session TM1: Motors II

TIME: 09:30 – 11:30 ROOM: Stevenson
CHAIRS: H. Karmaker, A.M. El-Serafi

Tuesday, May 15

TM1.1 09:30 – 09:50
Simulation of the 3-phase double-feed induction motor (dfim): a range of stable synchronous operation
Diógenes Pereira Gonzaga
University of São Paulo ,13560-970 São Carlos – SP – Brasil
Yaro Burian Jr.
Computation of Campinas State University, Campinas SP, Brasil
075 Page 0539

TM1.2 09:50 – 10:10
Identification of the synchronous machine parameters under magnetic saturated conditions using stand still frequency response test
Gh. Ahrabian, A. M. El-Serafi
University of Tabriz, University of Saskatchewan
154 Page 0545

TM1.3 10:10 – 10:30
A new approach to modeling core losses in squirrel cage induction motor using polynomial functions
Gabriel Rakotonirina, Jianhong Xu, Anatole Sévigny, Pierre Sicard
Université du Québec à Trois-Rivières , Québec
239 Page 0551

TM1.4 10:30 – 10:50
A new method for calculating the q-axis saturation characteristics of salient-pole synchronous machines
Ahmed M. El-Serafi, Narayan C. Kar
University of Saskatchewan, Saskatoon, Saskatchewan, Canada
250 Page 0557

TM1.5 10:50 – 11:10
Volume forces in roebel bars inside slots, forces at the boundary of the slot - a closer view on electromagnetic origin and mechanical consequences
Grabner Christian, Köfler Hansjörg
University of Technology Graz, Austria
289 Page 0563

TM1.6 11:10 – 11:30
The two switched reluctance motors parallel drive system
Hao Chen Guilin Xie Jianguo Jiang
China University of Mining & Technology, Xuzhou 221008 China
352 Page 0569

Oral Session TM2: Circuits

TIME: 09:30 – 11:30 ROOM: Scott
CHAIR: Fei Yuan

Tuesday, May 15

TM2.1 09:30 – 09:50
Efficient modeling and analysis of clock feed-through and charge injection of switched current circuits
Fei Yuan and Maged Youssef
Ryerson University, Toronto, Ontario, Canada
Yichuang Sun
University of Hertfordshire, Hatfield Herts, United Kingdom
115 Page 0573

TM2.2 09:50 - 10:10
Statistical analysis of nonlinear current-mode circuits
Fei Yuan
Ryerson University, Toronto, Ontario, Canada M5B 2K3
158 Page 0579

TM2.3 10:10 - 10:30
Stability issues in digital circuits in amorphous silicon technology
N. Mohan, K. S. Karim, S. Prakash, A. Nathan
University of Waterloo, Ontario, Canada
220 Page 0583

TM2.4 10:30 - 10:50
Fractals In Circuits
L. Lazareck, G. Verch, and J. F. Peters
University of Manitoba, Winnipeg, Manitoba, Canada R3T 5V6
355 Page 0589

TM2.5 10:50 - 11:10
An investigation of clock-race conditions in nora dynamic cmos circuits
Gaurav Puree,Virender Punia, and Fei Yuan
Ryerson University, Toronto, Ontario, Canada
356 Page 0595

TM2.6 11:10 - 11:30
Study and caracterization of copper-indium-diteleride
F. Kemiha, A. Zegadi, T. Mohamadi
University F. A. Setif, Setif, Algeria.
173 Page 0601

Special Session TM3: Multimedia Processing and Systems: View of Experts

TIME: 09:30 – 11:30 ROOM: Wren
CHAIR: Ling Guan

Tuesday, May 15

TM3.1 09:30 – 09:50
Media conversions to support mobile users
Anthony Vetro and Huifang Sun
MERL - Mitsubishi Electric Research Laboratories
501 Page 0607

TM3.2 09:50 - 10:10
Video streaming: an fec-based novel approach
Jianfei Cai University of Missouri-Columbia
Chang Wen Chen, Sarnoff Corporation, Princeton, NJ 08543
502 Page 0613

TM3.3 10:10 - 10:30
Multimedia information retrieval
J. A. Lay and P. Muneesawang, University of Sydney, NSW 2006, Australia
L. Guan, Ryerson Polytechnic University, Toronto, Canada
503 Page 0619

TM3.4 10:30 - 10:50
Jqos: a qos-based internet videoconferencing system using the java media framework (jmf)
Wenbiao Zhu and Nicolas D. Georganas
School of Information Technology and Engineering, University of Ottawa
504 Page 0625

TM3.5 10:50 - 11:10
Toward flexible speech recognition
– recent progress at tokyo institute of technology –
Sadaoki Furui
Tokyo Institute of Technology, Department of Computer Science
505 Page 0631

TM3.6 11:10 - 11:30
Multimedia processing for building immersive environments
Howard Leung and Tsuhan Chen
Carnegie Mellon University, Pittsburgh, PA 15213, USA
505 Page 0637

Oral Session TM4: Intelligent Systems I

TIME: 09:30 – 11:30 ROOM: Rossetti
CHAIR: W. Pedrycz

Tuesday, May 15

TM4.1 09:30 – 09:50
Adaptive hybrid control using recurrent-neural-network for linear synchronous motor servo drive system
Faa-Jeng Lin, Wen-Der Chou, and Chih-Hong Lin
Chung Yuan Christian University, Chung Li 32023, Taiwan
043 Page 0643

TM4.2 09:50 - 10:10
Brachytherapy cancer treatment optimization using simulated annealing and artificial neural networks
S. Miller 1,2 *, J. Bews* 2 *, and W. Kinsner* 1
1 University of Manitoba, Winnipeg, Manitoba, Canada R3T 5V6
2 Dept. of Medical Physics, CancerCare Manitoba, Winnipeg, Canada
300 Page 0649

TM4.3 10:10 - 10:30
A New Transformed Input-Domain ANFIS for Highly Nonlinear System Modeling and Prediction
Elsaid Mohamed Abdairahim and Takashi Yahagi, Chiba University, Japan.
346 Page 0655

TM4.4 10:30 - 10:50
Two layers position control system of a manipulator using feed forward control
Khaled N. S. Faress, Mohsen M. T. El- Hagry
Electronics Research Institute, ERI, Dokki, Cairo, Egypt.
Mohammed M. Abd El-Aziz
Faculty of Engineering, Cairo University, Giza, Egypt.
001 Page 0661

TM4.5 10:50 - 11:10
Traffic identification using artificial neural network
Ali A. Ali and R.Tervo, The University of New Brunswick, Fredericton, Canada.
076 Page 0667

TM4.6 11:10 - 11:30
Application of artifical neural network in noise mixed partial discharge recognition
Zhong Zheng, Kexiong Tan, Tsinghua University Beijing P.R. China
378 Page 0673

Oral Session TM5: Networks I

TIME: 09:30 – 11:30 ROOM: Carlyle
CHAIR: H. Mouftah

Tuesday, May 15

TM5.1 09:30 – 09:50
Providing packet loss guarantees in differentiated services architectures
Haiqing Chen , Hossam Hassanein and Hussein Mouftah
Queen's University, Kingston, Canada
305 Page 0679

TM5.2 09:50 - 10:10
Modelling with queues: an empirical study
Przemyslaw Pochec and Wail Mardini
University of New Brunswick, Fredericton, Canada E3A 5A3
004 Page 0685

TM5.3 10:10 - 10:30
Non-gaussian characteristic and farima(p,d,q) traffic models
Zhigang Jin, Yantai Shu, Jiakun Liu
Tianjin University, Tianjin 300072, China
Oliver W. W. Yang
University of Ottawa, Ontario, Canada, K1N 6N5
017 Page 0691

TM5.4 10:30 - 10:50
Shaping and policing of fractal stable broadband traffic
Fotios C. Harmantzis, Dimitrios Hatzinakos
University of Toronto, Toronto ON, M5S 3G4 Canada
Irene Katzela
Lucent Technologies, 55 University Avenue, Toronto ON, Canada
184 Page 0697

TM5.5 10:50 - 11:10
Performance analysis of wireless atm/aal2 over a burst error channel
Luis Villasenor-Gonzalez †‡ , Sophia Tsakiridou ‡ , Luis Orozco-Barbosa † and Louise Lamont ‡
† University of Ottawa, Ottawa, ON K1N 6N5, Canada
‡ Communications Research Centre Ottawa, ON, Canada, K2H 8S2, Canada
272 Page 0703

TM5.6 11:10 - 11:30
A Computer Aided Tool for the Performance Evaluation of Diffserv Networks
Zesong Di and H. T. Mouftah
Queen's University, Kingston, Ontario, Canada, K7L 3N6
181 Page 0709

Poster Session TP: Poster Presentation

TIME: 13:15 – 15:15 ROOM: Mountbatten
CHAIR: R. Hudyma

Tuesday, May 15

TP 1
The sort of fault diagnosis in large synchronous generators by analytic hierarchy process (a.h.p) method
H.Mirabedini, A.Gorji
Niroo Research Institute, Tehran-Iran
019 Page 0715

TP 2
Predictive reliability assessment of distribution systems including extreme adverse weather
Roy Billinton, Chenjian Wu
University of Saskatchewan, Saskatoon, Saskatchewan
045 Page 0719

TP 3
Composite systems operating reserve assessment using a reliability framework
Roy Billinton, Mahmud Fotuhi-Firuzabad
University of Saskatchewan, Saskatoon, Canada
062 Page 0725

TP 4
Three-phase induction generator connected to a single-phase electrical distribution system including harmonic effects
*Roberlam G. de Mendonça, *. Rui V. R. Silva,.***
*Samuel C. M. de Paula, *. Luciano M. Neto,.***
* CEFETGO – Jataí Decentralized Jataí – GO – Brazil
** Universidade Federal de Uberlândia Uberlândia – MG
081 Page 0731

TP 5
Evaluation of performance of groundings electrics in conditions of lightning current
Samuel Cesar Mota de Paula,. Carlos A. G. Medeiros,.***
Roberlam G. de Mendonça. Rui V. R. Silva.***
*Luciano M. Neto.***
* CEFETGO – Jataí Decentralized Jataí – GO – Brazil
** Universidade Federal de Uberlândia Uberlândia – MG
093 Page 0737

Oral Session TA1: Power Systems II

TIME: 15:30 – 17:30 ROOM: Stevenson
CHAIRS:

Tuesday, May 15

TA1.1 15:30 - 15:50
Implementation of non-uniform reliability in a deregulated power market
Peng Wang
Nanyang Technological University, Singapore 639798
R. Billinton
University of Saskatchewan, Saskatoon, Canada
171 Page 0857

TA1.2 15:50 - 16:10
Power quality monitoring and analysis of a university distribution system
*Éloi Ngandui **Cédric Meignant
*Université du Québec à Trois-Rivières, QC, Canada
** École Française d'Électronique et d'Informatique, France
203 Page 0863

TA1.3 16:10 - 16:30
Medium voltage industrial distribution system power quality assessment utilizing multi-resolution decomposition techniques
Tarek K. Abdel Galil E.F. El-Saadany, M.M.A. Salama
University of Waterloo
328 Page 0869

TA1.4 16:30 - 16:50
Multiple contribution of windings and massive rotor to the subtransient behaviour of turbo generators
Bacher Johann, Köfler Hansjörg
University of Technology Graz,
286 Page 0875

TA1.5 16:50 - 17:10
Modelling of industrial loads for voltage stability studies in power systems
Michael A. Merkle Amir M. Miri
University of Karlsruhe, Germany
091 Page 0881

TA1.6 17:10 - 17:30
Specific applications of the transistor converter in excitation systems of synchronous generators
Gorislav Erceg Romina Erceg
Croatian Electric Power Company
University of Croatia Viktora, Cara Emina 2, Rijeka, Croatia
122 Page 0887

Oral Session TA2: Systems and Devices

TIME: 15:30 – 17:30 ROOM: Scott
CHAIR: Fei Yuan

Tuesday, May 15

TA2.1 15:30 - 15:50
Unified simulator: an alternative to traditional simulation techniques
Kaamran Raahemifar
Ryerson Polytechnic University, Toronto, Ontario, Canada, M5B 2K3
Majid Ahmadi
University of Windsor, Windsor, Ontario, Canada, N9B 3P4
193 Page 0891

TA2.2 15:50 - 16:10
Numerical study on the performance of GaAs mesfet-like oscillator
F. A. Mohammadi, K. Raahemifar, F. Yuan
Ryerson Polytechnic University, Toronto, Ontario, M5B 2K3, Canada
196 Page 0897

TA2.3 16:10 - 16:30
Harmonic balance analysis of a microwave balanced power amplifier
(1) V. Miraftab, and (2) A. Abdipour
(1) University of Waterloo, Ontario N2L 3G1, Canada,
(2) Amir_Kabir University of Technology, Tehran, 15914, Iran,
310 Page 0901

TA2.4 16:30 - 16:50
Model checking of the fairisle atmswitch fabric using formalcheck
Leila Barakatain and Sofiène Tahar
Concordia University, Montreal, Quebec, H3G 1M8 Canada
111 Page 0907

TA2.5 16:50 - 17:10
Context-based media adaptation in pervasive computing
Zhijun Lei and Nicolas D. Georganas
University of Ottawa, Ottawa, Ontario, Canada
185 Page 0913

TA2.6 17:10 - 17:30
FPGA implementation of MD5 hash algorithm
Janaka Deepakumara, Howard M. Heys and R. Venkatesan
Memorial University of Newfoundland, St.John's, NF, Canada
241 Page 0919

Oral Session TA3: Image and Video Coding

TIME: 15:30 – 17:30 ROOM: Wren
CHAIRS: R. Dony
P. Fieguth

Tuesday, May 15

TA3.1 15:30 - 15:50
A review of current raw sar data compression techniques
A. El Boustani, K. Brunham and W. Kinsner
University of Manitoba, Winnipeg, Manitoba, Canada, R3T 5V6
and TRLabs (Telecommunication Research Laboratory) Winnipeg
296 Page 0925

TA3.2 15:50 - 16:10
Encoding of color still pictures wavelet transform and vector quantization
Shin-Ichi Kadono, Osarm Tahara And Noriyoshi Okamoto
Kanto Gakuin University. Japan
311 Page 0931

TA3.3 16:10 - 16:30
Fixed block-based lossless compression of digital mammograms
Marwan Y. Al-Saiegh and Sridhar Krishnan
Ryerson Polytechnic University, Toronto, ON M5B 2K3, CANADA.
216 Page 0937

TA3.4 16:30 - 16:50
Implementation of mpeg system target decoder.
Mehran Azimi, Panos Nasiopoulos and Rabab K. Ward
University of British Colombia, Vancouver, B.C., Canada.
235 Page 0943

TA3.5 16:50 - 17:10
A progressive scheme for biomedical image compression using variable order wavelets transforms and hvs characteristics
M.B. Bouziane, R. Noumeir, C.S. Gargour
Ecole de technologie supérieure , Montreal, Quebec, Canada.
038 Page 0949

TA3.6 17:10 - 17:30
A structured versus unstructured 2d hierarchical mesh for video object motion tracking
Wael Badawy
University of Calgary, Calgary, Alberta, Canada T2N 1N4
383 Page 0953

Oral Session TA4: Intelligent Systems II

TIME: 15:30 – 17:30 ROOM: Rossetti
CHAIRS: B. DiStefano
K.N. Plataniotis

Tuesday, May 15

TA4.1 15:30 - 15:50
Genetic algorithm for bending process in sheet metal industry
Chitra Malini Thanapandp, Aranya Walairacht, Shigeyuki Ohara
Tokai University, Japan
104 Page 0957

TA4.2 15:50 - 16:10
Circuit synthesis evolution using a hardware-based genetic algorithm
Rami Abielmona, Voicu Groza, University of Ottawa, Ottawa
227 Page 0963

TA4.3 16:10 - 16:30
A design neurofuzzy controller for level process control
V. Tipsuwanporn, N. Koetsam-ang, V. Kongratana, A. Numsomran and T. Suesut
King Mongkut's Institute of Technology Ladkrabang, Bangkok.
088 Page 0969

TA4.4 16:30 - 16:50
Neural networks and fuzzy logic in electrical engineering
Francisco Jurado, Blas Ogayar, University of Jaén
Manuel Castro, José Carpio, Universidad Nacional
153 Page 0975

TA4.5 16:50 - 17:10
A new simple ∞OH neuron model as a principal component analyzer
*Marko Jankovic,*Electrical Eng. Institute "Nikola Tesla, Belgrade
207 Page 0981

TA4.6 17:10 - 17:30
Competing ica techniques in biomedical signal analysis
M. Potter and W. Kinsner
University of Manitoba, Winnipeg, Manitoba, Canada R3T 5V6
298 Page 0987

Oral Session TA5: Networks II

TIME: 15:30 – 17:30 ROOM: Carlyle
CHAIR: S. Pierre

Tuesday, May 15

TA5.1 15:30 - 15:50
Description and validation of the media gateway control protocol (mgcp) using sdl/msc
Ligang Wang, Anjali Agarwal, J. William Atwood
Concordia University, Montreal, Quebec, Canada
073 Page 0993

TA5.2 15:50 - 16:10
Performance study of nfs over myrinet-based clusters for parallel multimedia applications 1
T.Olivares, L.Orozco-Barbosa#, F.Quiles*, A. Garrido*, P.J.Garcia**
* Universidad de Castilla-La Mancha,Albacete, Spain
# University of Ottawa, Ottawa, ON K1N 6N5 Canada,
222 Page 0999

TA5.3 16:10 - 16:30
3D wavelet compression by message passing on a myrinet cluster
E. Moyano , P. González* , L. Orozco-Barbosa# , F.J. Quiles* , P.J. García* , A. Garrido**
* Universidad de Castilla-La Mancha,Albacete, Spain
# University of Ottawa, Ottawa, ON K1N 6N5 Canada,
268 Page 1005

TA5.4 16:30 - 16:50
Performance evaluation of jitter management algorithms
Frank P. Zhang and *Oliver W. W. Yang,* University of Ottawa, Ontario, Canada
Brian Cheng, Mitel Corporation, Kanata, Ontario, Canada
152 Page 1011

TA5.5 16:50 - 17:10
Affectation de cellules à des commutateurs par programmation par contraintes
Grâce Amoussou, Gilles Pesant, Samuel Pierre
École Polytechnique de Montréal, Montréal, Qué., Canada
360 Page 1017

TA5.6 17:10 - 17:30
Design of plc networks using remote i/o module based on controller area network
P. Roengruen, T.Suesut, V.Tipsuwanporn, V. Kongratana and S.Kulphanich
King Mongkut's Institute of Technology Ladkrabang, Bangkok.
134 Page 1023

Oral Session WM1: Power Systems III

TIME: 09:30 – 11:30 ROOM: Stevenson
CHAIR: R. Hanna

Wednesday, May 16

WM1.1 09:30 – 09:50
Commande multiphasée d'un survolteur pour un systéme d'energie renouvelable
K. Agbossou, R. Simard, S. Kelouwani, A. Anouar and T.K. Bose
Université du Québec à Trois-Rivières
178 Page 1029

WM1.2 09:50 - 10:10
Effectiveness of different filtering methodologies in harmonic distortion mitigation
E.F. El-Saadany
University of Waterloo, Waterloo, On. N2L 3G1 Canada
327 Page 1035

WM1.3 10:10 - 10:30
Unified power quality conditioner with a novel control algorithm based on wavelet transform
A. Elnady A. Goauda M. M. A. Salama, Waterloo University, Ontario, Canada
331 Page 1041

WM1.4 10:30 - 10:50
Counter-flow in a deregulated power system network and it's effect on transmission loss allocation
N.Chowdhury A.Bhuiya, Power Systems Research Group, University of Saskatchewan
204 Page 1047

WM1.5 10:50 - 11:10
Analysis of a voltage regulator for self-excited induction generator employing current-type static compensator
Hamid R. Karshenas and Akbar Abdolahi, Isfahan University of Technology, IRAN
259 Page 1053

WM1.6 11:10 - 11:30
Probabilistic modeling of converters for power evaluation in non sinusoidal conditions
T. Esposito
Second University of Naples Via Roma 29, 81031 Aversa Italy
A. Russo P. Varilone
University of Cassino, Via Di Biasio 43, 03043 Cassino Italy
354 Page 1059

Oral Session WM2: VLSI Design

TIME: 09:30 – 11:30 ROOM: Scott
CHAIR: E.P. Nowicki

Wednesday, May 16

WM2.1 09:30 – 09:50
An efficient rectilinear steiner tree algorithm for vlsi global routing
Shawki Areibi
University of Guelph, CANADA N1G 2W1
Min Xie and Anthony Vannelli, University of Waterloo, CANADA
101 Page 1067

WM2.2 09:50 - 10:10
A genetic algorithm for testable data path synthesis
H. Harmanani, R. Saliba, M. Khoury, Lebanese American University, Byblos, Lebanon
138 Page 1073

WM2.3 10:10 - 10:30
Applying cycle-based simulation technique to VITAL as a VHDL gate level standard
Benyamin Hamdin Yaran, Dara Rahmati, Abolfazl Salimi Zebardast
CAD Lab of ECE Department, University of Tehran, Tehran, Iran
291 Page 1079

WM2.4 10:30 - 10:50
Characterization of a gate drive technique for snubberless operation of gate controlled devices
R.Sachdeva and E.P.Nowicki, The University of Calgary, Calgary, Alberta, Canada
324 Page 1085

WM2.5 10:50 - 11:10
Fault characterizations and design-for-testability technique for detecting i ddq faults in CMOS/BICMOS circuits
Kaamran Raahemifar
Ryerson Polytechnic University, Toronto, Ontario, Canada.
Majid Ahmadi
University of Windsor, Windsor, Ontario, Canada, N9B 3P4
190 Page 1091

WM2.6 11:10 - 11:30
A new initialization technique for asynchronous circuits
Kaamran Raahemifar 1 , Fei Yuan 2
Ryerson Polytechnic University, Toronto, Ontario, Canada.
Farahnaz A. Mohammadi
Nortel Networks Corporation, Brampton, Ontario L6T 5P6
192 Page 1099

Oral Session WM3: Image Processing and Analysis I

TIME: 09:30 – 11:30 ROOM: Wren
CHAIRS: E. Ternigan
P. Fieguth

Wednesday, May 16

WM3.1 09:30 – 09:50
A fMRI data analysis method using a fast infomax-based ica algorithm
Dezhong Yao 1,2,3 .,Huafu Chen 1, Suzanna Becker 2 Tiangang Zhou 3, Yan Zhuo,3 Lin Chen 3
1. University of Science and Technology of China,Chengdu, China.
2. McMaster University, Hamilton, Ontario, L8S 4K1, Canada
3. University of Science and Technology of China, Beijing China
285 Page 1105

WM3.2 09:50 - 10:10
Radiometric equalization of remote sensing data by utilization of laserscan data
J. Bückner, M. Pahl, O. Stahlhut
University of Hannover, Germany
087 Page 1111

WM3.3 10:10 - 10:30
Morphological skeleton algorithm for pdp production line inspection
Renyan Ge and David A. Clausi
University of Waterloo, Waterloo, Ontario, Canada N2L 3G1
094 Page 1117

WM3.4 10:30 - 10:50
Modeling the correlation structure of images in the wavelet domain
Z. Azimifar, P. Fieguth, E. Jernigan
University of Waterloo, Waterloo, Ontario, Canada, N2L-3G1
236 Page 1123

WM3.5 10:50 - 11:10
CMOS image sensor camera with focal plane edge detection
Muahel Tabet and Richard Hornsey
University of Waterloo, Ontario, Canada N2L 3G1
hornsey@venus.uwaterloo.ca
242 Page 1129

WM3.6 11:10 - 11:30
Motion estimation of sparse, remotely-sensed fields
F. Jin, F.M.Khellah*, P.W.Fieguth*, L.Winger***
* University of Waterloo, Waterloo, ON N2L 3G1, Canada
** Cisco Systems, 180 Columbia Street West , Waterloo, ON Canada
254 Page 1135

Oral Session WM4: Networks III

TIME: 09:30 – 11:30 ROOM: Wren
CHAIR: C. Desmond

Wednesday, May 16

WM4.1 09:30 – 09:50
New job selection and location policies for load distributing algorithms *
Marei S. Al-Amri 1 and Rana Ejaz Ahmed 2
1. King Saud University, Riyadh-11421, Saudi Arabia
2. Presently at Research In Motion (RIM) Ltd., Waterloo, ON, Canada.
089 Page 1139

WM4.2 09:50 - 10:10
Reliable multicast transmissions using forward error correction and automatic retransmission requests
Ben Li
Norsat International Incorporated, Winnipeg, Manitoba, Canada
005 Page 1145

WM4.3 10:10 - 10:30
A robust model parameter extraction technique based on meta-evolutionary programming for high speed/high frequency package interconnects
Nader Damavandi, Safieddin Safavi-Naeini
University of Waterloo, Canada
116 Page 1151

WM4.4 10:30 - 10:50
Load-balanced wireless ad hoc routing
Audrey Zhou and Hossam Hassanein
Queen's University, Kingston, Ontario, Canada, K7L 3N6
294 Page 1157

WM4.5 10:50 - 11:10
The use of conceptual models during the design of new telecommunication services
Ali Roshannejad, Armin Eberlein
University of Calgary, Alberta, Canada
277 Page 1163

WM4.6 11:10 - 11:30
A tree-based algorithm for protection/restoration in optical mesh networks
Shahram Shah-Heydari and Oliver Yang
University of Ottawa, Ottawa, Canada K1N 6N5
139 Page 1169

Oral Session WM5: DSP Architectures

TIME: 09:30 – 11:30 ROOM: Carlyle
CHAIR: H. Mouftah

Wednesday, May 16

WM5.1 09:30 – 09:50
A dynamic programming approach to complex allocation in a dsp pipelined processor
R.Muresan, C.Gebotys
University of Waterloo, Waterloo, Ontario, N2L 3G1
025 Page 1175

WM5.2 09:50 - 10:10
A vlsi implementation of an adaptive-effort low-power viterbi decoder for wireless communications
G. Allan and S. Simmons
Queen's University, Kingston, Ontario
141 Page 1183

WM5.3 10:10 - 10:30
Efficient Implementation of the Discrete Wavelet Transform on the Parallel DSP-RAM Architecture
Hongyu Liao, Bruce F. Cockburn, and Mrinal K. Mandal
University of Alberta, Edmonton, Canada T6G 2G7
307 Page 1189

WM5.4 10:30 - 10:50
On high speed add - compare - select for viterbi decoders
R.V.K. Pillai 1 and Paul D'Arcy 2
1 StarCore Technology Centre, Agere Systems, Atlanta, Georgia,
2 NetCom Division, Agere Systems, Allentown, PA 18103
375 Page 1193

WM5.5 10:50 - 11:10
An accurate linear approximation method utilizing a bipartite reciprocal table for a floating point divider
Iljoo Choo and R.G. Deshmukh
Florida Institute of Technology, Melbourne, Fl 32901
023 Page 1199

WM5.6 11:10 - 11:30
Implantation d'un algorithme de detection de contours multi-echelles sous formes de circuits fpga
Sarifuddin, H. Laggoune
Jl Margonda Raya 100, Pondok Cina, 16424 Indonesia
160 Page 1205

Oral Session WA1: Applications

TIME: 13:00 – 15:20 ROOM: Stevenson
CHAIR: A. Ferworn

Wednesday, May 16

Note that Wednesday Afternoon Sessions Begin at 13:00

WA1.1 13:00 - 13:20
Extending the capability of mars umbilical technology demonstrator
Nasser Houshangi
Purdue University Calumet, Hammond, IN. 46323, U.S.A.
183 Page 1211

WA1.2 13:20 - 13:40
A novel direct-drive motor system for the joint of the robot
Hao Chen Dong Zhang Jianguo Jiang
China University of Mining & Technology, Xuzhou 221008 China
350 Page 1217

WA1.3 13:40 - 14:00
Theoretic design of a smart vision sensor
Hongmei Gao and Xiang Chen
University of Windsor, Ontario, Canada
121 Page 1223

WA1.4 14:00 - 14:20
Constrained image understanding for an internet robot supporting telepresence
Alexander Ferworn Wing-Hong Shiu Kostas Plataniotis
Ryerson Polytechnic University
The University of Guelph
The University of Toronto
180 Page 1229

WA1.5 14:20 - 14:40
Performance prediction on graphics hardware
Using software simulation
Daniel Wai-him Wong and Milivoje Aleksic
ATI Technologies Inc., Toronto, Canada
040 Page 1235

WA1.6 14:40 - 15:00
Algorithms for orthographic views with hidden entities and manufacturing features information for sheet metal parts
Periasamy Thanapandi , Jackson Tholath**,*
*Teruyoshi Ishiguro***, And Toshio Takagi**
*FA Software Division, Amada Co. Ltd,, JAPAN
**Amada Soft India Ltd., Chennai, 600 017, INDIA
***Amtec Co. Ltd., 200, Ishida,, JAPAN
278 Page 1241

WA1.7 15:00 - 15:20
Application of rough set theory to fault diagnosis of check valves in reciprocating pumps
Shi Wengang Wang Rixin Huang Wenhu
Harbin Institute of Technology, Harbin 150001, China
044 Page 1247

Session WA2 Digital Design

TIME: 13:00 – 15:00 ROOM: Scott
CHAIR: Z. Vranesic

Wednesday, May 16

Note that Wednesday Afternoon Sessions Begin at 13:00

Oral Session WA3: Image Processing and Analysis II

TIME: 13:00 – 15:00 ROOM: Wren
CHAIR: B. Smolka

Wednesday, May 16

Note that Wednesday Afternoon Sessions Begin at 13:00

WA3.1 13:00 - 13:20
A method of acquiring and refining a signal depicted on an image
K.A. Zarmakoupis J. Kappatou
University of Patras, 26500 RION PATRAS, Greece
292 Page 1291

WA3.2 13:20 – 13:40
Parallel implementation for image rotation using parallel virtual machine (pvm)
J. Hinks, S.A. Amin
BIOCORE, Coventry University, Coventry, UK
233 Page 1297

WA3.3 13:40 - 14:00
Image segmentation using mri vertebral cross-sections
Simon Booth and David A Clausi
University of Waterloo, Waterloo, Ontario, Canada N2L 3G1
238 Page 1303

WA3.4 14:00 - 14:20
Feature analysis of activated sludge based on microscopic images
Marcin Sikora
Munich Univ. of Technology, Munich, Germany
Bogdan Smolka
Silesian University of Technology, Gliwice,
329 Page 1309

WA3.5 14:20 - 14:40
On the fast modified vector median filter
B. Smolka, M. Szczepanski
Silesian University of Technology, Gliwice, Poland
K.N. Plataniotis, A. N. Venetsanopoulos
University of Toronto, Toronto, Canada
385 Page 1315

WA3.6 14:40 - 15:00
Wavelet filters in multi-resolution motion estimation
Jinwen Zan, M.N.S. Swamy and M.O. Ahmad
Concordia University, Montreal, Quebec, Canada H3G 1M8
389 Page 1321

Oral Session WA4: Wireless Communication

TIME: 13:00 – 15:00 ROOM: Wren
CHAIRS: D. Hatzinako
R.A. Pacheco

Wednesday, May 16

Note that Wednesday Afternoon Sessions Begin at 13:00

Oral Session WA5: Biomedical Applications

TIME: 13:00 – 16:00 ROOM: Carlyle
CHAIR: K.N. Plataniotis

Wednesday, May 16

Note that Wednesday Afternoon Sessions Begin at 13:00

WA5.1 13:00 - 13:20
The electroencephalogram as a biometric
R.B. Paranjape, J. Mahovsky*, L. Benedicenti*, Z. Koles'*
' University of Alberta, Edmonton, Canada.
* University of Regina, Saskatchewan, Canada
186 Page 1363

WA5.2 13:20 - 13:40
Towards gestalt telehealth: considering social, ethical and cultural issues
RK Bali & RNG Naguib, Coventry University, Coventry, CV1 5FB, UK
052 Page 1367

WA5.3 13:40 - 14:00
A low power hybrid posture monitoring system
Michael Bazzarelli, BSc., Nelson Durdle, Ph.D., Edmond Lou, Ph.D., James Raso, MASc.
University of Alberta, Edmonton, Alberta, Canada
Glenrose Rehabilitation Hospital, Edmonton, Alberta, Canada
103 Page 1373

WA5.4 14:00 - 14:20
Orientational coherence metrics: classification of colonic cancer images based on human form perception
Alison G. Todman 1 , Raouf N. G. Naguib 1 , Mark K. Bennett 2
1. BIOCORE, Coventry University, U.K 2. University of Newcastle, Freeman Hospital, Newcastle, UK
084 Page 1379

WA5.5 14:20 - 14:40
A low power accelerometer used to improve posture
Edmond Lou 1, Michael Bazzarelli 2, Doug Hill 1 , Nelson Durdle
1. Glenrose Rehabilitation Hospital, Edmonton, Alberta, Canada 2. University of Alberta, Edmonton, Alberta, Canada, T6G 2G7.
024 Page 1385

WA5.6 14:40 - 15:00
A classification canvas for the analysis of biomedical data
Aleksander B. Demko, Nicolino J. Pizzi, Ray L. Somorjai, National Research Council, Winnipeg MB, R3B 1Y6
015 Page 1391

WA5.7 15:00 - 15:20
Controle ameliore de la compression de la densite spectrale du signal emg de surface : application a la fatigue
R.E. Bekka, A. Reffad, D. Chikouche, Université de Sétif, 19000 SETIF, ALGERIA.
136 Page 1397

WA5.8 15:20 - 15:40
Analyse de la compression de la densite spectrale du signal emg de surface par les methodes basees sur la fft
R. E. Bekka, A. Mihi, D. Chikouche, Université de Sétif, 19000 SETIF, ALGERIA
137 Page 1403

WA 5.9 15:40 – 16:00
Fast iris detection using neural nets
Hazem M. El-Bakry, Mansoura University - Egypt
012 Page 1409

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