

Session (Oral) MM1: OFDM

Monday, May 03, 2004

TIME: 9:30 – 12:20

**CHAIR: Dr. D. Hatzinakos
and Mr. R. Pacheco,
University of Toronto**

Room: Canadiana

1. BER Analysis of Self-Heterodyne OFDM Transmission Scheme

Ryan Pacheco (University of Toronto, Canada) and Dimitrios Hatzinakos (University of Toronto, Canada) 6621

2. Search for OFDM Synchronization Waveforms with Good Aperiodic Autocorrelations

Oktay Ureten (Communications Research Centre, Canada), Selcuk Tascioglu (Ankara University, Turkey), Nur Serinken (Communications Research Centre, Canada) and Mumtaz Yilmaz (Ankara University, Turkey) 3772

3. Performance of a Modulation Scheme Estimation Method for Adaptive Modulation based COFDM-CDMA Systems

Sujoy Chatterjee, (Asian Institute of Technology, Thailand), Kazi M. Ahmed (Asian Institute of Technology, Thailand), W.A.C. Fernando (Asian Institute of Technology, Thailand) 5093

4. A Real-time Software Implementation of an OFDM Modem Suitable for Software Defined Radios

Antonio L. Cinquino (Concordia University, Canada), Yousef R. Shayan (Concordia University, Canada) 5804

Break : 10:50 – 11:00

5. Decision Directed OFDM-CPM systems for Wireless Communications

Yasir Barlas (University of Western Ontario, Canada), R. K. Rao (University of Western Ontario, Canada) 5887

6. Peak-to-Average Power Ratio Reduction in OFDM: Optimal and Suboptimal Combination of Erasure Pattern Selection and Probabilistic Methods

Lucia Valbonesi (University of Illinois at Chicago, USA) and Rashid Ansari (University of Illinois at Chicago, USA) 6886

7. Channel Estimation Methods For MIMO-OFDM System: Time Domain Versus Frequency Domain

Quazi Mehbubur Rahman (Royal Military College of Canada and Queen's University) and Mostafa Hefnawi (Royal Military College of Canada) 5801

8. Two Novel Transform Domain Estimation Methods for OFDM System and Their Application Environment

Jia Lei (University of Tianjin, China), Cao Dazhong (Tianjin University, China) and Hou Chunping (Tianjin University, China) 5443

Session (Oral) MM2: Mobile Networks I

Monday, May 03, 2004

TIME: 9:30 – 12:20

**CHAIR: Dr. S. Pierre, Ecole
Polytechnique de
Montreal**

Room: Ontario

1. Wireless Camera Network for Image Super-resolution

Marc Directo (McMaster University, Canada), Shahram Shirani (McMaster University, Canada), David Capson (McMaster University, Canada) 5798

2. Location-Based Services: Advances and Challenges

Isaac K. Adusei (University of Hannover, Germany), Kyandoghere Kyamakya (University of Hanover, Germany), Fazli Erbas (University of Hanover, Germany) 3268

3. Performance Considerations for Managing Users' Mobility in Mobile Systems

Alejandro Quintero (Ecole Polytechnique de Montreal, Canada), Oscar Garcia (Ecole Polytechnique de Montreal, Canada), Samuel Pierre (Ecole Polytechnique de Montreal, Canada) 6462

4. Mobility Prediction based Service Location and Delivery

N. Samaan (University of Ottawa, Canada), Ahmed Karmouch (University of Ottawa, Canada) and H. Kheddouci (Université de Bourgogne, France) 6975

Break : 10:50 – 11:00

5. Automatic Mobile Payment on a non-Connected Vending Machine

Seyed Bahram Zahir Azami (Hivva Technologies, Canada) and Mohammad Tanabian (Hivva Technologies, Canada) 5818

6. UHF DTV Band Channel Characterization for Mobile Reception

Assia Semmar (Laval University, Canada), Jean-Yves Chouinard (Laval University, Canada), Xianbin Wang (Communications Research Centre, Canada) and Yiyang Wu (Communications Research Centre, Canada) 6066

7. On the Role of Base Station In Fault-Tolerant Mobile Networks

Rana Ejaz Ahmed (American University of Sharjah, U.A.E), Abdul Khaliq (American University of Sharjah, U.A.E) 5604

8. Designing and Implementing of a Wireless Network Emulator

Zhigang Jin (Tianjin University, China), Xiuli Wu (Tianjin University, China) Yantai Shu and Zhifeng Fu (Tianjin University, China) 5335

Session (Oral) MM3: Optical Networks

Monday, May 03, 2004

TIME: 9:30 – 12:20 p.m

**CHAIR: Dr. X. N. Fernando,
Ryerson University**

Room: Auditorium

1. Optimization of All-Optical Network Testbed Regarding NRZ and RZ Modulation

Hongqing Zeng (Carleton University/Communications Research Centre, Canada), Alex Vukovic (Communications Research Centre, Canada), J. Michel Savoie (Communications Research Centre, Canada) and Changcheng Huang (Carleton University, Canada) 5524

2. Performance of A Packet Switch with an Optical Core under Self-similar Traffic

Sareh Taebi (University of Ottawa, Canada), Sofia A. Paredes (University of Ottawa, Canada) and Trevor Hall (University of Ottawa, Canada) 5825

3. A Novel Approach to Joint Wavelength and Waveband Routing in Hierarchical Optical Networks

Saurav Gorai (Indian Institute of Technology, India), Arabind Dash (Indian Institute of Technology, India), Ranjan Gangopadhyay (Indian Institute of Technology, India) and Piero Castoldi (Scuola Superiore Sant'Anna, Italy) 5972

4. A Dynamic Multi -Wavelength Simulink Model for EDFA

Stephen Pinter (Ryerson University, Canada), Jean Jiang (Ryerson University, Canada) and Xavier Fernando (Ryerson University, Canada) 6808

Break : 10:50 – 11:00

5. Quantifying the Effect of Extended Offsets in Optical Burst Switching Networks

Neil Barakat (University of Toronto, Canada) and Edward H. Sargent (University of Toronto, Canada) 6998

6. A Study on a Residential Gateway for an Ethernet Based Residential Multiservices Network

Larry Lindsay (University of Guelph, Canada) and Shaowen Song (Wilfrid Laurier University, Canada) 5727

7. Multicast Traffic Grooming in WDM Networks

Ahmad Khalil (CUNY, USA), Chadi Assi (Concordia University, Canada), Antonis Hadjiantonis (CUNY, New York, USA), Georgios Ellinas (CUNY, USA), Nasser Abdellatif, (CUNY, USA), M. A. Ali (CUNY, USA) 5836

8. 2-D CMOS Based Image Sensor System for Fluorescent Detection

Yasaman Ardeshirpour (McMaster University, Canada), M. Jamal Deen (McMaster University, Canada) and Shahram Shirani (McMaster University, Canada) 6109

Session (Oral) MM4: VLSI Design

Monday, May 03, 2004

TIME: 9:30 – 12:20

CHAIR: Dr. M. Ahmadi,
University of
Windsor

Room: Cree

1. Design of a Low-Power D Flip-Flop for Test-Per-Scan Circuits

Nitin Parimi (University of Alberta, Canada), Xiaoling Sun (University of Alberta, Canada) 5833

2. An Overview of Reconfigurable VLSI Based Signal Processing Building Blocks for Next Generation Wireless Devices

Peter Noel (Carleton University, Canada), Ramin Shariat-Yazdi (Carleton University, Canada), Tad Kwasniewski (Carleton University, Canada) 6012

3. Nanotechnology Based Energy Generation from Thermal Radiation

Quentin Diduck (University of Rochester, USA), Martin Margala (University of Rochester, USA) 6168

4. Deep-Submicron CMOS Design of High-Performance Low-Power Flash/Folding Analog-To-Digital Converters

John Liobe (University of Rochester, USA), Martin Margala (University of Rochester, USA) 6187

Break : 10:50 – 11:00

5. New Design of a MAP/BCJR Decoder

Leila Sabeti (University of Windsor, Canada), Majid Ahmadi (University of Windsor, Canada), Kemal Tepe (University of Windsor, Canada) 6415

6. Review of Charge -Sharing Logic Circuits

Muhammad Arsalan (Carleton University, Canada), Maitham Shams (Carleton University, Canada) 6596

7. Performance Evaluation of Three Memory Sense Amplifiers with Input Offset Cancellation

Haiying Helen Qu (University of Alberta, Canada), Bruce F. Cockburn (University of Alberta, Canada) 6598

8. Implementing a Digitally Synthesized Adaptive Pre-emphasis Algorithm for use in a High-Speed Backplane Interconnection

Lei Lin (Carleton University, Canada), Peter Noel (Carleton University, Canada), Tad Kwasniewski (Carleton University, Canada) 6017

Session (Oral) MM5: Image and Video Processing

Monday, May 03, 2004

TIME: 9:30 – 12:20

**CHAIR: Dr. R. Lukac,
University of Toronto**

Room: Hennipen North

1. A New Digital Camera Zooming Solution

Rastislav Lukac (University of Toronto, Canada), Konstantinos N. Plataniotis (University of Toronto, Canada) 5860

2. Density Estimation Embedded B-Spline Smoother for Signal Denoising and Edge-Preserving

Ruixiang Song (University of Manitoba, Canada) 5285

3. Local Correlation Based CFA Interpolation

Marko Aleksic (University of Toronto, Canada), Rastislav Lukac (University of Toronto, Canada) 5838

4. Joint Rate Distortion Optimal Shape and Texture Coding

Saurav Bandyopadhyay (University at Buffalo, USA), Lisimachos Kondi (University at Buffalo, USA) 5859

Break : 10:50 – 11:00

5. Binary Shape Mask Representation for Zerotree-Based Visual Object Coding

Karl Martin (University of Toronto, Canada), Rastislav Lukac (University of Toronto, Canada), Konstantinos N. Plataniotis (University of Toronto, Canada) 6898

6. Estimation of Epipolar Geometry from Homography Using Global Optical Flow

Reginald Rowlandson (University of Guelph, Canada), Robert D. Dony (University of Guelph, Canada) 6042

7. Shape Constrained Discrete Dynamic Contours for Noisy Object Segmentation

Azad Shademan (Ryerson University, Canada), Farrokh Janabi-Sharifi (Ryerson University, Canada), Javad Alirezaie (Ryerson University, Canada) 6132

8. Modeling Change of Haplotype Distributions in Random Mating Populations Using Random Sets

Amir Raji-Kermany (University of Ottawa, Canada), Charalambos D. Charalambous (University of Ottawa, Canada), Donal Hickey (University of Ottawa, Canada) 6842

Session (Oral) MM6: Power Systems

Monday, May 03, 2004

TIME: 9:30 – 12:30

CHAIR: Dr. R. Billinton,
University of
Saskatchewan

Room: Oneida

1. Optimum Market Strategy for an Independent Power Producer

Ashikur Bhuiya (Alberta Electric System Operator, Canada), Nurul Chowdhury (University of Saskatchewan, Canada) and M. Huq (University of Saskatchewan, Canada) 6602

2. Grounding of Standby and Emergency Power Systems

Gelu F. Girda (IEEE Member) and Ajit Bapat (IEEE Member) 5247

3. Identification non linéaire des paramètres du modèle ABC/abc du moteur à induction

Nadia Elkhatabi (Université du Québec à Trois-Rivières, Canada), Anatole Sévigny (Université du Québec à Trois-Rivières, Canada), Pierre Sicard (Université du Québec à Trois-Rivières, Canada), André Charette (Laboratoire des technologies de l'énergie de l'IREQ - Hydro-Québec, Canada) 6729

4. Power System Protection and Control Integration over Ethernet-based Communication Channels

T.S. Sidhu (University of Western Ontario, Canada), Elemer Demeter (SaskPower, Canada), Sherif O. Faried (University of Saskatchewan, Canada) 5221

Break : 10:50 – 11:00

5. Modeling and Analysis of Active Islanding Detection Methods for Photovoltaic Power Conditioning System

Youngseok Jung (Korea Institute of Energy Research, Korea), Junghun So (Korea Institute of Energy Research, Korea), Gwonjong Yu (Korea Institute of Energy Research, Korea), Jaeho Choi (Chungbuk National University, Korea) 5910

6. On line Measurement and Improvement of Working Parameters of a Diesel Engine - Synchronous Alternator Group

Gelu F. Girda and Abdemusa Moosajee (Bombardier Transportation Inc.) 5244

7. Identifying Transmission Deficiencies in Composite Electric Power Systems

Roy Billinton and Yifeng Li (University of Saskatchewan, Canada) 9002

8. Defining Power Factor for Intermittent Duty Load Conditions

Vishal Verma (G.B. Pant University of Ag. & Tech, India), Umesh (G.B. Pant University of Ag. & Tech., India), Bhim Singh (Indian Institute of Technology- Delhi, India), Ambrish Chandra (ETS-Quebec, Canada) 6680

Session (Oral) MM7: Security Applications

Monday, May 03, 2004

TIME: 9:30 – 12:30

**CHAIR: Dr. K. Plataniotis,
University of Toronto**

Room: Haida

1. Protecting Hosts Against Attacks in IMAGO System

Zhujun (University of Guelph, Canada) Xu and Xining Li (University of Guelph, Canada) 5379

2. Cryptographic Key Management Solution in a Role Hierarchy

Cungang Yang (Ryerson University, Canada), Celia Li (Ryerson University, Canada), Richard Cheung (Ryerson University, Canada) 5689

3. Implementation of a Caching Mechanism in a Pervasive Environment

Visvasuresh Victor Govindaswamy (University of Texas at Arlington, USA), G. Balasekaran (Nanyang Technological University, Singapore), Naveen Ramamurthy (University of Texas at Arlington, USA), Meraj Khan (University of Texas at Arlington, USA), Savitha Ramesh (University of Texas at Arlington, USA) 5138

4. A stream Cipher Algorithm Based on Conventional Encryption Techniques

Ya-Ping Zhang (Tianjin University, China), Jizhou Sun (Tianjin University, China) and Xu Zhang (Tianjin University, China) 5748

Break : 10:50 – 11:00

5. Security Audit: A Case Study

Edward C. Lo (University College of the Fraser Valley) and Mike Marchand (University College of the Fraser Valley) 5177

6. A Differential Attack on the CIKS-1 Block Cipher

Brian J. Kidney (Memorial University of Newfoundland, Canada), Howard H. Heys (Memorial University of Newfoundland, Canada), Theodore S. Norvell (Memorial University of Newfoundland, Canada) 5978

7. Improving Intrusion Detection Systems Through Heuristic Evaluation

Andrew T. Zhou (Dalhousie University, Canada), James Blustein (Dalhousie University, Canada) and Nur Zincir-Heywood (Dalhousie University, Canada) 6214

8. Honeypot and Scan Detection in Intrusion Detection System

Chunmei Yin (Tianjin University, China), Mingchu Li (Tianjin University, China), Jianbo Ma (Tianjin University, China) and Jizhou Sun (Tianjin University, China) 5974

**Session (Oral) MM8: Signal Processing Algorithms
and Architectures I**

Monday, May 03, 2004

TIME: 9:30 – 12:20

**CHAIR: Dr. A. E. Saddik,
University of Ottawa**

Room: Hennipen South

1. Détermination du niveau de clinker par le traitement de signaux radars

Louis-Philippe Gill, Dominic Grenier and Patrick Luneau (Université Laval, Canada)
4229

2. A Stroke Based Algorithm For Dynamic Signature Recognition

Tong Qu (University of Ottawa Canada), Abdulmotaleb El Saddik (University of Ottawa,
Canada) and Andy Adler (University of Ottawa, Canada) 5591

3. Dense Disparity Estimation Based on the Continuous Wavelet Transform

Xiaodong Huang (University of Ottawa, Canada) and Eric Dubois (University of
Ottawa, Canada) 5592

4. Simulation of Oscillometric Waveforms

Sukru Colak and Can Isik (Syracuse University, USA) 5651

Break : 10:50 – 11:00

5. On the Correlation of the DWT Coefficients

Jeong-Jin Lee (University of Waterloo, Canada) and George Freeman (University of
Waterloo, Canada) 5963

**6. Sub-dictionary Selection using Local Discriminant Bases Algorithm for Signal
Classification**

Karthikeyan Umamathy (University of Western Ontario, Canada), Sridhar Krishnan
(Ryerson University, Canada), Anindya Das (University of Western Ontario, Canada)
6684

7. An Improved Radix-16 FFT Algorithm

Saad Bouguezal (Concordia University), Canada, M. Omair Ahmad (Concordia
University), Canada and M. N. S. Swamy (Concordia University, Canada). 5969

**8. A Simulated Annealing Algorithm to support the Sensor Placement for Target
Location**

Pei-Ling Chiu (National Taiwan University), Taiwan Frank Yeong-Sung Lin (National
Taiwan University, Taiwan) 5865

Session (Oral) MM9: Image Processing I

Monday, May 03, 2004

TIME: 9:30 – 12:20

**CHAIR: Dr. S. Shirani,
McMaster University**

Room: Chippawa

1. ISAR Imaging with Array Antenna Receiver using AUTOCLEAN Algorithm
Hugues Dombrowski, Dominic Grenier and Sebastien Roy (Laval University, Canada)
5224

**2. Unequal Error Protected ROI Image Transmission Based on Vector
Quantization**
Abbas Ebrahimi-Moghadam (McMaster University, Canada) and Shahram Shirani
(McMaster University, Canada) 5698

**3. Combining Regularization Frameworks for Image Deblurring: Optimization of
Combined Hyper-Parameters**
Richard Youmaran (University of Ottawa, Canada) and Andy Adler (University of
Ottawa, Canada) 5816

**4. On the Isolation of Spectacles and the Extraction of Faces for Personal
Identification.**
Yoshihiro Kato (Kogakuin University, Japan) and Osamu Nakamura (Kogakuin
University, Japan) 5922

Break : 10:50 – 11:00

**5. Evaluation of Three Dimensionality Reduction Techniques for Document
Classification**
Xiao Luo and A. Nur Zincir-Heywood (Dalhousie University, Canada) 5164

6. Image Compression with Optimal Wavelet
Guangyi Y. Chen (Concordia University, Canada), T. D. Bui (Concordia University,
Canada) and A. Krzyzak (Concordia University, Canada) 5194

**7. Subsampling-Based Image Compression Prediction for Memory-Limited
Applications**
Milivoje Aleksic (ATI Technologies, Canada) and Ioannis Kouramanis (ATI
Technologies, Canada) 5685

**8. Extraction Algorithm of Principal Lines and Rotation Method for Non-contacting
Fingerprint Authentication**
Keita Torii (Kanto Gakuin University, Japan) and Noriyoshi Okamoto (Kanto Gakuin
University, Japan) 5890

Session (Oral) MM10: Software Engineering I

Monday, May 03, 2004

TIME: 9:30 – 12:20

**CHAIR: Dr. Y. Wang,
University of Calgary**

Room: Tuscarora

1. An Extension of SEMEST: The Online Software Engineering Measurement Tool
Shuangshuang Zhang and Yingxu Wang (University of Calgary, Canada) 6135

2. Incorporating AContract-Based Test Facility to the GUI Framework
Ting Liu and Paul Dasiewicz (University of Waterloo, Canada) 5504

3. Automating the Transition from Stakeholders' Requests to Use Cases in OOAD
Kalaivani Subramaniam (University of Calgary, Canada) and Behrouz Homayoun Far
and Armin Eberlein (University of Calgary, Canada) 5659

**4. Case Studies on the Application of the CORE Model for Requirements
Engineering Process Assessment**
Li Jiang (University of Calgary, Canada), Armin Eberlein (American University of
Sharjah, UAE) and Behrouz Homayoun Far (University of Calgary, Canada) 5312

Break : 10:50 – 11:00

5. Exploring Java Code Generation based on Formal Specifications in RTPA
Cyprian F. Ngolah and Yingxu Wang (University of Calgary, Canada) 6139

6. Decision Trees of Cryptographic Boolean Functions
Amr M. Youssef (Queen's University, Canada) and Stafford E. Tavares (Queen's
University Canada) 5492

7. Test Selections and Coverages
Goga Nicolae (Technical University Eindhoven, The Netherlands) and Florica
Moldoveanu (Politehnica University, Romania) 5808

8. Maintenance Issues in Outsourced Software Components
Rana Ejaz Ahmed (American University of Sharjah, United Arab Emirates) 5024

Session (Oral) MA1: MIMO Systems

Monday, May 03, 2004

TIME: 14:10 – 17:30

CHAIR: Dr. S. Loyka,
University of Ottawa

Room: Canadiana

1. Effect of Oversimplifying the Simulated Indoor Propagation on the Deterministic MIMO Capacity

Michel Elnaggar, Safieddin Safavi-Naeini and Sujeet K. Chaudhuri (University of Waterloo, Canada) 5215

2. Performance Study of MIMO Systems in a Clustered Multipath Channel

Guangze Zhao (University of Ottawa, Canada) and Sergey Loyka (University of Ottawa, Canada) 5588

3. Performance Analysis of Multiuser Diversity in MIMO Channels

Ahmed Iyanda Sulyman (Queen's University, Canada) and Mohamed Ibnkahla (Queen's University, Canada) 6010

4. Analysis of MIMO Capacity in Waveguide Environments Using Practical Antenna Structures for Selective Mode Excitation

Gwenael Poitau (Ecole de Technologie Supérieure, Canada) and Ammar Kouki (Ecole de Technologie Supérieure, Canada) 5340

5. Impact of Multipath Angular Distribution on Performance of MIMO Systems

Leo Chan (University of Ottawa, Canada) and Sergey Loyka (University of Ottawa, Canada) 5862

Break : 15:50 – 16:10

6. Statistical Analysis of a Measured MIMO Channel

Giyora Levin (University of Ottawa, Canada) and Sergey Loyka (University of Ottawa, Canada) 5867

7. Investigation of MIMO Channel Correlation and Capacity Based on Partial Embedded RF Measurements

Ali Jemmali (École de technologie supérieure, Canada) and Ammar Kouki (Ecole de technologie supérieure, Canada) 5663

8. Performance Evaluation of MIMO-CFDM Systems in Correlated Fading Channels

Jaeho Chung, Jaehwa Kim, Taekon Kim and Jaemoon Jo (Samsung Electronics Co, Ltd.) 5589

9. An Improved Water-filling Algorithm for Mobile MIMO Communication Systems over Time-Varying Fading Channels

Ligang Ren (Beijing University of Posts and Telecommunications, China), Zhijie Yan (Beijing University of Posts and Telecommunications, China), Mei Song (Beijing University of Posts and Telecommunications, China) and Junde Song (Beijing University of Posts and Telecommunications, China) 5735

10. Improved MIMO-DFE Detection Algorithm For V-BLAST Over Frequency-Selective Channels

Gan Zheng, Dazhong Cao and Chunping Hou (Tianjin University, P.R. China) 5610

Session (Oral) MA2: Fading Channels and Equalizers

Monday, May 03, 2004

TIME: 14:10 – 17:30

CHAIR: Dr. S. Gazor, Queen's University Room: Chippawa

1. Analysis of Partially Coherent PSK Systems in Wireless Channels with Equal-Gain Combining

Mahmoud A. Smadi (University of Texas at Arlington, USA) and Vasant K. Prabhu (University of Texas at Arlington, USA) 4839

2. Power Savings in Channel Equalizers using Run-Time Reconfiguration

Alireza Shoa (McMaster University, Canada), Shahram Shirani (McMaster University, Canada) 5871

3. Signal Distortion Caused by Tree Foliage in a 2.5 GHz Channel

Eric R. Pelet (University of Saskatchewan, Canada), Eric Salt (University of Saskatchewan, Canada) and Garth Wells (University of Saskatchewan, Canada) 6111

4. Performance of MRC over Nakagami-m Fading Channels with Arbitrary Branch Correlation, Non-identical and Non-integral Fading Orders

Tuan A. Tran, Abu B. Sesay (University of Calgary, Canada) 6160

5. The Impact of a Two-Path Radio Environment on Bit Error Rate in UMTS Networks

Abdul H. Ali and John G. Gardiner (University of Bradford, UK) 5188

Break : 15:50 – 16:10

6. WMPLS Throughput Efficiency in Multipath Rayleigh Fading Environments

Najah Abu Ali (Queen's University, Canada), Hamidreza Saligheh Rad (Queens University, Canada), Saeed Gazor (Queens University, Canada) and Hussein Mouftah (University of Ottawa, Canada) 6399

7. Cyclostationary-Based Diversity Combining for Blind Channel Equalization using Multiple Receive Antennas

Mohan Baro (Dalhousie University, Canada) and Jacek Ilow (Dalhousie University, Canada) 7349

8. Capacity of Gaussian Channels with Noise Uncertainty

Stojan Z. Denic, Charalambos D. Charalambous (University of Ottawa, Canada), Seddik M. Djouadi (University Tennessee, USA) 5516

9. Reconfigurable Defected Ground Microstrip Phase Shifter Using Micromachined Membranes

Tina Shoa (University of Manitoba, Canada) and Cyrus Shafai (The University of Manitoba, Canada) 6021

10. Blind Hammerstein Detection Feedback Equalizer (BHDFE) as a New Blind Equalizer

Yasin Miar, AmirReza Momen, Hamidreza AminDavar, Hossein Samimi (Iran Telecommunication Research Center, Iran) 5681

Session (Oral) MA3: Quality of Service

Monday, May 03, 2004

TIME: 14:10 – 17:30

CHAIR: Dr. A. Safwat,
Queen's University

Room: Ontario

1. Composite Metric For Quality of Service Routing in OLSR

Nauman Aslam (Dalhousie University, Canada), William Phillips (Dalhousie University, Canada) and William Robertson (Dalhousie University, Canada) 5829

2. On the Implementation of Weighted Fair Queuing in High Speed Networks

Jordan Lu, Rob Robotham (Alcatel Canada Inc., Canada) 5847

3. A QoS Scheme to address Communication Latency Issues for Critical Network Flows in Best-Effort Networks using Mobile Agents

Visvasuresh Victor Govindaswamy (University of Texas at Arlington, USA), Gergely Zaruba (University of Texas at Arlington, USA), G. Balasekaran (Nanyang Technological University, Singapore) 5879

4. Implementing an IPv6 QoS management scheme using Flow Label & Class of Service Fields

El-Bahlul Fgee (Dalhousie University, Canada), Jason D. Kenney (Dalhousie University, Canada), William J. Phillips (Dalhousie University, Canada), William Robertson (Dalhousie University, Canada) and Shyamala Sivakumar (Saint Mary's University, Canada) 5951

5. Distributed QoS-Constrained Multicast Algorithms

Ayse Karaman (Queen's University, Canada) and Hossam Hassanein (Queens University, Canada) 6124

Break : 15:50 – 16:10

6. Extending the Concept of Effective Bandwidths to DiffServ Networks

Houjin Li (Carleton University, Canada), Changcheng Huang (Carleton University, Canada), Michael Devetsikiotis (North Carolina State University, USA) and Gerard Damm (Alcatel, Canada) 6262

7. Towards a Unified Optimal Spectral Amplitude Estimator for Speech Enhancement in Various Low-SNR Environments

Hesham Tolba, Zili L and Douglas O'Shaughnessy (INRS-EMT, University de Quebec, Canada) 3710

8. DiffServ QoS Performance Evaluation of Multimedia Telephony

Racha Ben Ali (Ecole Polytechnique de Montreal, Canada), Samuel Pierre (Ecole Polytechnique de Montreal, Canada) and Yves Lemieux (Ericsson Research Canada) 6849

9. QoS Multicast Routing Based On a Heuristic Genetic Algorithm

Mehdi Karabi (Iran University of Science & Technology, Iran), Mahmood Fathy (Iran University of Science & Technology, Iran) and Mehdi Dehghan (Amirkabir University of Technology, Iran) 6355

10. End-to-end QoS implement by DiffServ and MPLS

Hongyun Man (Tianjin University, China), Linying Xu (Tianjin University, China), Zijian Li (Tianjin University, China) and Lianfang Zhang (Tianjin University, China) 5743

Session (Oral) MA4: High Speed Circuits

Monday, May 03, 2004

TIME: 14:10 – 17:30

CHAIR: Dr. C. Saavedra,
Queen's University

Room: Haida

1. Low Voltage SAW Oscillator

Tarek Sadek (McMaster University, Canada) and Peter M . Smith (McMaster University,Canada) 4954

2. A Fully Differential High-Speed Double-Edge Triggered Flip-Flop (DETF)

Pardam Sameni and Shahriar Mirabbasi (University of British Columbia, Canada) 6113

3. An Overview of High-Speed Serial I/O Trends, Techniques and Standards

Farhad Zarkeshvari (Carleton University, Canada), Peter Noel (Carleton University, Canada), Sergei Uhanov (Carleton University, Canada) and Tad Kwasniewski (Carleton University, Canada) 6016

4. A 100MHz- 1GHz On-Chip-Programmable Phase-Locked Loop

Haleh Vahedi (University of Ryerson, Canada), Ayal Shoval (IEEE Member) and Kaamran Raahemifar (Ryerson University, Canada) 6169

5. A Study and Comparison of Full Adder Cells Based on the Standard Static CMOS Logic

Amir Ali Khatibzadeh (Ryerson University), Canada and Kaamran Raahemifar (Ryerson University, Canada) 6858

Break : 15:50 – 16:10

6. A New CMOS Current-Mode Multiplexer for 10GB/S Serial Links

Jean Jiang (Ryerson University, Canada) and Fei Yuan (Ryerson University, Canada) 6261

7. A 10-Gb/s Cmos Sample-and-Hold Phase Detector Using Dual Substrate Technique

Zoe Wai Ying Hui (Carleton University, Canada) and Tad A. Kwasniewski (Carleton University, Canada) 6410

8. A Voltage-Variable Time Delay Element for Clock Waveforms

Yang Zhang and Carlos Saavedra (Queen's University, Canada) 5669

9. A Linear Phase Distributed Amplifier for Wide Band Optical Transceiver using Transversal Filter Concept

Mahmoud Mohammad-Taheri (University of Tehran, Iran) and Mohammed I. Elmasry (University of Waterloo, Canada) 5196

10. Full-integrated OTA Highpass Filter Design Based on Jacobi-Method and Similar Diagonal Matrix

Wang Shuyan (Tianjin University,China), Teng Jianfu (Tianjin University,China) and Hou Chunping (Tianjin University, China) 5236

Session (Oral) MA5: Circuits and Applications

Monday, May 03, 2004

TIME: 14:10 – 17:30

CHAIR: Dr. F. Yuan, Ryerson University **Room: Cree**

1. Amplitude-Phase-Locked-Loop design using MWL Criterion

Reza Rashidi Far (Queen's University, Canada) and Saeed Gazor (Queen's University, Canada) 6411

2. An Overview of Low-Voltage VCO Delay Cells and a Worst case Analysis of Supply Noise Sensitivity

Mohamad El-Hage (Ryerson University, Canada) and Fei Yuan (Ryerson University, Canada) 6458

3. On the Design of Low Power MCML based Ring Oscillators

Ayman H. Ismail (University of Waterloo, Canada), M. Sharifkhani (University of Waterloo, Canada) and Mohamed I. Elmasry (University of Waterloo, Canada) 7481

4. A 0.18 μ m CMOS Channel Select Filter using Q-enhancement Technique

Jiandong Ge, Anh Dinh (University of Saskatchewan, Canada) 6859

5. High -Speed Signal Compensation on Printed Circuit Boards

Bernard E. Boos (University of Saskatchewan, Canada), David E. Dodds (University of Saskatchewan, Canada) and Ron J. Bolton (University of Saskatchewan, Canada) 6890

Break : 15:50 – 16:10

6. CMOS Imager Design for Fast Centroid Readout

Christopher Thomas (York University), Canada, Richard Hornsey (York University), Canada, Kevin Yip (York University), Canada, Mayes Mullins (Mayes Mullins Enterprises Ltd. Canada) and Paul J. Thomas (Topaz Technology Inc., Canada) 6980

7. Automatic Fingerprint Recognition Algorithm

Jason Zalev (Ryerson University, Canada) and Reza Sedaghat (Ryerson University, Canada) 6958

8. Power Sensitivity of Low-Voltage CMOS Current-Mode Circuits

Fei Yuan (Ryerson University, Canada) 6375

9. High Precision Target Tracking with a Compound -Eye Image Sensor

Rubakumar Krishnasamy (York University, Canada), Winnie Wong (York University, Canada), Edward Shen (York University, Canada), Srdjan Pepic (York University, Canada), Richard Hornsey (York University, Canada) and Paul J. Thomas (Topaz Technology Inc., Canada) 6981

10. An Integrated Low-Voltage SLIC/Codec for Short Loop Applications

M. Sharifkhani (University of Waterloo, Canada), Behzad Sheikholeslami (University of Tehran, Iran) and Omid Shoaie (University of Tehran, Iran) 7480

Session (Oral) MA6: Signal Processing Algorithms and Architectures II

Monday, May 03

TIME: 14:10 – 17:30

**CHAIR: Dr. W. Kinsner,
University of
Manitoba**

Room: Hennipen South

1. Modeling Multifractal Object Boundaries using Iterated Function System

Sharjeel Siddiqui (University of Manitoba, Canada), Abdelhakim El-Boustani (University of Manitoba, Canada) and Witold Kinsner (University of Manitoba, Canada) 6106

2. Reconfigurable and Efficient FFT/IFFT Architecture

Marie-Eve Grandmaison (École de technologie supérieure), Canada, Jean Belzile (Ecole de Technologie Supérieure, Canada), Claude Thibeault (École de technologie supérieure, Canada) and Francois Gagnon (Ecole de Technologie Supérieure, Canada) 5977

3. An Efficient FFT Algorithm Based on the Radix-2/4 DIF Approach for Computing 3-D DFT

Saad Bouguezal (Concordia University, Canada), M.O. Ahmad (Concordia University, Canada), M.N.S. Swamy (Concordia University, Canada) 5981

4. Evaluation of Image Corner Detectors for Hardware Implementation

Wenxin Wang (University of Guelph, Canada) and Robert D. Dony (University of Guelph, Canada) 6046

5. A Study of Outliers for robust Independent Component Analysis

Neil Gadhok (University of Manitoba, Canada) and Witold Kinsner (University of Manitoba, Canada) 6098

Break : 15:50 – 16:10

6. Mammographic Information Analysis through Association-Rule Mining

Xiaozheng Wang (University of Calgary, Canada), Michael R. Smith (University of Calgary, Canada) and Rangaraj M. Rangayyan (University of Calgary, Canada) 6126

7. Extraction des caractéristiques pour la reconnaissance de mots isolés par la méthode des paquets dondelettes

Samir Hakim Abbou (University of Quebec, Canada), Marcel Gabrea (University of Quebec, Canada) and Christian S. Gargour (University of Quebec, Canada) 5661

8. Goertzel Implementations of the Forward and Inverse Modified Discrete Cosine Transform

Trevor W. Fox (Stragitek Corp.) and Alex Carriera (Stragitek Corp.) 7303

9. Multifractal Spectra of lightning Strike Maps using Entropy and wavelet Analyses

Aram Faghfour (University of Manitoba, Canada), Witold Kinsner (University of Manitoba, Canada), David Swatek (Manitoba Hydro, Canada) 6108

10. Agrégation des propriétés physico-chimiques des acides aminés

Jean-Luc Falcone (University of Geneva) and Paul Albuquerque (University of Geneva) 6559

Session (Oral) MA7: Multimedia Signal Processing

Monday, May 03, 2004

TIME: 14:10 – 17:30

**CHAIR: Dr. L. Kondi, State
University of New
York**

Room: Hennipen North

1. A MPEG-4 XMT Algorithm for Scene Structure Authentication and Content Location

Ziad Sakr, Nicolas D. Georganas (University of Ottawa, Canada) 5830

2. RD Optimized, Adaptive, Error-Resilient Transmission of MPEG-4 Coded Video

Scott Bezan, Shahram Shirani (McMaster University, Canada) 5831

3. A system for the identification of multi-page web documents

J. Sweet, (Xerox Corporation, USA), S. Harrington (Xerox Corporation, USA), R. Price Jones (Rochester Institute of Technology, USA), A. Savakis (Rochester Institute of Technology, USA), F. Naveda (Rochester Institute of Technology, USA) and P. Roetling (Xerox Corporation, USA) 5878

4. An Ultra Low-Power Chopper Stabilized Front-End for Multichannel Cortical Signals Recording

Benoit Gosselin (École Polytechnique de Montréal), Canada and Virginie Simard (Ecole Polytechnique de Montreal), Canada and Mohamad Sawan (École Polytechnique de Montréal, Canada) 6954

5. Combining H.264 and MPEG2 for Multi-resolution Video Applications

D. Storey and P. Nasiopoulos, (University of British Columbia, Canada) 9003

Break : 15:50 – 16:10

6. Flux guiding in an aluminum honeycomb lattice observed through magnetic resonance imaging

A. E. Marble (University of New Brunswick, Canada), B. G. Colpitts (University of New Brunswick, Canada), B. J. Balcom (University of New Brunswick, Canada) 6547

7. Demosaicked Image Postprocessing Framework

Rastislav Lukac (University of Toronto), Canada, Karl Martin (University of Toronto), Canada, Konstantinos N. Plataniotis (University of Toronto, Canada) 5864

8. Traitement Numerique de Donnees Thermiques par Thermographie de Phase Pulsee Quantitative Pour L'Evaluation Non-Destructive des Materiaux

Clemente Ibarra-Castanedo, Xavier Maldague (Université Laval, Canada), 6404

9. Spatial and Temp Adaptive Error Concealment Algorithm for MPEG-2

Jihua Cao (Tianjin University, China), Fengting Li (Tsinghua University, China) and Jichang Guo (Tianjin University, China) 5280

10. A Spatial Domain Error Concealment Algorithm with Texture Recovery for MPEG-2

Jihua Cao (Tianjin University, China), Fengting Li (Tsinghua University, China) and Jichang Guo (Tianjin University, China) 5249

Session (Oral) MA8: Software Engineering II

Monday, May 03, 2004

TIME: 14:10 – 17:30

CHAIR: Mr. S. Lowell,
Bell Canada

Room: Tuscarora

1. A Novel Type Checker for Software System Specifications in RTPA

Xinming Tan, Yingxu Wang and Cyprian F. Ngolah (University of Calgary, Canada) 6144

2. The Implementation of Role Specification Mechanisms

Haibin Zhu (Nipissing University, Canada) and Pierre Seguin (Nipissing University, Canada) 6062

3. Development of an Intelligent System for Architecture Design and Analysis

Jingqiu Shao and Behrouz H. Far (University of Calgary, Canada) 5665

4. A Request Scheduling Algorithm to Support Flexible Resource Reservations in Advance

P. L. Chiu, Kuang Wu (Institute of Technology, Taiwan), Y. T. Chen, (National Taiwan University of Science and Technology, Taiwan), K. H. Lee, (Ming Chuan University, Taiwan) Kai-Hui Lee (University of Ming-Chuan) 6640

5. An Intelligent Project lifecycle Data Mart-based Decision Support System

Nora Houari (University of Calgary, Canada) and Behrouz Homayoun Far (University of Calgary, Canada) 5817

Break : 15:50 – 16:10

6. An Examination of Mobile Agents System Evolution in the Course-Scheduling Problem

Yan Yang (University of Regina), Raman Paranjape (University of Regina) and Luigi Benedicenti (University of Regina) 5782

7. Feelings Based Computer Music

Maria Goga (School of Music, Romania) and Nicolae Goga (Technical University Eindhoven, The Netherlands) 5796

8. Extreme Programming in Reducing the Rework of Requirement Change

Xu Bin, Yang Xiaohu, He Zhijun (Zhejiang University, China), Srinivasa R. Maddineni, SSGM/Securities Trading IT, USA 6156

9. Fractal Agent Modeling In Building Some Software System

Wenming Song (Tianjin University, China), Zhiyong Feng (Tianjin University, China) and Wei Jiang (Tianjin University, China) 5337

10. Intrusion Detection Using Fuzzy Window Markov Model

Zhoujun Xu (Tianjin University, China), Jizhou Sun (Tianjin University, China) and Wenjie Li (Tianjin University, China) 5745

Session (Oral) MA9: Power Systems and Quality

Monday, May 03, 2004

TIME: 14:10 – 17:30

**CHAIR: Dr. V. Sood,
Concordia University**

Room: Oneida

1. Design and Characterization of Variable Attenuators and Phase Shifters with Linearized Bias Control Voltages

Mohsen Mtimat (Ecole de technologie Supérieure, Canada) and Ammar Kouki (Ecole de Technologie Supérieure, Canada) 5968

2. Interaction of Market Power and Financial Transmission Rights in Power Networks

Guillermo Bautista (University of Waterloo, Canada), Victor H. Quintana (University of Waterloo, Canada) and Jose A. Aguado (University of Malaga, Spain) 5958

3. Including Kyoto in Electrical Engineering Curriculum

Mohamed Benhaddadi (École Polytechnique de Montréal, Canada) and Guy Olivier (École Polytechnique de Montréal, Canada) 5991

4. Classification of Transients in Power Systems using Multifractal Analysis

Leila Safavian (University of Manitoba, Canada), Witold Kinsner (University of Manitoba, Canada) and Hilmi Turanli (Manitoba Hydro, Canada) 6110

5. Harmonic Mitigation, Power Factor Correction and Energy Saving with Proper Transformer and Phase Shifting Techniques

Jean-Guy Boudrias (Hammond Power Solution, Canada) 5031

Break : 15:50 – 16:10

6. Line and Neutral Current Harmonics Characteristics in Three-Phase Computer Power Systems

Éloi Nganduï (Université du Québec à Trois-Rivières, Canada) and Dalil Paraiso (Université du Québec à Trois-Rivières, Canada) 6251

7. Static Transfer Switch (SWS) Model in EMTPWorks RV

Chunhong He, Feng Li (Concordia University, Canada) V. K. Sood (Concordia University, Canada) 4953

8. Wind Power in Power Generation Planning

Rajesh Karki (University of Saskatchewan, Canada) 6133

9. Voltage-Reactive Power Integrated Optimization Considering Operational Cost and Equipment Endurance

Renjun Zhou (Huazhong University of Science and Technology, China), Hui Zhou (Wuhan University, China) and Xianzhong Duan (Huazhong University of Science and Technology, China) 5964

10. Dynamic Economic Dispatch in Restructured Power Systems Considering Transmission Costs Using Genetic Algorithm

S.H. Hosseini and M. Kheradmandi (Sharif University of Technology, Iran) 6177

**Session (Oral) MA10: Special Session on Optical
Wireless Access Networks**

Monday, May 03, 2004

TIME: 14:10 – 17:30

**CHAIR: Dr. X. N. Fernando,
Ryerson University**

Room: Auditorium

1. Integrated Optical/Wireless Networking

Shafiq Hashmi and Hussein Mouftah (University of Ottawa, Canada) 6817

2. Transparent Fiber -Optic System to Extend Digital Subscriber Line Service

David D. Dodds (University of Saskatchewan, Canada), Oliver Cruder (Critical Telecom Inc., Canada) and Mark Labbe (Critical Telecom Inc., Canada) 6894

3. Characteristics of Directly Modulated ROF Link for Wireless Access

Xavier N. Fernando (Ryerson University, Canada) and Abu B. Sesay (University of Calgary, Canada) 6880

4. Performance of Clipped OFDM Signal in Fiber

Debashis Chanda (University of Calgary, Canada), Abu B. Sesay (University of Calgary, Canada) and Bob Davies (University of Calgary, Canada) 7573

5. A CMOS Analogue Predistortion Circuit for Wideband Optical Fibre Links

Fu-Chuan Lin, David M. Holburn, Vinod A. Lalithambika, Robert J. Mears (University of Cambridge, UK), Chak H. Hum and Stuart D. Walker (University of Essex, UK) 5228

6. Performance of External Modulators for Wireless Local Area Networks under Multi-Path Fading

Tolga Kurt (University of Ottawa, Canada), Abbas Yongacoglu (University of Ottawa, Canada) and Jean-Yves Chouinard (Laval University, Canada) 5273

7. Radio Over Multimode Fiber for Wireless Access

Roland Yuen (Ryerson University, Canada), Xavier N. Fernando (Ryerson University, Canada) and Sridhar Krishnan (Ryerson University, Canada) 6317

8. An Implementation of a Residential Gateway Controller for a Fixed Bandwidth-sharing Multiservice Residential Access Network

Tianying Ji (Wilfrid Laurier University, Canada), Shaowen Song (Wilfrid Laurier University, Canada) and Li Wei (Wilfrid Laurier University, Canada) 3945

9. The Interface Design for a Residential Gateway in a SONET over DWDM Broadband Access Network

Wei Zhang (University of Guelph, Canada), Jiandong Zheng (University of Guelph, Canada), Shaowen Song (Wilfrid Laurier University, Canada), Tianying Ji (Wilfrid Laurier University, Canada) and Li Wei (Wilfrid Laurier University, Canada) 5270