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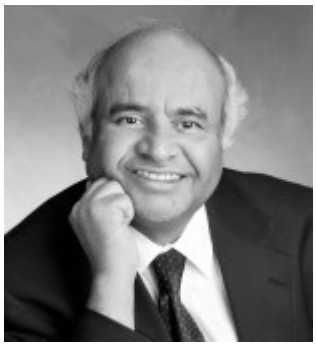
Welcome from the Conference General Chair



The 20th Annual Canadian Conference on Electrical and Computer Engineering (CCECE 2007) is being held from 22-26 April 2007, at the Sheraton Vancouver Wall Centre in spectacular Vancouver, British Columbia, Canada — host city to the 2010 Olympic and Paralympic Winter Games.

Vancouver is located in the centre of the world, with almost equal flying times from Europe and Asia. Direct flights from most major hubs bring delegates to this scenic and cosmopolitan city on the Pacific west coast of Canada via the Vancouver International Airport

Renowned as a top tourist destination on many indices, this clean, safe and lively city offers temperatures around 15°C (59°F) in late April. The Sheraton is located in the heart of the downtown peninsula and is within easy walking distance of international cuisine, nightlife, theatres, museums, the famous Robson Street shopping district and Stanley Park, the largest city park in North America at 400 hectares (1,000 acres). It offers nature trails, beaches and swimming, and is surrounded by a stunningly scenic seawall that accommodates leisurely walks, jogging, cycling and rollerblading (with equipment rental shops close at hand).

Within a 30-minute drive from the ocean, you can also find yourself atop Grouse Mountain for a panoramic view that stretches from Vancouver Island to Mount Baker in the United States via a gondola ride or, for the more adventurous, via the Grouse Grind – a hiking trail to the top that is a test of endurance reserved only for the strong of heart. Be sure to bring plenty of water and a little money for your "I survived the Grouse Grind" t-shirt when you reach the top!

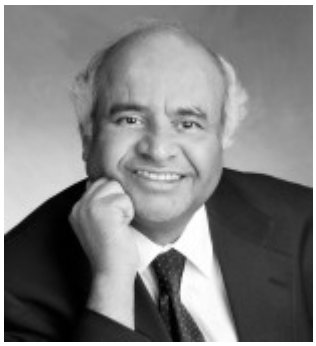
Vancouver is also home to The University of British Columbia (UBC), one of the world's great public universities. I currently serve as the Head of the Department of Electrical and Computer Engineering and successfully founded CCECE in 1988. For a full history of the conference, refer to our history page.

CCECE07 is organized into 93 technical sessions covering a broad range of topics including communications, signal processing, biomedical, VLSI, MEMS and nanotechnology, control, power systems, computer engineering and software engineering. The Conference Proceedings were handled by the IEEE and have several outstanding features.

I look forward to welcome you all at the conference.

Vijay Bhargava

Mot de bienvenue du président de la conférence



La 20ème conférence canadienne de génie électrique et informatique (CCGEI 2007) se tient du 22 au 26 avril 2007 au Sheraton Wall Centre à Vancouver, ville hôtesse des Jeux olympiques et paralympiques d'hiver de 2010.

Vancouver est située au centre du monde, presque à égale distance de vol de l'Europe et de l'Asie. Des vols directs de la plupart des plaques tournantes amènent les délégués dans cette magnifique cité de Colombie-Britannique, porte du Pacifique sur le Canada.

Destination touristique réputée, Vancouver est une ville sécuritaire, vibrante et cosmopolite. La température en avril oscille autour de 15°C (59°F). Le Sheraton est située au cœur du centre-ville et à distance de marche de musées, théâtres, cinémas, commerces de détail, discothèques, sans oublier les innombrables restaurants offrant une cuisine aux saveurs des quatre coins du monde ainsi que le parc Stanley, plus grand parc urbain d'Amérique du Nord (400 hectares). Le parc offre des sentiers de randonnée, des plages, et est ceinturé d'une promenade spectaculaire qui fera le bonheur des amateurs de marche, de jogging, de vélo et de patin à roues alignées (il y a plusieurs boutiques de location à proximité).

A 30 minutes de voiture de l'océan se trouve le mont Grouse, offrant un panorama à couper le souffle s'étirant de l'Ile de Vancouver au mont Baker. Il est possible d'accéder au sommet en gondole, ou pour les plus aventureux, par le Grouse Grind, un sentier de randonnée de 2,9 km pour 853 mètres de dénivelé.

Vancouver abrite également l'Université de la Colombie-Britannique (UBC), une des grandes universités publiques du monde. Je suis présentement directeur du département de génie et électrique et informatique et j'ai fondé la CCGEI en 1988. Veuillez consulter notre site web pour en savoir davantage sur l'histoire de la conférence.

CCGEI 2007 inclut 93 sessions techniques couvrant un large éventail de sujets incluant les communications et systèmes sans fil, le traitement numérique des signaux, le génie biomédical, les circuits électroniques, la nanotechnologie et les systèmes microélectromécaniques, le génie informatique et logiciel, la théorie du contrôle, et l'électronique de puissance. Les actes de la conférence sont publiés par l'IEEE et incluent plusieurs excellents outils de recherche.

Au plaisir de vous rencontrer à la conférence,

Vijay Bhargava.

Message from the President of IEEE Canada

On behalf of IEEE Canada, Region 7, welcome to the 2007 IEEE Canadian Conference on Electrical and Computer Engineering (CCECE 07). We are pleased to host the 20th IEEE Canada conference, and to welcome you to beautiful Vancouver. The program this year promises many interesting papers on some of the most current technical developments. I hope that you will take full advantage of the three days of technical sessions

Also, on Monday evening, the conference hosts IEEE Canada annual award banquet, where the premier awards for Canadian achievement in Electrical and Computer Engineering will be presented. I do hope that you will attend the banquet, and honour our prestigious award winners. We are very proud of their achievements, and honoured to be able to recognize them in front of so many of their colleagues.

This CCECE conference has its heritage in the Canadian Society of Electrical and Computer Engineering, which subsequently merged with IEEE Region 7 to form IEEE Canada, our national Society. We have grown to over 16,000 members nationwide, and we hope to continue to attract members who can share in the exciting developments of the coming years. If you are not already an IEEE Member I strongly encourage you to join today and become actively involved in your local section or one of the 40 technical societies that closely reflect your interest.

Please take full advantage of the opportunity to network with your peers, and to learn from the authors about their work.

I'd also like to thank the CCECE 07 conference organizing committee. These dedicated volunteers have worked very hard for the past two years to arrange the program and the logistics of the conference. As with any large and complex endeavour, they have faced many challenges. All committee members took each of these in stride, and continually came back stronger and fresher to find creative workable solutions. The conference today is evidence of their success.

Have a great stay in Vancouver and looking forward for meeting you at CCECE 07.

Robert Hanna, P.Eng., Ph.D., FIEEE, FEIC, FIEE
2006-2007 IEEE Canada President

Mot de bienvenue du président de l'IEEE Canada

Au nom de l'IEEE Canada, région 7, je vous souhaite la bienvenue à la Conférence canadienne de génie électrique et informatique (CCGEI 2007). Nous sommes enchantés d'héberger la 20ème conférence de l'IEEE Canada et de vous accueillir à Vancouver. Le programme de cette année promet plusieurs articles intéressants traitant de nouvelles avancées technologiques, et j'espère que vous profiterez au maximum des trois jours de sessions techniques.

De plus, lundi soir, la conférence présente la cérémonie annuelle de remise des prix de l'IEEE Canada, où sont présentés les principaux prix d'excellence en génie électrique et informatique au Canada. J'espère que vous prendrez part au banquet et honorerez ainsi les récipiendaires de ces prestigieuses récompenses. Nous sommes fiers de leurs accomplissements et honorés de pouvoir les reconnaître en présence de plusieurs de leurs collègues.

La CCGEI a pris racine avec le support de la Société canadienne de génie électrique et informatique (SCGEI), qui depuis a fusionné avec la région 7 de l'IEEE pour former l'IEEE Canada. Nous comptons maitenant 16 000 membres provenant de toutes les régions du pays et nous espérons continuer à en attirer davantage afin de partager les développements des prochaines années. Si vous n'êtes pas membre de l'IEEE, je vous encourage fortement à le devenir aujourd'hui et de vous impliquer dans votre section locale ou encore dans une des 40 sociétés techniques qui correspond à vos intérêts.

Veuillez profiter pleinement de l'opportunité d'échanger avec les autres participants à la conférence et de partager les résultats de vos travaux.

J'aimerais également remercier le comité organisateur de la CCGEI 2007. Ces volontaires dévoués ont travaillé très fort ces deux dernières années pour préparer le programme ainsi que la logistique de la conférence. Comme pour tout projet complexe et de grande envergure, ils ont fait face à plusieurs défis en cours de route. Tous les membres du comité organisateur les ont surmontés avec brio. Aujourd'hui, la conférence est la preuve de leur succès.

Bon séjour à Vancouver, et au plaisir de vous rencontrer à la CCGEI 2007.

Robert Hanna, P.Eng., Ph.D., FIEEE, FEIC, FIEE
Président de l'IEEE Canada 2006-2007

Meeting Rooms / Presentation Information

Directions to Meeting Rooms

The hotel has a **North Tower** and a South Tower. The two are connected at the third floor level.

Junior Ballroom (ABCD), **Junior Ballroom Foyer** and **Parksville** are on the third floor closer to the North Tower and are accessible from both towers.

Port Hardy, **Port Alberni** and **Port McNeill** are located on the fourth floor of North Tower and are accessible by North Tower elevators only.

Grand Ballroom is accessible by North Tower elevators only.

Instructions for the Presenting Authors

A notebook computer and LCD projector will be available in each room. Authors must load their presentation onto the session notebook computer in the appropriate room 20 minutes before the start of their session. We prefer that you bring your presentation on a USB flash drive or burned onto a Compact Disc.

We repeat that the authors **must use the notebook computers provided in the Session rooms**, and their presentations must be loaded onto these computers BEFORE the session start time.

Adobe Reader and Microsoft PowerPoint will be available on the session computers; however, to ensure compatibility of your presentation with the available software, it is strongly recommended that your presentation is in PDF format, rather than PowerPoint format.

Important Note – Duration of Presentation

The total time allocated to your paper is 20 minutes. Allowing a few minutes for introduction at the beginning and for a question or two at the end, your planned presentation must be limited to 15 minutes.

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Student Paper Awards

Student Paper Award winners will receive a certificate from the conference during the luncheon on Wednesday, 25 April 2007, in the Grand Ballroom.

General Information

Registration Desk

The Conference Registration Desk will be set up in the Junior Ballroom Foyer on the third floor for authors and attendees to register and pick up their conference packages. Hours of operation are:

Sunday, 22 April	2:00 PM to 5:00 PM
Monday, 23 April	7:30 AM to 4:30 PM
Tuesday, 24 April	7:30 AM to 4:30 PM
Wednesday, 25 April	7:30 AM to 12:30 PM

Welcome Reception

All participants are invited to the Welcome Reception on Sunday, 22 April from 6:00 to 8:00 pm in the Junior Ballroom located on the third floor (closer to North tower).

Lunches and Award Banquet

Note: Admission to these events is upon the presentation of appropriate tickets, which may be found in your registration package. No exceptions will be made, so please bring your ticket with you.

Your registration fee includes the following:

- Monday, Tuesday and Wednesday Lunches (Grand Ballroom, 12:10 - 1:40 pm)
- Monday evening Banquet (Grand Ballroom, 6:00 - 10:00 pm)

Extra tickets for lunches ($37) and the banquet ($132.50) will be available from the Registration Desk in the Junior Ballroom Foyer.

Conference Proceedings CD

Your registration fee includes the Conference Proceedings (on Compact Disc) and some commemorative material.

Additional copies of the Conference Proceedings on Compact Disc are available to *registered delegates* during the conference from the Registration Desk for $53/copy.

After the conference, Proceedings will be available from the IEEE Publications.

Internet Access

Internet access is available for a fee in your hotel room or in the hotel's business centre. There are Internet cafés nearby.

Technical Program

Technical Program Committee

Vijay K. Bhargava
Zeljko Blazek
T. Aaron Gulliver
Juri Jatskevich
Shahriar Mirabbasi (Chair)
Robert Schober
Z. Jane Wang
Steve Wilton
Joseph Yan

Overview of Daily Activities

Sunday, 22 April	Registration: 2:00pm to 5:00pm Junior Ballroom Foyer Welcoming Reception: 6pm Junior Ballroom
Monday, 23 April	Registration: 7:30am to 4:30pm Junior Ballroom Foyer Technical Sessions: 8:30am to 5:30pm IEEE Canada Award Banquet: 6:00pm to 10:00pm Grand Ballroom
Tuesday, 24 April	Registration: 7:30am to 4:30pm Junior Ballroom Foyer Technical Sessions: 8:30am to 5:30pm
Wednesday, 25 April	Registration: 7:30am to 12:30pm Junior Ballroom Foyer Technical Sessions: 8:30am to 5:30pm

Monday April 23, 2007

7:30am - 4:30pm	Registration Junior Ballroom Foyer

8:30am - 10:10am	1 Microfluidic and MEMS Techniques Junior Ballroom A	2 Multi-Dimensional Signal Processing-I Junior Ballroom B	3 OFDM-I Junior Ballroom C	4 Advanced Topics in Communications Junior Ballroom D	5 CAD and Test Parksville	6 Device and Circuit Modeling Techniques Port Hardy	7 Electrical Machines-I Port Alberni	8 Power Systems-I Port McNeill
10:10am - 10:30am	Nutrition Break Junior Ballroom Foyer							
10:30am - 12:10pm	9 MEMS Applications Junior Ballroom A	10 Multi-Dimensional Signal Processing-II Junior Ballroom B	11 OFDM-II Junior Ballroom C	12 Medical Applications Junior Ballroom D	13 Distributed Computing and Computer Networks-I Parksville	14 Logic Synthesis Port Hardy	15 Electrical Machines-II Port Alberni	16 Power Systems-II Port McNeill
12:10pm - 1:40pm	Lunch Speaker: Mr. Ibrahim Gedeon, CTO TELUS Grand Ballroom							
1:40pm - 3:20pm	17 MEMS Techniques Junior Ballroom A	18 Multi-Dimensional Signal Processing-III Junior Ballroom B	19 MIMO Junior Ballroom C	20 Wireless Networks-I Junior Ballroom D	21 Distributed Computing and Computer Networks-II Parksville	22 RF Front-End Circuits Port Hardy	23 Electrical Machines-III Port Alberni	24 Power Systems-III Port McNeill
3:20pm - 3:40pm	Nutrition Break Junior Ballroom Foyer							
3:40pm - 5:30pm	25 Neural Networks and Biomedical Applications Junior Ballroom A	26 Multi-Dimensional Signal Processing-IV Junior Ballroom B	27 Detection Junior Ballroom C	28 Wireless Networks-II Junior Ballroom D	29 Computer Architecture Parksville	30 Advanced Circuits Port Hardy	31 Electrical Machines-IV Port Alberni	32 Power Systems-IV Port McNeill
6pm - 10pm	IEEE Canada Award Banquet Grand Ballroom							

Tuesday April 24, 2007

7:30am - 4:30pm	Registration Junior Ballroom Foyer

8:30am - 10:10am	33 Biomedical Signal Processing-I Junior Ballroom A	34 Signal Processing Algorithms-I Junior Ballroom B	35 CDMA Junior Ballroom C	36 Access Control Junior Ballroom D	37 Physical Design Parksville	38 Advances in Microwave Devices Port Hardy	39 Software Engineering Port Alberni	40 Power Electronics-I Port McNeill
10:10am - 10:30am	Nutrition Break Junior Ballroom Foyer							
10:30am - 12:10pm	41 Biomedical Signal Processing-II Junior Ballroom A	42 Signal Processing Algorithms-II Junior Ballroom B	43 Channel Estimation Junior Ballroom C	44 Quality of Service Junior Ballroom D	45 Advanced Topics in Computer Engineering-I Parksville	46 Microwave Circuits Port Hardy	47 E-Commerce Port Alberni	48 Power Electronics-II Port McNeill
12:10pm - 1:40pm	Lunch Speaker: 2007 McNaughton Award Recepient Grand Ballroom							
1:40pm - 3:20pm	49 Biomedical Signal Processing-III Junior Ballroom A	50 Signal Processing Algorithms-III Junior Ballroom B	51 Coding and Decoding Junior Ballroom C	52 Sensor Networks-I Junior Ballroom D	53 Advanced Topics in Computer Engineering-II Parksville	54 Advanced Technologies Port Hardy	55 Security Port Alberni	56 Power Electronics-III Port McNeill
3:20pm - 3:40pm	Nutrition Break Junior Ballroom Foyer							
3:40pm - 5:30pm	57 Biomedical Signal Processing-IV Junior Ballroom A	58 Signal Processing Algorithms-IV Junior Ballroom B	59 Wireless Communications Junior Ballroom C	60 Sensor Networks-II Junior Ballroom D	61 Advanced Topics in Computer Engineering-III Parksville	62 Noise, Timing and Leakage Analysis Port Hardy	63 Cryptography Port Alberni	64 Power Electronics-IV Port McNeill

Wednesday April 25, 2007

7:30am - 12:30pm	Registration Junior Ballroom Foyer

8:30am - 10:10am	65 Biomedical Signal Processing-V Junior Ballroom A	66 Ultra Wideband-I Junior Ballroom B	67 Mobile Robots Junior Ballroom C	68 System Development-I Junior Ballroom D	69 Communications Applications Parksville	70 Software and Knowledge Engineering Port Alberni	71 Power Systems-V Port McNeill
10:10am - 10:30am	Nutrition Break Junior Ballroom Foyer						
10:30am - 12:10pm	72 Nanoelectronic Techniques Junior Ballroom A	73 Multi-Dimensional Signal Processing-V Junior Ballroom B	74 Ultra Wideband-II Junior Ballroom C	75 VR Systems Junior Ballroom D	76 Novel Applications Parksville	77 Multi-Agent Systems Port Hardy	78 Formal Verification Port Alberni	79 Power Systems-VI Port McNeill
12:10pm - 1:40pm	Lunch Student Paper Awards Presentation Grand Ballroom						
1:40pm - 3:20pm	80 Sensors and Actuators Junior Ballroom A	81 Multi-Dimensional Signal Processing-VI Junior Ballroom B	82 Next Generation Wireless Circuits Junior Ballroom C	83 Process Control Junior Ballroom D	84 Real Time Systems Parksville	85 Advanced Topics Port Hardy	86 System Development-II Port Alberni	87 Power Systems-VII Port McNeill
3:20pm - 3:40pm	Nutrition Break Junior Ballroom Foyer						
3:40pm - 5:30pm	88 Speech Processing Junior Ballroom A	89 Signal Processing for Communications Junior Ballroom B	90 Advances in Control System Junior Ballroom C	91 Advanced Circuits Junior Ballroom D	92 Advanced Technologies Parksville	93 Reconfigurable Embedded Systems Port Hardy	

Detailed Technical Program

S1: Microfluidic and MEMS Techniques

Chair: Boris Stoeber
University of British Columbia
Room: Junior Ballroom A
Time: Monday, 8:30am-10:10am

1.1 **Bulk-Metal-Based MEMS Fabricated by Micro-Electro-Discharge Machining**
Kenichi Takahata, Yogesh B. Gianchandani

1.2 **Design of Electrical Interconnect for SU-8 Microfluidic Systems**
Takaya Ueda, Seema Jaffer, Stephanie Westwood, Bonnie L. Gray

1.3 **Rapid Fabrication of Micromolds for Polymeric Microfluidic Devices**
Pun Pang Shiu, George K. Knopf, Mile Ostojic, Suwas Nikumb

1.4 **Thick SU-8 and PDMS Three-dimensional Enclosed Channels for Free-standing Polymer Microfluidic Systems**
Stephanie Westwood, Seema Jaffer, Olha A. Lui, Bonnie L. Gray

1.5 **MEMS Enabled RF-Signal Source**
U. L. Rohde, A. K. Poddar

S2: Multi-Dimensional Signal Processing-I

Chair: William Bishop
University of Waterloo
Room: Junior Ballroom B
Time: Monday, 8:30am-10:10am

2.1 **Efficient DVB-MHP to Blu-ray System Information Transcoding**
Zicong Mai, Panos Nasiopoulos, Rabab Kreidieh Ward

2.2 **An Efficient Compression Scheme for Colour Filter Array Images Using Estimated Colour Differences**
Colin Doutre, Panos Nasiopoulos

2.3 **A Hardware Implementation of Real-Time Video Deblocking Using Shifted Thresholding**
Martin Hansen, A. Wong, William Bishop

2.4 **Side Information Improvement in DVC with Two Side Information Streams and 3D Motion Refinement**
A.B.B Adikari, W.A.C. Fernando, W.A.R.J. Weerakkody

2.5 **Medical Image Conversion with DICOM**
Boqiang Liu, Minghui Zhu, Z. Zhang, Cong Yin, Zhongguo Liu, Jason J. Gu

S3: OFDM-I

Chair: Aryan Saadat Mehr
University of Saskatchewan
Room: Junior Ballroom C
Time: Monday, 8:30am-10:10am

3.1 **Pilot-aided Channel Estimation for OFDM Systems in the Presence of Narrow-band Interference**
Rongrong Zhang, Xiaodai Dong

3.2 **Maximum-Likelihood Timing/Channel Estimation for OFDM Systems with Cyclic Training Symbols**
Peng Lu, Hong-Chuan Yang

3.3 **Pilot Feedback Equalization for Time-Varying OFDM Systems**
Ali Yazdan-Panah, Behrang Nosrat Makouei, Rodney G. Vaughan

3.4 **An Expectation-Maximization Solution to Interpolated OFDM Systems**
Behrang Nosrat Makouei, Ali Yazdan-Panah, Rodney G. Vaughan

3.5 **Blind Channel Identification and Data Detection for SIMO OFDM Systems**
Malihe Ahmadi, Aryan Saadat Mehr

S4: Advanced Topics in Communications

Chair: Michael Riediger
University of British Columbia
Room: Junior Ballroom D
Time: Monday, 8:30am-10:10am

4.1 **Performance of a Correlation-Based Detector for Packet Wireless Networks**
S. V. Khan, S. Nagaraj, Christian Schlegel, M. Burnashev

4.2 **A New Class of Nyquist Pulses with a Monomial Roll-off**
Marjan Zandi, Ali Grami

4.3 **Performance of Mobile Agent based Network Topology Discovery**
Adnan Ahmed, Behrouz H. Far

4.4 **Systolic Array-based Pipelining Design of CCK Demodulators**
Alan Yan Wing Kok, Eddie Law

4.5 **Optical Components based on PCF Fibers**
M. Bennoune, A. Smaoui, Yassine Bouslimani, Habib Hamam

S5: CAD and Test

Chair: Res Saleh
University of British Columbia
Room: Parksville
Time: Monday, 8:30am-10:10am

5.1 **Improved Built-in Self-Test of Sequential Circuits**
Hosna Jabbari, Jon C. Muzio, Lin Sun

5.2 **Low-Level VHDL Modeling of Digital-to-Analog Converter**
Daniel Teng, Ron Bolton, Peng Huang

5.3 **Process Algebraic Approach to SystemVerilog**
K. L. Man, M. Boubekeur, M. P. Schellekens

5.4 **A Method for Optimizing Test Bus Assignment and Sizing for System-on-a-Chip**
Haidar M. Harmanani, Rachel Sawan

S6: Device and Circuit Modeling Techniques

Chair: James Haslett
University of Calgary
Room: Port Hardy
Time: Monday, 8:30am-10:10am

6.1 **Capacitance Characterization of Interconnection Crossing and Patch in Multilevel Package**
N. Hassane, L. Villeneuve, Y. Shen

6.2 **A New SQP Based Space-Mapping Algorithm for On-Chip Spiral Inductor Optimization**
Navid Arbabi, Mani Najmabadi, Mustapha Yagoub, Vijay Devabhaktuni

6.3 **Nonlinear and Isothermal Neural-Based Modeling of the Dual Gate MESFET**
M. Abdeen, M.C.E. Yagoub

6.4 **Steady-State Analysis of Circuits with Multiple Adaptive Grids**
Zhou Wang, Carlos E. Christoffersen

S7: Electrical Machines-I

Chair: Juri Jatskevich
University of British Columbia
Room: Port Alberni
Time: Monday, 8:30am-10:10am

7.1 **Comparison of Brushless DC Motor Drives with 180/120-degree Inverter Systems**
Qiang Han, Nikolay Samoylenko, Juri Jatskevich

7.2 **Numerical Average-Value Modeling of the Brushless DC Motor 120-Degree Inverter System**
Qiang Han, Nikolay Samoylenko, Juri Jatskevich

7.3 **A Simple and Effective Speed Control Strategy for the Brushless DC motor**
A. Elandy, Yan-Fei Liu

7.4 **Principle and Realization of a Permanent Magnet Motor Running with a Higher Harmonic Airgap Eave for a BLDC Drive Application**
C. Grabner

7.5 **An Error Driven PID Controller for Maximum Utilization of Photovoltaic Powered PMDC Motor Drives**
Adel M. Sharaf, E. Elbakush, Ismail H. Altas

S8: Power Systems-I

Chair: Raymond Findlay
McMaster University
Room: Port McNeill
Time: Monday, 8:30am-10:10am

8.1 **Advanced Thermal Field Sensitivity Analysis of Power Cables**
M.S. Al-Saud, M.A. El-Kady, R.D. Findlay

8.2 **Applying Probabilistic Method for Determining the Number of Spare Transformers and Their Timing Requirements**
Wijarn Wangdee, Wenyuan Li, Wah Shum, Paul Choudhury

8.3 **Field Validation Tests of the TLD Box for Online Power Transformer Winding Monitoring Systems**
Arvin Singh, Tom deRybel, Jose R. Marti, KD Srivastava

8.4 **Sensitivity Analysis for Winding Support and Insulation of Power Transformers**
Erich Schmidt, Peter Hamberger

S9: MEMS Applications

Chair: Edmond Cretu
University of British Columbia
Room: Junior Ballroom A
Time: Monday, 10:30am-12:10pm

9.1 **A Differential Mass Component for Signal Processing Using MEMS**
Edmond Cretu, Leo J. Stocco

9.2 **Low-Cost Surface Micromachined Pirani Pressure Sensor with Atmospheric Pressure Range**
Kourosh Khosraviani, Y. Ma, Albert M. Leung

9.3 **Acoustic Band Gap Filters: The Next Generation of Micro-Electro-Mechanical Filters for On-Chip Silicon Radio Frequency Applications**
John S. Hamel, Ryan Norris

9.4 **Attitude Control of Miniature Spacecraft using MEMS Actuators**
Y. L. Kuo, K. D. Kumar, K. Behdinan, Z. Fawaz

9.5 **Body-Motion Driven MEMS Generator for Implantable Biomedical Devices**
Jose Martinez-Quijada, Sazzadur Chowdhury

S10: Multi-Dimensional Signal Processing-II

Chair: Panos Nasiopoulos
University of British Columbia
Room: Junior Ballroom B
Time: Monday, 10:30am-12:10pm

10.1 **Combined Adaptive and Averaging Strategies for JPEG-Based Low Bit-Rate Image Coding**
Ana-Maria Sevcenco, Wu-Sheng Lu

10.2 **Accelerating Image Processing Algorithms Based on the Reuse of Spatial Patterns**
Farzad Khalvati, Mark D. Aagaard, Hamid R. Tizhoosh

10.3 **Statistical Deformation Model for Intensity Based Image Registration**
Ahmed Elsafi, Rami Zewail, Nelson Durdle

S11: OFDM-II

Chair: Aaron Gulliver
University of Victoria
Room: Junior Ballroom C
Time: Monday, 10:30am-12:10pm

11.1 **Minimum-BER Power Allocation for Multicarrier Systems with Outdated Channel State Information**
Pengfei Zhang, Hong-Chuan Yang

11.2 **Integer QP Relaxation based Algorithms for ICI Reduction in OFDM Systems**
Y. H. Zhang, Wu-Sheng Lu, T. Aaron Gulliver

11.3 **Exact BER Analysis for a Receiver Windowing OFDM System over Frequency Selective Rayleigh Fading Channels**
Peng Tan, Norman C. Beaulieu

11.4 **Accurate BER Performance Comparison of Frequency Domain and Time Domain pi/4-DQPSK OFDM Systems**
Peng Tan, Norman C. Beaulieu

S12: Medical Applications

Chair: Bozena Kaminska
Simon Fraser University
Room: Junior Ballroom D
Time: Monday, 10:30am-12:10pm

12.1 **Development of an Electroencephalography Data Acquisition System for Clinical Research into Transcranial Magnetic Stimulation Evoked Potentials**
Mark Archambeault, Hubert de Bruin

12.2 **SoPC based Smart Home Embedded Computer Capable of Caring for the Home Occupants**
Gul N. Khan, Jonathan B. Chan

12.3 **Smart Massage Patch**
Firouzeh Lorzadeh, Bozena Kaminska

12.4 **An Agent Model of a Diabetic Patient**
Sara Ghoreishi Nejad, Raman Paranjape

S13: Distributed Computing and Computer Networks-I

Chair: Guy Lemieux
University of British Columbia
Room: Parksville
Time: Monday, 10:30am-12:10pm

13.1 **vanDisk: An Exploration in Peer-To-Peer Collaborative Back-up Storage**
Tony Angerilli, Amir Javidan, Armin Barhashary, Guy Lemieux, Roman Lisagor, Matei Ripeanu

13.2 **A Simulation Study of Data Distribution Strategies for Large-scale Scientific Data Collaborations**
Samer Al Kiswany, Matei Ripeanu

13.3 **Intelligent Policy Resource Management for Advanced Broadband Access Networks**
Benny Bing

13.4 **Service Policies for a Storage Services Dispatcher in a Distributed Fault-Tolerant Storage Network and their Performance Evaluation**
Moises Quezada-Naquid, Ricardo Marcelin-Jimenez, Miguel Lopez-Guerrero

S14: Logic Synthesis

Chair: Samuel Lee
University of Oklahoma
Room: Port Hardy
Time: Monday, 10:30am-12:10pm

14.1 **Structured Logic Arrays for Future CMOS Technologies**
Roozbeh Mehrabadi, S. Yuan, Resve Saleh

14.2 **Synthesis of Power and Delay Optimized NIG Structures**
P. Balasubramanian, D.A. Edwards

14.3 **Low Power Synthesis of XOR-XNOR Intensive Combinational Logic**
P. Balasubramanian, D.A. Edwards, C. Hari Narayanan

14.4 **The mM-hypercube**
Samuel C. Lee, Thanh X. Nguyen

14.5 **Information Measures in the M-Hypercube**
Samuel C. Lee, Thanh X. Nguyen

S15: Electrical Machines-II

Chair: Juri Jatskevich
University of British Columbia
Room: Port Alberni
Time: Monday, 10:30am-12:10pm

15.1 **High Efficiency IPM Motor Drives for Hybrid Electric Vehicles**
M. Azizur Rahman

15.2 **A Simple Explicit Method of Representing Magnetic Saturation of Salient-Pole Synchronous Machines in Both Rotor Axes using Matlab-Simulink**
Liwei Wang, Juri Jatskevich, Nathan Ozog, Ali Davoudi

15.3 **Comparison of Time-Harmonic and Transient Finite Element Analyses for Eddy Currents in the Stator Clamping System of Synchronous Generators**
Erich Schmidt, Georg Traxler-Samek, Alexander Schwery

S16: Power Systems-II

Chair: Jose Marti
University of British Columbia
Room: Port McNeill
Time: Monday, 10:30am-12:10pm

16.1 **Power System Protective Functions Performance over an Ethernet-based Process Bus**
E. Demeter, S.O. Faried, T.S. Sidhu

16.2 **Areas of Vulnerability in an Environment of Uncertainty**
K. El-Arroudi, D. McGillis, G. Joos, R. Brearley

16.3 **Short-term Load Forecasting using Artificial Neural Network based on Particle Swarm Optimization Algorithm**
Zidan Bashir, Mohamed E. El-Hawary

16.4 **A New Restricted Earth Fault Protection**
Jian-Cheng Tan, Damien Tholomier, H. Wei

16.5 **Sensitivity and Stability of Superimposed Component based Directional Comparison Protection**
Jian-Cheng Tan, Damien Tholomier, G. Bin, W. Hua

S17: MEMS Techniques

Chair: Kenichi Takahata
University of British Columbia
Room: Junior Ballroom A
Time: Monday, 1:40pm-3:20pm

17.1 **High Mechanical Bandwidth Polysilicon Micromirrors for Large Area/High Deflection Angle Micromirror Arrays**
R. Hoskinson, I. Mansoor, B. Stoeber

17.2 **Spin-on Glass as a Sacrificial Layer for Patterned Metallization of Compliant SU-8 Microstructures**
See-Ho Tsang, Abdul Haseeb Ma, M. Parameswaran, A. M. Leung

17.3 **A Free-Space Tunable Beam Expander Designed for Automated Assembly**
See-Ho Tsang, D. Sameoto, M. Parameswaran

17.4 **Assembly and Characterization of Buckled Cantilever Platforms for Thermal Isolation in a Polymer Micromachining Process**
Dan Sameoto, Abdul Haseeb Ma, M. Parameswaran, Albert M. Leung

17.5 **Polydimethylglutarimide as a Structural MEMS Material**
Ian G. Foulds, Robert W. Johnstone, M. Hamidi, See-Ho Tsang, M. Parameswaran

S18: Multi-Dimensional Signal Processing-III

Chair: Rabab Ward
University of British Columbia
Room: Junior Ballroom B
Time: Monday, 1:40pm-3:20pm

18.1 **A Novel Algorithm for Authentication and Protection of SMIL Scenes**
Ziad Sakr, N. D. Georganas

18.2 **On Data Distortion for Privacy Preserving Data Mining**
Saif M.A. Kabir, Amr M. Youssef, Ahmed K. Elhakeem

18.3 **An Enhanced Statistical Approach for Watermarking using Wavelets**
H. Ahmadi, A. S. Beheshti, B. Foruzandeh

S19: MIMO

Chair: Aryan Saadat Mehr
University of Saskatchewan
Room: Junior Ballroom C
Time: Monday, 1:40pm-3:20pm

19.1 **Receiver Design and Performance Evaluation for MIMO Integrated GSM Systems**
Yong Jin Daniel Kim, Jan Bajcsy

19.2 **Statistically Robust Transceiver Design for Broadcast Channels with Uncertainty**
Michael Botros Shenouda, Timothy N. Davidson

19.3 **Linear Matrix Inequality Formulations of Robust QoS Precoding for Broadcast Channels**
Michael Botros Shenouda, Timothy N. Davidson

19.4 **Precoder Design for Space-Time Coded MIMO Systems with Correlated Rayleigh Fading Channels**
Tran Khoa Phan, Sergiy A. Vorobyov, Chintha Tellambura

19.5 **Multiple-symbol Differential Detection: V-BLAST vs. Sphere Decoding**
Malihe Ahmadi, Aryan Saadat Mehr

S20: Wireless Networks-I

Chair: Steven Chamberland
Ecole Polytechnique Montreal
Room: Junior Ballroom D
Time: Monday, 1:40pm-3:20pm

20.1 **An Analysis of Three-Level IP Network Topologies**
Steven Chamberland

20.2 **End-to-End Packet Loss Constrained Routing and Admission Control for MPLS Networks**
Desire Oulai, Steven Chamberland, Samuel Pierre

20.3 **Online Routing of Stochastically Arriving Bundles in Delay Tolerant Networks**
Daniel C. Lee

S21: Distributed Computing and Computer Networks-II

Chair: Ana T. Lawniczak
University of Guelph
Room: Parksville
Time: Monday, 1:40pm-3:20pm

21.1 **Performance Analysis of Server-Side Spam Control Strategies based on Layer-3 Classification**
Muhammad N. Marsono, M. Watheq El-Kharashi, Fayez Gebali

21.2 **Context Network**
Hooman Tahayori, Elena Pagani, Giovanni Degli Antoni, S. Astaneh

21.3 **Analysing and Realising Wireless Mesh Networks as a Replacement for Lon Based Distributed Control Networks for Clean Room Environment**
A. Sinha, W.A.C. Fernando

21.4 **Study of Packet Traffic Fluctuations Near Phase Transition Point From Free Flow to Congestion in Data Network Model**
Anna T. Lawniczak, P. Lio, S. Xie, J. Xu

21.5 **Wavelet Spectral Analysis of Packet Traffic Near Phase Transition Point from Free Flow to Congestion in Data Network Model**
Anna T. Lawniczak, P. Lio, S. Xie, J. Xu

S22: RF Front-End Circuits

Chair: Robert Sobot
University of Western Ontario
Room: Port Hardy
Time: Monday, 1:40pm-3:20pm

22.1 **An Image-Reject Low-Noise Amplifier with Passive Q-enhanced Notch Filters**
Pranavi Anand, L. Belostotski, K. Townsend, R. G. Randall, James W. Haslett

22.2 **A Fast CMOS Self-oscillating Modulator for RF Power Amplifier**
Xin Jie Wang, Tadeusz Kwasniewski

22.3 **Design Considerations for Sub-mW RF CMOS Low-Noise Amplifiers**
Derek Ho, Shahriar Mirabbasi

22.4 **A Low-Power CMOS Modulator for Ultra-Wideband Transmitters**
Shahrzad Jalali Mazlouman, Alireza Mahanfar, Shahriar Mirabbasi

22.5 **Low Cost, Power-Efficient Reconfigurable Passive FET Mixers**
U. L. Rohde, A. K. Poddar, A. P. Almeida, V. Ahmed

S23: Electrical Machines-III

Chair: Juri Jatskevich
University of British Columbia
Room: Port Alberni
Time: Monday, 1:40pm-3:20pm

23.1 **Energy Savings by Means of Generalisation Adjustable Speed Drive Utilisation**
M. Benhaddadi, G. Olivier, B. Dima

23.2 **Analytical Approach to Design of Slip-Controller for Constant Volts/Hz Scheme Induction Motor Drive using Motor Name-plate Details**
Dhaval Shah, S. Nandi

23.3 **Performances of PI and Fuzzy-Logic Speed Control of Field-Oriented Induction Machine Drives**
Mavungu Masiala, Behzad Vafakhah, Andy Knight, John Salmon

23.4 **Modeling and Transient Simulation of an All-Electric All-Terrain Vehicle (ATV)**
Adam R. Chevrefils, Shaahin Filizadeh

S24: Power Systems-III

Chair: Adel M. Sharaf
University of New Brunswick
Room: Port McNeill
Time: Monday, 1:40pm-3:20pm

24.1 **Amlioration de Processus Logiciel Chez Hydro-Qubec quipement**
M. Lacroix, Pierre-N. Robillard

24.2 **Reliability Database Management System: Experiences at BCTC**
Wenyuan Li, H.C. Jonas, S. Yan, B. Corns, Paul Choudhury, E. Vaahedi

24.3 **A Technique for Evaluating the Reliability Improvement due to Energy Storage Systems**
Dwayne Aming, Athula Rajapakse, Tom Molinski, E. Innes

S25: Neural Networks and Biomedical Applications

Chair: TBD
TBD
Room: Junior Ballroom A
Time: Monday, 3:40pm-5:30pm

25.1 **Neural Networks for Color Image Segmentation: Application to Sapwood Assessment**
Adel Ziadi, Frdric Ntawiniga, Xavier Maldague

25.2 **Electro-Enzymatic Sensor for Non-Invasive Glucose Measurement**
Jasbir N. Patel, Byron Gates, Bonnie L. Gray, Bozena Kaminska

25.3 **Ultra Low Power Transceiver for Wireless Patient Vital Sign Monitoring**
Mostafa Rashdan, Mahesh M. Pai, Pranavi Anand, James W. Haslett, Brent J. Maundy

25.4 **Controlled Micro-Stimulation for Peripheral Neural System Enhancement**
Behzad Behroozan, Bozena Kaminska

25.5 **Digital Emulation of Analogue CNN System on FPGA**
Dongdong Chen, Seok-Bum Ko

25.6 **Current Mode Euclidean Distance Calculation Circuit for Kohonen's Neural Network Implemented in CMOS 0.18um Technology**
Tomasz Talaska, Rafal Dlugosz

S26: Multi-Dimensional Signal Processing-IV

Chair: Mehran Mehrandezh
University of Regina
Room: Junior Ballroom B
Time: Monday, 3:40pm-5:30pm

26.1 **Motion Adaptive Video Denoising in the Wavelet Domain Based on Bivariate Shrinkage**
Nikhil Gupta, M. N. S. Swamy, Eugene I. Plotkin

26.2 **Secure and Scalable Video Streaming over IEEE 802.11e based Home Networks**
Azfar Moid, Abraham O. Fapojuwo, Robert J. Davies

26.3 **Visual Servoing of a Mobile Robot in Presence of Tilt Disturbances using a Central Catadioptric Vision System**
W. Liu, M. Mehrandezh

26.4 **Visual Servoing of a 5-DOF Mobile Manipulator using a Panoramic Vision System**
Y. Zhang, M. Mehrandezh

S27: Detection

Chair: Michael Riediger
University of British Columbia
Room: Junior Ballroom C
Time: Monday, 3:40pm-5:30pm

27.1 **On Forming the Detection Set for Multicell Multiuser Detection in Narrowband Cellular Systems**
Shirin Karimifar, James K. Cavers

27.2 **Performance/Complexity Comparison between MAP-PSP and Mixture Kalman Filtering for Joint Estimation and Detection of STTCs**
Usa Vilaipornsawai, Harry Leib

27.3 **Reduced Complexity Belief Propagation Algorithm Based on Iterative Groupwise Multiuser Detection**
Sara Bavarian, James K. Cavers

27.4 **A Chase Based Multistage Parallel Interference Cancellation Scheme for Asynchronous Fading Channels**
Liu Feng, M. Reza Soleymani

27.5 **Optimal Power Allocation for Pilot Channel Assisted Multi-User CDMA**
R.A. Stuart, Franois Chan, Claude D'Amours

S28: Wireless Networks-II

Chair: Steven Chamberland
Ecole Polytechnique Montreal
Room: Junior Ballroom D
Time: Monday, 3:40pm-5:30pm

28.1 **Efficient Heuristics for Planning GMPLS Transport Networks**
Nabil Naas, Hussein T. Mouftah

28.2 **Efficient Delivery of Voice Services over MPLS Internet Infrastructure**
Basel Alawieh, Hussein T. Mouftah

28.3 **A New Approach for Designing WiMAX Networks**
Seyedeh Moloud Mousavi, Steven Chamberland, Alejandro Quintero

28.4 **Towards Seamless Service Mobility for Mobile Devices Communicating within Wireless Grids**
Bashar Rashid, Mohamed El-Darieby

28.5 **Designing Secure Peer-to-Peer Voice Applications in Ad Hoc Wireless Networks**
Issam Al-dalati, Ashraf Matrawy

S29: Computer Architecture

Chair: Amirali Baniasadi
University of Victoria
Room: Parksville
Time: Monday, 3:40pm-5:30pm

29.1 **Investigating Cache Energy Efficiency in Multimedia Processors**
Kaveh Jokar Deris, Amirali Baniasadi

29.2 **Point Estimation in Design Space Exploration using Local Regression Modeling**
Peter Hallschmid, Resve Saleh

29.3 **Fast Power Estimation for Automatic Instruction-Set Selection**
Peter Hallschmid, David Yeager, Resve Saleh

29.4 **Grid Architecture for High Performance Computing**
Youcef Derbal

29.5 **EP32 - a 32-bit Foth Micorprocessor**
Edvin Hortland, Li Chen

S30: Advanced Circuits

Chair: Marek Syrzycki
Simon Fraser University
Room: Port Hardy
Time: Monday, 3:40pm-5:30pm

30.1 **A Low-Power 75dB Digitally Programmable CMOS Variable-Gain Amplifier**
Behnoosh Rahmatian, Shahriar Mirabbasi

30.2 **A 2.5 Gb/s, Low Power Clock and Data Recovery Circuit**
Qingjin Du, Jingcheng Zhuang, Tadeusz Kwasniewski

30.3 **Fractional Sigma-Delta Modulator in SiGe**
Robert Sobot, Shawn Stapleton, Marek Syrzycki

30.4 **A Low-Voltage High Linear Body-Driven Operational Transconductance Amplifier and Its Applications**
Lihong Zhang, Xuguang Zhang, Ezz El-Masry, Y. Zhang

30.5 **A New Loadless 4-Transistor SRAM Cell with a 0.18 m CMOS Technology**
J. Yang, Li Chen

30.6 **Improve the Resolution of Analog to Digital Converters with Bootstrap Method**
Y. Kebbati, H. K. Souffi

S31: Electrical Machines-IV

Chair: TBD
TBD
Room: Port Alberni
Time: Monday, 3:40pm-5:30pm

31.1 **Real-Time Implementation of a Wavelet Based Speed Controller for Induction Motor Drives**
M. Abdesh Khan, M. Azizur Rahman

31.2 **Variable speed induction drive system in V/f control mode - Numerical calculation versus practical measurement**
C. Grabner

31.3 **Investigation of Induction Motors Starting and Operation with Variable Frequency Drives**
Xiaodong Liang, Ryan Laughy, Joe Liu

S32: Power Systems-IV

Chair: Jose Marti
University of British Columbia
Room: Port McNeill
Time: Monday, 3:40pm-5:30pm

32.1 **Life Cycle Analysis Methodology for Distribution Feeder Reclosers**
Wenpeng Luan, C. K. Siew, H. Iosfin

32.2 **Frequency Locked Phase Estimation**
A. W. Krieger, John Salmon

32.3 **Detection of Electrical Arc Faults in a Distribution Network**
Julien Saulnier, Jamel Ghouili

32.4 **A Novel Travelling Wave Based Relaying Scheme using Wavelet Transforms for Arcing Faults Detection on Series Compensated Transmission Lines**
Syed Muhammad Atif Saleem, Adel M. Sharaf

S33: Biomedical Signal Processing-I

Chair: Boris Stoeber
University of British Columbia
Room: Junior Ballroom A
Time: Tuesday, 8:30am-10:10am

33.1 **Peak Blood Glucose Prediction Algorithm Following a Meal Intake**
Md. Shafiqul Islam, J. Leech, C. Lin, Lukas Chrostowski

33.2 **Contactless Heart Monitoring (CHM)**
Faranak Mohammad-zadeh, F. Taghibakhsh, Bozena Kaminska

33.3 **Vehicle Positioning in Underground Mines**
Angus F. C. Errington, Brian L. F. Daku, Arnfinn F. Prugger

33.4 **Non-invasive Measurement of Arterial Pressure-Dependent Compliance**
Changchun Liu, Xin Sun, Chengyu Liu, Jason J. Gu, M. Yu

S34: Signal Processing Algorithms-I

Chair: Jane Wang
University of British Columbia
Room: Junior Ballroom B
Time: Tuesday, 8:30am-10:10am

34.1 **Reproducibility of Experimental Results from a Highly Parallelized Classification Algorithm**
Conrad Wiebe, Nick J. Pizzi

34.2 **Kernel Principal Component Chart for Defect Detection**
Yan Luo, George Stefatos, A. Ben Hamza

34.3 **Towards A Neural-Network-Based Decision Tree Learning Algorithm for Petroleum Production Prediction**
Xiongmin Li, Christine W. Chan

S35: CDMA

Chair: Ali Ghrayeb
Concordia University
Room: Junior Ballroom C
Time: Tuesday, 8:30am-10:10am

35.1 **Multiuser Detection in DS-CDMA using Hybrid Evolutionary Strategy**
Mehtaz Sharmin, Chintha Tellambura

35.2 **An Application of ICA to DS-CDMA Detection**
Yue Fang, Kunio Takaya

35.3 **Chase Based Multiuser Detection for MIMO-CDMA Systems**
Liu Feng, M. Reza Soleymani

35.4 **A Low Complexity MMSE Detector for Multiuser Layered Space-Time Coded MIMO Systems**
May Gomaa, Ali Ghrayeb

35.5 **A Hybrid Serial-Parallel Interference Cancellation Scheme for WCDMA Systems**
Pooyan Haghighat, Ali Ghrayeb

S36: Access Control

Chair: Vincent Wong
University of British Columbia
Room: Junior Ballroom D
Time: Tuesday, 8:30am-10:10am

36.1 **Efficient Medium Access Control for Broadband Powerline Communications Networks**
T. Chiras, P. Koutsakis, M. Paterakis

36.2 **Resource Sharing in an Integrated Wireless Cellular/WLAN System**
E. Stevens-Navarro, Vincent W.S. Wong

36.3 **Complexity Analysis of Optimal Stationary Call Admission Policy and Fixed Set Partitioning Policy for OVSF-CDMA Cellular Systems**
Daniel C. Lee, M. Naeem, Chingyu Hsu

36.4 **Distributed Admission Control for Power-Constrained Cellular Wireless Systems**
Gaurav Bansal, A. K. Chaturvedi, Vijay K. Bhargava

36.5 **Adaptive 2C: A Novel Access Control for Fair and Efficient Channel Sharing**
Luis Alarcon-Ramos, Miguel Lopez-Guerrero, Dimitrios Makrakis

S37: Physical Design

Chair: Guy Lemieux
University of British Columbia
Room: Parksville
Time: Tuesday, 8:30am-10:10am

37.1 **Using Hardware Acceleration to Reduce FPGA Placement Times**
Andrew Morton, Gary Grewal, Christian Fobel

37.2 **Advanced Neural-Based CAD Tools for Communication System Modeling and Design**
M.C.E. Yagoub, T.P. Vuong, F.A. Mohammadi

37.3 **Wirelength Based Clustering Technique for VLSI Physical Design**
Jie Huang, Jianhua Li, L. Rakai, Laleh Behjat

S38: Advances in Microwave Devices

Chair: Robert Sobot
University of Western Ontario
Room: Port Hardy
Time: Tuesday, 8:30am-10:10am

38.1 **Substrate Integrated Waveguide Filters for Airborne and Satellite Applications**
Xiaoping Chen, Daniel Drolet, Ke Wu

38.2 **Micromachined Microwave Filters Based on Slot Type Split Ring Resonators**
Sae-Won Lee, Alireza Mahanfar, M. Parameswaran, Rodney G. Vaughan

38.3 **A New Dynamic Local Mesh Refinement Algorithm for Finite Difference Time Domain**
Alireza Marandi, Farzaneh Afshinmanesh, Poman P. M. So

38.4 **Design of a Single Chip GaAs MESFET Dielectric Resonator Oscillator at 26 GHz**
I. Hilborn, A. P. Freundorfer, J. Show, M. G. Keller

38.5 **Concurrent Oscillators for Multi-Band Multi-Mode Wireless Communication Systems**
U. L. Rohde, A. K. Poddar

S39: Software Engineering

Chair: Philippe Kruchten
University of British Columbia
Room: Port Alberni
Time: Tuesday, 8:30am-10:10am

39.1 **Peer Review as a V&V Standard Compliance Technique: An Aviation Industry Case Study**
Olivier Gendreau, Pierre Labrche, Pierre-N. Robillard

39.2 **Outsourcing Software Maintenance: Processes, Standards and Critical Practices**
Pierre-N. Robillard, Martin Tapp, Noureddine Kerzazi, Hamid Hmima

39.3 **Capturing Software Architectural Design Decisions**
Larix Lee, Philippe Kruchten

39.4 **On Agent-Oriented Requirements Engineering for COTS-Based Software Development (CBSD)**
Hamdy Ibrahim, Behrouz H. Far, Armin Eberlein

39.5 **Software Reliability Engineering for Agile Software Development**
Behrouz H. Far

S40: Power Electronics-I

Chair: Ed Nowicki
University of Calgary
Room: Port McNeill
Time: Tuesday, 8:30am-10:10am

40.1 **A Current Sensorless Sliding Mode Controller for a Three Level Resonant Single Stage PFC AC/DC Converter**
Mohammed S. Agamy, Praveen K. Jain

40.2 **Analysis and Design of a Compact Single-stage AC-DC Resonant Converter with High Power Factor**
M. Z. Youssef, Praveen K. Jain

40.3 **Steady State Analysis of Switching Converters without Predefined Switching Period**
Faouzi Tourkhani, Marcel Allain, Philippe Viarouge

40.4 **Voltage Switching Scheme for Harmonic Reduction in Multilevel Inverters**
A. Al-Judi, E. Nowicki, H. Bierk

40.5 **Characterization of Distortion Reduction for Single-Phase Multiple Inverter Operation**
H. Bierk, E. Nowicki, A. Al-Judi

S41: Biomedical Signal Processing-II

Chair: Rangaraj M. Rangayyan
University of Calgary
Room: Junior Ballroom A
Time: Tuesday, 10:30am-12:10pm

41.1 **Detection of Blood Vessels in the Retina using Gabor Filters**
Rangaraj M. Rangayyan, Faraz Oloumi, Foad Oloumi, Peyman Eshghzadeh-Zanjani, Fabio J. Ayres

41.2 **Detection Schemes for High Sensitivity Electronic Biomolecular Detection**
T. Charania, M. Parameswaran

41.3 **Comparison of Using Mono-Polar and Bipolar Electroencephalogram (EEG) Electrodes for Detection of Right and Left Hand Movements in a Self-Paced Brain Computer Interface (BCI)**
Ali Bashashati, Rabab Kreidieh Ward, Gary E. Birch

41.4 **STFT-based Segmentation in Model-based Seizure Detection**
Rajeev Yadav, Rajeev Agarwal, M. N. S. Swamy

S42: Signal Processing Algorithms-II

Chair: Nima Mahanfar
Simon Fraser University
Room: Junior Ballroom B
Time: Tuesday, 10:30am-12:10pm

42.1 **A Genetic Algorithm for the Design of Tunable Fractional-Delay Allpass IIR Filter Structures**
Sabbir U. Ahmad, Andreas Antoniou

42.2 **A Hybrid Genetic Algorithm for the Design of IIR Digital Filters**
Sabbir U. Ahmad, Andreas Antoniou

42.3 **A New Method to Collapse the S-Transform into Local Spectra by Integrating in Squares**
Sylvia Drabycz, Thorarin A Bjarnason, J Ross Mitchell

42.4 **Reduced Memory Requirements for the S-Transform**
Thorarin A Bjarnason, Sylvia Drabycz, J Ross Mitchell

42.5 **Suitable Mother Wavelet for Harmonics and Interharmonics Measurements using Wavelet Packet Transform**
Walid G. Morsi, Mohamed E. El-Hawary

S43: Channel Estimation

Chair: James Cavers
Simon Fraser University
Room: Junior Ballroom C
Time: Tuesday, 10:30am-12:10pm

43.1 **Short Data Record DoA and Timing Estimation in Multipath DS/CDMA Systems**
Ren Wu, Ioannis N. Psaromiligkos

43.2 **Widely Linear Minimum Variance Channel Estimation for MC-CDMA Systems using Real Modulation**
Saeed Abdallah, Ioannis N. Psaromiligkos

43.3 **Automated Identification of Clusters in UWB Channel Impulse Responses**
James Chuang, S. Bashir, David G. Michelson

S44: Quality of Service

Chair: Wahab Almuhtadi
Algonquin College
Room: Junior Ballroom D
Time: Tuesday, 10:30am-12:10pm

44.1 **IPTV Distribution Technologies in Broadband Home Networks**
Emad Shihab, Lin Cai

44.2 **A QoS Negotiation Framework for Heterogeneous Wireless Networks**
Abdul Hasib, Abraham O. Fapojuwo

44.3 **The Effects of Adaptive Error Correction on Satellite Optimized TCP**
J. Graumann, K. Ferens

44.4 **Optimal Media Communication in Capacity Constrained Networks**
Nima Sarshar, Xiaolin Wu

44.5 **Characterizing Performance of an Intelligent Satellite QoS Optimization System**
Wahab Almuhtadi, Jason Tang, D. Murphy

S45: Advanced Topics in Computer Engineering-I

Chair: Martin Hansen
University of Waterloo
Room: Parksville
Time: Tuesday, 10:30am-12:10pm

45.1 **Narrowcast Advertising Retail Metrics: A Simulation with Fuzzy Product Profitability Potential**
Mark Alexiuk, Nick J. Pizzi, Gord Sawatzky, Witold Pedrycz

45.2 **Secure and Observable Auditing of Electronic Voting Systems using Stock Indices**
Jeremy Clark, Aleksander Essex, Carlisle Adams

45.3 **Document Classification with ACM Subject Hierarchy**
Tao Wang, Bipin C. Desai

45.4 **Practical Perceptually Adaptive Approach to Video Logo Placement in TV Broadcasts**
Alexander Wong, William Bishop

45.5 **Personalization Through Personality Categorization of Products**
Nancy Ho Woo, Xiaojun Shen, Shervin Shirmohammadi

S46: Microwave Circuits

Chair: James Haslett
University of Calgary
Room: Port Hardy
Time: Tuesday, 10:30am-12:10pm

46.1 **High Gain On-Chip Dielectric Resonator Antennas using Silicon Technology for Millimeter Wave Wireless Links**
P.V. Bijumon, A. P. Freundorfer, M. Sayer, Y. M. M. Antar

46.2 **Spatial Aspects of the Transmission Line Model for Rectangular PIFA**
Vadim Antonchik, Rodney G. Vaughan

46.3 **MEFiSTo Modeling and Analysis for Microwave Engineering Education**
Poman P. M. So

46.4 **Multi-Branch Polynomial Model with Embedded Average Power Dependency for 3G RF Power Amplifiers**
Oualid Hammi, Slim Boumaiza, Fadhel M. Ghannouchi

46.5 **New Design for Microstrip Antenna Element with U-Shaped Rectangular Patch**
Enver Hamiti, Luan Ahma, Abdel Razik Sebak

S47: E-Commerce

Chair: Philippe Kruchten
University of British Columbia
Room: Port Alberni
Time: Tuesday, 10:30am-12:10pm

47.1 **Privacy Management in e-Commerce Communities**
Chris Desmarais, Xiaojun Shen, Shervin Shirmohammadi, Alex Cameron, Nicolas D. Georganas, Ian Kerr

47.2 **A Peer-to-Peer Collaborative Virtual Environment for E-Commerce**
Michel Khoury, Xiaojun Shen, Shervin Shirmohammadi

47.3 **A Visualization Approach for Modeling Trust in E-Commerce**
Alireza Pourshahid, Thomas Tran

47.4 **Drivers of Customer Convenience in Electronic Tourism Industry**
Masoomeh Moharrer, Hooman Tahayori

47.5 **Intelligent-Agent and Web-Service Based Service Composition for E-business**
Jing Chi, Junde Song

S48: Power Electronics-II

Chair: Ed Nowicki
University of Calgary
Room: Port McNeill
Time: Tuesday, 10:30am-12:10pm

48.1 **Output Voltage Regulation Curves for a 1-switch Boost Converter using Coupled Inductor Windings and Split dc-Rails under Unbalanced Load Conditions**
John Salmon, Jeff Ewanchuk

48.2 **Design Considerations of a New ZVT-PWM Converter with an Off-Tuned Auxiliary Circuit**
Amir Ostadi, Xing Gao, Gerry Moschopoulos, Roohollah Fadaeinedjad

48.3 **A Novel Soft-Switched Three-Phase Single-Switch Rectifier**
Sondeep Bassan, Gerry Moschopoulos, Roohollah Fadaeinedjad

48.4 **A Novel Thermal Spectrum Analysis Method for Reliability Analysis of Semiconductor Devices**
Yangjun Zhu, Chunyan Miao, Qinghai Miao, Xinghua Zhang, Shuojin Lu

S49: Biomedical Signal Processing-III

Chair: Jane Wang
University of British Columbia
Room: Junior Ballroom A
Time: Tuesday, 1:40pm-3:20pm

49.1 **Tumor Estimation in Tissue Sensing Adaptive Radar (TSAR) Signals**
D.J. Kurrant, E.C. Fear, D. T. Westwick

49.2 **An Algorithm for Evaluating the Performance of Adaptive Filters for the Removal of Artifacts in ECG Signals**
Yunfeng Wu, Rangaraj M. Rangayyan

49.3 **An Unbiased Linear Artificial Neural Network with Normalized Adaptive Coefficients for Filtering Noisy ECG Signals**
Yunfeng Wu, Rangaraj M. Rangayyan

49.4 **Mining Brain Tumours and Tracking their Growth Rates**
A. Halim Elamy, Maidong Hu

49.5 **New Approach on Cardiac Autonomic Control Estimation Based on BCG Processing**
O. Postolache, G. Postolache, P. Silva Giro

S50: Signal Processing Algorithms-III

Chair: Witold Kinsner
University of Manitoba
Room: Junior Ballroom B
Time: Tuesday, 1:40pm-3:20pm

50.1 **Performance of Weak Asymmetric MHPM Signals in Non-Gaussian Noise**
Monal Shah, Raveendra K. Rao

50.2 **Analysis of Modulated Monofractal Noise**
L. Woo, M. Potter, W. Kinsner, K. Ferens

50.3 **An Identification Technique for ARMA Systems in the Presence of Noise**
S. A. Fattah, W. P. Zhu, M. O. Ahmad

50.4 **Incorporating Term Selection Into Separable Nonlinear Least Squares Identification Methods**
Mohammad Rasouli, D. T. Westwick, William Rosehart

50.5 **VS-SC: A Variable Step Size NLMS Algorithm**
Fausto Casco, R. Carolina Medina-Ramirez, Miguel Lopez-Guerrero, Cesar Jalpa-Villanueva

S51: Coding and Decoding

Chair: Aaron Gulliver
University of Victoria
Room: Junior Ballroom C
Time: Tuesday, 1:40pm-3:20pm

51.1 **Closed-form SER and Capacity Expressions for Receive Antenna Selection using Orthogonal Space-Time Block Codes**
Tran Khoa Phan, Chintha Tellambura, Trong Duy Ngo

51.2 **A Joint Network-Channel Coding Scheme for Relay-Based Communications**
Hieu T. Nguyen, Ha H. Nguyen, Tho Le-Ngoc

51.3 **Multiple-Symbol Detection for Shot-Noise Limited Free-Space Optical Communications**
M. L. B. Riediger, R. Schober, L. Lampe

51.4 **Fixed-Rate Raptor Code Performance over Correlated Rayleigh Fading Channels**
Bharathram Sivasubramanian, Harry Leib

51.5 **Virtual Space-Time Coding for Cooperative Communication and Downlink Receiver Hardware Implementation**
Binbin Jia, M. Reza Soleymani

S52: Sensor Networks-I

Chair: Ken Ferens
University of Manitoba
Room: Junior Ballroom D
Time: Tuesday, 1:40pm-3:20pm

52.1 **Link Analysis of a Protoype Wireless Implanted Tracking Tag**
Andrew Lea, William Dunford, Royann J Petrell, Andrew W Trites, Rodney G. Vaughan

52.2 **Performance Results and Analysis of ZigBee Networks in the Presence of Multifractal Noise**
L. Woo, W. Kinsner, K. Ferens, J. Diamond

52.3 **An Energy-Efficient Cooperative Algorithm for Data Estimation in Wireless Sensor Networks**
Ashkan Heshmati, M. Reza Soleymani

52.4 **A Novel Earthquake Warning System based on Virtual MIMO-Wireless Sensor Networks**
Mohamed Youssef, Abdel Fattah Yousif, Aboelmagd Noureldin, Naser El-Sheimy

S53: Advanced Topics in Computer Engineering-II

Chair: Nikitas Dimopoulos
University of Victoria
Room: Parksville
Time: Tuesday, 1:40pm-3:20pm

53.1 **Using the Cell Processor as a Network Assist to Minimize Latency**
Farshad Khunjush, Nikitas Dimopoulos

53.2 **Introducing OperaNP: A Reconfigurable NoC-based Platform**
Haytham Elmiligi, M. Watheq El-Kharashi, Fayez Gebali

53.3 **A Processor Allocation of DSP Applications onto Heterogeneous Multiprocessor Architectures**
Awni Itradat, M. O. Ahmad, Ali Shatnawi

53.4 **A Thread Specific Load Balancing Technique for a Clustered SMT Architecture**
Maryam Mehri, Wessam M. Hassanein

S54: Advanced Technologies

Chair: Karen Cheung
University of British Columbia
Room: Port Hardy
Time: Tuesday, 1:40pm-3:20pm

54.1 **Characterization of Low Temperature P-type Hydrogenated Microcrystalline Silicon Thin Films Deposited by Plasma Enhanced Chemical Vapor Deposition**
W. F. L. Tse, I. Khodami, M. M. Adachi, X. Wang, K. Kavanagh, Karim S. Karim

54.2 **Low Voltage Polymer Transistors**
Alexandros Dimopoulos, Arash Takshi, John D. Madden

54.3 **Bimetallic Thin Film Grayscale Photomasks for Complex 3D Microstructure Creation in SU-8**
Jun Wang, James M. Dykes, C. Choo, David K. Poon, M. Chang, Jimmy T. K. Tsui, Glenn H. Chapman

54.4 **Undercut Compensation for Xenon Difluoride Etching of Polysilicon Thinfilms**
Jaeseok Jeon, Abdul Haseeb Ma, Kourosh Khosraviani, Albert M. Leung

54.5 **Engineered Magnetic Materials with Improved Dispersion using Multiresonator Structures**
Leila Yousefi, Omar M. Ramahi

S55: Security

Chair: TBD
TBD
Room: Port Alberni
Time: Tuesday, 1:40pm-3:20pm

55.1 **A Privacy-Preserving 3rd-Party Proxy for Transactions that use Digital Credentials**
Daniel Shapiro, Vishal Thareja, Carlisle Adams

55.2 **Securing XML Web Services with Elliptic Curve Cryptography**
Ying Liu, Tet H. Yeap, W. O'Brien

55.3 **Secure Routing in Sensor Networks**
Mohammad S. Nikjoo, A. S. Tehrani, Priyantha Kumarawadu

55.4 **A Scalable Secure Multicast System**
Zhao Yu Chi, J. William Atwood

55.5 **An Improved Defense Scheme Against Attacks on Wireless Security**
Hua Li, Dimitri Reizvikh, Lucy Liang Lei

S56: Power Electronics-III

Chair: Juri Jatskevich
University of British Columbia
Room: Port McNeill
Time: Tuesday, 1:40pm-3:20pm

56.1 **Parametric Average-Value Modeling of Multiple-Input Buck Converters**
Ali Davoudi, Juri Jatskevich, Patrick L. Chapman

56.2 **Discrete Time Modeling of Variable Frequency Pulse Width Modulation Controlled Single Stage Three-Level Resonant AC/DC Converters**
Mohammed S. Agamy, Praveen K. Jain

56.3 **Accurate Sensitivity Analysis of the Dynamic Characteristics of a Power Converter**
Faouzi Tourkhani, Marcel Allain, Philippe Viarouge

56.4 **Averaged-Model-Based Nonlinear Control of a PWM Three-Phase Four-Leg Shunt Active Power Filter**
Hadi Y. Kanaan, Alfred Hayek, Kamal Al-Haddad

56.5 **Averaged Model Based Control of a Sheppard-Taylor PFC with Nonlinearity Compensation**
Hadi Y. Kanaan, Alfred Hayek, Kamal Al-Haddad

S57: Biomedical Signal Processing-IV

Chair: Jason Gu
DalHousie University
Room: Junior Ballroom A
Time: Tuesday, 3:40pm-5:30pm

57.1 **Biorthogonal 3.1 Wavelet Enhancement of Brain Activities**
P. M. Zeman, Sunny Vardhan Mahajan, P.L. Sorensen, N. J. Livingston

57.2 **Spatio-Temporal Modeling of Neural Source Activation from EEG Data**
Alexandra Branzan Albu, Sunny Vardhan Mahajan, P. M. Zeman, Jim Tanaka

57.3 **Brainwave Classification based on Wavelet Entropy and Event-related Desynchronization**
Boqiang Liu, Junbo Gao, Zhongguo Liu, Cuiping Peng, Zhenwang Zhang, Cong Yin, Jason J. Gu

57.4 **Microscopic Image Analysis and Recognition on Pathological Cells**
Boqiang Liu, Cong Yin, Zhongguo Liu, Z. Zhang, J. Gao, M. Zhu, Jason J. Gu, Kai Xu

S58: Signal Processing Algorithms-IV

Chair: David E. Dodds
University of Saskatchewan
Room: Junior Ballroom B
Time: Tuesday, 3:40pm-5:30pm

58.1 **Eye Array Placement in Enclosed Areas**
Hedayat Alghassi, Shahram Tafazoli, Peter Lawrence

58.2 **MUSIC-based Joint DoA Estimation and Signal Enumeration**
Ren Wu, Ioannis N. Psaromiligkos

58.3 **Parametric Analysis of Frequency Domain Reflectometry Measurements**
David E. Dodds, T. Fretz

58.4 **Optimal Elevation of Phased Array Antennas in Pyramidal Configurations Using a Minimax-Based Approach**
Inas Khalifa, Rodney G. Vaughan

58.5 **New Closed-Form Estimators for the Angle of Arrival and the Angular Spread of a Locally Scattered Source**
Mehrez Souden, Sofine Affes, Jacob Benesty

58.6 **Extraction of Primitives from ZF-SQRD Algorithm for a DSP Platform**
Sandrine Futcha, Claude Thibeault, Francois Gagnon, B. Agba

S59: Wireless Communications

Chair: James Cavers
Simon Fraser University
Room: Junior Ballroom C
Time: Tuesday, 3:40pm-5:30pm

59.1 **Application of Spread-Spectrum and Frequency Hopping Techniques to Geophysical Inversion Problems**
Matthew J. Yedlin, Yair Linn

59.2 **Impedance of Closely Spaced Orthogonal Slot Antennas**
Jane Xing Yun, Rodney G. Vaughan

59.3 **Adaptive Antenna Selection Algorithm for Spatial Multiplexing MIMO Systems**
Seyed Aidin Bassam, M. Kalantari, Slim Boumaiza, R. Davies, Fadhel M. Ghannouchi

59.4 **IEEE 802.11 WLAN based Real-time Location Tracking in Indoor and Outdoor Environments**
Mike Emery, Mieso Denko

59.5 **Mobile Location in MIMO Communication Systems by Using Learning Machine**
Ji Li, Ligen Wang, Jean-Jules Brault, Jean Conan

S60: Sensor Networks-II

Chair: Ahmed Youssef
University of Calgary
Room: Junior Ballroom D
Time: Tuesday, 3:40pm-5:30pm

60.1 **A Method to Identify Boundary Nodes for Virtual Coordinate Constructions in Large Wireless Networks**
Marwan Fayed, Hussein T. Mouftah

60.2 **Localization for Wireless Sensor Networks: Protocols and Perspectives**
Michele Battelli, Stefano Basagni

60.3 **Indoor Sensor Networks: Localization Schemes**
Rami Abielmona, V. Groza

60.4 **Route Duration in Mobile Ad hoc Networks**
Michael Pascoe, Javier Gomez, Vctor Rangel, Miguel Lopez-Guerrero

60.5 **A Hierarchical Routing Protocol for Energy Load Balancing in Wireless Sensor Networks**
N. Amini, M. Fazeli, S. G. Miremadi

S61: Advanced Topics in Computer Engineering-III

Chair: Rangaraj M. Rangayyan
University of Calgary
Room: Parksville
Time: Tuesday, 3:40pm-5:30pm

61.1 **Polygonal Modeling of Contours using the Turning Angle Function**
Juliano Daloia de Carvalho, Rangaraj M. Rangayyan, Denise Guliato, Sergio Anchieta Santiago

61.2 **Design and Implementation of Decimal Reciprocal Unit**
Dongdong Chen, Seok-Bum Ko

61.3 **Spanning Tree Protocol Interoperability with Other Loop Prevention Algorithms**
Galina Antonova

S62: Noise, Timing and Leakage Analysis

Chair: Marek Syrzycki
Simon Fraser University
Room: Port Hardy
Time: Tuesday, 3:40pm-5:30pm

62.1 **Noise Analysis for UltraWideBand Low Noise Amplifiers**
M. Zargham, Vincent Gaudet

62.2 **Investigation of Substrate Noise Isolation Solutions in Deep Submicron (DSM) CMOS Technology**
Henry Lin, James B. Kuo, Robert Sobot, Marek Syrzycki

62.3 **Synthesizer Phase Noise Shape Optimization for a Multi Baud Rate Microwave Radio**
L. Villeneuve, N. Hassane, Y. Shen

62.4 **Early Analysis of Timing Margins and Yield**
Khaled R. Heloue, Farid N. Najm

S63: Cryptography

Chair: Howard Heys
Memorial University of Newfoundland
Room: Port Alberni
Time: Tuesday, 3:40pm-5:30pm

63.1 **A Survey on Quantum Cryptographic Protocols and Their Security**
Chi-Hang Fred Fung, Hoi-Kwong Lo

63.2 **Hardware Implementation of the Salsa20 and Phelix Stream Ciphers**
Junjie Yan, Howard M. Heys

63.3 **Compact Hardware Implementation of the Block Cipher Camellia with Concurrent Error Detection**
Huiju Cheng, Howard M. Heys

63.4 **Hardware Design and Analysis of Statistical Cipher Feedback Mode Using Serial Transfer**
Liang Zhang, Howard M. Heys

S64: Power Electronics-IV

Chair: Witold Kinsner
University of Manitoba
Room: Port McNeill
Time: Tuesday, 3:40pm-5:30pm

64.1 **A Compensation Way for a Differential Pair to Achieve a High Performance Single-ended to Differential Converter**
Xin Jie Wang, Tadeusz Kwasniewski

64.2 **PWM Current Controllers for a Family of 3-switch Utility Rectifier Topologies**
Nouman Noor, J. Ewanchuk, John Salmon

64.3 **On the Chaotic Behaviour of Buck Converters**
Ali Mehrizi-Sani, W. Kinsner, Shaahin Filizadeh

64.4 **Analysis of Bifurcation and Stability in a Simple Power System Using MATCONT**
K. Kobravi, W. Kinsner, Shaahin Filizadeh

64.5 **Performance of Single Phase Full Wave Rectifier Controlled by PWM**
Yahya Asiri, Mohamed Shwehdi

S65: Biomedical Signal Processing-V

Chair: Jason Gu
DalHousie University
Room: Junior Ballroom A
Time: Wednesday, 8:30am-10:10am

65.1 **Enhanced Accuracy in Registration of Cortex Functional Data via Large-Deformation Differomorphic Maps**
Behrang Nosrat Makouei, Lei Wang, Mirza Faisal Beg

65.2 **Brain Image Registration Based on the Entropy of Mutual Information Matrix**
Changchun Liu, Shunbo Hu, Jason J. Gu, Jinbao Yang, M. Yu

65.3 **Normalized I-alpha-Information for Medical Image Registration**
Changchun Liu, Jinbao Yang, Shunbo Hu, Jason J. Gu, M. Yu

65.4 **Mean Divergence Measures for Multimodality Medical Image Registration**
Changchun Liu, Jinbao Yang, Peng Shao, Jason J. Gu, M. Yu

65.5 **Indirect Knowledge-Based Approach to Non-Rigid Multi-Modal Registration of Medical Images**
Alexander Wong, William Bishop

S66: Ultra Wideband-I

Chair: Anh Dinh
University of Saskatchewan
Room: Junior Ballroom B
Time: Wednesday, 8:30am-10:10am

66.1 **UWB-IR System Performance for Implementable Rake Receivers**
Serhat Erkk, Dong In Kim

66.2 **A High-Resolution, Multi-Template Deconvolution Algorithm for Time-Domain UWB Channel Characterization**
Ted C. K. Liu, Dong In Kim, Rodney G. Vaughan

66.3 **On-Off Keying Ultra-Wideband Communication with Adaptive Overcomplete Dictionary Detection**
Wei Li, T. Aaron Gulliver

66.4 **Performance Evaluation of a Computationally-Efficient Acquisition Scheme for DS-UWB Signals**
Yassine Salih Alj, Charles Despins, Sofine Affes

66.5 **Design of a Family of ISI Free Pulses for Very High Data Rate UWB Wireless Systems**
Ziaul Hasan, V. Yadav, A. K. Chaturvedi, Vijay K. Bhargava

S67: Mobile Robots

Chair: Mehran Mehrandezh
University of Regina
Room: Junior Ballroom C
Time: Wednesday, 8:30am-10:10am

67.1 **A New Driving Assistant for Automobiles**
Fred Yu, Bozena Kaminska, Pawel Gburzynski

67.2 **Design and Development of a Smart Vehicle for Inspection of In-service Water Mains**
S. Poozesh, M. Mehrandezh, H. Najjaran, Raman Paranjape

67.3 **Multiple Sensor Fusion in Mobile Robot Localization**
Karthick Srinivasan, Jason J. Gu

67.4 **Localization of Electrical Outlet for a Mobile Robot using Visual Servoing**
Luis Bustamante, Jason J. Gu

S68: System Development-I

Chair: TBD
TBD
Room: Junior Ballroom D
Time: Wednesday, 8:30am-10:10am

68.1 **Speeding Up QA: An Index Structure for Question Queries**
Maidong Hu, A. Halim Elamy

68.2 **A Distributed Trust Management Scheme in the Pervasive Computing Environment**
Tao Sun, Mieso Denko

68.3 **JICT: An Eclipse Plug-in for Incremental Changes on JDBC Applications**
Shaochun Xu, Dapeng Liu

68.4 **Empirical Evaluation of the Dialog-Based Protocol and Think-Aloud Protocol**
Shaochun Xu, Zendi Cui, X. Chen

68.5 **Requirements Management System for KT-OSS Maintenance**
Dae-Woo Kim, H.-M. Lim, S.-K. Lee

S69: Communications Applications

Chair: Bruce F. Cockburn
University of Alberta
Room: Parksville
Time: Wednesday, 8:30am-10:10am

69.1 **FPGA-Based Lossless Data Compression using Huffman and LZ77 Algorithms**
Suzanne Rigler, William Bishop, Andrew Kennings

69.2 **A Compact and Accurate FPGA based Nonisotropic Fading Channel Simulator**
Saeed Fouladi Fard, Amirhossein Alimohammad, Maziar Khorasani, Bruce F. Cockburn, Christian Schlegel

69.3 **FPGA Implementation and Performance Evaluation of a Digital Carrier Synchronizer using Different Numerically Controlled Oscillators**
Sayed Hafizur Rahman, Asif Iqbal Ahmed, Otmane Ait Mohamed

69.4 **Fully Mobile Telephony using VoIP Computer Software**
Tyler Ross, Habib Hamam, Yassine Bouslimani

S70: Software and Knowledge Engineering

Chair: Yingxu Wang
University of Calgary
Room: Port Alberni
Time: Wednesday, 8:30am-10:10am

70.1 **A Type Framework for Modeling Data Objects in Software Engineering**
Yingxu Wang

70.2 **A Web Knowledge Discovery Engine based on Concept Algebra**
Kai Hu, Yingxu Wang

70.3 **Transformation of UML Models into Formal RTPA Specifications**
Tian Yousheng, Yingxu Wang

70.4 **Applying Concept Algebra to Information Restructuring of Web Documents**
Kai Hu, Yingxu Wang

70.5 **Software Costs and Schedule Estimations based on the Work Coordination Laws**
Jialin Shen, Yingxu Wang

S71: Power Systems-V

Chair: Mohamed E. El-Hawary
DalHousie University
Room: Port McNeill
Time: Wednesday, 8:30am-10:10am

71.1 **Transmission Loss Recovery in a Deregulated Power System Network - A Practical Example**
Robert Baker, Ashikur Bhuiya, Xiaomiao Wu

71.2 **Transmission Loss Cost Reconciliation in Alberta's Deregulated Electric Market**
Robert Baker, Xiaomiao Wu, Ashikur Bhuiya

71.3 **The Investor's Dilemma: Generation or Transmission Expansion?**
Juan Alvarez, Kumaraswamy Ponnambalam, Victor H. Quintana

71.4 **A Novel Discrete Particle Swarm Optimization Algorithm for Optimal Capacitor Placement and Sizing**
M. F. AlHajri, M. R. AlRashidi, Mohamed E. El-Hawary

71.5 **Hybrid Particle Swarm Optimization Approach for Optimal Distribution Generation Sizing and Allocation in Distribution Systems**
M. F. AlHajri, M. R. AlRashidi, Mohamed E. El-Hawary

S72: Nanoelectronic Techniques

Chair: Samuel Lee
University of Oklahoma
Room: Junior Ballroom A
Time: Wednesday, 10:30am-12:10pm

72.1 **Field-Electron Emission from Single-Walled Carbon Nanotubes Lying on a Surface**
Alireza Nojeh, R. Fabian, W. Pease

72.2 **Nanothermal Management in Nanoelectronics Systems**
Adam W. Skorek, Stefan Velou Ble, Anna Gryko-Nikitin, Joanicjusz Nazarko

72.3 **Logic Design of High Density Nanomemory Using Multiple-Electron Transistors**
Samuel C. Lee

72.4 **Fault Detection in NanoICs**
Samuel C. Lee, Thanh X. Nguyen

S73: Multi-Dimensional Signal Processing-V

Chair: Abdelwahab Hamou-Lhadj
Concordia University
Room: Junior Ballroom B
Time: Wednesday, 10:30am-12:10pm

73.1 **A Study on Significance of Color in Face Recognition using Several Eigenface Algorithms**
Behnam Karimi, Adam Krzyzak

73.2 **Face Recognition under Significant Pose Variation**
Yang Feng, Adam Krzyzak

73.3 **A New Approach for Rotation Invariant Optical Character Recognition Using Eigendigit**
Md. Maruf Monwar, Waqar Haque, Padma Polash Paul

73.4 **Towards a Multi-View Trace Visualization Environment**
Abdelwahab Hamou-Lhadj

73.5 **Wavelet-Based Independent Component Analysis for Statistical Shape Modeling**
Rami Zewail, Ahmed Elsafi, Nelson Durdle

73.6 **Incremental Line Tangent Space Alignment Algorithm**
Osama Abdel-Mannan, A. Ben Hamza, Amr M. Youssef

S74: Ultra Wideband-II

Chair: Xiaodai Dong
University of Victoria
Room: Junior Ballroom C
Time: Wednesday, 10:30am-12:10pm

74.1 **Multiple Access Transmitted Reference Pulse Cluster System for UWB Communications**
Li Jin, Xiaodai Dong

74.2 **Performance Analysis of MB-OFDM in the Presence of Multiple UWB Interferers**
Abolfazl Mehbodniya, Sonia Aissa, Sofine Affes

74.3 **Narrowband Interference Elimination in UWB Communications Systems**
Huy Quach, Anh Dinh

74.4 **Mitigation of Interference by Ultra Wide Band Radio into Other Communication Services: Evolution to Cognitive Ultra Wide Band Radio**
Michael Sablatash

S75: VR Systems

Chair: Xiaoli Yang
Lakehead University
Room: Junior Ballroom D
Time: Wednesday, 10:30am-12:10pm

75.1 **Towards a GPU-based Simulation Framework for Deformable Surface Meshes**
Vidya Kotamraju, Shahram Payandeh, John Dill

75.2 **Integration of the Senses of Vision and Touch in Perceiving Object Softness**
Antoine Widmer, Yaoping Hu

75.3 **Real-Time Performance Analysis of Hand Writing Rehabilitation Exercise in Haptic Virtual Reality**
Youn K. Kim, Xiaoli Yang

S76: Novel Applications

Chair: Bruce F. Cockburn
University of Alberta
Room: Parksville
Time: Wednesday, 10:30am-12:10pm

76.1 **Quantitative Evaluation of Low Density Parity Check Convolutional Code Encoder and Decoder Algorithms for the XInC MIMD Multithreaded Microprocessor**
Xin Sheng Zhou, Bruce F. Cockburn, Stephen Bates

76.2 **Improvements of VQ Compression Algorithm for Parallel Systems**
Akiyoshi Wakatani

76.3 **Performance Evaluation of NS-2 Simulator for Wireless Sensor Networks**
Yunjiao Xue, Ho Sung Lee, Ming Yang, Priyantha Kumarawadu, H. H. Ghenniwa, W. Shen

76.4 **A Technology-Independent Logarithmic Converter IP Block**
Daniel Teng, Song Hu, A. Dinh

76.5 **A Decision Support System for Filtering and Analysis of Carbon Dioxide Capture Data**
Robert Harrison, Yuxiang Wu, Hanh Nguyen, Xiongmin Li, Don Gelowitz, Christine W. Chan, Paitoon Tontiwachwuthikul

S77: Multi-Agent Systems

Chair: Yingxu Wang
University of Calgary
Room: Port Hardy
Time: Wednesday, 10:30am-12:10pm

77.1 **A Python-based MPI Framework for Exploring an Adaptive Fuzzy-agent Approach to Simulating Large-scale Non-cooperative Games**
Eamon Millman, C. Budakoglu, Stephen W. Neville

77.2 **Attitude Dynamics and Control of Satellites Orbiting Rotating Asteroids**
K. D. Kumar, M. Shah

77.3 **A Swarm Optimizer Based on Multi-Criterion Decision Making, part II: Case study**
A. I. EL-Gallad, Mohamed E. El-Hawary

77.4 **Toward a Society Oriented Approach for Fault Handling in Multi-Agent Systems**
Maryam Ashoori, Majid Nili, Chunyan Miao, E. S. Goh

S78: Formal Verification

Chair: TBD
TBD
Room: Port Alberni
Time: Wednesday, 10:30am-12:10pm

78.1 **Formal Verification of a Pipelined Cryptographic Circuit Using Equivalence Checking and Completion Functions**
Chiu Hong Lam, Mark D. Aagaard

78.2 **Pipeline Design and Verification in Bluenose II**
Ca Bol Chan, Vlad Ciubotariu, Mark D. Aagaard

78.3 **Distributed Intervals: A Formal Framework for Information Granulation**
Hooman Tahayori, Witold Pedrycz, Giovanni Degli Antoni

78.4 **Formal Verification of System Level Designs: A GSM Vocoder Case Study**
Ghiath Al Sammane, Otmane Ait Mohamed

78.5 **Formal Verification of Mutual Exclusion between the Guards of Deterministic Choice Structures**
M. Boubekeur, K. L. Man, M. P. Schellekens

S79: Power Systems-VI

Chair: Jose Marti
University of British Columbia
Room: Port McNeill
Time: Wednesday, 10:30am-12:10pm

79.1 **Power System Harmonic Analysis in the Frequency Domain**
K. W. Louie, P. Wilson, R. Mazur, K. Kent, H. W. Dommel, Jose R. Marti

79.2 **A New Way to Represent Unified Power Flow Controllers in Power Flow Studies**
K. W. Louie, P. Wilson, A. Wang

79.3 **Aggregation of Induction Motors in a Power System Based on Some Special Operating Conditions**
K. W. Louie, Jose R. Marti, H. W. Dommel

79.4 **A New Wind Power Plant Simulation Method to Study Power Quality**
Roohollah Fadaeinedjad, Gerry Moschopoulos, Mehrdad Moallem

79.5 **Control of a High-Inertia Flywheel as part of a High Capacity Energy Storage System**
Chris Chapelsky, John Salmon, Andy Knight

S80: Sensors and Actuators

Chair: Edmond Cretu
University of British Columbia
Room: Junior Ballroom A
Time: Wednesday, 1:40pm-3:20pm

80.1 **Characterization of Work and Power Efficiency of Micromachined Polymer Thermal actuators**
Dan Sameoto, M. Hamidi, M. Parameswaran

80.2 **A Fault-Tolerant Active Pixel Sensor for Mitigating Hot Pixel Defects**
Jozsef Dudas, Cory Jung, Michelle M. La Haye, Glenn H. Chapman

80.3 **Corrugated Metal Bragg Grating Assisted Integrated Planar Waveguide Surface Plasmon-Polariton Based Sensor**
Galina Nemova, Raman Kashyap

80.4 **Sensor System for Crack Initiation and Crack Growth Monitoring in Aero-engine Components**
Amar Kumar, Amiya Nayak, R. El-Masri, Xijia Wu, Wieslaw Beres, Prakash C. Patnaik

80.5 **The Implementation of Poisson Field Analysis within FLUENT to Model Electrostatic Liquid Spraying**
Shaoxing Zhao, Kazimierz Adamiak, G.S. Peter Castle

S81: Multi-Dimensional Signal Processing-VI

Chair: Kunio Takaya
University of Saskatchewan
Room: Junior Ballroom B
Time: Wednesday, 1:40pm-3:20pm

81.1 **Depth Measurement and 3D Metric Reconstruction from Two Uncalibrated Stereo Images**
Hendrika Kuffar, Kunio Takaya

81.2 **Scale-Space Feature Detection for Close Range Camera Calibration**
M. Kinsner, D. Capson, A. Spence

81.3 **Motion-Compensated Frame Prediction with Global Motion Estimation for Image Sequence Compression**
Kehua Jiang, E. Dubois

81.4 **Dumbbell Calibration for a Multi-camera Tracking System**
Yan Lu, Shahram Payandeh

81.5 **Performance Evaluation of Similarity Metrics for Stereo Correspondence Problem**
Bahador Khaleghi, S. M. A. Shahabi, Ali Bidabadi

S82: Next Generation Wireless Circuits

Chair: Tadeusz Kwasniewski
Carleton Unversity
Room: Junior Ballroom C
Time: Wednesday, 1:40pm-3:20pm

82.1 **A High Performance VLSI Architecture for MIMO Detection in Future WLAN Receivers**
Ramin Shariat-Yazdi, Tadeusz Kwasniewski

82.2 **Challenges in the Design of Next Generation WLAN Terminals**
Ramin Shariat-Yazdi, Tadeusz Kwasniewski

82.3 **Broadband, Cost-Effective, and Power-Efficient DBM for Modern Wireless Applications**
U. L. Rohde, A. K. Poddar, A. P. Almeida, V. Ahmed

82.4 **Configurable Signal Source for Modern Wireless Applications**
U. L. Rohde, A. K. Poddar

82.5 **A Novel Stubs-Tuned Planar Resonator based Low Noise Signal Source for Wireless Communication Systems**
U. L. Rohde, A. K. Poddar

S83: Process Control

Chair: Meeko Oishi
University of British Columbia
Room: Junior Ballroom D
Time: Wednesday, 1:40pm-3:20pm

83.1 **Optimization of a Fuel-Cell EV Air-Conditioning System**
C.P. Lawrence, M. M. A. Salama, R.A. El Shatshat

83.2 **Statistical Process Control of Olfactometer Temperature**
Ying Zhang, A. Ben Hamza, Yong Zeng

83.3 **Abnormal Process Condition Prediction (Fault Diagnosis) using G2 Expert System**
Cen Nan, Faisal Khan, M. Tariq Iqbal

83.4 **Air Supply State Model for a Proton Exchange Membrane Fuel Cell Control**
N. Hassanaly, K. Agbossou, Y. Dub, K. P. Adzakpa

S84: Real Time Systems

Chair: M. Omair Ahmad
Concordia University
Room: Parksville
Time: Wednesday, 1:40pm-3:20pm

84.1 **Dynamically Reconfigurable Adaptable Multi-Module Based Synthesis of DSP Data Flow Graphs**
Awni Itradat, M. O. Ahmad, Ali Shatnawi

84.2 **EDF Feasibility Analysis of Accelerated Tasks**
Andrew Morton, Wayne M. Loucks

84.3 **Evaluating the Performance of CSB+-Trees on Multithreaded Architectures**
Layali K. Rashid, Wessam M. Hassanein

84.4 **Petri Net Reduction**
Calin Costea, Bogdan Groza, Damian Costea, Voicu Groza

S85: Advanced Topics

Chair: David E. Dodds
University of Saskatchewan
Room: Port Hardy
Time: Wednesday, 1:40pm-3:20pm

85.1 **Synchronization of Weak Indoor GPS Signals with Doppler using a Segmented Matched Filter and Accumulation**
Bruce Tang, David E. Dodds

85.2 **Design Issues for Sensor Network RF Receivers**
James W. Haslett, Sebastian Magierowski

85.3 **A Novel Chaos-based Transceiver Solution with High Data Rate Capability**
D. Majumdar, H. Leung, Brent J. Maundy

85.4 **A Comparative Study of Power Amplifier's Sensitivity To Mismatched Load: Single Branch vs. Doherty Architectures**
Nissar Messaoudi, O. Hammi, J. Sirois, Slim Boumaiza, F. M. Ghannouchi

85.5 **Stochastic Power Allocation with Outage-Expectation Constraints in Lognormal Fading Wireless Channels**
Kan-Lin Hsiung

S86: System Development-II

Chair: Behrouz H. Far
University of Calgary
Room: Port Alberni
Time: Wednesday, 1:40pm-3:20pm

86.1 **Fault Tolerance and Testable Software Security: A Method of Quantifiable Non-Malleability with Respect to Time**
Dave B. Sharp, Amiya Nayak, Nita Goel

86.2 **On Moving Test-Driven Development from the Business World into a Biomedical Engineering Environment**
Juan Qiao, James Miller, Michael Smith

86.3 **A Multiagent Coalition Support Tool for Collaborative and Dynamic Roles**
Nora Houari, Behrouz H. Far

86.4 **Improving Project Performance with Role Driven Computational Support System**
Nora Houari, Behrouz H. Far

86.5 **Tools for Industrial Knowledge Modeling and Management**
Robert Harrison, Christine W. Chan

S87: Power Systems-VII

Chair: Adel M. Sharaf
University of New Brunswick
Room: Port McNeill
Time: Wednesday, 1:40pm-3:20pm

87.1 **Electromagnetic Transient Simulation of a Back-to-Back Voltage Source Converter Based Transmission Scheme**
M. M. Zakaria Moustafa, Shaahin Filizadeh

87.2 **Design and Compliance of Frequency Drifting Islanding Detection Methods with the IEEE Standard 1547.1**
Yongzheng Zhang, Luiz A.C. Lopes

87.3 **Novel Control Strategies using Load Matching for Maximum Photovoltaic Energy Utilization**
Ismail H. Altas, Adel M. Sharaf

87.4 **Novel STATCOM Controller for Reactive Power Compensation in Distribution Networks with Dispersed Renewable Wind Energy**
Adel M. Sharaf, Weihua Wang, Ismail H. Altas

87.5 **Impact of Wind Power Growth on Wind Capacity Value**
Rajesh Karki, Po Hu

S88: Speech Processing

Chair: M. Omair Ahmad
Concordia University
Room: Junior Ballroom A
Time: Wednesday, 3:40pm-5:30pm

88.1 **An Approach for Pitch Estimation from Noisy Speech**
C. Shahnaz, W. P. Zhu, M. O. Ahmad

88.2 **Further Analysis of the beta-Order MMSE STSA Estimator for Speech Enhancement**
Eric Plourde, Benoit Champagne

88.3 **Modified Linear Discriminant Analysis for Speech Recognition**
Xiao-Bing Li, Douglas O'Shaughnessy

88.4 **Classification of Speech Degradations at Network Endpoints using Psychoacoustic Features**
Hua Yuan, Tiago H. Falk, Wai-Yip Chan

88.5 **Recognition of Phonemes in a Continuous Speech Stream by Means of PARCOR Parameter in LPC Vocoder**
Ying Cui, Kunio Takaya

S89: Signal Processing for Communications

Chair: Wai-Yip Geoffrey Chan
Queen's University
Room: Junior Ballroom B
Time: Wednesday, 3:40pm-5:30pm

89.1 **MIMO Wireless Channel for Video Communications using Distributed Video Coding**
K. Muraleetharan, W.A.C. Fernando, W.A.R.J. Weerakkody, R.M.A.P. Rajatheva

89.2 **Application of Six-Port Receiver for OFDM Signals**
Munir Arshad, Jean-Francois Frigon, Yanyang Zhao, Renato Bosisio

89.3 **Minimizing Recurrent Handoff Delays in MIPv6**
May Siksik, Hussein Alnuweiri, Saif Zahir

S90: Advances in Control System

Chair: Meeko Oishi
University of British Columbia
Room: Junior Ballroom C
Time: Wednesday, 3:40pm-5:30pm

90.1 **Towards Switched Control Under Input and State Constraints**
Meeko Oishi

90.2 **The Auxiliary Extended and Auxiliary Unscented Kalman Particle Filters**
Laurence Smith, Victor Aitken

90.3 **Development of a Fuzzy-Based Sit-To-Stand Controller**
R. Prinz, Stephen W. Neville, N. J. Livingston

90.4 **Simultaneous Reliable H Stabilization using a Multi-Controller Configuration**
Peng Hin Lee, Yeng Chai Soh

S91: Advanced Circuits

Chair: Anh Dinh
University of Saskatchewan
Room: Junior Ballroom D
Time: Wednesday, 3:40pm-5:30pm

91.1 **Using Keeper Control and Body Bias for Fine Grained Threshold Voltage Compensation in Dynamic Logic**
Navid Azizi, Farid N. Najm

91.2 **Low-Voltage Single-Phase Clocked Quasi-Adiabatic Pass-Gate Logic**
Edward K. Loo, Harry I. Chen, James B. Kuo, Marek Syrzycki

91.3 **Flexible Ultra Low Power Successive Approximation Analog-to-Digital Converter with Asynchronous Clock Generator**
Rafal Dlugosz, Vincent Gaudet, Kris Iniewski

91.4 **An Extreme Low Power Galois Field Inversion Circuit**
Anh Dinh, Daniel Teng, Bi Pham

91.5 **Optimized Design Methodology for an Integration of Electrical Control Systems**
Y. Kebbati, H. K. Souffi

S92: Advanced Technologies

Chair: Tadeusz Kwasniewski
Carleton Unversity
Room: Parksville
Time: Wednesday, 3:40pm-5:30pm

92.1 **A 40-GHz Quadrature LC VCO in 90-nm CMOS Technology**
Muhammad Usama, Tadeusz Kwasniewski

92.2 **Fabrication and Characterization of Nickel Amorphous Silicon Metal-Semiconductor-Metal Photoconductors**
Farhad Taghibakhsh, Karim S. Karim

92.3 **Exposure and Development of Poly (methyl methacrylate) using 254nm Light Source and IPA/water**
Robert W. Johnstone, Ian G. Foulds, M. Parameswaran

92.4 **Triple-Threshold Static Power Minimization Technique in High-Level Synthesis for Designing High-Speed Low-Power SOC Applications Using 90nm MTCMOS Technology**
Harry I. Chen, Edward K. Loo, James B. Kuo, Marek Syrzycki

92.5 **EM Methods for Full-Wave Characterization of Microwave Integrated Circuits**
M.C.E. Yagoub, M.L. Tounsi, T.P. Vuong

S93: Reconfigurable Embedded Systems

Chair: Susan Xu
CMC Microsystems
Room: Port Hardy
Time: Wednesday, 3:40pm-5:30pm

93.1 **A Methodology for Prototyping Flexible Embedded Systems**
John Sachs Beeckler, Warren J. Gross

93.2 **A Flow for Self-Reconfigurable Embedded Architectures and Co-Design Environments**
Ricardo Villalobos Guevara, Arkan Khalaf, Voicu Groza

93.3 **A Comparison of Profiling Tools for FPGA-Based Embedded Systems**
Jason G. Tong, Mohammed A. S. Khalid

93.4 **Optimization of HW/SW co-design: Relevance to Configurable Processor and FPGA Technology**
Susan Xu, Hugh Pollitt-Smith

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- Circuits, Devices and Systems
  Chair: Stefano Gregori, U. Guelph
- Control and Robotics
  Chair:K. Hashtrudi-Zaad, Queens Univ.
- Emerging Areas
  Chair:Shahram Shahbazpanahi, UOIT
- Communications and Networking
  Chair: Murat Usyal, U. Waterloo
- Computer Systems and Appl's
  Chair: Eddie Law, Ryerson Univ.
- Power Electronics and Systems
  Chair: Bin Wu, Ryerson Univ.
- Signal and Multimedia Processing
  Chair: Vijay Parsa, U.W. O.

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Please submit full length paper(s) to the Technical Program Committee using the on-line submission process on our web site at http://www.ccece08.org before December 7, 2007. Click on "Call For Papers" and follow the instructions provided.

Tutorial and Workshop Proposals Submission

Proposals for half-day tutorials and workshops should be submitted before December 7, 2007 to the Tutorials Chair at "xavier@ieee.org".

Important Dates

Full length paper must be received by:	Friday, December 7, 2007
Special Session proposals must be received by:	Friday, December 7, 2007
Notification of acceptance will be sent out by:	Friday, January 18, 2008
Author's Registration ends by:	Friday, March 7, 2008
Advance Registration ends by:	Friday, April 4, 2008

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La conférence canadienne de génie électrique et informatique édition 2008 (CCGEI 2008) aura lieu à Niagara Falls, Ontario, Canada du 4 au 7 Mai. CCGEI 2008 est un forum où les Recherches et Développements en Génie Électrique et Informatique élaborés au Canada et dans le reste du monde sont exposés. Il y aura huit mini recueils d'articles et les papiers pourront être présentés aussi bien en Français qu'en Anglais. La liste des thèmes inclue les thèmes suivants. Cette liste n'est pas exhaustive.

- Biomedical Engineering
  Prés. : Karthi Umapathy, UHN-Toronto
- Circuits, Devices and Systems
  Prés. : Stefano Gregori, U. Guelph
- Control and Robotics
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Soumission d'une proposition de tutorial et d'atelier

Les propositions pour une demi-journée de tutorial et d'ateliers devraient être soumises avant le 7 Décembre 2007 au Tutorials Chair à l'adresse "xavier@ieee.org".

Dates importantes

Date limite d'envoi d'article complet, le :	Vendredi 7 Décembre 2007
Date limite de proposition de session spéciale, le:	Vendredi 7 Décembre 2007
Date d'annonce des résultats, le:	Vendredi 18 Janvier 2008
Date limite d'inscription des auteurs, le :	Vendredi 7 Mars 2008
Date limite d'inscription, le :	Vendredi 4 Avril 2008

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