

IEEE Southern Alberta Section

Upcoming Talks 2-3

Trends in Telecommunication Industry By: Celia Desmond	23rd Canadian Conference on Electrical and Computer Engineering	IEEE/ WCRS Western Canadian Robot Games
Methods and Techniques for Multimodal Information Fusion By: Ling Guan		

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“Evolution of Theory:
Bringing Theory and
Technology into
Application”

23rd Canadian Conference on Electrical and
Computer Engineering

May 2-5, 2010

<http://www.ieee.ca/ccece10/>

Contact Mahmoud (Maz) Mazadi (mmazadi@ucalgary.ca)
for feedback and submissions for future newsletters.

Communications, Microwave Theory & Techniques, and Antenna & Propagation Chapter
IEEE Southern Alberta Section

Trends in the Telecommunications Industry

Speaker: Celia Desmond
President, World Class Telecommunications
Mississauga, Ontario, Canada

Date: April 29, 2010 Time: 5pm - 6.30 pm
Place: TRILabs (120, 7777 - 10 Street NE, Calgary, T2E 8X2)
Cost: Free (Pizza and Pop will be provided)

Abstract: This talk is an overview of the recent environment of voice, data and multimedia communications industry. Everyone is aware that the communications industry, which includes traffic that is voice, data and other media, grew by leaps and bounds in the 1990's, providing wonderful opportunities for many business people and entrepreneurs. Then the bottom fell out of the market.

Many companies failed, merged or formed joint ventures. Even amongst these there has been more churn than analysts can follow. Additional uncertainty was, and still is, caused by the evolution of emerging competitive technologies, such as Voice over IP, allowing people to use internet for voice calls, and adding further to the woes of the traditional telephone companies, since the models used for internet rates did not generate the same level of revenue for such calls. It remains to be seen which technologies and which companies will survive. There is also growth in many internet applications.

Engineers and other creative designers are introducing new services almost daily, and many of these are also becoming very popular. However this growth alone cannot sustain the industry, because the revenues produced by these services are low. The internet culture was one of offering free service, with generally low quality, which is diametrically opposed to the telecom culture. Users are showing that they are willing to pay for these services, but this change is slow in coming. Services such as voice over IP, electronic commerce, and social networking do appear to have a solid future, and these services, along with mobile communications, will help the industry to recover.

The nature of the telecom industry has changed, and will continue to evolve. There are numerous opportunities for people who understand the new types of services, but they must come with the right skills. This talk illustrates the need for strong management skills to accompany the technical skills engineering typically bring to the industry.

Biography: Celia Desmond, President of World Class Telecommunications, which provides training in telecommunications management, has lectured internationally on programs for success in today's changing environment. As a Director at Stentor Resource Center Inc., she was instrumental in establishing culture and new processes for service/product development and for project governance. At Bell Canada, Celia provided strategic direction to corporate planners, ran technology/service trials, standardized equipment, and provided technical and project management support to large business clients. She has held numerous senior management positions at IEEE including Project Director for Certification in Wireless Engineering Technology for IEEE, managing a team of over 100 people in 8 different development areas, Director and Secretary of IEEE, IEEE Vice President – Technical Activities, President of IEEE Communications Society. President of IEEE Canada, and Region 7 Director, Division III Director, and IEEE Canada Foundation Board member and previous Donations Chair. Celia holds MSc. Engineering, B.Sc. Mathematics & Psychology, Ontario Teaching Certificate and PMP certification. Celia has taught kindergarten, high school, and university at Ryerson School of Business, Stevens Institute of Technology, and University of Toronto. She is author of Project Management for Telecommunications Managers (Springer). Her pocket book Project Management for Telecommunications Projects is expected to be published by Wiley in 2009.

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 Dr. Siva Muruganathan (sdmuruga@ucalgary.ca)
 Mr. Stephen Lai (swlai@ucalgary.ca)

Co-sponsored by:   



Methods and Techniques for Multimodal Information Fusion

Prof. Ling Guan, PhD, FIEEE, FCAE, FEIC, CRC
Dept. of ECE, Ryerson University, Canada

The rapidly developing world of digital technologies continues to profoundly change the way we access information and communicate. These technologies can affect learning and education, accessing services, conducting business and creating entertainment, creating new media artworks, and providing health-care. As the digitization and encoding of data become more affordable, computers and web-based database systems store and manipulate voluminous digital data from multiple sensors or multimodal data sources. However, our ability to deal with information from different sources coherently has not kept pace.

This lecture will begin with a comparison of information systems using unimodal sources and those using multimodal sources from an information theoretic viewpoint. Practical examples will be discussed to illustrate the importance of fusion of multimodal data in our everyday life. The three levels of information fusion will be covered: feature level, score level and decision level. The pros and cons of each of these three will be discussed. Feature level fusion combines the features extracted from the source data; it is a simple approach and may suffer from “curse of dimensionality.” With a proper normalization scheme, fusion at score level may provide satisfactory results by combining the scores generated from multiple classifiers using multiple modalities. Decision level fusion generates final results based on the decisions from multiple modalities or classifiers using methods such as majority voting.

We will then turn to the design of multimodal fusion systems, which is critically dependent on the characteristics of data as well as the requirement of the application. For example, a multimodal biometric system can utilize the physical traits such as face, fingerprint, and behavioral (gaits and emotion) in isolation or through a combination. We will highlight the sets of points that need to be considered in designing fusion systems, such as, information sources, feature extraction method, fusion level and architecture, and if any background knowledge needs to be embedded.

Several cases in multimodal fusion will be presented, including a) Image/video retrieval; b) Human emotion/intention recognition; c) Fusion of complimentary information for robust speech recognition; and d) Integration of information from emotion, gait, and hand gestures to help elderly and physically disabled people in community houses or their homes.

IEEE Distinguished Lecture
The University of Calgary, ICT 516, 11:00am–12:00pm, April 30
Sponsored by IEEE SAS – CAS



23rd Canadian Conference on Electrical and Computer Engineering



**May 2-5, 2010, Telus convention center & Marriot Hotel
Calgary, Alberta,
Canada**



You are invited to participate in the 23rd Annual Canadian Conference on Electrical and Computer Engineering (CCECE) to be held at the TELUS Convention Centre in Calgary Alberta, Canada. As a modern city, Calgary is a blend of urban sophistication, old west charm, hospitality and new world convenience.

Our parks offer some of the finest natural areas in North America. Our shopping is a paradise - we are the only province in Canada with no provincial sales tax. Our dynamic arts scene will indulge your passion for culture. Our western heritage and legendary hospitality will make you feel welcome.

CCECE provides researchers, students, and practicing professionals in the area of Electrical and Computer Engineering with a Canadian venue in which they can present the latest technological advancements and discoveries. It is also a valuable opportunity to network, exchange ideas; strengthen existing partnerships and foster new collaborations. CCECE 2010 will feature papers presented from a broad range of areas in Electrical and Computer Engineering. There will be tutorial sessions in leading topics, plenary talks from senior executives in industry and academia, special sessions on hot topics, social programs, the IEEE Canada Awards and Banquet night, best student paper awards luncheon, and industrial exhibitions.

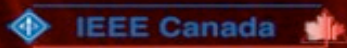
You are invited to participate in CCECE 2010 by submitting your original research results as a full length technical paper, by submitting tutorial proposals, by organizing a special session, or by attending the plenary talks, tutorials, panel discussions and technical sessions planned for May 2 - 5, 2010. Information on submission of technical papers, tutorial proposals, special sessions proposals are in the we blinks of the main conference website. The deadline to receive papers and tutorial proposals is Friday, January 8, 2010.

We look forward to seeing you in Calgary for the conference.

Best wishes

CCECE 2010 Organizing Committee

More information can be found at: <http://www.ieee.ca/ccece10/>



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Computer Chapter of the IEEE South Alberta Section (SAS)**Report for SAS newsletter****2009-2010**

As the Computer Chapter Chair of the IEEE South Alberta Section (SAS), it is my pleasure to provide an annual report for the chapter's events from April 2009 to April 2010.

Our chapter has been actively organizing events throughout this period. We had 8 events in 2009 and have had 3 events in 2010 so far.

2009:

1. June 17: High-Performance Reconfigurable Computing, by Dr. Paul Chow from the University of Toronto
2. June 18: Windows 7 Security, by Mr. Kai Axford from Microsoft USA
3. September 22: Are you ready for Windows 7?, by Mr. Stephen Rose, Worldwide Community Manager for Windows Client OS, Microsoft USA
4. October 13: Methodologies for Optimizing Linux Server Performance, by Dr. Sandra Johnson, IBM USA (this talk was part of the IEEE Distinguished Visitors Program)
5. October 14: Providing Improved Access to Virtual Information, by Dr. Sandra Johnson, IBM USA (from the IEEE Distinguished Visitors Program)
6. October 22: New Generation of Real-Time Monitoring and Control Software, by Matt Eskandar, MR Control Systems International, Calgary
7. October 26: Maturation of Software Engineering as a Discipline and Recognized Profession, by Dr. Pierre Bourque, École de Technologie Supérieure, Montreal (from the IEEE Distinguished Visitors Program)
8. October 27: Estimating Effort and Duration of Software Projects, by Dr. Pierre Bourque, École de Technologie Supérieure, Montréal IEEE Distinguished Visitors Program (from the IEEE Distinguished Visitors Program)

2010

1. January 21: The Next Generation in Software Estimation, by Mr. Brian Donaldson, Co-founder, Quadrus Software Development Inc., Calgary
2. February 2: Windows 7 Deployment Deep Dive, by two folks from Microsoft Canada
3. April 7: Microsoft EnergizeIT (covering hand-on development techniques for Windows Azure, Office System 2010, Visual Studio 2010, and Windows Phone 7), Rodney Buike and John Bristowe, Microsoft USA

We are now planning several exciting upcoming events that, once finalized, will be posted in the chapter website: <http://sas.ieee.ca/computer/>. We look forward to seeing many of the local IEEE Computer Society Members in our events!

Also, I hereby would like to sincerely thank Christian Wiederseiner (our webmaster and also event co-organizer) for his help in the organization of our events.

Vahid Garousi, PhD, PEng

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Vacant position in the Computer Chapter of the IEEE South Alberta Section (SAS)

Vice Chair

Posted: April 16, 2010

The Computer Chapter is seeking an energetic IEEE member in the section (preferably in the Calgary area) to serve as the chapter's vice chair. The duties of this position mainly included enhancing the connection with the Computer Society members in South Alberta and also helping in organization of events of interest to the members (e.g., workshops). Note that, similar to other IEEE regional executive positions, this is a volunteer position.

Please contact the chapter chair if you are interested in this position: vgarousi@ucalgary.ca

