Message from the chair

Dear IEEE Member,

In preparation to mark our centennial year, the first Centennial Committee meeting was held on January 22. In attendance were many of the current and former Section volunteers and executives as well as many student branch executives and volunteers.

The Centennial Committee members who participated in the first meeting were: Jose Marti, Chris Siggers, Hermann Dommel, Charlie Henville, Meliha Selak, Gruja Blagojevic, Nick Keenan (remotely), Pieter Botman, Ljljiljana Trajkovic, Mazana Armstrong, Kouros Goodarzi, Alon Newton, Steven McClain, Zahra Ahmadian, Tristan Crees, Frankie Angai (UBC), Harshul Srivastava (UBC), Jennie Bharaj (UBC), Michelle Siu (UBC), Shruti Kapoor (UBC), Duncan Chan (SFU), Mohammad Akhlaghi (SFU), Homa Eghbali (SFU), Koji Otomo (BCIT), William Tigor (BCIT), Mas Ho (BCIT), Christan Beharrell (BCIT), Coco Sun (BCIT), Jodie Vigar (BCIT). Fiorenza Albert-Howard, Aryan Navabi, Nina Selak and Patrick Sandi have joined our centennial preparation efforts since January 22.

Some special centennial related projects currently being planned by the Centennial Committee include: • Special centennial celebration gala and AGM with prominent speakers • Special technical symposium · Creation of a permanent display or monument • Compilation of IEEE Vancouver historical records • Creation of a permanent centennial booklet • Creation of an IEEE Vancouver centennial website • Recognition of past members and leaders of IEEE Vancouver · Recognition of long standing and historical corporate supporters and sponsors • Recognition of IEEE Vancouver by the city and province • Special student project competition • New IEEE Vancouver logo and centennial slogan… and many others

The search for historical Section documents started by retrieving and examining the records preserved by Mr. Chris Siggers. BCIT student branch organized the examination of the records on February 12. They were accompanied by the participants from UBC and the section chair. Valuable documents were retrieved and scanned dating back to 1960s.

For most recent updates on the centennial efforts please visit our new website http://vancouver.ieee.ca/centennial. Please contact me at mazana.armstrong@ieee.org if you would like to share any IEEE related historical facts and documents and help our centennial initiatives.

On behalf of the section executive and our members, I would like to sincerely thank all the volunteers who are helping with the preparations to mark this important year in our history. I look forward to seeing everyone at the upcoming Centennial Celebration Gala and AGM on March 12.

Mazana Armstrong
IEEE Vancouver Chair, Centennial Committee Chair
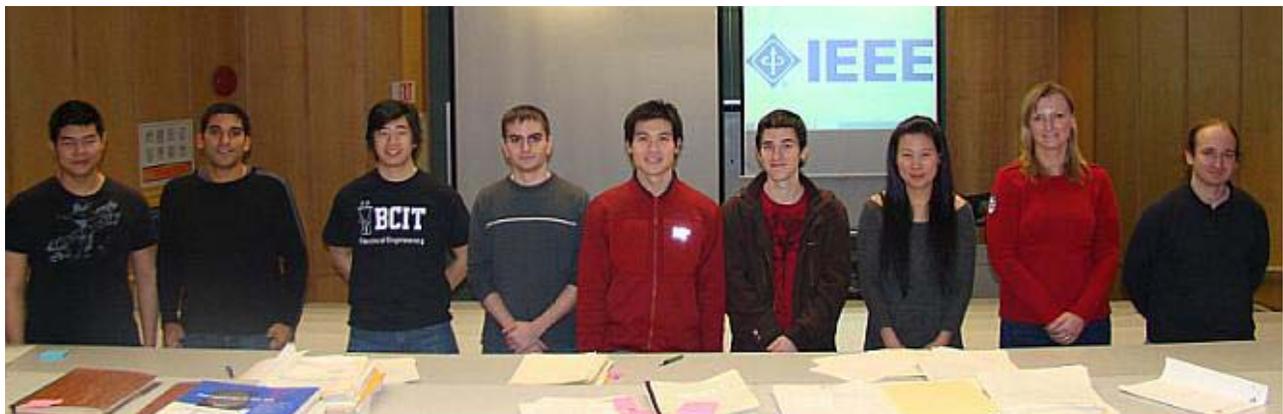
Centennial History Search subcommittee members left to right: Frankie Angai and Aryan Navabi (UBC), Koji Otomo, Jodie Vigar, William Tigor, Christopher Morrissey and Coco Sun (BCIT), Mazana Armstrong and Patrick Sandi (BCIT)

20th IEEE international symposium on applications of ferroelectrics and International symposium on piezoresponse force microscopy & nanoscale phenomena in polar materials (ISAF-PFM-2011)

Vancouver
July 24 to 27, 2011

http://www.sfu.ca/isaf-2011/ or http://www.sfu.ca/pfm-2011/

ISAF-2011 is part of a series of international conferences administrated by the Ultrasonics, Ferroelectrics and Frequency Control (UFFC) Society of the Institute of Electric and Electronic Engineers (IEEE). It is aimed to provide a forum to present and discuss the state-of-the-art developments in the field of ferroelectrics and related materials and their applications, including theory and modeling, materials preparation and characterization and device physics and processing. A special session will be devoted to relaxor-based high-performance piezoelectric single crystals.

PFM-2011 will feature tutorials on the principles and applications of PFM to ferroelectric and multiferroic materials, as well as new areas of PFM applied to strongly correlated oxides, energy storage and conversion materials, point defects and nanoionics. The recent advances in imaging of conventional ferroelectrics and polar materials as well as time and voltage spectroscopy of static and dynamic domain structures will be presented.

The joint ISAF-PFM-2011 Conference will feature the following plenary speakers:
- Akira Ando (Murata Manufacturing Company, Japan)
- Stuart Foster (University of Toronto, Canada)
- Steve Pennycook (Oak Ridge National Lab., USA)
- Ramamoorthy Ramesh (University of California, Berkeley, USA)

- Alexander Tagantsev (Ecole Polytechnique Fédérale, Switzerland)
- Zhong Lin Wang (Georgia Institute of Technology, USA)
- Dragan Damjanovic (EPFL, Switzerland, IEEE Distinguished Lecturer)

Joint ISAF-PFM Short Courses will be offered by the following tutors on Sunday, July 24, 2011:
- Alexei Gruverman (University of Nebraska-Lincoln)
- Sergei V. Kalinin (Oak Ridge National Laboratory)
- Petro Maksymovytch (Oak Ridge National Laboratory)
- Paul Reynolds (Weidlinger Associates, Inc.)
- Susan Trolier-McKinstry (Penn State University)

Poster Competitions will be organized and Poster Awards will be presented to the winning students.
Please note that the abstract submission is now open

More information can be found on the conference website at http://www.sfu.ca/isaf-2011/ or http://www.sfu.ca/pfm-2011/

Contact information
Zuo-Guang Ye
isaf-pfm-2011@sfu.ca

IEEE ULTRASONICS, FERROELECTRICS, AND FREQUENCY CONTROL SOCIETY   **◆IEEE**

IEEE Vancouver centennial – logo and slogan competition

IEEE Vancouver section has organized two competitions as part of the its centennial celebration. The section is celebrating its centennial throughout 2011, beginning with a special kickoff to be held at its AGM on March 12.

As part of the celebration, the section is encouraging submissions for a new logo for IEEE Vancouver. Although the competition is being held as part of the centennial celebration, the logo being sought is to be a permanent logo, not a specialized centennial logo. The second competition is for an IEEE Vancouver slogan. The winning slogan may be used in conjunction with the logo, and should therefore be short. The slogan may refer to the centennial, as it does not have to be a permanent slogan.

All IEEE Vancouver members are eligible to submit entries for both competitions. Entries for both competitions must be submitted by March 11. Finalists for both competitions will be selected by a panel of judges, and will be announced at the AGM on March 12. The finalists will then be published on the centennial website and in the Contact newsletter. All IEEE Vancouver members will then be able to vote on the finalists. Voting will be done on-line on the centennial website. The winning logo and slogan will be announced during one of the upcoming centennial events. The submitter of the winning logo will receive recognition and a special prize in appreciation for their contribution. For additional Information about the centennial celebration, and these two competitions, please visit:
http://vancouver.ieee.ca/centennial

LogoMath 101 theorem - The Institute of Radio Engineers plus the American Institute of Electical Engineers equals the Institue of Electrical and Electronics Engineers

Proof:

Shifting the gear to 4G mobile networks: 3GPP Long Term Evolution (LTE)

Hossam Fattah
WiMatek Systems Inc

Monday 07 March
7:00 - 9:00pm

BCIT Burnaby campus
SW3-1750
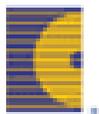
LTE is the most recent, viable, and turbo-speed 4G mobile network standard that is offering ubiquitous broadband services in excess of hundreds megabits per seconds. It is forecasted that the number of mobile broadband users worldwide is on track to surpass one billion users in 2011.

Internet on-the-go and growing data traffic are the main drivers for broadband services for both users and operators seeking revenue-driven technology. LTE is a new cellular technology that is widely expected to meet market and user expectation for mobile broadband services.

LTE provides several air interface enhancements such as seamless integration with existing cellular infrastructure, high throughput, low operational cost, multi-antenna support, enhanced system coverage, better frequency re-use and spectrum efficiency, scalable channel bandwidth, QoS support, and reduced user plane latency.

In this talk, we provide a close overview about the 3GPP Evolved UMTS Terrestrial Radio Access Network (E-UTRAN), known as LTE, its overall architecture, control and user planes, associated features, benefits, and how it brings improved user experience with full mobility into the cellular landscape.

Speaker: Hossam Fattah: He obtained his Bachelor degree, with Honor, from Al-Azhar University, Cairo, Egypt in 1995. He obtained his Masters and Ph.D., degrees both in Electrical & Computer engineering department from the University of Victoria and University of British Columbia, British Columbia, Canada in 2000 and 2003 respectively.

He is the recipient of Best-student and Presidential awards during his Bachelor and Masters Degrees respectively. In 2004, he worked as an assistant professor at Al-Azhar University, Cairo, Egypt where he taught different courses on networking and communication theory. He also worked as a wireless system consultant for designing and architecting different wireless protocol stacks for cdma2000, WiMAX Rev. D and Rev. E, and WiFi for different companies in North America and Europe.

Since 2007, he has been with WiMatek Systems Inc., Vancouver, Canada as a director and principal wireless systems architect, where he has been responsible for system design, implementation, and testing of the emerging broadband cellular standard, known as Long Term Evolution (LTE), for handheld mobile devices. His research interests are in the area of wireless communication systems, resource management and scheduling, cross-layer optimization, and wireless protocols.

He has many conference and journal publications, and a US provisional patent in LTE resource block scheduling. He is also the recipient of Best-paper award at the International Conference on Communications (ICC) in Dresden, Germany in 2009.

Information
Joint Communications
chair Alon Newton
alon.newton@gmail.com

IEEE COMMUNICATIONS SOCIETY

The Joint Communications chapter of IEEE Vancouver

representing the following IEEE societies
 • Broadcast Technology
 • Communications
 • Information Theory
 • Intelligent Transportation Systems
 • Photonics
 • Vehicular Technology
is seeking a volunteer to take on the position of Vice Chair

For your chance to share the excitement of volunteering in one of the most active chapters in IEEE Vancouver history - do it now - be first to email Joint Communications chair Alon Newton at anewton@ieee.org

IEEE Social Bowling Night
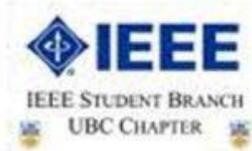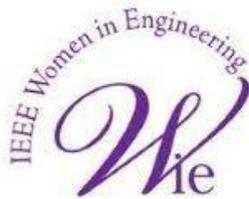
IEEE WIE, IEEE GOLD (Graduates of Last Decade) and UBC IEEE Student Branch present the first jointly organized Bowling night social event

Thursday 03 March
19:00 - 21:00
Varsity Ridge Bowling
2120 W. 15th Avenue
Vancouver

$ 5 WIE, GOLD and Student members
$ 8 Non-member guest of an IEEE member

Networking nights can be fun as well.

Join us for a chance to mingle with other WIE members, recent graduates and IEEE student members.

6:45 - 7:00 Registration
7:00 - 7:15 Welcome remarks and forming teams
7:15 - 9:00 The Game and Pizza

Registration
http://meetings.vtools.ieee.org/meeting_view/list_meeting/5233

Developing your leadership brand

Your leadership brand is what you are known for - your reputation, your strengths, your principles - what distinguishes you from others. By deliberately creating a brand that represents what you want to be known for, you don't have to live with a brand that others have developed for you.

In this session, you will learn about the importance of branding to your success as a professional and as a leader and how to begin the process of defining your own leadership brand.

Speaker: Dr. Tara Cree is a Principal and National Capability Lead for Coaching with Knightsbridge Human Capital in Vancouver. Prior to joining Knightsbridge, she held senior consultant positions with a multi-national leadership development firm and two multi-national human resource consulting firms; and was the Executive Director of small consulting group. During this time she partnered with leaders at all organizational levels across many business sectors including financial services, pharmaceutical, professional services, retail, healthcare, government, and utilities.

Tara combines her Ph.D. in Organizational Psychology with her background as a leadership specialist and organizational development advisor to consult with public and private sector clients on strategic leadership issues. She has identified and developed leadership talent at all levels – from emerging leaders to executives.

Tara is an experienced executive coach, team facilitator, and consultant. She has designed and delivered numerous leadership development programs that include group sessions and one-on-one coaching. The major focuses of Tara's work are helping leaders to develop their potential, building senior leadership teams, and constructing corporate leadership development programs. Tara received her M.A. and Ph.D. in Industrial-Organizational Psychology from the University of Guelph (Ontario) where she focused her research on organizational change. She has also completed the Core Essentials Graduate of Coach U.

Tara Cree
Knightsbridge

Wednesday 23 February
7 pm – 9 pm
SFU Harbour Centre
Rm 7000
515 W. Hastings, Van
Information
W I E chair
Zahra Ahmadian
zahraa@ece.ubc.ca
Tech Mgmt chair
Kouros Goodarzi
krs@ieee.org

Listening to the problem:
comparing and contrasting control engineering requirements

Greg Stewart
Honeywell

Friday 18 March   2pm

Kaiser 2020/2030
UBC

Information
Control Systems chair
Ryozo Nagamune
nagamune@mech.ubc.ca

CSS IEEE - Control Systems Society

The automotive industry and the process industry are two domains in which control engineering has played a transformative role over their respective histories. This talk will compare and contrast the two based on experience of the author in research, development, and commercial deployment of industrial paper machine control and the development of powertrain control for light and heavy duty vehicles.

Although both areas tend to have superficially similar problem statements – such as requiring a multivariable, nonlinear controller to work within actuator and output constraints while tolerating model uncertainty – the differences between the two industries have a strong influence over the types of technologies that may be developed. These contrasts may be quite dramatic and include:

A typical computing platform in the process industry may have 50-70 times the processor speed and 10,000 times the memory available for control than does a typical embedded computing platform in a modern engine. At the same time a single sensor on an industrial paper machine may cost 10,000 times as much as a typical automotive sensor.

In the automotive industry a single control structure and single set of tuning numbers may be used for a fleet of thousands of engines and these controllers are often never retuned over the lifetime of the fleet. In the process industry typically one may reconfigure and retune each controller as often as is required or desired.

Very often there is a dearth of plant knowledge available when beginning a process control problem and the designer may have access only to input actuators and output sensors. On the other hand, an automotive control problem often has well-specified components, additional sensors available for tuning, and possibly even existing simulations that were created en route to designing the engine itself.

In the process industries, one must frequently obtain model data and tune a controller on a running process in which there are financial consequences for producing off-spec product (although in rare cases pilot plants are available). In the automotive industries one is usually able to test controllers in the (relatively) consequence-free environment of an engine test cell.

The talk will discuss these and other points in detail and consider their impact on the various types of approaches that are currently used in industrial practice as well as the impact on advanced control technologies that are emerging in both areas.

Speaker: Greg Stewart received the B.Sc. degree in Physics in 1994 and the M.Sc. degree in Applied Mathematics in 1996 from Dalhousie University in Halifax, and the PhD degree from the Department of Electrical and Computer Engineering at the University of British Columbia in Vancouver, Canada in 2000.

He currently holds the position of Fellow in Honeywell Automation and Control Solutions and has held an Adjunct Professor appointment in the Department of Electrical and Computer Engineering at the University of British Columbia since 2000. He has served as Associate Editor for the IEEE Transactions on Control Systems Technology since 2005, and is appointed to the Board of Governors of the IEEE Control Systems Society for 2011.

His research interests are in the development and use of theory for industrial implementation of advanced control strategies. He holds 20 patents, has published more than 50 technical publications, and his designs reside on over 200 industrial installations Dr Stewart has received the IEEE Control Systems Technology Award, the IEEE Transactions on Control Systems Technology Outstanding Paper Award, an NSERC University-Industry Synergy Award for Innovation, and four Honeywell Technical Achievement awards.

ICICS-IEEE WORKSHOP ON FUTURE COMMUNICATIONS SYSTEMS

Formerly UBC-IEEE Workshop on Future Communications Systems

Friday 11 March - 8:00 am - 4:30 pm
Kaiser Building, UBC Campus

For complete information and registration
http://www.icics.ubc.ca/workshops/comm2011/index.html

Automated cross-browser compatibility testing

Ali Mesbah
UBC

Friday 25 February
3:30 pm

KAIS 2020
2332 Main Mall
(UBC Kaiser Building)

Information
Computer Chair
Sathish Gopalakrishnan
sathish@ece.ubc.ca

With the advent of Web 2.0 applications and new browsers, the cross-browser compatibility issue is becoming increasingly important. Although the problem is widely recognized among web developers, no systematic approach to tackle it exists today. None of the current tools, which provide screenshots or emulation environments, specifies any notion of cross-browser compatibility, much less check it automatically.

In this work, we pose the problem of cross-browser compatibility testing of modern web applications as a "functional consistency" check of web application behavior across different web browsers and present an automated solution for it. Our approach consists of automatically analyzing the given web application under different browser environments and capturing on a pairwise-basis and exposing any observed discrepancies. We validate our approach on several open-source and industrial case studies to demonstrate its effectiveness and real-world relevance.

Speaker: Ali Mesbah is an assistant professor of software engineering at the University of British Columbia (UBC). He received the PhD degree cum laude in computer science from Delft University of Technology in 2009. He was a software engineer at WEST consulting (2001-2005) and a researcher at the Dutch National Institute for Research in Mathematics and Computer Science (2005-2006). His main area of research is software engineering, with an emphasis on software testing and dynamic analysis of modern web-based systems. He is the recipient of an ACM SIGSOFT Distinguished Paper Award at the ACM/IEEE International Conference on Software Engineering (ICSE 2009).

IEEE computer society

Tackling concurrency bugs with hardware support

Arrvindh Shriraman
SFU

Wednesday 02 March
3:00 pm

KAIS 2020
2332 Main Mall
(UBC Kaiser Building)

Information
Computer Chair
Sathish Gopalakrishnan
sathish@ece.ubc.ca

Developing correct and reliable software remains a growing challenge. The advent of multicores has forced the entire software stack to adopt parallelism, which increases the likelihood of concurrency bugs. In this talk, I will mainly focus on my dissertation research which developed hardware mechanisms to observe memory accesses and protect accesses to critical shared data. I will demonstrate that cache hierarchies in modern multicore chips can help software effectively keep track of the state accessed by a program and regulate propagation of writes.

I will present Sentry, a hardware framework which seeks to improve software reliability by enforcing protected sharing across the modules in an application. From the software's perspective, Sentry is a pluggable access control mechanism that constantly monitors and checks the data permissions for accesses by the the various parts of an application. The key novelty in Sentry is the lightweight low-energy cost manner in which permissions are enforced. Sentry uses the data caches to implicitly protect accesses and save significant dynamic energy typically needed by protection schemes.

I will demonstrate the usage of Sentry in enforcing protection amongst the software modules of the widely used Apache webserver and providing an effective sandbox.

Towards the end of this talk, I will shift focus to my current work, "CoolOS", that provides support in the OS for accounting and managing energy. I will motivate the need for fine-grain application-sensitive (10ms granularity) energy accounting and demonstrate its value in power capping, detecting power viruses, and improving energy efficiency.

Speaker: Arrvindh Shriraman started as an assistant professor in the School of Computing Sciences in Simon Fraser University in January 2011. He received his Masters and Ph.D from the University of Rochester under the supervision of Sandhya Dwarkadas and Michael Scott. Arrvindh's research interests lie at the interface of hardware and software and include multiprocessor system design, parallel programming models, and energy management.

IEEE computer society

Fun with the original laser at Science World

On May 16, 2010 the world celebrated 50 years since the first laser was invented. Here in Vancouver Simon Fraser University organized an event in memory of Dr. Theodore Maiman (the laser inventor) who was an adjunct professor there for the last few years. He passed away in 2007. To celebrate his life's most important achievement, the invention of the world's first working laser, we held a special IEEE Vancouver Joint Communications, GOLD & Life members event at Science World.

The event was well attended by children, professionals and seniors, all of whom had a chance to ask questions and examine (hands on!) the first laser. Although it is fully operational we did not power it up for safety reasons. It is strong enough to drill a hole through a razor blade and Dr. Maiman even suggested a power scale of one Gillette (after the shaving razor brand) back in May 1960.

Dr. Maiman's wife, Mrs. Kathleen Maiman, also brought a Hologram of the first laser which was made by a local artist Mr. Gary Cullen.

Besides the display we also had presentations by Mrs. Maiman and by Dr. Nissim Pillosof who develops high power lasers for Kodak locally.

The event was free but we did ask the visitors to consider donating to Science World renovation fund. They collected $859.32 which included a lump sum on behalf of IEEE BCIT Student branch. Overall the event was successful despite the complexity of the theory behind laser physics and the younger crowd. The attached pictures may tell some of the story if you were not there.

I would like to thank all parties involved and especially the presenters.

(The facility in which Dr. Maiman worked and fabricated the laser was designated as an IEEE milestone and the SPIE (the international society for optics and photonics) held 'Laserfest' events last year as well. However the actual device is here in Vancouver.)

Short-range wireless technologies for emerging medical devices

Dave Michelson
UBC

Tuesday 01 March
4 - 5pm

Room 2020
Kaiser Building
2332 Main Mall, UBC

A Grand Round
seminar series talk

Cosponsor
Joint Aerospace and
Electromagnetics

Information
Engineering in Medicine
& Biology chair
Rob Rohling
rohlink@ece.ubc.ca

Although wireless technologies suitable for replacing cables and implementing ad hoc networks over short ranges were introduced well over a decade ago, their application in clinical and surgical settings is much more recent. As a growing number of medical device manufacturers seek to use short-range wireless technologies to incorporate new features and capabilities into their products, it is useful to consider the relevant design issues and thereby ensure that good decisions are made at all stages of the product development process. In this context, it is useful to distinguish between: 1) systems engineering, which focuses on requirements, architectures and algorithms and 2) implementation, which focuses on the hardware and software that actually implement the short-range wireless links.

We begin by reviewing the technological backdrop against which short-range wireless system design for emerging medical devices is conducted including: 1) the relevant spectrum allocations and regulations, 2) the capabilities and limitations of short-range wireless technologies such as WiFi, Bluetooth, ZigBee and the recently introduced Bluetooth Low Energy and IEEE 802.15.6, and 3) the vendors who supply the components and software required to implement short-range wireless links. Next, we consider the wide range of healthcare environments and settings in which short-range wireless technology can be applied, including personal healthcare and fitness, telemedicine, emergency medicine, surgery, clinical settings, and hospital wards, and the manner in which a systems approach to design can help to ensure that wireless technology is used to best advantage. We conclude with a demonstration of a student project called ReFleX that demonstrates the use of short-range wireless technology to implement a multi-patient monitoring system suitable for use on hospital wards.

Speaker : Prof. David G. Michelson has led the Radio Science Lab in the Department of Electrical Engineering at the University of British Columbia since 2003. His current research focuses on propagation and channel modeling for wireless body area, vehicular, industrial and smart energy environments and the implications for wireless system design, antenna design, electromagnetic compatibility and RF safety. Prior to joining UBC, he served as a member of a joint team from AT&T Wireless Services, Redmond, WA, and AT&T Labs-Research, Red Bank, NJ, where he was concerned with the development of propagation and channel models for next-generation and fixed wireless systems. The results of this work formed the basis for the propagation and channel models later adopted by the IEEE 802.16 Working Group on Broadband Fixed Wireless Access Standards. From 2001-2002, he helped to oversee the deployment of one of the world's largest campus wireless local area networks at UBC while serving as an Adjunct Professor with the Department of Electrical and Computer Engineering.

Prof. Michelson serves as the Chair of the IEEE Vehicular Technology Society's Technical Committee on Propagation and Channel Modeling and as an editor of IEEE Transactions on Wireless Communications. In 2009, he received the E. F. Glass Award from IEEE Canada for outstanding service to IEEE Vancouver Section and the IEEE Communications Society. As Chair of IEEE Vancouver Section from 2009-10, he led the efforts that resulted in Vancouver receiving the 2009 IEEE MGA Outstanding Section Award. In 2011, a paper that he co-authored with his MASc student Simon Chiu received the IEEE Antenna and Propagation Society's R.W.P. King Best Paper Award.

EMB **IEEE Engineering in Medicine and Biology**

Also coming up for EMBS

Assessing Effectiveness of Medical Technologies
Prof. Charlyn Black
UBC Centre for Health Services and Policy Research

Tuesday 22 March
4 to 5 PM
Room 2020 Kaiser Building
2332 Main Mall, UBC

More detail here as available

CANADIAN SOCIETY OF INFORMATION THEORY
SOCIÉTÉ CANADIENNE DE THÉORIE DE L'INFORMATION

The 2011 Canadian Workshop on Information Theory

Kelowna, British Columbia, Canada
May 17-20, 2011

The 12th Canadian Workshop on Information Theory (CWIT) will be held on the campus of the University of British Columbia Okanagan, Kelowna, British Columbia in the scenic Okanagan Valley from Tuesday May 17 to Friday May 20, 2011. The workshop will cover many of the following fields of research:

- Shannon Theory
- Application of Information Theory
- Multiuser Information Theory
- Quantum Information Processing
- Coding Theory and Practice
- Coded Modulation
- Data Compression and Source Coding
- Communication Systems
- Cooperative Communication

- Cryptology and Data Security
- Information Theory and Statistics
- Signal Processing
- Pattern Recognition and Learning
- Sequences and Complexity
- Multi-terminal Information Theory
- Data Networks
- Detection and Estimation
- Cognitive Radio

The plenary speakers for CWIT 2011 will be Profs. Frank Kschischang (Toronto), Vahid Tarokh (Harvard), and David Tse (UC Berkeley). Martin Mallinson from ESS Technology will give an after-banquet talk on ``Innovation: why it is necessary and how to create it''.

On May 17, 2011, Canadian Society of Information Theory (CSIT) will sponsor a day-long School of Information Theory. Profs. Mung Chiang (Princeton) and Syed Ali Jafar (UC Irvine) will give two half-day tutorials on Optimization of Wireless Networks and Interference Alignment. Both tutorials will be open free to all workshop attendees.

Following organizations have provided generous sponsorship for this event: The University of British Columbia, CSIT, Pacific Institute of Mathematical Sciences (PIMS), Research in Motion, IEEE Vancouver Section, and Waveteq Communications.

Conference inquiries regarding the workshop should be addressed to either of two workshop co-chairs:

Robert Schober
Dept. of Electrical and Computer Engineering
University of British Columbia
Vancouver BC V6T 1Z4
Phone: 604-822-3515
Email: rschober@ece.ubc.ca

Julian Cheng
School of Engineering
University of British Columbia Okanagan
Kelowna BC V1V 1V7
Tel: 250-807-8808
Email: julian.cheng@ubc.ca

For more information on CWIT 2011, please visit:
http://cwit2011.ok.ubc.ca/

2011 R. W. P. King Best Paper Award of the IEEE Antennas and Propagation Society

THE IEEE ANTENNAS AND PROPAGATION SOCIETY is pleased to announce that a recent TRANS-ACTIONS paper written by Simon Chiu, an MASc graduate of the University of British Columbia and his supervisor, Prof. David G. Michelson, which is entitled

"Effect of human presence on UWB radio wave propagation within the passenger cabin of a midsize airliner," published in the IEEE *Transactions on Antennas and Propagation*, vol. 58, no. 3, pp. 917-926, March 2010,

has been selected, by the IEEE AP-S Awards Committee chaired by Prof. Hisamatsu Nakano, as the recipient of the 2011 R. W. P. King Best Paper Award of the IEEE Antennas and Propagation Society.

The President of the IEEE AP Society, Magdalena Salazar-Palma, the Chair of the Best Papers Awards Committee, Hisamatsu Nakano, and the Chair of the AP Society Awards and Fellows Committee, Constantine A. Balanis, offer their sincere congratulations for this well deserved recognition.
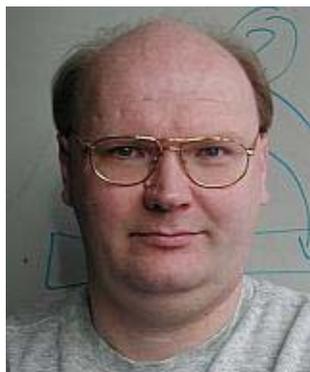
Constructing Efficient Self-Organizing Emergent Systems

Dr. Joerg Denzinger
Department of Computer Science University of Calgary

Friday 25 February
1:00 pm – 2:30 pm

8-166 Teaching Lab Building
Light refreshments served

Self-organizing emergent systems offer their users several desired properties, namely scalability, robustness, flexibility and adaptability to the environment. And these properties are essential for many application domains for which it is necessary to solve dynamic problem instances, like demands on the power grid, scheduling jobs in a computer cloud or scheduling transportation tasks. What is wanted in these domains is solving the instances optimally, according to a given goal function, but since the optimal solution often can only be determined after the system has created an emergent solution, there has not been a lot of research in the efficiency of the emergent solution and how it can be improved.

In this talk, we present digital infochemical coordination and a design pattern for it to construct self-organizing emergent systems and the concept of an efficiency improvement advisor to increase the efficiency of a self-organizing emergent system without losing its desired properties due to central control. Experiments with dynamic pickup and delivery problems show that using the right combination of digital infochemicals already has quite some influence on the efficiency of the system and that the advisor additionally improves the efficiency substantially, if certain basic requirements are met.

UNBC DEPARTMENT OF COMPUTER SCIENCE AND IEEE NBC
University of Northern British Columbia 3333 University Way Prince George, BC V2N 4Z9

UNBC

IEEE

UNBC DEPARTMENT OF COMPUTER SCIENCE & IEEE NBC

Faculty, Staff, Students, and the Public are invited to attend the following presentation:

Light Refreshments provided

Friday
March 4, 2011
1:00 – 2:30 pm
8-166 Teaching Lab Building

"Advances in Software Engineering and Software Science"

Dr. Yingxu Wang

Department of ECE
Schulich School of Engineering
University of Calgary

Dr. Yingxu Wang is professor of software engineering and cognitive computing, Director of International Institute of Cognitive Informatics and cognitive computing (IICICC), and Director of Theoretical and Empirical Software Engineering Research Center (TESERC) at the University of Calgary, Canada. He is a Fellow of WIF, a P.Eng of Canada, a Senior Member of IEEE and ACM, and a member of ISO/IEC JTC1 and the Canadian Advisory Committee (CAC) for ISO.

He received a PhD in Software Engineering from the Nottingham Trent University, UK, in 1997, and a BSc in Electrical Engineering from Shanghai Tiedao University in 1983. He has industrial experience since 1972 and has been a full professor since 1994.

Prof. Wang is the initiator of a number of cutting-edge research fields or subject areas. He is the recipient of dozens of international awards on academic leadership, research, achievements, best papers, and teaching in the last 30 years.

ABSTRACT:

Software science is a discipline that studies the nature and properties of software, approaches and methodologies of large-scale software development, and the theories and laws behind software behaviors and software engineering practices. This talk presents the theoretical and empirical foundations of software engineering and denotational mathematics for software engineering on the basis of a recent book entitled "Software Engineering Foundations: A Software Science Perspective."

The theoretical framework of software engineering is systematically described encompassing software engineering constraints and measures, the generic mathematical model of programs, laws and formal principles of software engineering, cognitive complexity of software, and coordinative work organization theory for software engineering. A formal treatment of t cognitive computing and the long-term empirical problem on the mechanisms and behaviors of coordinative work in groups and organizations is presented, and a coordinative work organization theory is systematically developed. A set of fundamental characteristics of coordinative work are analyzed and the transformability and constraints between labor and time in groups in software engineering is rigorously explained. Mathematical laws of coordinative work organization are created, which provide a foundation for the analyses and predication of the optimal labor allocation, the shortest project duration, and the lowest effort in coordinative project organization in software engineering. Case studies of the coordination theory are presented on decision optimization strategies in engineering project organization and industrial practice.

IEEE Vancouver 2011 centennial gala and AGM

Saturday 12 March   6 - 10 pm
Vancouver Convention Centre
East Building - (with the sails) 999 Canada Place

Reception 6 pm
Meeting & dinner 7 pm

IEEE Vancouver is pleased to invite all members to join us for this year's special Annual General Meeting and centennial gala! We have an exciting evening planned for our members and guests – a fabulous location overlooking the Burrard Inlet, delicious food, outstanding speakers, and the opportunity to network with your friends and colleagues.

We will be celebrating IEEE Vancouver's successes and achievements over the past century as we start our centennial celebrations. We would be showcasing the history of IEEE Vancouver as part of the event. The feature presentations by Dr. John MacDonald of Day4 Energy and Frank Plumptre of BC Hydro will be covering the past and future of our profession in the province – not to be missed!

$25 students and life members $35 members $45 non-members (1 guest per member only)

You can register at http://bit.ly/fgYT5U. Online payment is available and encouraged in the registration process. Guests should be registered separately using the same link. Please also make sure you have included your IEEE membership number for yourself and your guest. For more information, or to arrange for other means of payment, please email Kouros Goodarzi at krs@ieee.org.

Hearts of Caesar salad
Red potatoes with yogurt and dill
Du Puy lentil and banana squash salad
Greek style salad
Prawn, jicama, and orange salad
Fresh asparagus mimosa

West Coast smoked seafood platter with: Lox style and hot smoked salmon, Indian candy, smoked tuna and trout

Black Forest turkey, pepper roast beef, capicollo and prosciutto salami
Grilled vegetable platter with handmade Bocconcini, balsamic glaze

Roasted pepper crust top sirloin of aged beef
Grilled piri piri chicken breast, fruit salsa wild mushroom ravioli alla panna
Roasted nugget potatoes
Bouquetiere of market fresh vegetables

Sliced seasonal fruits
Fine selection of cakes, tarts, french pastries including:
Black Forest Charlotte, baked cheesecake,
chocolate eclairs, fresh fruit flans, gâteau basque
Assorted fruit creams and tiramisu, house-made biscotti —
Freshly brewed Moja organic coffee and imported teas
yum