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Message from the chair

The vitality and growth that we're witnessing within IEEE Vancouver Section is both rewarding and gratifying. As seen elsewhere in this issue of Contact, our Joint Communication Chapter has been recognized as the IEEE Vehicular Technology Society's Chapter of the Year. Congratulations to Alon Newton and Zahra Ahmadian for a job very well done!

We've just submitted the petition required to form our new Joint Applied Physics Chapter that will represent the IEEE Instrumentation and Measurement Society, the IEEE Magnetics Society, the IEEE Nuclear and Plasma Sciences Society and the IEEE Ultrasonics, Ferroelectrics and Frequency Control Society. Thank you to Dr. Ewart Blackmore from the TRIUMF Laboratory and Dr. Michael Hughes from Honeywell Process Solutions for agreeing to serve as co-chairs of the new chapter. Thank you also to Dr. Nigel Lockyer, Director of TRIUMF, and Dr. Frank Haran, Senior Engineering Manager at Honeywell Process Solutions, for lending their respective organization's strong support to the new chapter. Planning for the new chapter's first events (to be held later this fall) are already well in hand.

I'm very pleased to report that IEEE Vancouver Section will be

cooperating more closely with our colleagues at APEGBC going forward. Janet Sinclair, APEGBC's Director, Communications & Engagement will serve as one of our main points of contact. She will join our Industry Advisory Council effective immediately.



IEEE Vancouver Section is quite proud of the three scholarships that we award each year. The Hector MacLeod, Thurb Cushing and John Deane scholarships reward outstanding students who combine academic skill with a commitment to their professional community. This fall, we are taking significant steps towards growing the Section's Scholarship Fund by embarking on a new path that will make it possible for both members and their employers to receive tax receipts in return for supporting the fund. Watch for announcements in upcoming issues of Contact.

As always, feel free to contact me should you have any suggestions or concerns.

Dave Michelson dmichelson@ieee.org

IEEE STAR program

The Vancouver IEEE Women In Engineering (WIE) is excited to announce IEEE STAR as the new program added the list of WIE activities for this winter. The IEEE STAR (Student-Teacher and Research Engineer/Scientist) began in 1995 to address the growing concern that, at a young age, girls are discouraged from careers in mathematics, science, and engineering.



As of 2010 WIE redefined their vision for the STAR to a program that represents all pre-university outreach activities and it is under this new vision that we, the

WIE team, are going to plan our STAR program. The program promotes the involvement of IEEE members with high school students. We will be working with local high schools in greater Vancouver area to arrange classroom activities such as "meet an engineer/scientist" and hand on short projects for students in grades 8 to 10. If you are interested in working with us by either sharing your vision and ideas on activities, participating in "meet an engineer/scientist", arranging a company/lab tour or introducing a school that could benefit from the program, please contact us on wie.vancouver@ieee.org. We look forward to hear from you.



Zahra Ahmadian, WIE Chair zahraa@ece.ubc.ca



Gerhard Fettweis
Universität Dresden

Gerhard Fettweis has held the Vodafone Chair at Technische Universität Dresden, Germany since 1994, with 20 companies from Asia/Europe/US currently sponsoring his research on wireless transmission and chip design.

An Institute of Electrical and Electronic Engineers (IEEE) Fellow, Professor Fettweis earned his PhD under H. Meyr's supervision from Aachen University of Technology (RWTH) in 1990, and has received many awards.

He runs the world's largest cellular research test-bed in downtown Dresden (EASY-C). He has developed nine start-ups so far, and has set up funded projects worth more than EUR 1/4 billion.

He started his career at TCSI, Berkeley, CA, where he designed silicon solutions for the digital cellular market, and was later at IBM Research in San Jose, CA, where he contributed to the design of new processors for disk drive read-write channels.

Information technology has become a required resource for driving our economies. Without communications and computing infrastructure, no modern society can survive within the global competition. In recent decades societies have coped with understanding the impact of the current internet and cellular telephony. Now leading edge societies must get prepared for the next waves of information technology innovation. For this, there needs to be a general understanding of what lies ahead, including today's five mega trends: broadband connectivity; connected sensors; vast (embedded) computing; ubiquitous displays; and positioning. The next big information technology waves create huge opportunities for technology drivers, technology developers, and technology users. *Organized in collaboration with IEEE Vancouver and Simon Fraser University*

Ten unsolved hot problems in information and communications technology

Thursday 14 October
4 – 5 pm
Room 2020/2030
Fred Kaiser Building
2332 Main Mall, UBC

We are not at an end in information technology development. In this talk, ten unsolved hot problems of communications technology will be laid out, which each pose a multi-faceted research challenge: How can we design radio frequency circuits and antennas to cope with a diverse frequency spectrum available for communications services? How can we cope with impairments of deep sub-micron analog circuits? How do we architect hardware and software in terms of embedded parallel computing? How do we architect the silicon chips of the future as deep sub-micron has driven design costs above the \$100M boundary? How can we set up and manage large heterogeneous networks? How can we create communications transmission solutions for the huge appetite in data rate increase every 5 years? How do we integrate energy-starved sensors as nodes in wide area cellular networks? How do we create communications networks with very low energy consumption without compromising performance? How well prepared are we for the vast amount of data that will be sent over the internet of the future, as 3D objects? Do we have the correct network architectures, protocols, as well as the correct physical communications technology in place?

**Cecil H. and Ida Green visiting professor
Gerhard Fettweis**

The next big waves in the information technology roadmap

Wednesday 13 October
7 – 8 pm
Earl & Jennie Lohn Policy Room
SFU Harbour Centre
555 West Hastings, Vancouver

How to be an entrepreneur in information and communications technology

Friday 15 October
2 – 3 pm
Room 2020/2030
Fred Kaiser Building
2332 Main Mall, UBC

Professor Fettweis, who has co-founded nine start-ups out of the university so far, delivers a personal view of the pitfalls and chances of creating a start-up. It is clear that information and communications technology (ICT) has been a great opportunity for entrepreneurs. Many of us know names of people who have made it big. An understanding of the ICT roadmap enables one to see which are successful products to choose when considering creating a start-up, and which are doomed. Good product definitions, competition analyses, and market roll-out plans are the foundations for success. The human resources side of creating a company, the motivators and mind-sets of venture capitalists, and how to create an "unfair competitive advantage" will also be discussed.

Both UBC events were organized in collaboration with the UBC Department of Electrical and Computer Engineering (ECE) and The Institute for Computing, Information and Cognitive Systems (ICICS)

All talks are open to the public without charge

**Space is limited
please arrive early**

**For more information
www.greencollege.ubc.ca or
gc.events@ubc.ca**

Cecil Green (founder of Green College) helped lay the foundation of information and communications technology (ICT) systems which are the core of today's knowledge-based society. Innovations in this area are adapted at a tremendous speed, and the worldwide use of ICT has soared in recent years. However, the unprecedented growth comes at a price: ICT systems are meanwhile responsible for CO2 emissions equivalent to those of 25% of cars world-wide. If the growth of ICT's energy consumption continues at the present pace, it will endanger ambitious plans to tackle climate change by reducing CO2 emissions. Availability of ICT at any corner in the world has to be a political goal to enable any society to participate in the knowledge creation, to enable modern education, and to become part of the global economy. To tackle the energy challenge we must create "cool green" solutions!



Victor C.M. Leung
UBC

Thursday 28 October
3:30 - 5:30 pm

Kaiser 2020
UBC

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



Mobile agents for autonomous wireless ad hoc networks

In addition to overcoming the vagaries of propagation impairments and interference in wireless channels, designs of wireless ad hoc networks are challenged by changing network configurations due to node mobility. To meet these challenges, ad hoc networking solutions should incorporate distributed intelligence that enables network nodes to autonomously adapt to changes in networking environments and network configurations. By propagating software codes to mobile nodes for execution and allowing them to spawn new codes for propagation to other nodes, mobile agents can provide an effective solution for these challenges. This presentation provides an overview of the use of mobile agents in wireless ad hoc networks, especially in their practical realization for wireless personal communications and wireless sensor networking. In the first example, we describe the Bluescout mobile agents for scatternet formation in Bluetooth networks, which adaptively reconfigures the Bluetooth scatternet to maximize the size of individual piconets. In the second example, we present the design of a mobile agent platform for wireless sensor networks known as Wiseman, and describe a limited experimental implementation of Wiseman and its evaluation. The presentation concludes with discussions of open research issues concerning the application of mobile agents in wireless networks, and potential applications of mobile agents in wireless networks of the future.

Speaker: Victor C. M. Leung received the B.A.Sc. (Hons.) degree in electrical engineering from the University of British Columbia (U.B.C.) in 1977, and was awarded the APEBC Gold Medal as the head of the graduating class in the Faculty of Applied Science. He attended graduate school at U.B.C. on a Natural Sciences and Engineering Research Council Postgraduate Scholarship and completed the Ph.D. degree in electrical engineering in 1981.

From 1981 to 1987, Dr. Leung was a Senior Member of Technical Staff at MPR Teltech Ltd., where he contributed to the design of a number of thin-route and mobile satellite communication networks. He also held a part-time visiting faculty position at Simon Fraser University in 1986 and 1987. He began his full-

time academic career in 1988, as a Lecturer in the Department of Electronics at the Chinese University of Hong Kong. He returned to U.B.C. as a faculty member in 1989, where he is currently a Professor and the inaugural holder of the TELUS Mobility Research Chair in Advanced Telecommunications Engineering in the Department of Electrical and Computer Engineering. He is a member of the Institute for Computing, Information and Cognitive Systems at U.B.C. He also holds Guest/Adjunct Professor appointments at Jilin University, Beijing Jiaotong University, and South China University of Technology in China. Dr. Leung has made substantial contributions to the design and evaluations of wireless networks and mobile systems over the past 30 years, and has authored/co-authored more than 450 technical papers in international journals and conference proceedings in these areas. He and his co-authors have received several best-paper awards.

Dr. Leung is a registered member of the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC), Canada. He is a Fellow of IEEE, a Fellow of the Canadian Academy of Engineering, a Fellow of the Engineering Institute of Canada, and a voting member of ACM. He has served on the editorial boards of the IEEE Transactions on Wireless Communications, the IEEE Transactions on Vehicular Technology, the IEEE Transactions on Computers, Computer Communications, the International Journal of Sensor Networks, the Journal of Communications and Networks, and the International Journal of Communication Networks and Distributed Systems. He has guest-edited several special journal issues, and served on the technical program committee of numerous international conferences. He is a Distinguished Lecturer of the IEEE Communications Society. He was the TPC Chair of the wireless networks and cognitive radio track of IEEE VTC-fall 2008, and the TPC Vice-chair of IEEE WCNC 2005. He was the General Chair of QShine 2007, and a General Co-Chair of IEEE EUC 2009 and ACMMSWiM 2005. He is the General Chair of AdhocNets 2010 and WC 2010, and a General Co-Chair of IEEE MobiWorld 2010, IEEE CWCN 2010, IEEE ASIT 2010, EMC 2010 and BodyNets 2010

Nominations for 2011 IEEE Vancouver section executive

The Nomination Committee is currently accepting nominations from the membership in order to complete the change of officers on 01 January 2011. The IEEE Vancouver Section is seeking volunteers to take on a leadership role in helping to deliver high quality technical programs to our members.

The main requirements of IEEE volunteer leaders are willingness to help the technical development of their peers, and memberships in the IEEE and in the technical societies that they lead.

Contact Paul Bowler by 06October at 604-590-8899 or paulb@analyticsystems.com.
2011 Nominating Committee: Paul Bowler, Eugen Trandafir, Rasvan Mihai

Vancouver IEEE Vehicular Technology Society lauded

The Vancouver Section of the IEEE is pleased to announce that the IEEE Vehicular Technology Society (IEEE VTS) has named the Vancouver Chapter as the recipient of its VTS Chapter-of-the-Year award. The award, which recognizes the outstanding performance of the Vancouver Chapter for the year 2009, was formally announced at the VTS Annual Meeting on September 8th.

The announcement of the VTS award is the latest in a series of awards and recognitions bestowed upon the IEEE Vancouver Section. The IEEE Vancouver Section was recently named as the IEEE Outstanding Large Section worldwide for 2009, was also awarded the IEEE Canada Exemplary Section Award for 2009. Currently within the IEEE Vancouver Section, the VTS technical chapter is part of a Joint Communications technical chapter, representing several IEEE technical societies:

- IEEE Vehicular Technology Society
- IEEE Communications Society
- IEEE Antennas and Propagation Society
- IEEE Photonics Society
- IEEE Broadcast Technology Society
- IEEE Information Theory Society



Chair: Alon Newton P.Eng, SMIEEE
Vice Chair: Zahra Ahmadian, Doctoral Candidate, UBC Electrical Engineering



Alon Newton

Vancouver Section Chair Professor David Michelson noted: "We are pleased that IEEE Vehicular Technology Society has recognized the outstanding performance of our Joint Communications Chapter. The Chapter has served its members - those of VTS and of all its parent technical societies - very well. The Vancouver Joint Communications Chapter held a record number of technical meetings in 2009, contributing greatly to the success of the Vancouver Section. We congratulate Chapter Chair Alon Newton and Chapter Vice-Chair Zahra Ahmadian on this award from VTS, and thank them for their dedicated service."

For Additional Information about the IEEE Vehicular Technology Society and the Chapter-of-the-Year award, please visit:
<http://ewh.ieee.org/soc/vts/awards/awards.html>

For Additional Information about the IEEE Joint Communications Chapter, please visit:
<http://chapters.comsoc.org/vancouver/>

Changes are planned for the Vancouver chapter of the IEEE Vehicular Technology Society. A new Vancouver IEEE Joint Transportation Chapter has been proposed, and when formed, will represent the IEEE Vehicular Technology Society; the IEEE Intelligent Transportation Systems Society; and the IEEE Ocean Engineering Society.

For Additional Information about the planned Vancouver IEEE Joint Transportation Chapter and the IEEE Vancouver Section, please visit:
<http://vancouver.ieee.ca>

Dave Michelson appointed to EIC's History and Archives Committee

Prof. Dave Michelson has been appointed to the Engineering Institute of Canada's History and Archives Committee. Although EIC has pursued history projects since 1887, the Committee in its present form was only established in March 2000.

The Committee's role is to:

- Promote awareness of the history of engineering in this country,
- Collaborate with the History Committees of the member Societies of the Institute to encourage the publication and dissemination of new information related to the history of engineering in Canada,
- Publish or broadcast through the various media, historical information on the Institute itself, the engineering profession, Canadian engineers and their activities, and specific engineering projects



- Collaborate with the Historic Sites and Monuments Board of Canada and other public and private institutions to ensure that significant achievements by Canadian engineers are adequately commemorated,
- Encourage cooperation with academic, public and private institutions, associations and other organizations with similar interests and objectives, and
- Promote the collection, secure storage and accessibility for research of archival material associated with the Institute, its Member Societies and the engineering profession.



Feedforward control: theory and applications

Santosh Devasia
University of Washington

Friday 05 November
2:00pm-3:00pm

Room 2020/2030
Kaiser Building, UBC

Information

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

Precision, output-tracking controllers are needed in high-performance applications such as positioning of large flexible structures, aircraft guidance, robotics, manufacturing systems, and scanning probe microscopes (SPMs). In such applications, the addition of feedforward control to traditional feedback control can improve the output-tracking performance (when compared to the use of feedback alone).

This talk will review theoretical issues in inversion-based feedforward control. Connections will be shown between inversion-based feedforward and other existing methods such as zero-phase-error-tracking (ZPET) feedforward and robust feedforward. Additionally, the talk will present the use of feedforward in emerging applications such as image-based control for subnanometer-scale studies with scanning tunneling microscopes (STMs), and the imaging of large soft biosamples with atomic force microscopes (AFMs).

Speaker: Santosh Devasia received the B.Tech. (Hons) from the Indian Institute of Technology, Kharagpur, India, in 1988, and the M.S. and Ph.D. degrees in Mechanical Engineering from the University of California at Santa Barbara in 1990 and 1993 respectively.

He is currently a Professor at the Mechanical Engineering Department at the University of Washington, Seattle where he has taught since 2000. From 1994 to 2000, he taught in the Mechanical Engineering Department at the University of Utah, Salt Lake City. He has served as an Associate Editor for the ASME Journal of Dynamic Systems, Measurement and Control and the IEEE Transactions on Control Systems Technology.

His current research interests include inversion-based control theory and applications such as high-precision positioning systems for Atomic Force Microscopes and Scanning Tunneling Microscopes used in nanotechnology, biomedical applications such as the imaging of human cells to investigate cell locomotion, and control of distributed systems such as Air Traffic Management.

Details of teaching and Research Interests can be found at: <http://faculty.washington.edu/devasia/>



Experimental security analysis of a modern automobile

Stefan Savage
UCal San Diego

UBC Computer Science
Distinguished Lecturer

Thursday 04 November
3:30 - 4:50 pm

Hugh Dempster Pavilion
(DMP) Rm 110 6
245 Agronomy Rd
UBC, Pt. Grey Campus

Modern automobiles are no longer mere mechanical devices; they are pervasively monitored and controlled by dozens of digital computers coordinated via internal vehicular networks. While this transformation has driven major advancements in efficiency and safety, it has also introduced a range of new potential risks. In this talk I will survey the current structure of automotive systems and describe recent work exposing their fragility to adversarial attacks.

In particular, I will present a range of experimental results in which a contemporary automobile's safety can be compromised through attacks on its software - including disabling the brakes, selectively stopping individual wheels on demand, shutting down the engine and so forth. Finally, I will describe some of the unique challenges to fixing these kinds of problems within the automotive ecosystem and discuss some directions forwards.

This talk describes joint work between the groups at University of California, San Diego and the University of Washington.

Speaker: Stefan Savage is a professor of Computer Science and Engineering at the University of California, San Diego. He received his Ph.D. in Computer Science and Engineering from the University of Washington and a B.S. in Applied History from Carnegie-Mellon University.

Savage's research interests lie at the intersection of operating systems, networking and computer security and he currently serves as director of the Cooperative Center for Internet Epidemiology and Defenses (CCIED), a joint effort between UCSD and the International Computer Science Institute.

Savage is a fairly down-to-earth guy and only writes about himself in the third person when asked.

Network and cloud resource management games



Azer Bestavros
Boston University

Distinguished Lecturer

In many emerging settings where users are empowered to make autonomous resource acquisition decisions, and in which infrastructure providers and users are interested in selfishly maximizing their own utilities, resource management must be viewed through a game-theoretic (as opposed to a global optimization) perspective.

In this talk, I will present such a perspective in three distinct settings: overlay network connectivity management, cloud resource colocation, and shared bandwidth arbitration. For overlay networks, I will present “Selfish Neighbor Selection” (SNS) as a game-theoretic connectivity management framework for folding new arrivals into an existing overlay, and for re-wiring to cope with changing network conditions. I will show that under typical resource constraints, SNS yields efficient Nash-like equilibria. I will present experimental results showing the properties of stable SNS wirings on synthetic and real Internet topologies, as well as results obtained by deploying Egoist – a PlanetLab SNS prototype system.

For cloud computing, I will present “Colocation Games” (CG) as an economically-sound framework upon which emerging cloud architectures could be implemented. CGs enable the modeling and analysis of the dynamics that result when rational, selfish parties interact in an attempt to minimize the individual costs they incur to secure the shared cloud resources necessary to support their application QoS or SLA requirements. In addition to various game-theoretic results, I will overview implementation considerations as well as results from experimental evaluations.

For shared bandwidth arbitration, I will present “Trade and Cap” (TC) as an economics-inspired mechanism that incentivizes users to voluntarily coordinate their consumption of a shared resource so as to converge to what they perceive to be an equitable allocation, while ensuring efficient resource utilization. Under TC, rather than acting as an arbiter, providers act as enforcers of what a community of rational users decides is a fair allocation. In addition to presenting the analytical underpinnings of TC and results from trace-driven simulations, I will briefly discuss implementation considerations for last-mile bandwidth arbitration.

This work was pursued at Boston University, primarily in collaboration with Nikos Laoutaris (now at Telefonica Research), Jorge Londono, and George Smaragdakis (now at Deutsche Telecom).

Speaker: Azer Bestavros is Professor of Computer Science at Boston University, which he joined in 1991, and chaired from 2000 to 2007, culminating in the Chronicle of Higher Education’s ranking of the department as 7th in the US in terms of scholarly

productivity. In 2010, he received the United Methodist Scholar Teacher Award in recognition of “outstanding dedication and contributions to the learning arts and to the institution” at Boston University, and the ACM Sigmetrics Inaugural Test of Time Award for research results “whose impact is still felt 10-15 years after its initial publication”.

Azer’s research interests are in networking and real-time systems. Funded by over \$18M of government and industry grants, his work yielded 14 PhD theses, over 80 masters and undergraduate student projects, four issued patents, 2 startup companies, a number of books and book chapters, and hundreds of refereed papers that are cited over 4,700 times, with a G-Index of 64 and an H-Index of 30.

Azer’s curricular offerings include his signature CS-109 and CS-350 courses: CS-109 introduces non-majors to elements of abstraction, quantitative and algorithmic thinking, whereas CS-350 familiarizes upper-level majors with canonical problems that reoccur in computing systems and networks, along with the classical algorithms and basic performance evaluation techniques for tackling such problems.

Azer is chair of the IEEE Computer Society TC on the Internet and former executive member of the IEEE TC on Real-Time Systems. He has an extensive record of service on the editorial boards and program committees of most flagship venues in networking, real-time systems, and databases. He organized various PI meetings and CRA leadership workshops, and led CS community meetings to develop national research agendas and recommendations to government agencies. He received distinguished ACM and IEEE service awards, and is a distinguished speaker of the IEEE Computer Society.

Azer has significant industrial and consulting experience, including engagements with Microsoft, Sycamore Networks, BBN Technologies, Network Appliance, Macromedia, Allaire, Bowne, SUTI Technologies, and AT&T. He served on the technical advisory board of many companies, and is retained by a number of law firms as an expert on intellectual property issues related to networking and Internet technologies. His opinions are often featured in local and national media outlets.

Azer obtained his PhD in Computer Science in 1992 from Harvard University, under Thomas E Cheatham, one of the “roots” of the academic genealogy of applied computer scientists.

Friday 22 October
3:00 pm

2020 Kaiser Building

Dept of Electrical &
Computer Engineering

2332 Main Mall, UBC

Co-sponsored by
Joint Communications

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

IEEE  computer society

Navigating the engineering career paths



Alan Strachan
TELUS

While every engineer's career is unique, the career decision of whether to stay in the technical field or moving to a management role has been common among many. Recent graduates now have the opportunities to experience management roles such as being a project manager early in their careers. The boundaries of the managerial and technical roles may not be so clear cut as they used to be. Can an engineer stay as either a management or technical specialist or can we be both?

This seminar features two experienced engineers from TELUS who will share some of their insights in their career decisions in shaping their careers and in navigating between management and being a technical specialist.

Speaker: Alan Strachan is responsible for evaluating investment opportunities in the Network Infrastructure sector as well as for conducting technology assessments of all potential investment opportunities for TELUS Ventures. Alan has more than 30 years of experience in data, IP and fibre optic communications and is currently a member of the DSL and Messaging Forums.

Alan has worked in network planning, data communications, major account sales, special services, TELUS Internet Services, the TELUS IP-One (managed VoIP telecom) initiative, as well as on the original DARPA project. Alan has a Bachelor of Applied Science in Electrical Engineering from the University of British Columbia, and a Master of Applied Science in Electrical Engineering specializing in Photonics from the University of Victoria.

He has been a member of the IEEE for over 30 years, speaking at conferences throughout the world and has held various executive positions including Chair-

man of the Victoria Section. Alan sits as an Observer on the Ruckus Wireless and Veracode Board of Directors, as well as sitting on the advisory board of the Continuing Studies Program at the University of British Columbia in Internet Administration and e-Business.

Speaker: Winnie Lai-Fong received her B.A.Sc. degree in electrical engineering in 1988 from the University of British Columbia, and M.A.Sc. degree, also from the University of British Columbia in 1991. In 2001, she received her certificate in Ivey Executive Program from the University of Western Ontario.

She has been with TELUS since 1992, and is currently in a strategy role to provide 1-3 yr strategic planning for network operations. Past team management roles in TELUS include national enterprise data and voice network, architecture for voice applications in the Chief Technology Office, and engineering design for TELUS.net. Winnie was instrumental in creating the TELUS Engineer-In-Training program nationally, and was part of the APEGBC working group in 2004 to create an industry-based EIT program.

She is a registered Professional Engineer, and a member of IEEE. She was the past chair for the APEGBC Editorial Board.

Guest host: Anthony Cheung has been an IEEE member for over 20 years. He is currently a Developer Analyst with TELUS. He received his formal education from U.B.C. and B.C.I.T. obtaining B.A.Sc. in Electrical and Computer Engineering and a Diploma of Technology in Computer Systems respectively. He is a licensed P.Eng. (professional engineer specializing in Software Systems) and a CIPS ISP (Information Systems Professional). He is also a member of the IEEE Computer and Communications Societies.



Winnie Lai-Fong
TELUS

Monday 18 October
19:00 - 21:00

BCIT
SW3-1710

Guest hosted by
Anthony Cheung
TELUS

Cosponsored by
Technology Management

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



2010 Industry/Student Networking Night

Do you want to meet and recruit the brightest Masters and PhD students from one of the top 20 high-tech schools in the world?¹

Do you want to expose your organization to graduate students in High-Tech Fields?



Attendees: Human Resources and technical representatives from companies interested in meeting and recruiting Graduate students will network with Masters and PhD students from UBC's CS, ECE, and Mech departments.

Date: Friday, November 19th, 2010

Venue: Vancouver Marriott Pinnacle Hotel.

Time: 6:30pm to 9pm. Doors open for sign-in at 6pm.

Cost: Tickets must be purchased in advance and are priced as follows:

- Payment sent **on or before October 1:** \$20 each
- Payment sent **after October 1:** \$25 each

Sponsoring companies receive complimentary tickets.

Sponsorship: Raise the profile of your company's presence by becoming an event sponsor for as little as \$150. Full details are on the event website

Marriott
VANCOUVER PINNACLE
DOWNTOWN

Hosted by: UBC's Electrical and Computer Engineering Graduate Student Association (**ECEGSA**), Computer Science Graduate Student Association (**CSGSA**), and Mechanical Engineering Graduate Association (**MEGA**)



a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

SPONSORSHIP DEADLINE: OCTOBER 1st, 2010

TICKET DEADLINE: OCTOBER 29th, 2010

For registration or more information, please contact Ahmad (aashoori@ece.ubc.ca, 778-320-3516) or Adam (adamn@ece.ubc.ca, 604-346-3965)

Event website: http://www.ece.ubc.ca/~ecegsa/Networking_night

1. U.S. News & World Report's World's Best Universities ranked UBC 17th in the world in 2009 for Engineering and IT programs