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**JUNE 2013**  
**CIRCULATION 3244**

**VOLUME 44**  
**NUMBER 06**



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- Capstone Design Project
- Leader selection for complex network performance
- 2013 IEEE Power and Energy general meeting
- Dual fluid reactor, a concept of a fast nuclear reactor
- Perceptual sound field reconstruction
- Silicon photo-multipliers for high speed, low light
- Know your signals: waveform digitizing
- Power line communications reloaded
- Play golf today and improve tomorrow
- IEEE PES Scholarship Plus Initiative expanded
- Fundamentals of holography
- Seattle wireless industry day
- New transform domain for analysis of wireless
- 2013 Product Safety workshop (2p)



**a place of mind**



**Would you like a team of senior electrical & computer engineering students to work on your project? Visit [ece.ubc.ca/CapstonePartners](http://ece.ubc.ca/CapstonePartners)**

UBC Electrical and Computer engineering is looking for project proposals for its new Capstone Design Project courses (see [ece.ubc.ca/CapstonePartners](http://ece.ubc.ca/CapstonePartners)).

Senior students in teams of 4 to 6 will work on projects proposed by industry, or other organizations. Each team is supervised by a faculty member, acting as the technical director, and assisting or pointing the student to appropriate technical expertise, and you'll act as the client. The projects can be general projects in electrical and computer engineering, or more specialized: software engineering, energy, biomedical devices, and microsystems.

UBC is requesting project proposals from industry groups that are willing to act as clients for the student teams. This involves regular interaction with the team, much like a firm doing subcontract design work. The students provide approximately 1,000 person-hours of beginner's time on each project and are required to build a working proto-

type by the end of the project. Each team receives some financial and material resources, and access to the UBC department workshops, but the best and most successful projects will be those in which the client invests significant additional resources.

If you have some backburner projects that are reasonably open-ended in terms of design (i.e., not just implementation), and not too critical for your firm, let us know.

Write to [capstones@ece.ubc.ca](mailto:capstones@ece.ubc.ca) or contact the NSERC design chair, Philippe Kruchten, at (604) 827-5654.

Please indicate your interest in becoming an ECE capstone partner by writing to [capstones@ece.ubc.ca](mailto:capstones@ece.ubc.ca)

Projects will run from September 2013 to mid-April 2014.

See [ece.ubc.ca/CapstonePartners](http://ece.ubc.ca/CapstonePartners) for more details!



Linda Bushnell  
University of Washington

## Leader selection for performance, control, and security of complex networks

Control of complex networks, including unmanned vehicle networks, social networks, and biological systems, is an ever-growing challenge. A standard approach is to directly control a subset of leader nodes, which then influence the remaining (follower) nodes. While the choice of leader nodes is known to impact the performance, controllability, and security of complex networks, efficient algorithms for selecting optimal leaders are currently lacking. In this talk, we give an overview of our ongoing work on leader selection in complex networks.

We focus on three design criteria, namely, the robustness of the system to noise in the links between nodes, the time for the follower nodes to converge to their desired state, and the controllability to the follower nodes from the leader nodes. We present a unifying framework based on submodularity, a diminishing returns property analogous to concavity of real-valued functions, for studying each of these criteria. Our framework enables efficient leader selection based on the criteria above, with provable guarantees on the resulting system performance. Moreover, we generalize our approach to time-varying networks, including networks with random failures,

arbitrary topology variations due to node mobility, and attacks by an intelligent adversary targeting one or more links.

**Speaker:** Linda Bushnell is a Research Associate Professor at the University of Washington. She received her Ph.D. in EE and MA in Math from UC Berkeley in 1994 and 1989, and her MS and BS in EE from UConn in 1987 and 1985. Her research interests include networked control systems, leader-follower systems, and secure-control. She received a best paper award from WiOpt 2012. She is the author/co-author of 15 journal papers and 56 conference papers. She is a recipient of the US Government Superior Civilian Service Award, NSF ADVANCE Fellowship, and IEEE CSS Recognition Award. She is a Senior Member of the IEEE. For CSS, she is an Advisor to the Women in Control Committee, a member of the TC Control Education, and Liaison to the IEEE Women in Engineering. For AACC, she is currently the Workshop Chair for 2013 ACC and member of the TC on Control Education. She was the Technical Program Chair for 2007 ACC, Publicity Chair for 2005 ACC, Vice-Chair for Publications for 1999 ACC, and Vice-Chair for Invited Sessions for 1998 ACC.

Tuesday 11 June  
11:00 am

UBC Kaiser 2020

**Co-sponsor**  
Women In Engineering  
Affinity

**Information**  
CS/RA/SMC  
Joint chapter chair  
Ryozo Nagamune  
nagamune@mech.ubc.ca



This largest IEEE PES annual conference attracts professionals from every segment of the electric energy industry. It features a comprehensive technical program, including Super Sessions, panel sessions, technical committee meetings and standards activities. Not to be missed are the technical tours, a student program, companion activities and more. This year's theme is Shaping the Future Energy Industry. For more information about the conference, please visit the conference website at <http://www.pes-gm.org/2013>.

The early bird registration deadline is less than a month away. I invite you to register for the conference and, in addition to the regular technical program, also attend various optional events which are selling out fast, for example technical tours and tutorials. Based on the statistics so far, we are anticipating what may be the largest IEEE PES General Meeting to date. I hope you can join us and make this an event to remember.

We are also in need of many volunteers for the conference, so if you reside in Lower Mainland and you would like to learn how you can volunteer and attend the conference for free, more information is available here. For those of you living outside the Lower Mainland, we have just added another block of hotel rooms at the preferred conference rate, please check the conference website for information how to book your hotel room.

If you have any questions about the conference or how you can get involved, please send me an email. I look forward to seeing you at the General Meeting!

Mazana Armstrong Chair  
IEEE PES General Meeting 2013 Vancouver  
[pesgm2013-vancouver@ieee.org](mailto:pesgm2013-vancouver@ieee.org) [www.pes-gm.org/2013/](http://www.pes-gm.org/2013/)



Ahmed Hussein  
University of Northern BC

Monday 24 June  
4:00 PM

TRIUMF Auditorium  
4004 Wesbrook Mall UBC

**Information**  
Joint Applied Physics  
chair  
Ahmed Hussein  
Ahmed.Hussein@unbc.ca



IEEE ULTRASONICS, FERROELECTRICS,  
AND FREQUENCY CONTROL SOCIETY



## Perceptual sound field reconstruction and coherent emulation



Zoran Cvetkovic  
King's College London

Thursday 30 May  
2:00 pm to 3:30 pm

ASB 10900 (IRMACS  
Presentation Studio),  
Simon Fraser University,  
Burnaby

**Information**  
Circuits and Systems  
chair Ljiljana Trajkovic  
ljilja@cs.sfu.ca

Imagine a group of fans cheering their team at the Olympics from a local pub, who want to feel transposed to the arena by experiencing a faithful and convincing auditory perspective of the scene they see on the screen. They hear the punch of the player kicking the ball and are immersed in the atmosphere as if they are watching from the sideline.

Alternatively, imagine a small group of classical music aficionados following a broadcast from the Royal Opera at home, who want to have the experience of listening to it from best seats at the opera house. Imagine finally having a surround sound system with room simulators that actually sound like the spaces they are supposed to emulate, or watching a 3D nature film in a home theatre where the sound closely follows the movements one sees on the screen. Imagine also a video game capable of providing a convincing dynamic auditory perspective that tracks a moving game player and responds to his actions, with virtual objects moving and acoustic environments changing. Finally, place all this in the context of visual technology that is moving firmly in the direction of "3D" capture and rendering, where enhanced spatial

It has much simpler design, passive safety, and produces much less nuclear waste than currently used nuclear power reactors. It does not emit any radioactivity or green house gases during operation. It costs as much as a coal fed power station to construct and operate.

There are more benefits that will be discussed in the talk.

accuracy and detail are key features. In this talk we will present a technology that enables all these spatial sound applications using low-count multichannel systems.

**Speaker:** Zoran Cvetkovic received his Dipl. Ing. and Mag. degrees from the University of Belgrade, Yugoslavia, in 1989 and 1992, respectively; the M. Phil. from Columbia University in 1993; and the Ph.D. in electrical engineering from the University of California, Berkeley, in 1995. He held research positions at EPFL, Lausanne, Switzerland (1996), and at Harvard University (2002-04). Between 1997 and 2002 he was a member of the technical staff of AT&T Shannon Laboratory.

He is now Professor of Signal Processing at King's College London. His research interests are in the broad area of signal processing, ranging from theoretical aspects of signal analysis to applications in audio and speech technology, and biomedical engineering. From 2005 to 2008 he served as an Associate Editor of IEEE Transactions on Signal Processing.



IEEE CIRCUITS AND  
SYSTEMS SOCIETY





Fabrice Retiere  
TRIUMF

Monday 10 June  
4:00 PM

TRIUMF Auditorium  
4004 Wesbrook Mall UBC

#### Information

Joint Applied Physics  
chair

Ahmed Hussein

Ahmed.Hussein@unbc.ca

## Silicon photo-multipliers for high speed, low light intensity photo detection

Silicon photo-multipliers (SiPMs) are rapidly replacing vacuum tube photo-multipliers for the detection of scintillating photons produced by ionizing radiation (charged particles, or gamma rays), which are used in niche applications such as Positron Emission Tomography scanners in medical imaging or sub-atomic physics research experiments.

SiPMs are designed for the detection of 1 to several thousand photons with high efficiency and at high speed. The SiPM peak photo-detection efficiency is about 35% at 420nm dropping down to 10% at 800nm. SiPMs achieve a single photon timing

resolution of 100ps or better thanks to their large gain ( $10^6$ ) and fast rise time (0.5-2 ns). High gain is obtained by operating several hundred diodes above breakdown voltage in a pixelized pattern with individual passive quenching circuits. Each photon fully discharges one diode which subsequently recharge in about 40 ns. We will present a detailed characterization of SiPMs in general including a description of their main drawbacks namely high dark noise rate and high rate of correlated discharges. We will also discuss applications for ionizing radiation detection and beyond.



IEEE ULTRASONICS, FERROELECTRICS,  
AND FREQUENCY CONTROL SOCIETY



Stefan Ritt  
Paul Scherrer Institute

## Know your signals: waveform digitizing in the giga-sample range with switched capacitor arrays

Fast waveform digitizing is traditionally done with analog ADCs. These devices however hit their limits in resolution and power consumption when it comes to sampling rates far beyond the Giga-sample per second range (GSPS). An alternative for non-periodic signals are Switched Capacitor Arrays (SCA) that store an analog waveform in a series of capacitors, which are then digitized after a trigger at much lower speed.

While these chips have been used for two decades in particle physics, the recent improvements in CMOS technology allows for designs with resolutions of 12 bits, sampling speeds beyond 10 GSPS and power consumptions of a few tens of mW per channel. Putting many channels on a single chip makes it

possible to build data acquisition systems with several thousand channels at reasonable costs, space and power requirements. Obtaining the waveforms of particle detectors at high resolution allows excellent timing measurements down to a few pico-seconds, doing particle discrimination and efficient pile-up rejection.

This Talk covers the basic principles of SCAs, gives an overview of currently available chips and introduces advanced waveform processing techniques used in particle physics and gamma-ray astronomy. Experiences from the MEG experiment with 3000 SCA channels are reported. It finishes with an outlook for new chips currently under design and how they can be used in future experiments.

#### Distinguished Lecturer

Date to be determined  
during last two weeks  
of July 2013  
4:00 PM

TRIUMF Auditorium  
4004 Wesbrook Mall UBC

#### Information

Jt Applied Physics chair

Ahmed Hussein

Ahmed.Hussein@unbc.ca



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AND FREQUENCY CONTROL SOCIETY





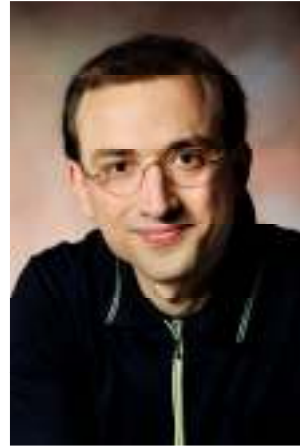
# IEEE Okanagan Subsection Presents

Prof. Lutz Lampe  
IEEE Distinguished Lecturer  
The University of British Columbia

## Power Line Communications Reloaded

**Time & Date:** 2pm-3pm, Tuesday June 11, 2013

**Location:** EME 1202, UBC Okanagan campus



**Talk Abstract:** Power line communications (PLC) collectively refers to technologies that use existing power lines for data communications at frequencies (far) beyond the 50 Hz (or 60 Hz) mains frequency, including so-called distribution line carrier (DLC) and broadband over power lines (BPL). The single main advantage of PLC over other wired communications solutions is that the wire infrastructure is already in place. In fact, the electricity grid is the most ubiquitous infrastructure worldwide, and its extremely high penetration opens the door for a plethora of applications supported by PLC. On the negative side, power lines and power line grids have not been designed for data communications, which gives rise to the notion of a "horrible channel". While concept of communications over power lines has been with us for essentially as long as wire line and wireless communications, PLC has experienced waves of innovations at around the turn of the century and in the past few years. In this seminar, we will provide an introduction to and a partial overview of applications, standardization, regulatory, and communication technology aspects for PLC, with a focus on recent developments. This includes results on channel characterization, transmission and detection methods, and a discussion of recent developments in IEEE and ITU standardization. In this context, we will also highlight the use of PLC to support Smart Grid applications.

**Speaker Biography:** Lutz Lampe is a Professor in the Department of Electrical and Computer Engineering at the University of British Columbia, Vancouver, Canada. His research interests span a wide range of topics in wireless communications and communications over power lines. He has contributed to the development of power line communications (PLC) systems since 1998, with a focus on signal processing for broadband and narrowband PLC systems. He is the recipient of a number of research and best paper awards, including the Best Paper Award at the 2011 IEEE International Symposium on PLC (ISPLC). He is co-editor of the book "Power Line Communications: Theory and Applications for Narrowband and Broadband Communications Over Power Lines" published by Wiley & Sons in 2010. In 2005, he was General Chair of the ISPLC, and since 2010 (re-elected 2012) he has served as the Chair of the IEEE Communications Society Technical Committee on PLC. He is a Distinguished Lecturer of the IEEE Communications Society.

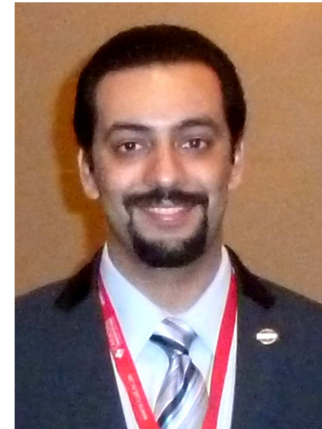
**Refreshments** will be provided. For further information please contact:  
Julian Cheng (email: [julian.cheng@ubc.ca](mailto:julian.cheng@ubc.ca))



# IEEE Okanagan Subsection Presents

Samy S. Soliman  
Department of Electrical and Computer Engineering  
University of Alberta

## New Transform Domain for Exact Analysis of Wireless Cooperative Networks



**Time & Date:** 5pm-6pm, Monday June 24, 2013

**Location:** EME 1202, UBC Okanagan campus

**Talk Abstract:** Much research and publication focused on the performance of Amplify-and-Forward (AF) relaying systems. Yet, for multihop networks, all previous work reports approximate solutions for the performance metrics of the system because no exact solution for the end-to-end received SNR of multihop AF relaying is known. In this seminar, a new transform method is presented for the exact analysis of generic multihop AF relaying systems, valid for any modulation scheme, and any fading channel distribution. The new approach represents a general framework for the analysis of cooperative networks. The talk begins with presenting the system model and then the modified generalized transformed characteristic function (M-GTCF) approach is explained and discussed. Numerical results are presented for performance metrics such as the average symbol error probability, ergodic capacity and the outage probability for systems operating over Rayleigh, Nakagami- $m$  and Rician fading channels to demonstrate the application of the new M-GTCF approach. The computational complexity of the proposed method is compared to the direct exact method. Numerical results for different fading channels show that there is a perfect match between results obtained from the M-GTCF method and simulation results, while some of the state-of-art published approximate results are very inaccurate. Finally, the validity of the CLT theorem and the presence of a limiting distribution to the end-to-end SNR are investigated.

**Speaker Biography:** Samy S. Soliman (S'08) received the B.Sc. (honors) and M.Sc. from Cairo University, Egypt, in 2007 and 2009, respectively. He was awarded the Cairo University award of Eng. Nabil El-Gebaly and the Cairo University award of Eng. Reda Hamza both in 2008. Mr. Soliman worked as a Teaching and Research Assistant at the Electronics and Electrical Communications Department, Cairo University, as well as at the Electronics Engineering Department, AUC, from 2007 to 2009. In 2009, Mr. Soliman joined the AITF Wireless Communications Laboratory (iWCL) in 2009 as a Research Assistant and is currently a Ph.D. candidate at the University of Alberta, Canada. He is a recipient of the Professional Development Award from the University of Alberta twice in June 2012 and April 2013. He was also awarded an IEEE Student Grant in May 2012. His research interests include wireless cooperative networks, multiple input multiple output (MIMO) systems, wireless sensor networks, and ultra-wide bandwidth wireless systems.

**Refreshments** will be provided. For further information please contact:  
Julian Cheng (email: [julian.cheng@ubc.ca](mailto:julian.cheng@ubc.ca))





# Play golf today and improve tomorrow

## IEEE PES Scholarship Plus Initiative golf outing

### Sunday 21 July

### Furry Creek Golf Course

Registrations are now being taken for the IEEE PES Scholarship Plus Initiative Program Golf Outing scheduled for July 21, 2013 at Furry Creek Golf Course in Furry Creek, BC. The golf outing is being sponsored by the IEEE Power & Energy Society and is being held prior to the 2013 IEEE PES General Meeting. If you participate in this golf outing, you will enjoy a great day of camaraderie and friendly competition between golfing friends and colleagues who will tee it up all for the benefit of the IEEE PES Scholarship Plus Initiative and the Next Generation of Power and Energy Engineers. This golf outing will benefit the expansion of the IEEE PES Scholarship Plus Initiative Program to Canada.

Furry Creek is not a course that one merely plays - it is an enriching adventure to be savored. Considered one of the most beautifully landscaped playgrounds in British Columbia, Furry Creek delivers an unforgettable experience with its breathtaking beauty, dramatic play and first-class facilities. As BC's most scenic golf course, Furry Creek perfectly captures the most spectacular qualities of this part of the country. This par 72, 18-hole golf course designed by Robert Muir Graves and built in 1993 offers panoramic ocean views and encounters with abundant wildlife, and is just 35 minutes north of Vancouver, along the scenic Sea to Sky Highway to Whistler.

The cost to participate in the golf outing is US\$175 per person. Sponsorship opportunities are also available. There are a limited number of seats available for this golf outing that will offer all competitors the opportunity to win individual and team prizes. Early registration is encouraged as tee times will be sold on a first-come, first-served basis. The day's outing begins at 9:00 a.m. with a shotgun start followed by awards presentations. Visit the registration page and make your reservation.

The IEEE PES Scholarship Plus Initiative provides multi-year scholarships to qualifying U.S. and Canadian electrical engineering undergraduate students. Scholars receive up to three years (US\$7,000) of funding interspersed with up to two years of valuable, hands-on career experience. The program, made possible by donations to the IEEE Power & Energy Society Scholarship Fund of the IEEE Foundation, is in its 3rd year. Since its inception, the program has supported a total of 265 scholars attending 109 universities, including Ivy League colleges, flagship state universities and prestigious engineering colleges across the US. The 2013 program goal is to distribute more than 400 scholarships in the US & Canada. If you have any questions, please send us an email

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## IEEE PES Scholarship Plus Initiative has been expanded to Canada

### *Applications are being accepted*

Over the past two years, the IEEE Power & Energy Society has distributed over US\$642,000 in scholarships to 265 students from 109 universities within the United States. In 2013, we are expanding the IEEE PES Scholarship Plus Initiative to include students in Canada. Our goal this year is to distribute more than 400 scholarships to electrical engineering students in the USA and Canada!

The PES Scholarship Plus Initiative™ is a scholarship and career experience program that was created in response to the looming workforce shortfall in the power and energy industry. Our goal is simple: increase the number of well-qualified, entry-level engineers by helping students. PES Scholarship Details We are offering up to US\$7,000 and assistance with career experience opportunities to qualifying students!

You must be a full-time student working towards a bachelor's degree in electrical engineering, a US or Canadian citizen or permanent resident of either country, willing to take power engineering courses and have a GPA of at least 3.0. Engineering students early in their

college careers are encouraged to apply, even if in June 2013 they have not yet declared electrical engineering as their major.

In Fall 2013, the individual must be enrolled in an electrical engineering program working toward a bachelor's degree. Here's how it works: ? Eligible students should apply online by June 30th, 2013 at <http://www.eescholarship.org/application> ? Recipients will be selected by PES volunteers with industry and academic backgrounds. In the fall, recipients will be notified of their selection and be provided with information on how to arrange for a career experience with industry-leading companies. ? The scholarship funds will be distributed to your university/college for deposit and credit against your student account. Don't delay, click below to start your scholarship application or follow us on Facebook. Apply Now <http://www.ee-scholarship.org/application> Visit Us on Facebook <http://www.facebook.com/ieeepes.scholarship.plus>

If you have any questions, please contact Dan Toland, IEEE PES Scholarship Plus Initiative ([pessscholarship-info@ieee.org](mailto:pessscholarship-info@ieee.org))



Gokhan Bora Esmer  
Marmara University

Monday 03 June  
5:00pm - 6:00pm

EME 1203  
UBC OKANAGAN  
CAMPUS

Refreshments provided

#### Information

IEEE Okanagan chair  
Julian Cheng  
julian.cheng@ubc.ca

## Fundamentals of holography, fast computation of computer-generated holography and super-resolution in digital holography

Holography is one of the three-dimensional (3D) visualization techniques that satisfies all the depth-cues. It paves the way for obtaining an optical replica of a captured 3D scene by regenerating the diffracted waves from that scene. Holography is employed in vast amount of application areas, such as in optical computing, optical metrology and microscopy, non-destructive testing and 3D imaging.

Dynamic holographic reconstructions can be achieved by employing digital holographic video displays which are pixelated devices. In practice, spatial light modulators (SLMs) are used in such purposes. The pixelated structure of SLMs can affect the quality of reconstructed objects. Hence, in order to obtain better reconstructions, pixelated structure of SLMs has to be taken into consideration. Rapid calculation of the diffraction field which is emitted by the object is just as important as the accuracy of the diffraction field. In digital holography, diffraction field of a 3D object can be captured by devices formed as arrays of sensors. Although, capturing high resolution diffraction field paves the way for reconstructing

objects with sharper edges and wider viewing angles, there are some imposed limitations on the capturing devices. For instance, when the size of sensors are decreased, power of the captured light will drop, conversely power of the shot noise will increase. Hence, the quality of the captured pattern may be plummeted. With the aim to capture high resolution diffraction fields, super-resolution algorithms can be used.

**Speaker:** G. Bora Esmer received the Ph.D. degree in Electrical and Electronics Engineering in 2010 from Bilkent University, Turkey. He worked as an instructor in Bilkent University for the following semester. In 2011, he joined the faculty of Engineering at Marmara University in Istanbul, Turkey. He is currently an Assistant Professor in the Department of Electrical and Electronics Engineering at Marmara University. He visited the Tampere University of Technology and the University of British Columbia in 2012 and 2013, respectively. His research interests are in the areas of 3D visualization techniques, digital holography and computer-generated holography. He is a member of IEEE and OSA.





**Join the MTT-Society and IEEE Seattle for**  
**WIRELESS INDUSTRY DAY ON JUNE 5**  
*a full day program showcasing*  
*emerging wireless technologies in the Pacific Northwest*

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The program features invited presentations by seven global wireless experts:

1. From Maxwell's Equations to Modern Electromagnetics and Antenna Engineering Marvels  
By Professor Yahya Rahmat-Samii, IEEE Fellow, University of California, Los Angeles
2. Key Technology Trends in Wireless for the Aerospace Industry  
By Dr. Julio Navarro, Senior Technical Fellow, The Boeing Company, Seattle, WA
3. Bluetooth: The Future of Wireless Medical Technology  
By Mr. Bill Saltzstein, President, connectBlue, Inc. Redmond, WA
4. Prospects and Challenges of GHz to THz Technologies/ Architectures for Future Wireless Communications  
By Dr. Debabani Choudhury, IEEE Fellow, Senior Technologist, Intel Labs, Hillsboro, OR and Mr. Harry Skinner, Senior Principal Engineer, Intel Labs, Hillsboro, OR
5. Radiated Performance Assessment of Wireless Communications Devices - An Operator's Perspective  
By Mr. Scott Prather, Lead Product Development Engineer, AT&T, Redmond, WA
6. Evaluating Over-The-Air Performance of MIMO Wireless Devices  
By Dr. Michael Foegelle, Director of Technology Development, ETS-Lindgren, Cedar Park, TX

For presentation abstracts and speaker bios, schedule and more, see:

<http://www.ims2013.org/technical-program/workshops/wireless-industry-day>

REGISTRATION INCLUDES: A USB of speaker presentations, continental breakfast, lunch and refreshment breaks, as well as access to the exhibitor cocktail reception in the exhibit hall from 5:00 pm – 6:00 pm.

**BONUS**  
**NEW TECHNICAL TOUR OF AT&T ADDED**  
**JUNE 7**

Wireless Industry Day attendees receive priority access to the Technical Tour of AT&T in Redmond on Friday afternoon, June 7. The technical tour begins with lunch at Willows Run Golf Club, followed by a tour of the AT&T base stations, manufacturing areas, and lab with dozens of RFscreen rooms equipped to switch to any base station for real-world performance verification of wireless devices – before they reach consumers.

Tickets are \$35. Tour attendance is limited to  
50 people so register early for  
Wireless Industry Day and the Technical Tour!

**FOR MORE TOUR INFO**  
<http://www.ims2013.org/registration-travel/social-program/att-wireless-facility-tour>

**RELATED LINKS FOR SEATTLE TECHNICAL ACTIVITY**  
**JUNE 2-7**

International Microwave Symposium  
[www.ims2013.org](http://www.ims2013.org)  
Radio Frequency Integrated Circuits (RFIC) Symposium  
[www.rfic2013.org](http://www.rfic2013.org)  
Automatic RF Techniques Group (ARFTG)  
[www.arftg.org](http://www.arftg.org)

Contacts:  
Jeff Glickman - Chair, IEEE Seattle, [jeff@glickman.com](mailto:jeff@glickman.com) and  
Janet O'Neil - Wireless Industry Day Co-Chair, [j.n.oneil@ieee.org](mailto:j.n.oneil@ieee.org)

**FOR IEEE VANCOUVER MEMBERS ONLY:**

Use the promotion code STL2013 to register  
and receive the early bird pricing of \$165 for IEEE members  
(advance registration ended on May 6)



# 2013 Product Safety Workshop

Fred Kaiser Building, University of British Columbia



## Space is limited

To reserve your seat, register now!

**Registration is FREE**

<http://tinyurl.com/pses-workshop>



Join colleagues and friends at the 2013 Product Safety Workshop in Vancouver, BC. This dynamic workshop is open to the all, focused on product safety engineering and management.

Come and enjoy presentations exploring the future of alternative energy in BC, product risk, product safety testing, forensic engineering and standards.

Included in the workshop is a mini exposition with product safety vendors from the Vancouver area.

**Date:** 21-Jun-2013

**Time:** 08:30 h to 17:00 h

**Location:** The Fred Kaiser Building  
Room 2020/2030  
2332 Main Mall,  
Vancouver, British Columbia V6T 1Z4

**Map:** <http://goo.gl/OI23t>



## Supported By



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Images: Barnaby Wickham | Steli Loznen | Dave Bisenius



# 2013 Product Safety Workshop

Fred Kaiser Building, University of British Columbia

## Keynote



### **Beyond Product Safety - Trends in the Certification Business**

Mr. Terry Nagy

CSA Group Global Business Unit Director, Alternative Energy & Sustainability

A lifelong passion for teamwork has proven to work as well in industry as leading global teams to deliver service excellence in the certification business.

Terry has an education in engineering and business, and worked in several provinces in industry before returning to home to BC to work for CSA.

## Program

Time	Title	Speaker	Affiliation
8:30	Beyond Product Safety - Trends in the Certification Business	Terry Nagy	CSA Group
9:00	Risk Acceptability	Elya Joffee	PSES, KTM Project Engineering, Ltd.
10:00	Break		
10:15	Interoperability standards in medical device applications	Steli Loznen	PSES, Israel Testing Laboratories
11:15	61010-1 Laboratory Equipment – 3 <sup>rd</sup> Edition Update	Sunny Minhas, Allan Nakatsu	Intertek
12:15	Lunch		
13:30	Introduction to IEC 62368-1	Rich Nute	PSES
14:30	Hazards of Product Safety	Bill Bisenius	PSES, ED&D
15:30	Break		
16:00	Product Failure; Case Studies	Don Zeck	Case Forensics Corp.

## Exhibitors



## Organizing Committee

### **Chair & Exhibits:**

Dr. David Michelson, +1 (604) 822-3544, [davem@ece.ubc.ca](mailto:davem@ece.ubc.ca)

### **Patrons:**

Mr. Peter Lim, +1 (604) 638-8687, [peter.lim@alpha.ca](mailto:peter.lim@alpha.ca)

### **Technical Program**

Mr. Doug Nix, A.Sc.T., +1 (519) 729-5704, [dnix@ieee.org](mailto:dnix@ieee.org)