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- Towards a \$1000 diagnostic X-ray imager
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- IEEE YP IoT & Big Data Conference @ Microsoft
- 2016 Pacific Northwest Regional Contest



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Aftab Erfan
Univ of British Columbia

Thursday 24 November
6:00pm

Yagger's Downtown
433 W Pender St
Vancouver, BC

Effective teamwork and deep democracy

Wouldn't work be so much more fun if it wasn't for other people getting in the way of what we want to do!?

The reality of today's professional world is that most work happens in team settings and/or is dependent on input from a group of people. While team members may be intellectually and technically brilliant, that doesn't mean they know how to work well together, make decisions and navigate their differences. This is particularly a concern in societies and workplaces marked by diversity where differences of opinion and style are significant. In this short workshop, professional facilitator and conflict specialist, Aftab Erfan, introduces the Deep Democracy framework for understanding group dynamics and building strategies for

- where does conflict come from and how does it get constructed over time?
- how can we make effective group decisions that get buy-in and prevent the acceleration of conflict?

The method of Deep Democracy was created in a large utility company in post-apartheid South Africa. It brings the insights of process oriented psychology into organizational and team settings. It is being practiced in over 22 countries worldwide. Aftab Erfan is a senior practitioner in Deep Democracy and one of three certified instructors of this method in North America

Registration

<https://www.eventbrite.com/e/teamwork-conflict-resolution-and-deep-democracy-tickets-28847232850?aff=IEEEContact>

Information
Sean Garrity, Chair
IEEE youngprofessionals
sean.garrity.ca@ieee.org





Andrew Eckford
York University

Friday 18 November
11 am

Rm 418 Macleod Building
2356 Main Mall
UBC

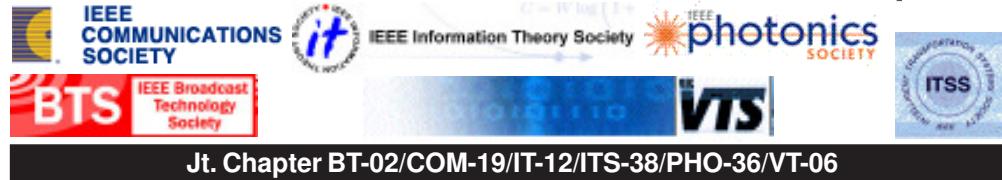
Everyone is welcome!

Information
Joint Communications
Chair Vincent Wong
vincentw@ece.ubc.ca

Molecular communication: from theory to practice

How can we communicate using molecules? This question may unlock new applications in nanorobotics and medicine, but has only recently attracted attention from communication and information theorists. The answer to the question is surprisingly difficult: not only is the medium unfamiliar to communication engineers, but the mathematical details of the communication environment are complicated. In this talk, we present three examples to illustrate the current state of the field: for nanonetworking applications, we present the additive inverse Gaussian channel model; for biological applications, we discuss the information-theoretic capacity of intercellular signal transduction; and for experimental applications, we present a new low-cost, easy-to-use platform to evaluate macroscale molecular communication.

Speaker: Andrew Eckford received a B.Eng. from Royal Military College of Canada in 1996, and M.A.Sc. and Ph.D. from the University of Toronto, in 1999 and 2004, respectively, all in electrical engineering. He is an Associate Professor in the Department of Electrical Engineering and Computer Science at York University, Toronto. He held postdoctoral fellowships at the University of Notre Dame and the University of Toronto, prior to taking up a faculty position at York in 2006. His research concerns the application of information theory to nonconventional channels and systems, especially the use of molecular and biological means to communicate. Dr. Eckford's research has been covered in media including IEEE Spectrum, The Economist and The Wall Street Journal. He is also a co-author of the textbook Molecular Communication, published by Cambridge University Press, and was a finalist for the 2014 Bell Labs Prize.



Jt. Chapter BT-02/COM-19/IT-12/ITS-38/PHO-36/VT-06



Karim S. Karim
University of Waterloo

Bending the cost curve: Towards a \$1000 diagnostic X-ray imager for scalable and sustainable healthcare

Cost, quality and accessibility are major barriers to disease detection globally. For an easily communicable disease like tuberculosis, diagnostic or screening tests based on sputum, blood and urine analysis have slow response, are difficult to administer in remote locations, and have relatively high transportation and storage costs. Medical-grade state-of-the-art digital x-ray imaging systems are versatile in disease detection, faster, incorporate teleradiology for remote diagnosis, but are prohibitively expensive making them affordable only by major hospitals or labs that are located mostly in urban centers with high patient volumes.

Here, a low-cost, high quality, digital x-ray imaging system could address many global health issues by enabling fast, accessible and inexpensive early detection of curable diseases including tuberculosis especially in rural, remote or under-populated areas. In this research, we propose an inexpensive, high quality, digital X-ray system by focusing on the X-ray imager, a component that can reach 50% of the manufacturing cost of an imaging system. High manufacturing costs today are largely a function of small production volumes and various specialized fabrication processes.

Our approach incorporates a technology developed in-house that leverages existing LCD-TFT display manufacturing infrastructure because it is fully compatible with TFT display manufacturing lines: a low dark current, high quantum efficiency optical radiation sensor that rivals state-of-the-art amorphous silicon PIN photodiodes. Our novel sensor technology yields a high performance, low manufacturing cost diagnostic X-ray imager that can help achieve sustainable healthcare globally.

Distinguished Lecturer

Monday 19 December
2 pm

Room ASB 9896
Applied Science Building
Simon Fraser University
8888 University Dr Bby

Information
Electron Devices Chair
Bonnie Gray
bgray@sfsu.ca

Speaker: Karim S. Karim is currently a Professor in the Department of Electrical and Computer Engineering at the University of Waterloo. His research interests (<http://star.uwaterloo.ca>) encompass system, circuit, device and process development using amorphous semiconductors for digital imaging applications. Since 1998, he has co-authored 200 publications (mostly with his graduate students). He is an IEEE Electron Devices Society Distinguished Lecturer, a Full Member of the American Association of Physicists in Medicine, and a registered Professional Engineer in Canada. Karim is also the Founder and CTO of KA Imaging, a medical device startup that designs and manufactures digital X-ray imagers for medical and industrial applications.

IEEE Electron Devices Soci-



IEEE Young Professionals Mixin' n' Minglin'
BCIT - Habitat Pub - Bby
Friday 04 November
530 - 730

Small appetizers provided!

This event includes some tips and tricks on how to strike up a conversation during networking events, conferences, or even with the CEO who silently rides the elevator with you

everyday. After the quick tips and tricks presentation there will be an opportunity to practice these vital skills with fellow Young Professionals and eager students alike.

Please register at: goo.gl/fcR777

Make industry connections!

Information
Sean Garrity, Chair
IEEE youngprofessionals
sean.garrity.ca@ieee.org



IEEE YP IoT & Big Data Conference @ Microsoft

Every connected device to the network not only contributes in its growth, but also increases the amount of data needed to be analyzed by different industries, social groups, countries and educational institutions. Along with this trend two key concepts have emerged: the Internet of Things (IoT), and Big Data.

- 17:00 Reception: attendees registration.
- 18:00 Opening: introduction to IoT and Big Data
- 18:15 Conference
- 20:00 Social Mixer

Tuesday 29 November
17:00 to 21:00

Microsoft Vancouver
1100-1111 W Georgia St
Vancouver

Come and join us for an evening of learning and networking.

This will be a great time to build new and expand upon old relationships and knowledge.

The event will fill up fast so RSVP as soon as possible.

Registration

<https://www.eventbrite.ie/e/ieee-yp-iot-big-data-conference-microsoft-tickets-28817439738>



Information
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IEEE youngprofessionals
sean.garrity.ca@ieee.org



The 2016 Pacific Northwest Regional Contest Pacific NW (including Washington, Oregon, N. California, British Columbia, and Hawaii)

Main info

Rules

<https://icpc.baylor.edu/worldfinals/rules>

<https://icpc.baylor.edu/regionals/rules>

<http://acmicpc-pacnw.org/rules.htm>

Local page

<http://acmicpc-pacnw.org/>

Director@acmicpc-pacnw.org

Contest date:

5 Nov '16

Registration dates:

1 Oct - 31 Oct '16

Registration open (7 day(s) to contest)

Teams

<https://icpc.baylor.edu/regionals/finder/pacific-northwest-2016/teams>

Register now

<https://icpc.baylor.edu/regionals/finder/pacific-northwest-2016>

The regional contest hosted by University of British Columbia, University of Puget Sound, George Fox University, BYU Hawaii, UC Berkeley, Eastern Washington University represents the geographic area of Pacific NW (including Washington, Oregon, N. California, British Columbia, and Hawaii). The contest is sponsored by IBM.

The local web-site is <http://acmicpc-pacnw.org/>.

The contact email address is Director@acmicpc-pacnw.org.

The contest dates are 5 Nov '16.

The registration is open between 1 Oct - 31 Oct '16.

Register

<https://icpc.baylor.edu/regionals/finder/pacific-northwest-2016>