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Michal Aibin
Wroclaw University

Dynamic routing algorithms for content-oriented elastic optical networks

Elastic Optical Network (EON) is a new optical technology proposed to overcome limitations of the currently used Wavelength Division Multiplexing (WDM) technology. The key advantages of EONs are efficient use of spectrum resources compared to classical fixed-grid in WDM networks, and support of flexible modulation format conversion.

Noteworthy trends observed in the last few years in communication networks are cloud computing and content-oriented services, provided by geographically dispersed data centers. Anycast transmission - defined as one-to-one-of-many - is attracting a lot of interest, since the network providers require cost-effective and scalable data delivery techniques in inter-data center networks.

In this talk, the Routing, Modulation and Spectrum Allocation (RMSA) problem in the context of dynamic routing for anycast and unicast traffic in EONs will be addressed. The focus will be on new

adaptive and regenerator-aware algorithms for dynamic RMSA with the possibility of modulation change along the lightpath. The key goal of the algorithms is to improve the network performance under dynamic traffic scenarios in terms of blocking probability and usage of regenerators.

Speaker: Michal Aibin is a second year Ph. D. student at Wroclaw University of Technology. He received his master degree in Teleinformatics in 2012. His main research interests are optimization and modeling of networks, adaptive algorithms and software defined networks. His papers have been published in the most recognizable optical networks conferences in Europe: IEEE International Conference on Communication and International Conference on Transparent Optical Networks. Last year, he attended IEEE HPSR conference, held in Vancouver. He is the supervisor of the students group working on Java Enterprise Applications. Personally, he enjoys horseback riding and playing music.

Thursday 26 March
3:30 pm to 4:30 pm
IRMACS Centre
ASB 10901 (Board Rm)
Simon Fraser University

Light refreshments
Open to public

Please register so we more accurately estimate room size & refreshments

Sponsored by IEEE
Circuits and Systems
Society joint Chapter of
the Vancouver/Victoria
Sections

Information

Circuits and Systems
Chair Ljiljana Trajkovic
ljilja@cs.sfu.ca



SAVE THE DATE!



IEEE VANCOUVER WINDOWS 10 HACKATHON

May 16–17 @ SFU. Registration opens April 27 at 11:00am sharp!
Register @ <https://meetings.vtools.ieee.org/m/33577>

Simon Fraser University
Burnaby Mountain Campus
May 16–17, 2015
Starts @ 9:00am (28 hrs)

The [Joint Computing Chapter](#), [SFU FAS](#), and [Microsoft](#) are excited to announce our next hackathon. Come hack a [Windows 10](#) app together in solo, in a team (3 to 5 people), or join a team after project

ideas are pitched. SFU's Burnaby Mountain Campus is the chosen venue. We are still working out the details. All information will be made available on the registration website. Registration opens

April 27 at 11:00am sharp to the **first 50 people** who register. Registration fee is:

- \$20 (regular) or
- \$10 for students (student ID required).



Ravi Mutukutti-Arachchige
BC Hydro

Generator protection coordination with excitation limiters

Typically loss of field protection is done in R-X plane using pair of offset mho circles. Historically diameters and offsets were chosen based on d-Axis reactance and transient reactance. Sometimes Torque control is used to supervise the loss of field protection as a means of increasing the security.

This paper discusses the suitability of setting calculation in P-Q plane using generator characteristics in place of typical approach. The main advantage here is the ability of protection coordination with excitation system limiters such as Under Excitation Limiter (UEL). Graphical method of determining the various generator capability curves in P-Q plane and conformal mapping of those to R-X plane also discussed. Proposed method is backed up by two case studies of BC Hydro Generating units

Speaker: Ravi P. Mutukutti is with BC Hydro Generation Engineering, Protection and Control Design department. He has over 25 years of experience in the hydro power generation. Prior to joining BC Hydro in 2007, he worked with Yukon Energy, Canada; ABB Generation, Sweden; and Ceylon Electricity Board, Sri Lanka.

Ravi specialized in hydro turbine governors, exciters and generator control systems. He is passionate about power system modeling, stability studies, retrofitting governors, setting up power system stabilizers and excitation systems. Ravi obtained his Masters Degree in Electrical Engineering from the University of Windsor, Ontario. He is a registered Professional Engineer in British Columbia, Australia, Sri Lanka, Ontario, and Yukon.

Wednesday 15 April
Noon to 1:00 PM

BC Hydro
Edmonds A01 Auditorium
Center Room
6911 Southpoint Drive,
Burnaby, BC

Information

Joint Power & Energy Chair
Rama Vinnakota
Rama.Vinnakota@bchydro.com



Second annual SFU Acoustics Festival 30 January 2015

This year the SFU Acoustic Engineering Club was proud to hold the second annual SFU Acoustics Festival on January 30th in the Applied Science Building of SFU's Burnaby Campus. The event was technically sponsored by the IEEE Signal Processing Society Vancouver Chapter. The day-long event saw research posters presented from SFU, BCIT, and UBC in fields such as musical instrument physics, environmental noise studies, the acoustic effects of green building construction techniques, speech acoustics from second language speakers, and many other topics. A number of local businesses took part in the industry showcase, including a loudspeaker designer, a thermoacoustic engine design firm, an acoustic consulting firm, and others. We had two guest lecturers present this year. Prof. Murray Hodgson from UBC lectured on the latest acoustic projects his research team is working on including noise isolation methods for open-air office plans and the effects of green roofs on acoustic transmission. Prof. Barry Truax from SFU lectured on inner and outer complexity in sound design, including detailed accounts of granular synthesis techniques and their time/frequency perception effects, as well as the concept of spatial convolution to bring a sound to a new virtual space. This year we also added a listening room for DIY enthusiasts to bring their audio projects to show off. The listening room was a big success and was packed all day long with people listening to a variety of hi-fi loudspeakers. We're excited to build on this success next year.

Eric Hedekar
President, SFU Acoustic Engineering Club

**2ND ANNUAL
SFU ACOUSTICS FESTIVAL**
FRIDAY JANUARY 30TH
APPLIED SCIENCE BUILDING 10:30-17:30

10:30-14:30 INDUSTRY SHOWCASE (ASB ATRIUM)
11:00-13:00 ACADEMIC POSTER SHOWCASE (ASB ATRIUM)
11:00-14:00 LISTENING ROOM (ASB 9896)
14:30-17:30 GUEST LECTURERS (ASB 9896)

simon fraser student society
IEEE Signal Processing Society



Nancy Paris
BCIT

Thursday 16 April
10:30 – noon

This free event requires registration which closes at 10 April
Space is limited to 25 with priority to IEEE EMB and IEEE WIE members.

To register please email: sarak@ieee.org or parastoo.dehkordi@gmail.com and indicate IEEE membership. You'll receive confirmation on 12 April

INFORMATION

Engineering in Medicine & Biology Chair
Sara Khosravi
sarak@ieee.org

Technical tour of BCIT Applied Research facility

The tour will be conducted by Ms Nancy Paris, director of MAKE+ and Product and Process Applied Research Team (PART). Ms. Paris is also an accomplished researcher and product developer with over twenty years of experience in developing proposals, grants, and contracts to conduct applied research projects and build applied research infrastructure. Her areas of expertise include the product development process, medical and assistive devices, and health technology research. She is also an inventor of the PROSTALAC Hip Replacement System which was licensed to Depuy of Johnson and Johnson in 1999. In 2009 Nancy was awarded the Advanced Technology Award from the Applied Science Technologist and Technicians of BC for leadership in the advancement of medical and assistive devices.

- electronic device development
- process automation

PART student opportunities

At BCIT Students can gain an enhanced learning experience by working on multidisciplinary industry sponsored projects with support from the researchers in PART. These activities include the following:

- connecting students with industry
- product development mentoring
- project management mentoring
- technical support guidance
- prototyping facilities access

Agenda

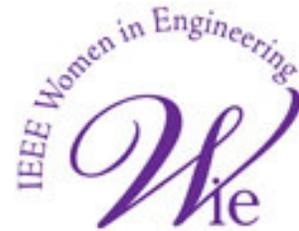
- 10:30 am – Introduction to MAKE+ Applied Research Team at BCIT via power point presentation
- 11:00 am – Tour of our research facilities
- 11:30 am – noon – Mixer with snacks and beverages provided by BCIT

PART industry services include

- health technology device design
- development and fabrication services
- mechanical design



IEEE Engineering in
Medicine and Biology





Systems engineering: much more than a career path

A networking and technical session for students and young professionals

Are you an undergraduate or graduate student? Have you graduated in the last few years? Are you interested in a career path revolving around “the big picture” of the systems you work on, viewing the system as a whole?

Local systems engineering professionals are also invited! We are offering a unique opportunity to meet, learn from, and network with the systems engineering community.

Come join us for a networking event with the many national and international experts that will be attending the IEEE International Systems Conference 2015 (SysCon2015) in Vancouver. The IEEE Systems Council will be holding a reception at the conference venue, the Marriott Pinnacle Downtown Hotel, followed by an information session about systems engineering.

Systems engineering is an interdisciplinary field of engineering, focused on the design, management, and analysis of complex engineering projects and systems over their entire life cycle. Systems engineering is applicable to many disciplines of engineering and is sometimes regarded as a discipline in itself.

This field deals with issues such as robustness, reliability, safety, maintainability, manufacturability, risk management, requirements management and more. An understanding of the systems engineering approach is important in all engineering disciplines and work in this field is rewarding, challenging and exciting.

An information session that will be held following the networking reception will give attendees the opportunity to learn about some of the foundations of systems engineering in a nutshell and have your questions answered.

To complement this networking event, we offer reduced-price access to the conference on the day of the event. The cost is particularly low for students!

Conference sessions on the day of the event cover topics such as:

- Cyber Security
- Control Systems
- Machine Learning
- Service Systems
- Engineering Processes for Complex Systems
- Systems Reliability
- Systems of Systems

(* please also refer to the conference program at <http://ieeesyscon.org>)

- 17:30 - Networking Reception
- 19:00 - Address by Ophir Kendler, AerialX
- 19:05 - Address by IEEE Young Professionals Rep
- 19:15 - Presentation by Craig Louie, SysEne
- 19:30 - Open discussion, Q&A session

Free, but must register for the event in advance. Networking Reception: Free

Full day conference attendance on Tuesday April 14

- \$40 IEEE Student Member and IEEE Life Member
- \$40 IEEE Graduate Student Member
- \$50 Student, non-IEEE
- \$50 Graduate student, non-IEEE
- \$150 Industry IEEE member
- \$150 Faculty IEEE member
- \$200 Industry, non IEEE
- \$200 Faculty, non IEEE

To register for the free event only, go to: <https://meetings.vtools.ieee.org/m/33777> NOTE: Event is free of charge. To Register for the full conference, one-day registration, and the complementary Networking Event, go to: <http://www.ieeesyscon.org/content/registration> Registration fee includes all meals and refreshments

Craig Louie is a systems engineer and has been the lead systems designer of stationary natural gas fuel cell power plants, automotive fuel cell engines, and renewable natural gas upgraders. Craig has also system designed large multinational complex product development programs with broad team collaborations of multiple companies, educational institutions, and government partners. Craig is the Co-Founder of SysEne Consulting



Presentation Outline:

Systems Engineering Careers:

Transitioning from Education to Industry

- What is systems engineering?
- Why systems engineering has such high demand in industry
- What roles systems engineers play
- How to accelerate your career through systems engineering