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## ***TOUR: Evergreen (extension) line***

IEEE Vancouver Young Professionals are hosting a tour to the new Evergreen (Extension) Line - TransLink. The Evergreen Extension, designed and built by SNC-Lavalin, is an 11-km line with both bored tunnel and elevated track components.

The tour will include:

- visit to Inlet Station to get a glimpse of the tunnel ventilation system electrical room and how it works;
- tour to a Power Propulsion Station which supplies power to the tracks;
- tour to the train maintenance yard which includes the cleaning and inspection facility as well as an overview of where the trains are stored during non-revenue service hours.

**Wednesday 07 June**  
**2:15 PM to 6:30 PM**  
**Tour starts at 2:30 PM**  
**sharp!**



This tour will be guided by Evergreen staff and engineers who were part of both the design and construction of the project, as well as the everyday maintenance and control of it while in service. Having station electrical, track power, construction design engineers, and full-time maintenance staff on this tour will give attendees and unprecedented look into the design and running of an LRT system. An after-tour networking event will be held at a local restaurant

### **Tickets**

**<https://events.vtools.ieee.org/m/45610>**  
**IEEE Members/Students: \$5.00**  
**General Admission: \$10.00**

#### **Information**

Sean Garrity, Chair  
IEEE youngprofessionals  
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**IEEE**

**youngprofessionals**



Alejandro C. Frery  
Univ Federal de Alagoas

**Distinguished Lecturer**

Tuesday 18 July

16:00-17:00

Room 418

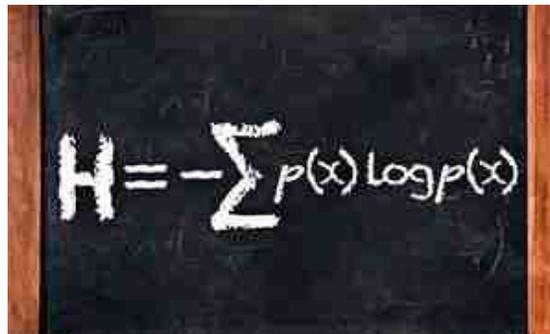
MacLeod Building, UBC

## Statistics and information theory in remote sensing with SAR

Statistics, either implicitly or explicitly, plays a prominent role across several branches of Remote Sensing (RS). This is mostly due to the fact that RS deals with often incomplete and mostly imprecise data. But Statistics aspires to more than being a mere tool for circumventing those unavoidable observational limitations. Statistics is able to provide a complete framework for tackling many relevant RS problems, from a sound mathematical description to tractable computational solutions. This wealth of knowledge is of particular importance when dealing with Synthetic Aperture Radar - SAR images. This kind of imaging produces data with a noise-like pattern, called speckle, which can be well described as a non-Gaussian non-additive contamination to the underlying desired information. Tools firmly grounded in a statistical approach are among the best suited for SAR image processing and analysis. In this talk we present a unified framework for a diversity of problems involving SAR imagery (despeckling filters, classification, segmentation, change detection and edge identification).

Using Information-Theoretic tools within a Statistical framework, we show that all these seemingly different problems can be posed and solved as a single one: testing the hypothesis that two or more samples are outcomes of the same distribution. Although the examples are instantiated for SAR, the framework is general enough to encompass a large variety of problems, including other models and types of data.

**Speaker:** Alejandro C. Frery received the B.Sc. degree in Electronic and Electrical Engineering from the Universidad de Mendoza, Argentina in 1985. His M.Sc. degree was in Applied Mathematics (Statistics) from the Instituto de Matemática Pura e Aplicada (IMPA, Rio de Janeiro, 1990), and his Ph.D. degree was in Applied Computing from the Instituto Nacional de Pesquisas Espaciais (INPE, São José dos Campos, Brazil, 1993). He is currently the leader of LaCCAN - Laboratório de Computação Científica e Análise Numérica, Universidade Federal de Alagoas, Maceió, Brazil.



**Information**

Joint Aerospace and  
Electromagnetics Chairs  
Dave Michelson  
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Kay Sun  
Tsinghua University

## • Energy internet in China • Photovoltaic DC grids

### *Lunch and Learn*

China is facing severe challenges on energy, environment, and economic development. In order to deal with the challenges, Energy Internet is developed to increase penetration of renewable energy, achieve clean and efficient use of fossil fuel energy, increase holistic energy efficiency, accelerate energy market openness and industry upgrade, and form new economic growth points. Energy internet is considered as a new energy ecosystem based on electricity with high penetration of renewable energy, the high synergy of multiple energy types, the high synergy of energy value chain and high participation of stakeholders. It consists of three layers: Synergistic energy network, cyber-physical energy system, and innovative energy business model. In this presentation, some undergoing practice examples of energy internet in China are introduced, such as energy LAN projects, the synergy of electricity and hydrogen, energy trades, and energy big data analysis.

### Presentation II - **Power electronics techniques for large capacity photovoltaic generation integrated into DC grids**

In the future smart grid, it is a significant development trend to integrate large capacity renewable energy into medium voltage and high voltage dc grids. In the presentation, the motivation and advantages of large capacity photovoltaic generation integration into dc grids have been discussed. The existing dc integration techniques of photovoltaic generation have been reviewed and compared, including the system configurations, converter topologies, and control strategies. Furthermore, a novel solution of dc grid-connected photovoltaic

generation system with intermediate dc bus is proposed, which provide a new way to integrate solar power to dc grid with high efficiency.

**Speaker:** Kai Sun received the B.E., M.E., and Ph.D. degrees in electrical engineering from Tsinghua University, Beijing, China, in 2000, 2002, and 2006, respectively. He joined the faculty of Electrical Engineering, Tsinghua University, in 2006, where he is currently an Associate Professor and the Director of Institute of Power Electronics and Electrical Machine Systems.

From Sep 2009 to Aug 2010, he was a Visiting Scholar at Department of Energy Technology, Aalborg University, Aalborg, Denmark. From Jan to Aug 2017, he is a Visiting Professor at Department of Electrical and Computer Engineering, University of Alberta, Edmonton, Canada. His current research interests include power electronics for renewable generation systems, microgrids, and energy internet.

Dr. Sun is a IEEE Senior Member, a member of IEEE Power Electronics Society Sustainable Energy Systems Technical Committee, a member of IEEE Power Electronics Society Power and Control Core Technologies Committee, and a member of IEEE Industrial Electronics Society Renewable Energy Systems Technical Committee, and a member of IEEE IAS Industrial Drive Committee Awards Sub-committee. He serves as the TPC Vice Chair for IEEE ECCE2017 and IEEE ECCE-Asia2017. Dr. Sun is an Editor for the International Journal of POWER ELECTRONICS and an Associate Editor for the Journal of POWER ELECTRONICS. He was a recipient of the Delta Young Scholar Award in 2013.

**Registration**  
<http://events.vtools.ieee.org/m/45484>

**Information**  
Power Electronics chair  
Martin Ordonez  
mordonez@ieee.org



## Tour: General Fusion Research Facility

Friday 23 June 23

2:30PM to 4:30 PM

General Fusion Inc

106 - 3680 Bonneville Pl,  
Burnaby, BC

General Fusion was founded in 2002 with a goal to transform the world's energy supply by developing the fastest, most practical, and cost-competitive path to commercial fusion power. The company has a team of nearly 50 scientists at its world class laboratories in Burnaby, just outside Vancouver, where it is developing the key components of the world's first fusion power plant.

General Fusion has been recognized globally for its work in clean energy technology,

and is a member of the Cleantech Global 100 (2014, 2015) as well as the recipient of numerous Canadian and international cleantech awards. In the media, Dr. Laberge's 2014 TED Talk about fusion energy has attracted over one million viewers, and the company has been featured in publications such as TIME Magazine, Scientific American and BBC Horizons.

Fusion energy has the potential to create a cleaner, safer world, and General Fusion is developing the technology to make it available as soon as possible.

Tour capacity: 15



**Information**  
Joint Power & Energy Chair  
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**Financial Tools 101**  
**Thursday 08 June**  
**6 pm – 7:30 pm**  
**Room 810 BCIT Downtown Campus**

Tickets: <https://www.eventbrite.ca/e/ieee-financial-tools-101-tickets-34769754271>

Financial Tools 101 is a short and sweet seminar that will give you a broad overview of financial tools that can be used to grow your wealth. Financial growth takes time, and this seminar will prove to you why slow and steady continuous deposits using these tools will help you grow your wealth immensely.

Key topics that will be covered are:

- Paying yourself first
- Long term investing vs short term speculating
- Tax deferred savings accounts (RRSP & TFSA)
- Your greatest asset: offence and defence in an overall financial security plan

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**IEEE Young Professionals**  
**Pacific North-West Cross-Sectional Conference**  
**Saturday 22 July — 8 am to 4 pm**  
**Red Lion Hotel — 11211 Main St, Bellevue, WA**

This one day conference will bring together YPs and students from 3 sections, Oregon, Seattle, and Vancouver. Grow your professional network and discuss workplace issues like “How to Manage your Manager” while learning more about IEEE related resources.

For more information, please visit the ticket website  
<https://events.vtools.ieee.org/m/45424>

**Information**

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Julian Cheng  
UBC Okanagan

## How to write an IEEE style paper and get it published

Institute of Electrical and Electronics Engineers (IEEE) is world's largest professional association which is best known, among other engineering disciplines, for its high quality flagship journal and conference publications. For electrical engineering graduate students and researchers, it is increasingly important to publish their research findings in core IEEE journals and conferences. However, most top IEEE journals and conferences typically have acceptance rate at 35% or much less, and it is also rare that a manuscript receives an outright acceptance.

In this talk, I will introduce basic elements of an IEEE style paper, and offer some personal tips and strategies on how to improve the odds of acceptance. The goal of this presentation is to provide the proper guidance to the beginning graduate students so that, with some practice, they can write an IEEE style paper with high confidence. These graduate students can then focus more on the technical contributions of their work.

**Speaker:** Julian Cheng received his PhD degree in electrical engineering from the University of Alberta, Edmonton, AB, Canada. He is currently a Full Professor (with tenure) in the School of Engineering at The University of British Columbia, Okanagan campus in Kelowna, BC, Canada. His current research interests include wireless communication theory, wireless networks, optical wireless communications, and quantum communications. Dr. Cheng has served as a member of technical program committee for many IEEE conferences and workshops. He co-chaired the 12th Canadian Workshop on Information Theory (CWIT 2011) in Kelowna, Canada. In 2012, he chaired the 2012 Wireless Communications in Banff, Canada. Dr. Cheng also chaired the sixth IEEE Optical Wireless Communications Symposium at the 2015 IEEE Global Communications Conference. Currently, he serves as an Editor for IEEE Transactions on Communications, IEEE Transactions on Wireless Communications, IEEE Communications Letters, IEEE Access, as well as a Guest Editor for a special issue of IEEE Journal on Selected Areas in Communications on optical wireless communications.

Monday 05 June

11:00 AM to 12:00 PM

Room 1101  
EME Bldg  
UBC Okanagan Campus

**Information**  
IEEE Okanagan Chair  
Youry Khmelevsky  
youry@ieee.org



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