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IEEE Vancouver 2017 AGM

Please join us for AGM 2017 We have an exciting evening planned for our members and friends. Enjoy a great venue, delicious food, an outstanding keynote speaker and an opportunity to network with friends and colleagues! Members and non-members all welcome.

Hi-lites

- Pre-banquet networking mixer
- Cash prizes poster competition
- Raffle proceeds to IEEE Canada Foundation

Keynote

A key member of the Sierra Wireless executive team, Mr. Guillemette has extensive experience in the wireless sector in general, and in the Internet of Things specifically. He has a deep understanding of the technology, the market, and the future system architectures. His keynote address promises to be an exciting and informative presentation by a globally recognized authority.



Philippe Guillemette
Chief Technology Officer
Sierra Wireless

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School of Business

Tickets and registration
<http://vancouver.ieee.ca/AGM2017>

Information — Guillaume Boisset
IEEE Vancouver Vice-Chair
guillaume@ieee.org

Saturday 25 March

18:00 to 22:00

**Hilton Metrotown
Burnaby, BC**



IEEE INSTRUMENTATION & MEASUREMENT SOCIETY

Advanced Sensing for Intelligent Manufacturing

9:30AM March 17, 2017 (Friday)
UBC Okanagan Campus ADM 026

About the IEEE Distinguish Lecture:

Reza Zoughi received his B.S.E.E, M.S.E.E, and Ph.D. degrees in electrical engineering (radar remote sensing, radar systems, and microwaves) from the University of Kansas where from 1981 until 1987 he was at the Radar Systems and Remote Sensing Laboratory (RSL). Currently he is the Schlumberger Endowed Professor of Electrical and Computer Engineering at Missouri University of Science and Technology (Missouri S&T), formerly University of Missouri-Rolla (UMR). Dr. Zoughi is the Past Editor-in-Chief of the IEEE Transactions on Instrumentation and Measurement. He has been the recipient of numerous teaching awards. He is the recipient of the 2007 IEEE Instrumentation and Measurement Society Distinguished Service Award, the 2009 American Society for Nondestructive Testing (ASNT) Research Award for Sustained Excellence and the 2011 IEEE Joseph F. Keithley Award in Instrumentation and Measurement. He is the co-author of over 495 journal papers, conference proceedings and presentations and technical reports. He has eleven patents to his credit all in the field of microwave nondestructive testing and evaluation. He is a Fellow of the IEEE and a Fellow of the American Society for Nondestructive Testing.

Abstract:

Advanced sensing presents the prerequisite for realizing intelligent manufacturing. Sensors monitor production operations in real-time, often in harsh environment, provide input for diagnosing the root cause of quality degradation and fault progression such that subsequent corrective measures can be formulated and executed online to control a machine's deviation from its optimal state. With the increasing convergence among measurement science, information technology, wireless communication, and system miniaturization, sensing has continually expanded the contribution of mechatronics to intelligent manufacturing, enabling functionalities that were not feasible before in terms of in-situ state monitoring and process control. New sensors not only acquire higher resolution data at faster rates, but also provide local computing resources for autonomously analyzing the acquired data for intelligent decision support.

This talk presents research on advanced sensing for improved observability in manufacturing process monitoring, using polymer injection molding and sheet metal microrolling as two examples. The design, characterization, and realization of multivariate sensing and acoustic-based wireless data transmission techniques in RF-shielded environment are first introduced. Next, computational methods for solving an ill-posed problem in data reconstruction are described. The talk highlights the significance of advanced sensing and data analytics for advancing the science base and state-of-the-technology to fully realize the potential of intelligent manufacturing.

Cetor3000 – Development of a subsea biological sampler

Wednesday 15 March

600 - 700pm

**BCIT
BURNABY CAMPUS
ROOM:SW01-2019**

Cellula Robotics has developed a system for autonomously sampling organisms and sediments from seawater. Designed for deployment across multiple platforms, the sampler opens up new possibilities for investigation in previously unexplored areas. In addition to plankton, the sampler also extends its capability to bacteria-grade sampling. Don Clarke will discuss the challenges of meeting the stringent requirements for this system, including large sample quantity, size classification of samples, compactness, zero cross contamination and long deployment durations.

Speaker: Don Clarke graduated from UBC with a bachelor's degree in Engineering Physics. He has worked for ten years as a Mechanical Engineer at Cellula Robotics, tackling such problems as complex fluid flows, dynamic vehicle simulations, vehicle trajectory estimation and mechanical design for robotic systems. He lives in the Kootenays where he enjoys

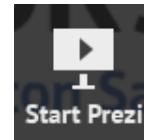


Information

Joint Oceans and Geoscience Chair
Serdar Soylu
SSoylu@cellula.com



<http://www.cellula.com/cetor3000-plankton-sampler/>



Near the bottom of the website shown above you'll see a 'Start Prezi' button that will present a video of this device.

Project Management Basics Workshop

IEEE Young Professionals,
IEEE Women in Engineering, and the
PMI Canadian West Coast Chapter
are proud to present the

Project Management Workshop Series*

Tuesday 07 March
6:00 pm to 7:30 pm,
745 Thurlow St - 25th Floor, Vancouver

The first workshop will cover General Project Management: Basics of Project Management for Young Professionals (particularly engineers). This workshop will cover the application process as well as working effectively under a Project Manager.
Key questions addressed: • What is a Project Manager? • How do you become a Project Manager? • How to work effectively with a Project Manager?

Find information about the other workshops and buy tickets on our Eventbrite page!

<https://www.eventbrite.com/e/ieee-project-management-series-tickets-32076219837?aff=IEEEContact>

Information

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

Information

Women In Engineering
Affinity Chair
Tanaya Guha
tanayaguha@gmail.com





Mohamed Elgendi
UBC

Friday 03 March
1:30 to 3:00 PM

ASB 10901 (SFU's Big
Data Hub Board Room)
Simon Fraser University

No Admission Charge

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

Basic tips and tricks for data visualization

Whether you are writing a paper, designing a poster, giving a talk, or writing a report, effective data visualizing is key. It is easy to be distracted by the large amounts of data and statistical results, leading one to overlook the importance of the figures that represent your data. This talk will help you communicate your message more accurately and effectively. Through the use of real-life examples, you will learn ways to improve visualization of your charts, creating more accessible and understandable visuals. Dr. Elgendi's interactive and conversational workshop style creates an easy-to-remember learning environment. Attendees will learn Dr. Elgendi's tips and tricks that he has harnessed over the years, leaving you with a new perspective on visualizations in this upbeat and engaging workshop.

This workshop will include:

- what is data visualization?
- essential attributes to data visualization
- case studies...what not to do
- perspectives of data visualization

WHO SHOULD ATTEND This workshop is ideal for staff, students, fellows, or managers in a wide range

of disciplines with an interest in the visual presentation of data. No programming experience or specific software experience is necessary.

Speaker: Dr. Mohamed Elgendi is a senior IEEE member and currently a Mining for Miracles Postdoctoral Fellow at the University of British Columbia in Vancouver, Canada. In addition to his 10+ years of experience in the field of data analysis, he received training on Big Data Analysis and Leadership in Education from MIT. Elgendi's experience in the area of data analysis and visualization includes his work in Global Health with the PRE-EMPT Initiative (funded by the Bill and Melinda Gates Foundation), and at the Institute for Media Innovation at Nanayang Technological University (Singapore). Elgendi specializes in bridging the areas of engineering, computer science, psychology, neuroscience and medicine for knowledge translation.

Email: moe.elgendi@gmail.com

Address: Department of Electrical and Computer Engineering, University of British Columbia, Vancouver, Canada

Please register at: https://events.vtools.ieee.org/meeting_registration/register/43472





Sanjoy Baruah
University of North Carolina

Monday 06 March
3:30 p.m.

Room 2020/2030
Fred Kaiser Building, ,
2332 Main Mall, UBC

Predictability despite uncertainty in cyber-physical systems

It is required of many cyber-physical systems that their run-time behavior be predictable prior to deployment. Due to cost and related considerations, there is an increasing trend towards implementing such systems using general-purpose (commercial off-the-shelf, or COTS) components; since COTS components are typically designed to ensure functional correctness, it is difficult to validate non-functional properties for systems built using such components.

beginning to respond to these challenges by devising new models and methods for the design, analysis, and implementation of such safety-critical systems.

Speaker: Sanjoy Baruah is a professor in the Department of Computer Science at the University of North Carolina at Chapel Hill. He received his Ph.D. from the University of Texas at Austin in 1993. His research and teaching interests are in scheduling theory, real-time and safety-critical system design, and resource-allocation and sharing in distributed computing environments. In 2014, he received the

We will explore the challenges that arise in ensuring timing predictability for safety-critical systems that are implemented upon COTS platforms and that interact with uncertain environments, and discuss how the discipline of real-time scheduling is

Outstanding Technical Achievement and Leadership Award from the IEEE Technical Committee on Real-Time Systems for his contributions to the development of real-time scheduling theory over the past two decades.



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attracts researchers, scientists and technologists from some of the top companies, universities, research firms and government agencies from around the world in the areas of Computing, Electronics, AI, Robotics, Security & Communications. Each paper will be reviewed by at least three regular PC members or two senior PC members. The acceptance decisions will take into account paper novelty, technical depth, elegance, practical or theoretic impact, and presentation.

Early Bird Submission (Opportunity to save \$100) Paper Submission Due : 1 March 2017 Acceptance Notification : 1 April 2017 Author Registration : 1 May 2017 Camera Ready Submission : 1 June 2017

Regular Submission Paper Submission Due : 1 April 2017 Acceptance Notification : 1 May 2017 Author Registration : 1 June 2017 Camera Ready Submission : 1 July 2017

Complete details are available on the conference website :
<http://saiconference.com/FTC2017>

Previous Edition (2016): Three hundred of some of the world's top minds in technology and computing convened in San Francisco at the first Future Technologies Conference (FTC) 2016. The conference showcased deliberations from reputed researchers and technology leaders including a keynote by Laura Haas, an IBM Fellow and Director of IBM Research's Accelerated Discovery Lab. Proceedings were published in IEEE Xplore.

Other speakers included James Loudermilk - Senior Level Technologist at the Federal Bureau of Investigation (FBI) Science and Technology Branch, Ruzena Bajcsy, Professor at the University of California, Berkeley, Ella Atkins Professor of Aerospace Engineering at the University of Michigan, Bin He - Director of Institute for Engineering in Medicine, University of Minnesota. Watch the keynote presentations and interviews from 2016

All FTC 2017 presented papers will be published in the conference proceedings and submitted for indexing to Scopus, Inspec, Google Scholar and more.

Please feel free to forward this invitation to interested colleagues.

Regards, Professor Kohei Arai Program Chair Future Technologies Conference (FTC) 2017

**Future
Technologies
Conference
29-30
November
Vancouver Future
Technologies**





FYI

From: Alon Newton [mailto:alon.newton@gmail.com]
Sent: 2017, February 17 9:32 AM
To: Vinnakota, Rama

Subject: GHTC 2016 papers are ~~now~~ **not** available free of charge

Dear Rama,
Please share the news with membership.

<http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=783779>

Best regards,
Alon Newton
IEEE Seattle Section Chair



2017 IEEE-SA Awards nominations

I consider it as my privilege to nominate the eligible professionals from Vancouver Section Community to 2017 IEEE-SA Awards.
You may like to provide relevant information for me to nominate you or suggest another professional for the suitable award.

See the details at the link

<http://standards.ieee.org/develop/awards/nominate/index.html>

Best regards,
Rama Vinnakota, P.Eng., M.Tech., MA.M
Chair-IEEE Vancouver Section
vvramkri@IEEE.org



IEEE Vancouver Contact advertising rates

<http://ieeecontact.org/rates.pdf>



Ali Hajimiri
Caltech

1+1=4: Convergence of electronics and photonics from 3D cameras to space solar power

Many of today's technological marvels have emerged from putting apparently unrelated ideas together and creating something more than the sum of the parts. Silicon integrated chips have come a long way from the days of first transistors. Nowadays, we can place billions of transistors operating at extremely high frequencies on a single chip as well as optical component. This offers a plethora of new opportunities that prior silicon chips could not address.

In this talk, I will discuss a holistic design approach to integrated circuits leading to yet further proliferation of such technologies into our daily lives. We will discuss some of its exciting results, including low-cost tera-hertz imagers, nano-photonic coherent cameras capable of forming 3D images, optical phased arrays, space-based solar power transfer, self-healing circuits that repair themselves, and medical diagnostic and therapeutic devices solutions based on electromagnetic sensing and manipulation.

Speaker: Ali Hajimiri received his B.S. degree in Electronics Engineering from the Sharif University of Technology, and M.S. and Ph.D. degrees in electrical engineering from the Stanford University in 1996 and 1998, respectively. He has been with Philips Semiconductors, where he worked on a BiCMOS chipset for GSM and cellular units from 1993 to 1994. In 1995, he was with Sun Microsystems working on the UltraSPARC microprocessor's cache RAM design methodology. During the summer of 1997, he was with Lucent Technologies (Bell Labs), Murray Hill, NJ, where he investigated low-phase-noise integrated oscillators.

In 1998, he joined the Faculty of the California Institute of Technology, Pasadena, where he is Bren Professor of Electrical Engineering and Medical Engineering, Department Head (Executive Office) of Electrical Engineering, and Director of Microelectronics Laboratory. His research interests are high-speed and high-frequency electronics and photonics integrated circuits for applications in sensors, biomedical devices, photonics, and communication systems.

Professor Hajimiri is the author of *The Design of Low Noise Oscillators* (Boston, MA: Springer, 1999) and has authored and coauthored close to 200 refereed journal and conference technical articles. He has been granted more than 85 U.S. and European patents and has many more pending applications. He has served on the Technical Program Committee of the International Solid-State Circuits Conference (ISSCC), as an Associate Editor of the IEEE Journal of Solid-State Circuits (JSSC), as an Associate Editor of IEEE Transactions on Circuits and Systems (TCAS): Part-II, a member of the Technical Program Committees of the International Conference on Computer Aided Design (ICCAD), Guest Editor of the IEEE Transactions on Microwave Theory and Techniques, and Guest Editorial Board of Transactions of Institute of Electronics, Information and Communication Engineers of Japan (IEICE).

He is a Fellow of National Academy of Inventors (NAI) and was selected to the TR35 top innovator's list. He is also a Fellow of IEEE and has served as a Distinguished Lecturer of the IEEE Solid-State and Microwave Societies. He is the recipient of Caltech's Graduate Students Council Teaching and Mentoring award as well as the Associated Students of Caltech Undergraduate Excellence in Teaching Award. He was the Gold medal winner of the National Physics Competition and the Bronze Medal winner of the 21st International Physics Olympiad, Groningen, Netherlands. He was a co-recipient of the IEEE Journal of Solid-State Circuits Best Paper Award of 2004, the International Solid-State Circuits Conference (ISSCC) Jack Kilby Outstanding Paper Award, a co-recipient of RFIC best paper award, a two-time co-recipient of CICC best paper award, and a three-time winner of the IBM faculty partnership award as well as National Science Foundation CAREER award and Okawa Foundation award. In 2002, he co-founded Axiom Microdevices Inc., whose fully-integrated CMOS PA has shipped more than 250,000,000 units, and was acquired by Skyworks Inc. in 2009.



Information

Solid-state Circuits Chair
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