IEEE VANCOUVER CONTACT

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IEEE Vancouver Elected Position Nominations

As is IEEE Vancouver's practice we will be holding elections for the executive in the fall. If you are not already active on the executive committee please consider joining us. It is a very active group and last year Vancouver was awarded the Canadian Exemplary Large Section award. All the work we do is led by people dedicated to our profession.

The table shows the elected positions within the Vancouver Section. There are also many appointed positions available, which we will cover at another time. It is past practice that the Section runs a ladder model for the core section executive positions with progression occurring up the executive ranks. However this is not a strict requirement and one can elect to run for any position if qualified.

At this point we are looking for interested people to bring forward for nomination. A notification will go out in the fall after which a 28 day petition window will open for other interested nominees. See below for more details and come join us.

The requirements for office are:· a)full member in good standing; b) if running for a Chapter chair you must be a member of one of its technical societies; c) Per Section 3 of our bylaws below.

Section 3 of Vancouver Bylaws Terms of office shall begin on 1 January. Outgoing officers shall continue until their successors are duly elected and take office. However, no officer may serve in the same position for more than two consecutive years. The Elected Officers shall typically be nominated through the yearly rotation as follows: The outgoing Section Secretary as the new Section Treasurer, the outgoing Section Treasurer as the new Section Vice Chair, the outgoing Section Vice Chair as the new Chair, and the outgoing Chair as the Past Chair. The incoming Section Secretary must have served as a Chapter Chair for at least one (1) year.

Best regards, Lee Vishloff,
Past Chair, IEEE Vancouver

Table of Elected Officers

Section ..... Chair
Section ..... Vic-Chair
Section ..... Treasurer
Section ..... Secretary
Sub-Section - Northern BC ..... Chair
Sub-Section - Okanagan ..... Chair
Affinity Group - Consultants Network ..... Chair
Affinity Group - Life membership ..... Chair
Affinity Group - Women In Engineering ..... Chair
Affinity Group - Young Professionals ..... Chair
Chapter - Electron Devices ..... Chair
Chapter - Joint Aerospace & Electromagnetics ..... Chair
Chapter - Joint Applied Physics ..... Chair
Chapter - Joint Circuits and Systems ..... Chair
Chapter - Joint Communications ..... Chair
Chapter - Joint Computing ..... Chair
Chapter - Joint Control, Robotics, & Cybernetics ..... Chair
Chapter - Joint Industry Applications & Electronics .. Chair
Chapter - Joint Management ..... Chair
Chapter - Oceans, Geoscience & Remote Sensing .. Chair
Chapter - Joint Power & Energy ..... Chair
Chapter - Joint Solid State Circuits &Technology ..... Chair
Chapter - Power Electronics ..... Chair
Chapter - Signal Processing ..... Chair

Unobtrusive smart sensing and pervasive computing for healthcare: cardio-respiratory and physical therapy assessment

Octavian Postolache
University of Lisbon

Distinguished Lecturer

Thursday 10 August
2:00 pm — 3:30 pm

Room 1202
Civil and Mechanical Engineering Building (CEME)
6250 Applied Science
UBC

Light refreshments served
Open to public

Kindly register so we may more accurately estimate the room size and refreshments.

IEEE CIRCUITS AND SYSTEMS SOCIETY
IEEE VANCOUVER/VICTORIA JOINT CHAPTER

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

Information
Solid-state Ciruits Chair
Shahriar Mirabbasi
shahriar@ece.ubc.ca

The ageing phenomena requires the development in the near future of new systems and services that will provide healthcare quality with costs optimization. In this context, the lecture will present a set of unobtrusive sensing solutions for health status and daily activity monitoring of elderly people or patients under physical rehabilitation process. Vital signals acquisition and processing by sensing modules embedded in clothes and/or accessories and instrumented walking aid equipment will be part of the presentation. The strength and drawbacks of different solutions for cardiac and respiratory assessment will be discussed, while special attention will be granted to the ballistocardiography and radar ballistocardiography implementations, but also to other sensing solutions cardiac assessment.

Motor activity monitoring for normal users, but also for users under physical rehabilitation, represent an important field of research. Novel solutions for motions assessment based on microwave radar motion sensor, MEMS inertial sensors associated with walking aids used in gait rehabilitation process for objective evaluation of applied rehabilitation plan will be presented together with appropriate signal processing techniques. Elements of electronic health record, as well as the interaction between user and the mixed reality scenarios developed for physical therapy, are also included in the talk. Unobtrusive sensing solutions integration with virtual reality serious games for physical rehabilitation will be considered, as well as, several elements concerning the usage of thermography to evaluate the physical rehabilitation sessions effectiveness.

Speaker: Prof. Dr. Octavian Adrian Postolache (M'99, SM'2006) graduated in Electrical Engineering at the Gh. Asachi Technical University of Iasi, Romania, in 1992 and he received the PhD degree in 1999 from the same university, and university habilitation in 2016 from Instituto Superior Tecnico, Universidade de Lisboa, Portugal. In the period 1992-2000 he worked as assistant and assistant professor at Technical University of Iasi. In 2000 he became principal researcher of Instituto de Telecomunicações where he is now Senior Researcher. He served as invited professor at EST/IPS Setubal, Portugal between 2001 and 2012 when he joined Instituto Universitario de Lisboa/ ISCTE-IUL Lisbon where he is currently Aux. Professor. His fields of interests are smart sensors for biomedical and environmental applications, pervasive sensing and computing, wireless sensor networks, signal processing with application in biomedical and telecommunications, non-destructive testing and diagnosis based on eddy currents smart sensors, computational intelligence with application in automated measurement systems. He was principal researcher of different projects including EHR-Physio regarding the implementation of Electronic Health Records for Physiotherapy and he is currently principal researcher of TailorPhy project Smart Sensors and Tailored Environments for Physiotheraphy. He served as technical principal researcher in projects such as Crack Project related non-destructive testing of conductive materials. He is vice-director of Instituto de Telecomunicações/ISCTE-IUL delegation, director of PhD program Science and Communication Technologies at ISCTE-IUL, and he was leader of several collaboration projects between the Instituto de Telecomunicaçoes and the industry, such as Home TeleCare project with Portuguese Telecommunication Agency for Innovation (PT Inovação), Integrated Spectrum Monitoring project with National Communication Agency (ANACOM). He is an active member of national and international research teams involved in Portuguese and EU and International projects. Dr. Postolache is author and co-author of 9 patents, 6 books, 18 book chapters, 320 papers in international journals and proceedings of international conferences with peer review. He is an IEEE Senior Member, IEEE I&M Society Distinguished Lecturer and he presented more than 30 keynote talks and tutorials, chair of IEEE I&MS TC-13 Wireless and Telecommunications in Measurements, member of IEEE I&M TC-17, IEEE I&M TC-18, IEEE I&MS TC-25, IEEE EMBS Portugal Chapter and chair of IEEE IMS Portugal Chapter. He is Associate Editor of IEEE Sensors Journal, he was general chair of IEEE MeMeA 2014, and TPC chair of ICST 2014, Liverpool and ICST 2015 in Auckland and ICST2017 in Sydney. He received the IEEE best reviewer award and the best associate editor award in 2011 and 2013 and other awards related to his research activity in the field of smart sensing.

Information
Solid-state Ciruits
Chair

IEEE SOLID-STATE CIRCUITS SOCIETY
Where ICs are in IEEE

IEEE COMPONENTS, PACKAGING, AND MANUFACTURING TECHNOLOGY SOCIETY
IEEE

Redesigning the electric grid for high reliability and high flexibility

TWO SPEAKERS

• Haroon Inam
Chief Technology Officer
Smart Wires Inc

• Brad Bell
Director of Customer Solutions, Smart Wires Inc

Friday 25 August

Noon to 1:00 PM

Center Auditorium - BC Hydro's Edmonds Office
6911 Southpoint Drive, Burnaby, BC

Register: https://events.vtools.ieee.org/m/46292

No admission charge

Information
Joint Power & Energy Chair
Dipendra Rai
Dipendra.Rai@bchydro.com

The electricity industry is undoubtedly in a period of transition. In the last decade alone, we have seen the wide-scale integration of renewables into our system, the rapid growth of the demand response sector and the development of ever more sophisticated electricity markets. Advances in technology and communication are not only driving these changes but are also providing new, flexible solutions to help utilities continue to more flexibly operate this changing system in a secure, economic, and reliable manner.

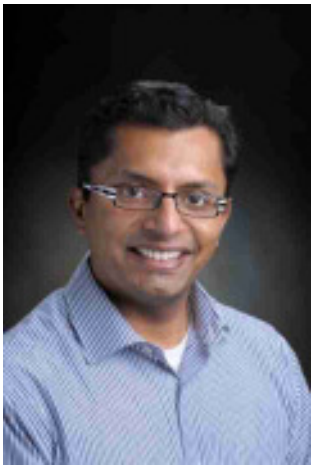
Join Smart Wires CTO, Haroon Inam, and Director of Customer Solutions, Brad Bell, as they provide insights into the design and innovation behind Smart Wires' technology – a suite of modular, flexible, and redeployable power flow control products which maximize the capability of the existing grid and provide no-regrets investment options to utilities in the face of great industry uncertainty.

Speakers: Haroon Inam is the chief technology officer at Smart Wires Inc. His primary responsibilities include leading and riving major programs inside the company and setting the future technology Vision. He received MSEE and BSEE from Duke University with Honors and Distinction. He is a seasoned technology executive with expertise on smart grid, internet of things, wireless automation, aerospace and datacenters.

Bradley Bell is the director of customer solutions at Smart Wires Inc. His primary responsibilities include development of transmission project solutions to customer requirements. He has 10 years of experience in transmission planning, grid operations and market design and analysis. He received BSEE from University of Texas in Power System Analysis and Market Design.

He has previously worked in ERCOT transmission planning and grid operations groups and developed and designed ERCOT Nodal Market. He has also worked at E-ON Generation Development and Generation Asset Management teams.

Nonlinear observers: precursors for controlling noisy real-world systems



Krishna Vijayaraghavan
Simon Fraser University

Monday 14 August

11am — noon

Rm 418 MacLeod Bldg
Main Mall 2356
UBC

Sponsored by the joint chapters of IEEE Control Systems, Robotics and Automation, and Systems, Man and Cybernetics societies

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

Physical systems are subject to unknown disturbances and measurement noise. While there have been several advances in nonlinear control theory, these techniques often require the availability of the full state measurements. Nonlinear observers are thus crucial to obtaining accurate state estimation in the presence of sensor and actuator disturbances. This talk focuses on the design of a H•observer/filter for "generalized-sector bounded" nonlinear system, in the presence of both sensor and input disturbances. The generalized-sector bounded nonlinearity is a super-set of Lipschitz, bounded Jacobian, one-sided Lipschitz, monotonically increasing and dissipative nonlinearities which are the most common classes of nonlinearities. This talk examines the challenges with an observer design for this nonlinearity and then presents a linear matrix inequality for explicitly calculating the observer gain. The talk then compares the nonlinear H•observer to Extended Kalman Filter (EKF) by comparing the variation between the two Riccati equations. Results are presented that show that the H•filter offers faster convergence of the estimation covariance at large estimation errors during the transience of the filter.

Speaker: Dr. Vijayaraghavan received his Ph.D. and M.S in Mechanical Engineering, from the University of Minnesota (Twin cities), U.S.A, in 2010 and 2005 respectively, and his B.Tech. in Mechanical Engineering from the Indian Institute of Technology (I.I.T) Madras, Chennai, India, in 2003. He has been with the School of Mechatronic Systems Engineering at Surrey campus of Simon Fraser University. His research team has been developing new observer for a wider class of nonlinear systems as well as creating observers for fault detection and parameter estimation, with applications in alternate energy systems. His other research interests include modeling and control of fuel-cells, co-design based optimization of wind turbines and smart grids, and improving engineering pedagogy. Dr. Vijayaraghavan has active collaboration with industry and is the recipient of the Early Career Researcher suppliant from Natural Sciences and Engineering Research Council of Canada (NSERC) in 2013. He is a member of ASME and IEEE and has chaired several sessions IEEE, ASME conferences. Dr. Vijayaraghavan is also part of Sticks and Stars, an ongoing joint program between Surrey School District and SFU. The program aims to scientific curiosity in at risk kids through Lego building workshops.

Robotics & Automation Society

Systems, Man, & Cybernetics Society

CSS IEEE Control Systems Society

IEEE Vancouver Women in Engineering SUMMER PICNIC

Join us in a casual environment for an evening of networking and community integration with local engineers from academia and diverse industries. Refreshments provided! All ages / genders welcomed! Members and non-members welcome!

Friday 11 August
4:00 to 9:30 PM

Fraser River Park
8705 Angus Dr, Vancouver

Members/Students - $10
Non-Members - $15
Registration:
https://events.vtools.ieee.org/m/46297

Information
WIE Chair
Ana Laura Gonzalez-Rios
ana.gr1019@ieee.org

IEEE Vancouver Young Professionals & Women in Engineering..

..have joined efforts and organized a Summer BBQ at Jericho Beach for the engineering community. Join the local IEEE community on a family environment for a morning of outdoors activities and networking with local engineers from academia and diverse industries (SFU, UBC, BCIT, KPU, BCHydro, SNC-Lavalin, BBA, etc.)

Members and non-members are welcomed.

Thursday 27 August
9AM - 4PM

• General $15 • Members / partner $10 • Kids $5
Register: http//goo.gl/g4YaTz

SUMMER BBQ JERICHO BEACH

09:00 AM — 11:00 AM: check-in and opening
11:00 AM — 01:00 PM: BBQ and networking
01:00 PM — 03:00 PM: teams setup and games
03:00 PM — 04:00 PM: awards and closing

Information
WIE Chair
Ana Laura Gonzalez-Rios
ana.gr1019@ieee.org

IEEE DAY 2017
LEVERAGING TECHNOLOGY FOR A BETTER TOMORROW

TUESDAY 03 OCTOBER 2017

Reverse bearings only target motion analysis for autonomous underwater vehicle navigation

Roee Diamant
UBC

Thursday 24 August

10:00 AM

Rm 418 - MacLeod Bldg

UBC

Light refreshments
public welcome

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

We present a non-linear navigation solution, referred as the Reverse Bearing Only Target Motion Analysis (Reverse BO-TMA) to passively self localize an Autonomous Underwater Vehicle (AUV). Our methods are based only on measuring the radiated noise of a passing vessel sailing on a known route. Compared to traditional range-based underwater localization methods, Reverse BO-TMA allows the AUV to remain farther from the reference vessel, and does not require collaboration or message exchange. To demonstrate the effectiveness of our approach, we have implemented a prototype for Reverse BO-TMA and successfully tested it in three sea experiments.

Speaker: Dr. Roee Diamant received the PhD from the Department of Electrical and Computer Engineering, University of British Columbia, in 2013, and the B.Sc. and the M.Sc. degrees from the Technion, Israel Institute of Technology, in 2002 and 2007, respectively. From 2001 to 2009, he was with Rafael Advanced Defense Systems, Israel, as a project manager and system engineer, where he developed a commercial underwater modem with network capabilities. In 2015 and 2016, he was a visiting Professor at the University of Padova, Italy. In 2009, he received the Israel Excellent Worker First Place Award from the Israeli Presidential Institute. In 2010 he received the NSERC Vanier Canada Graduate Scholarship. Dr. Diamant received two best paper awards.

Currently, he is an Assistant Prof. at the Dept. of Marine Technology, University of Haifa, and serves as an associate editor for the IEEE Ocean Engineering, and as the coordinator of the BG-14 EU project. His research interests are in underwater acoustic communication, underwater navigation, object detection, and classification.

IEEE OES Oceanic Engineering Society