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FEBRUARY 2017
CIRCULATION 3790

VOLUME 48
NUMBER 02



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A message from the Chair

Welcome to a new year of IEEE activities in Vancouver. I am Rama Vinnakota, your chair for the year 2017. I look forward to working with many of our volunteers who collectively work to provide you with events that help you advance your career and professional objectives. These dedicated volunteers support 1900 plus local members and many non-members. I sincerely request any of the members thinking of volunteering to come forward right away. Volunteering is not only self-fulfilling but you also develop skills at a very low risk to your professional career. Your Section reported 114 events during 2016 organized by volunteers.

Get involved - learn, network and give back to the profession. The backbone of the Vancouver organization is our many Technical Chapters who provide technical lectures and seminars in emerging areas that are industry specific. Attending these technical presentations is an easy way to keep your professional skills up to date and deepens your ties to others who work in your area. This networking opportunity can prove invaluable when later recruiting or looking for a new job. Experienced members are encouraged to give back to the profession by sharing their technical expertise with other young professionals on their own or when approached by the Technical Chapter and affinity groups. If you have any specific topic of interest feel free to contact me or your society local representative, I will ensure necessary arrangements are made to organize such events. Encourage non-members to attend the technical presentations and circulate IEEE Vancouver Contact to perceive value provided by IEEE to your profession.



Some of you may be aware of our affinity groups: Young Professionals, Women in Engineering, and the Consultants Network which focus on the professional development side of our careers. Our current leaders in each area are very enthusiastic and actively planning an exciting year for our members. I encourage you to check these groups they may interest you. The Vancouver Section has increased its number of student branches and we expect further growth in this area this year.

Advance your career at upcoming conferences and tutorials in Vancouver. IEEE Technical Societies sponsor a huge number of conferences and events globally each year (1800). For 2017 there are currently three IEEE conferences planned for Vancouver. Stay tuned for more news.

- 2017 IEEE International Conference on Cloud Engineering (IC2E)
- 2017 26th IEEE International Conference on Computer Communication and Networks (ICCCN)
- 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)

In our rapidly changing industry staying current is an important part of career planning. Typically during these conferences several tutorials will be organized. By attending these in your technical area, your organization would potentially save several dollars instead of sending you away for training to far off places.

I look forward to see you at one of our events including the Annual General Meeting on 25 March 2017. If you have ideas and suggestions to make IEEE Vancouver Section more valuable to the professional community please send a note to vvramkri@IEEE.org. I wish you a successful 2017.

Best regards,

Rama Vinnakota M.Tech, MAM, P.Eng
Chair - IEEE Vancouver Section

Networked control systems with industrial applications



Huijun Gao
Harbin Institute Technol'gy

**IEEE SMC Society
Distinguished Lecturer
Program**

Friday 03 February
1:30 to 2:30 PM

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

No Admission Charge

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

co-sponsored by IEEE
Circuits and Systems
Society joint Chapter of
the Vancouver/Victoria
Sections

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

In recent years, the analysis and synthesis of networked control systems (NCSs) have received increasing attention from both scientific and industrial communities. Compared with traditional point-to-point control systems, the main advantages of NCSs come from their low cost, their flexibility and easy re-configurability, their natural reliability and robustness to failure, and their adaptation capability. Consequently, NCSs have been finding applications in a broad range of areas such as power grids, water distribution networks, transportation networks, haptics collaboration over the Internet, mobile sensor networks, and so on. However, the introduction of communication channels in the control loop also brings some network-induced critical issues or constraints such as variable transmission delays, data packet dropouts, packet disorder, quantization errors, etc., which would significantly degrade the system performance or even destabilize the system in certain conditions.

This talk will first introduce some elegant approaches to network-based control and estimation problems. Then, a novel two-layer network-based architecture for operational control of industrial processes will be discussed. It will be shown that under the proposed framework, the overall optimal operational control of networked industrial processes can be achieved.

Speaker: Huijun Gao received his Ph.D. degree in control science and engineering from Harbin Institute of Technology, China, in 2005. He was a Research Associate with the Department of Mechanical Engineering, The University of Hong Kong, from November 2003 to August 2004. From October 2005 to October 2007, he carried out his postdoctoral research with the Department of Electrical and Computer Engineering, University of Alberta, Canada. Since November 2004, he has been with Harbin Institute of Technology, where he is currently a Professor and director of the Research Institute of Intelligent Control and Systems.

Prof. Gao's research interests include network-based control, robust control/filtering theory and their engineering applications. He is an IEEE Fellow and received the IES David Irwin Early Career Award. He is Co-Editor-in-Chief of IEEE Transactions on Industrial Electronics and Associate Editor of Automatica, IEEE Transactions on Control Systems Technology, IEEE Transactions on Cybernetics, IEEE/ASME Transactions on Mechatronics etc. Prof. Gao is an IEEE Industrial Electronics Society (IES) Administration Committee (AdCom) member.

He is a Thomson Reuters Highly Cited Researcher and was listed among the top 17 scholars in "The World's Most Influential Scientific Minds" by Thomson Reuters, 2014.

Please register at: https://events.vtools.ieee.org/meeting_registration/register/43191





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



IEEE Think Engineering
is an annual networking
event hosted by
UBC
SFU
BCIT

We expect over
250 guests
with industry
representatives
from a variety
of companies
such as

Intel

Teradici

MDA

Telus

Our aim is to
connect
engineering
students
with industry
representatives

IEEE Think Engineering 2017

It features multiple networking
sessions for students to chat with company
representatives, a three course sit down
dinner, and a panel discussion of
representatives from our top sponsors to
share their experience and knowledge



*Please contact nicole.cheang@ieee.org
if you are interested in purchasing tickets
or sponsoring this event*

**Sheraton Wall Centre
Pavilion ballroom**

(1088 Burrard St Vancouver)

**Friday 03 February
5:00pm**



Brewing process tour

Join us for a tour of Red Truck Brewing in Mount Pleasant. On this tour you'll learn not only how to brew beer at commercial scale, but also about the control systems and instrumentation used to ensure great tasting beer. Afterwards we will retire to the tasting room to try some of those tasty brews.

Wednesday 8 February at 2:30 pm
Red Truck Beer Company
295 East 1st Avenue, Vancouver

<https://www.eventbrite.com/e/red-truck-brewing-process-tour-tickets-31299950996?aff=EmailYPTeam>



Information

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

What's this...?



It's a plankton sampler, of course.

Serdar informs us that he's planning a March event at Cellula Robotics where this marvelous machine / device / robot will be explained in great detail. **Watch for it in March Contact**

Meanwhile, you can have a sneak preview at <http://www.cellula.com/cetor3000-plankton-sampler/>

Thanks for the advance notice, Serdar!



Information

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

RC CLASSIC IV

The IEEE BCIT Student chapter is hosting an event coming up on Tuesday 28 February and are looking to include all local universities and colleges. It is formally called the RC Classic and consists of teams of 2-5 building a Remote Controlled Electric Car from scratch to race in a time trial, and compete in three versatility challenges for the title of Grand Champion. We have received sponsorship from a few local companies so I can guarantee there will be some great prizes for competitors. This event has been building from previous years and we are looking to expand our outreach to more and more schools. Last year I believe we only had one team from SFU.

Therefore, I am hoping you all can share this event with your students, colleagues and fellow classmates in hope that we can expand this unique event from BCIT to the Lower Mainland.

For complete competition details please refer to <http://www.ieeebcit.org/rc-classic/> and make sure to join the Facebook group <https://www.facebook.com/groups/rcclassic/> to stay up to date with all the contest details.
 Alex Tivy / Vice Chair - RC Classic
 Alex.W.Tivy@ieee.org / 604-220-1914

RC CLASSIC IV

FEBRUARY 28TH
BCIT - GREAT HALL
6:00PM

REGISTER NOW:
IEEEBCIT.ORG/RC-CLASSIC/

OVER \$2000 IN PRIZES!!

Build a remote control car!
 Team up in groups of 2-5
 Add your experience to your resume
 All engineering students are welcome to participate
 Free to watch, lots of giveaways & prizes

Tinkershop, BCIT STUDENT ASSOCIATION, IEEE BCIT, ESC AUTOMATION, Delta CONTROLS