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The end of He-3 as we know it

Richard Kouzes
Pacific Northwest
National Laboratory

Distinguished Lecturer

Monday 21 July
4:00 pm

Auditorium
TRIUMF
4004 Wesbrook Mall
Vancouver

Information
Joint Applied Physics
Chair
Ahmed Hussein
Ahmed.Hussein@unbc.ca

Within the last decade, the amount of 3He available has become limited, while the demand has significantly increased, especially for science and national security applications. The largest demand for 3He is in gas proportional counters for neutron detection. No other currently available detection technology offers the stability, sensitivity, and gamma/neutron discrimination of 3He neutron tubes. Such neutron detectors are used in many applications including neutron scattering research, international and homeland security, defense applications, and well logging. Other significant uses include medicine, cryogenics and lasers. The limited supply has curtailed use of 3He; therefore, alternative neutron detection technologies must be implemented. The production of 3He from tritium decay has declined as the nuclear weapons stockpile has been reduced, resulting in a lowered need for tritium to maintain the stockpile. The worldwide, steady state production of 3He is about 10-20 kliter/y, while the demand is much higher. This has driven the search for alternate neutron detection technologies to replace the use of 3He. This talk will provide an overview of the 3He supply problem and all the applications of this rare gas, including neutron detectors to national security.

Speaker: Richard Kouzes is a Laboratory Fellow at the U.S Department of Energy's Pacific Northwest National Laboratory working in the areas of neutrino science, neutron detection, homeland security, and non-proliferation. His work on homeland security has been for the development and deployment of radioactive material interdiction equipment at U.S. borders, and for three years he was the Principle Investigator and Technical Lead for the U.S. Customs and Border Protection's Radiation Portal Monitor Project. He is a Fellow of the Institute of Electrical and Electronics Engineers and a Fellow of the American Association for the Advancement of Science. He is an adjunct Professor of Physics at Washington State University. Dr. Kouzes earned his Ph.D. in physics from Princeton University in 1974. He is an author of over 400 papers.

VTC2014-Fall
VANCOUVER
Connecting the Mobile World

IEEE Vehicular Technology Conference – Vancouver, Canada

Sept. 14-17, 2014 at the Westin Bayshore Hotel

VTC 2014 Fall - General Chairs

Dr. Ibrahim Gedeon
Chief Technology Officer
TELUS

Dr. David Michelson
Professor
University of B. C.

The **2014 IEEE 80th Vehicular Technology Conference** will be conducted Sept. 14-17, 2014 in Vancouver, Canada. This semi-annual flagship conference of the **IEEE Vehicular Technology Society** will convene leading individuals from industry, government, and universities to share their perspectives on the future of the wireless vehicular industry and present new results of their research and developments.

A large number of presentations and sessions will focus on the role of mobile wireless communication in the development of Intelligent Transportation Systems.

The visions of industry leaders will be shared on V2V, V2I, Autonomous & Connected Vehicles, Vehicular Electrification and EMC. These high quality industry and technical presentations will be conducted in keynotes, panel sessions, industry and technical sessions, workshops, tutorials, poster presentations and exhibitions that illuminate these visions. A new dimension has been added to the conference in Vancouver to emphasize the full breadth of industry research, development and applications. Not only does this conference convene the most advanced research underway at institutions around the globe, it also presents a strong focus on the industry specific needs and developments currently underway in industry. Below are some of the key topics currently on our agenda. In our succeeding announcements, additional details and specifics will be provided on each segment.

Conference Technology Tracks:

Technical Research & Development Presentations

Wireless Access
Green Networks
Wireless Networks and Security
Ad-Hoc, Mesh, and Sensor Networks
Cognitive Radio and Spectrum Sensing
Mobile Networks, Applications, Services
Multiple Antenna Systems and Services
Electric Vehicle and Vehicular Electronics
Antennas and Propagation and RF Design
Transportation, Vehicular Networks, and Telematics
Transmission Technologies and Communication Theory
Land Mobile Radio and Public Safety Communications
Satellite Networks, Positioning, Localization & Navigation
Cooperative Communications, Distributed MIMO & Relaying

Industry Specific Panel Sessions and Keynotes

Automotive EMC
5G Wireless Technologies
Wireless System Planning
700 MHz Spectrum Allocation
Millimetre Wave Cellular Access
Electric Vehicle Charging Stations
Next Generation Land Mobile Radio
Safety Systems for Autonomous Vehicles
5G Design and Test for Automotive Industry
Automated Vehicle Technologies and Trends
Automated and Connected Vehicle Synergies
Commercial Implications of Automated Vehicles
Reliable Operating Systems for Automated Vehicles

Request Exhibition and Sponsorship Opportunities at VTC@ICTSGroup.com

IEEE VTS

Engineers, engineering managers and strategic development and planning managers: Join professionals from a global pool of industry, government and academia to exchange "state of the art" results from new R&D in the fields of vehicular wireless and electronic technology. Attend all IEEE VTC 2014-Fall plenaries, panels, workshops and technical sessions for a Special Delegate registration rate of $100 USD! For details, please click http://www.cvent.com/d/44qxz0/4W

VTC2014-Fall
VANCOUVER
Connecting the Mobile World

IEEE WORKSHOP ON AUTOMOTIVE EMC

Wed, 17 Sep 2014 1:00 – 5:00 pm

in conjunction with

Electric Vehicles & Vehicular Electronics Day at
IEEE Vehicular Technology Conference - Vancouver, Canada
Sept. 14-17, 2014 at the Westin Bayshore Hotel

Chairs:
- Todd Hubing, *Clemson University, USA*
- David Michelson, *University of British Columbia, Canada*
- Janet O'Neil, *ETS-Lindgren, USA*

Feature Topics:
- Design for Automotive EMC
- Test for Automotive EMC

Invited Speakers:
- Garth D'Abreu, *ETS-Lindgren, USA*
- Joungho Kim, *KAIST, South Korea*
- Todd Hubing, *Clemson University, USA*

Engineers, engineering managers and strategic development and planning managers: Join professionals from a global pool of industry, government and academia to exchange "state of the art" results from new R&D in the fields of vehicular wireless and electronic technology. Attend all IEEE VTC 2014 Fall plenaries, panels, workshops and technical sessions over 14-17 Sep 2014 for a Special Delegate registration rate of $100 USD! For details, please click http://www.cvent.com/d/44qxz0/4W

New!

In addition to the regular technical program, we will host special industry sessions that will feature invited presentations by noted experts. The sessions will align along three major theme days: Mobile Radio, Autonomous and Connected Vehicles and Electric Vehicles and Vehicular Electronics.

New!

IEEE VTC 2014 Fall will feature a mobile app called **CrowdCompass** that will help you navigate the conference and find the papers, sessions and activities of greatest interest to you.

Mon, 15 Sep 2014 – Mobile Radio Day
Program Chairs: Peiying Zhu, *Huawei*
Ibrahim J. Gedeon, *TELUS*

AM: Keynote Session * Wireless System Planning Tools
PM: Millimetre Wave Access * 5G Wireless Technology

Tue, 16 Sep 2014 – Autonomous and Connected Vehicles Day
Program Chairs: Barrie Kirk, *CAVCOE*, and
David Atnikov, *Novax Industries*

AM: Keynote Session * Autonomous Vehicles
PM: Connected Vehicles * Panel Session on AV/CVs

Wed, 17 Sep 2014 – Electric Vehicles and Vehicular Electronics Day
Program Chairs: Lee Stogner, *IEEE TEI*, and
David G. Michelson, *UBC*

AM: Keynote Session * Electric Vehicle Charging Initiatives in BC
PM: Workshop on Automotive EMC: Design for EMC * Test for EMC

IEEE Signal Processing Society

Summer school on signal processing and machine learning for big data

Call for Participation

The University of British Columbia, Vancouver, BC, Canada
July 29 - August 1, 2014

MOTIVATION AND DESCRIPTION Humans, machines and sensors collectively generate an enormous amount of data on a daily basis. The fact that much of this data is now accessible provides an opportunity to explore, analyze and extract previously unavailable and potentially highly useful information. In many cases, the volume and speed of data generation makes traditional centralized data analysis infeasible. The lack of structure, and the amount of noise and outliers emphasize the need for robust processing across heterogeneous data domains. High dimensionality makes it challenging to visualise and interpret the data. Overall, Big Data analysis presents many challenges and opportunities for current and future signal processing professionals. This Summer School is intended to provide an introduction to the current efforts to explore Big Data from a signal processing perspective. Topics will range from foundations for Big Data analysis and processing (robust statistical methods, sparse representations, numerical linear algebra, machine learning, convergence and complexity analysis) to Big Data applications (social networks, behavior and language analysis, bioinformatics, smart grid, environmental monitoring, and others)

IMPORTANT DATES
Registration deadline: July 15, 2014
School dates: July 29 - August 1, 2014

The School will take place at the University of British Columbia, Vancouver campus.

https://sites.google.com/site/s3pbigdata2014/registration

	Students Full	Others Full	Single day
IEEE SPS Member	$50	$300	$100
IEEE Member	$200	$500	$200
Non-Member	$400	$800	$500

REGISTRATION Registration fees are listed in Canadian Dollars. Check the website for further information and application details.

Information
Signal Processing Chair
Ivan Bajic
ivan_bajic@ieee.org

IEEE Signal Processing Society®

ICICS CONNECTING KNOWLEDGE

IEEE Canadian Foundation
Fondation Canadienne de l'IEEE
456 Rogers Street, Peterborough, ON K9H 1W9 Tel: 705 743 7712 Email: can.foundation@ieee.org

IEEE Canadian Foundation (ICF) Initiative/Campaign "**20 for 20**'

In 2014, IEEE Canadian Foundation (ICF) marks its 20th anniversary as a foundation in the present form. This occasion is a reminder of the importance to continue supporting ICF by donating online or donating by mail.

Your support of the ICF ***$20*** for ***20th anniversary recognition*** will help expand the ICF General Fund lead programs across Canada:

- **Scholarships** for outstanding undergraduate IEEE engagement,
- **McNaughton Learning Resource Centre Grants** for enhancing the learning experiences of students at Canadian universities and colleges,
- **Special Grants** for new and innovative projects that advance IEEE's core purpose to foster technological innovation and excellence for the benefit of humanity.

For first time contributors, please review the success stories and ICF track record on the ICF website.

For recurring contributors, please consider this $20 incremental to your regular donation – special for the ICF 20th anniversary recognition.

A brief history of IEEE Canadian Foundation (ICF)

After Revenue Canada granted ICF charitable foundation status, ICF started operating under its new status in January 1994. Prior to that, the ICF existed in other forms. More about the ICF history can be found at http://ieeecanadianfoundation.org/EN/history/history.php. Since many small charities succeed in operating for only a few years, the ICF 20th anniversary, and still going stronger, is a remarkable achievement of the Foundation. It was made thanks to the continual support of many ICF donors/contributors over the past two decades and a large number of ICF volunteers and IEEE Canada members. This sustained success in providing benefits to IEEE Canada students, recognition and awards to IEEE Canada members, and to the engineering community in Canada is a cause worth celebrating.

2014 IEEE 15th International Conference on High Performance Switching & Routing Vancouver, British Columbia, July 1 to July 4, 2014

Vancouver is world renowned for its diversity of many cultures and ethnicities. It is an ideal place for scientists and engineers from around the world to gather and share their ideas.

With the unprecedented growth of the Internet as a backbone for communications and information services, it is essential that researchers gather to share their ideas and progress on solving the future challenges that the Internet faces. They include bridging the digital-divide and providing advantages of the Internet to developing countries; handling the bandwidth and delay requirements of multimedia, P2P, and cloud computing applications; implementing IPv6 and migrating from IPv4; deploying large datacenters and enhancing their switching capabilities; and achieving energy efficiency of switching and routing equipment.

These are only a few of the topics that have demanded switching and routing capabilities that are more intelligent, efficient, and reliable then ever before.

IEEE HPSR 2014 will address the following topics

- Architectures of high-performance switches and routers
- High-speed packet processors
- Address lookup algorithms
- Packet classification, scheduling, and dropping
- Switching, bridging, and routing protocols
- Latency and buffer control
- Multicasting
- P2P routing
- Routing in wireless, mobile and sensor networks
- Optical switching and routing
- Switching, bridging, and routing in data centers and clouds
- Software defined networking
- Data placement and migration
- Multiprocessor networks
- Network management
- Pricing, accounting, and charging
- QoS and scalability of switching, bridging, and routing
- Traffic characterization and engineering
- Power-aware switching, bridging, and routing protocols
- High-speed network security

General Chairs: Ljiljana Trajkovic (Simon Fraser University), Andrzej Jajszczyk (AGH University of Science and Technology)
http://www.ieee-hpsr.org/

Welcome.. recent arrivals to IEEE Vancouver!!

Bader Alahmad ..... GS
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Mohammed AlTaha ..... GS
Dave Alton ..... ST
Zargham Amer ..... ST
Mohammad Amirian ..... ST
Saeed Arasteh ..... GS
Gancho Armianov ..... ST
Trent Arnott ..... ST
Siamak Arzanpour ..... M
Kelvin Au ..... ST
Bahar Baghazadeh ..... ST
Kartik Bajaj ..... GS
Joshua Baker ..... ST
Kris Baranowski ..... ST
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Svetlana Borkovkina ..... ST
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Geoffrey Card ..... ST
Gino Carrese ..... M
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