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### Message from the chair

Dear member,

The Vancouver Section of the American Institute of Electrical Engineers (AIEE), a predecessor of IEEE, was organized on October 11, 1911, upon authority given by the board of directors of AIEE at its meeting in New York on August 22, 1911. This important section formation date is just a few days away. I look forward to seeing you all at our big birthday celebration event on August 23, 6 pm, at the Creekside Community Centre in Vancouver. For more details, please see the announcement in this issue of Contact. We have been overwhelmed by all of the well wishes for our 100th birthday from all of our IEEE Canada friends. IEEE Canada vice-president and Region 7 director-elect Keith Brown sent us the following message below. I will join him in congratulating all of you, our IEEE Vancouver members, on this important milestone. Please send your thoughts about what IEEE and this milestone means to you to [mazana.armstrong@ieee.org](mailto:mazana.armstrong@ieee.org). We will do our best to publish them in the next issue of Contact.



Mazana Armstrong IEEE Vancouver Section Chair

From Keith Brown, IEEE Canada:

Please express my congratulations to all members of the Vancouver section in celebrating its 100th anniversary. It is worth mentioning that the IEEE itself was only 27 years young when your section was established. Below are a few points to help us imagine what life was like for Canadian engineers in and around 1911:

- Population of Canada is 7.2 million,
- Robert Borden is Prime Minister of Canada,
- The electric toaster is introduced (1909),
- Le Club de Hockey Canadien (more commonly known as the Montreal Canadiens) is formed (1909),
- The first airplane flight in British Columbia takes place (1910),
- The first trials are made of a Canadian-made aero engine designed by William Wallace Gibson of British Columbia (1910),
- Association of Universities and Colleges of Canada is founded,
- Dominion Parks Branch is established, the world's first national park service, now called Parks Canada.
- An electric self-starter invented by C. F. Kettering improves automobile safety (previous to this automobiles were started by crank),
- Ernest Rutherford proposes a nuclear model of the atom that consists largely of a positively charged nucleus surrounded by electrons,
- Physicist and chemist Marie Curie receives the Nobel Prize in Chemistry for the discovery of radium, becoming the first person to win or share two Nobel Prizes (she previously shared a Nobel Prize in Physics in 1903 for pioneering work with ionizing radiation),
- The RMS Titanic, the world's largest passenger steamship, sank off the coast of Newfoundland, Canada on 15 April 1912,
- The first electric refrigerators suitable for home use in North America are produced (1912), and
- An Act of Parliament incorporates the Canadian General Council of the Boy Scout Association (1914).

I hope these historical points generate discussion and engagement among the volunteers attending. I also wonder what the next 100 years will bring? Again, congratulations Vancouver section!

Keith B Brown, PhD, PEng, SMIEEE 2010-11 vice president, IEEE Canada 2010-11 director-elect (Region 7), IEEE Inc.





Gerry Persoon  
BCTV/Global BC

Friday 16 September  
3:00pm - 5:00pm

7850 Enterprise St.,  
Burnaby, BC  
(lots of free parking or  
easy walk from Lake City  
SkyTrain station)

Website:  
[www.globaltvbc.com/](http://www.globaltvbc.com/)  
a division of  
<http://shawmediatv.ca/>

**Information**  
Joint Communications  
Chair Alon Newton  
[alon.newton@gmail.com](mailto:alon.newton@gmail.com)

## Visit to Global BC Shaw media TV studio

Although HD is not mandated by the CRTC until 2011, the Global Television Network has begun taking steps towards conversion since 2008. Global Television in Ontario currently provides an HD stream to some of the larger BDUs - broadcast distribution undertaking (BDUs are your local cable or satellite providers).

We will be addressing each Global station over a period of time and not all at once. There is no over the air transmission available yet, but we expect to have an over the air HD transmitter up and running for CHCH Hamilton, Global Ontario and Global BC. After they are set up and running, Calgary and Edmonton will follow for an HD transmitter, followed by the remaining Global Networks. Detailed specifications (i.e. the actual channel #'s) will come at a later date. Please join us for a visit with technical emphasis at the newly upgraded studio in Burnaby. RSVP via: [anewton.ieee@gmail.com](mailto:anewton.ieee@gmail.com) by 12 September.

**Speaker:** Gerry received his C.E.T. diploma from VCC/VVI in 1975. He has been employed with the BCTV/Global BC Engineering department for 35 years. As Engineering Supervisor, he is responsible for maintaining the virtual set studios and digital newsroom system in Burnaby; the digital and analog transmitters on Mount Seymour, as well as several rebroadcast transmitters, tower cams and digital microwave receive sites in the Lower Mainland and Whistler. He also maintains 2 digital microwave live trucks and a satellite uplink truck for live News broadcasts now transitioning to HD. The local News gathering resources include 20 fully equipped News vans which are being outfitted with the latest Sony PMW 350 XDCam HD camera.

We are currently working with our new owner Shaw Media to share HD video content between the entire Global Television Network using JPEG 2000 encoding, which will provide high quality and low latency for live HD broadcasts.



## UBC student branch wins George Armitage

From: Kanishka Jayawardene <[k.jayawardene@ieee.org](mailto:k.jayawardene@ieee.org)>  
Date: Thu, Aug 11, 2011 at 10:43 PM  
Subject: George Armitage Outstanding Student Branch Award  
To: Harshul Srivastava <[harshul@ieee.org](mailto:harshul@ieee.org)>, [ieee@ece.ubc.ca](mailto:ieee@ece.ubc.ca)  
Cc: Denard Lynch <[denard.lynch@usask.ca](mailto:denard.lynch@usask.ca)>

Dear Harshul,

It is my pleasure to inform you that the University of British Columbia IEEE Student Branch has been selected as the winner of the George Armitage Outstanding Student Branch Award, and your award will be presented at the Annual Student Congress on September 16-18.

Congratulations on this great accomplishment, and we look forward to hearing about more great activities that your Branch will take up in the future.

Regards, Kanishka  
Kanishka Jayawardene IEEE Canada Student Representative [www.ieee.ca/students](http://www.ieee.ca/students)



Afshin Momtaz  
Broadcom Corporation

Friday 26 August 26  
3:00pm

Room 2020  
Kaiser Building  
2332 Main Mall, UBC

**Information**

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

## Broadcom and ADC-based multi-GHz wireline transceivers

Broadcom is one of the largest fabless semiconductor suppliers focusing on both wired and wireless communications. The rapid growth of internet traffic continues to create new opportunities for semiconductor suppliers such as Broadcom and their analog designers. For example, due to high-speed serial links data rate transition to 40Gbps and 100Gbps, multi-GHz analog-to-digital converters (ADCs) have become a hot research and development topic. This talk will provide an overview of recent advances and ongoing research in ADC-based receivers, various architectures and the design of their key blocks.

**Speaker:** Afshin Momtaz received the M.S.E.E degree from UCLA, and the Ph.D. degree from UC Irvine.

From 1992 to 1998, he was with Western Digital and Adaptec corporations where he designed disk-drive read channel and fiber channel transceiver chips. In 1998, he joined the NewPort Communications, where he was involved with design of various OC48 and OC192/10GE CMOS transceivers. Since the acquisition of NewPort Communications by Broadcom in 2000, he has been also focusing on 10 and 20Gbps equalizer designs for optical, copper and backplane applications. He is currently an engineering director of the Analog and Mixed Signal group. Dr. Momtaz has authored/coauthored more than fifteen journal/conference papers. He has more than 70 U.S. patents issued in the area of multi GHz mixed-signal circuits and systems.



Fiorenza Howard

Wednesday  
28 September  
5:00 - 7:00 pm

Room TBA Kaiser Bldg  
2332 Main Mall  
UBC

**Information**

Women In Engineering  
Affinity chair  
Zahra Ahmadian  
zahraa@ece.ubc.ca

## An engineer's journey: from tradition to freedom - a walk between continents

From a win at Chess against the Big Blue to design the digital network for British Columbia. I was told it was impossible: a woman as an engineer in Italy, an immigrant to the USA without knowing the language, a manager for space technology, a mentor and a scholar. Has it been stubbornness not wanting to give up? Or has it been a love for impossible dreams of what the future can bring us? How could I have shaped the future? And how I did.

**Speaker:** Albert-Howard's entire professional life has been with computing, managing several large projects in Europe with IBM, Olivetti, General Electric, and Honeywell, in the United States with Hughes Aircraft and Southern California Edison. In Canada with BCTelephone, she directed the design of the digital provincial network, and at the University of British Columbia as Director of Networking and Telecommunications, she directed the design and

implementation of a fiber backbone network for UBC, E-mail distribution, X.400 and X.500 technology deployment and support, LAN design, installation and maintenance. (†Received from the University of Roma, Italy; a Ph.D. in Statistics applied to Computer Sciences; an MBA in Statistics, Actuarial and Demographic Sciences; and a B.Sc. in Civil Engineering Published three books on computers and System Analysis, several articles in Italian And American magazines. (†She is engaged in volunteering with several organizations both in Canada and Internationally: with the IEEE, with the CFUW (Canadian Federation of University Women), with Capilano University Foundation. At present she is Chair of the IEEE Technical Field Awards Council and member of the Life Members Committee, the IEEE Foundation Grants Evaluation Committee and the IEEE Canada Foundation.





**Dr. Arkady Tsisserev**

**“For outstanding contributions to Codes and Standards Development & Electrical Engineering”**

Arkady (Ark) Tsisserev is undoubtedly Canada's most outstanding Electrical Engineer for advancing public safety and the development of codes and standards. He has been elected by his peers for over ten years as chair of the Canadian Electrical Code. He also is a member of the Canadian Standards Association's Policy Standards Board, which provides overall direction for the development of Canadian Standards.

He also finds time to sit on many individual Code & Standards Committees and actively participates on NFPA, IEEE and IEC standards/committee work. He has been an active member of the Vancouver Section of the IEEE, being an auditor and has made technical presentations to the Vancouver Section.

Ark is presently a Principal Engineer for Stantec Consultants. Previously, he was Chief Electrical Inspector for the City of Vancouver for over 15 years. He obtained his PhD from the State University in Ukraine and holds a Masters Degree in Electrical Engineering from the University of Manitoba. Over his career he has received many awards including the Association of Professional Engineers and Geoscientists of BC President's Award.



**Dr. Rabab Ward**

**“For outstanding contributions in the areas of signal detection, image processing, and applications of those technologies”**

Rabab Ward's work has found significant applications to cable TV, HDTV, medical images, infant cry signals and brain computer interfaces. She has published hundreds of technical publications, and holds six patents related to cable television picture monitoring, measurement and noise reduction. Applications of her work have been transferred to U.S. and Canadian industries. She has also made important contributions to Women in Engineering having been one of the founders of the Society for Canadian Women in Science &

Technology. Some of the great achievements of this society were the introduction of programs to help high school girls in mathematics and provide hands-on experience in technology and science.

She is a Professor in the Electrical and Computer Engineering Department at the University of British Columbia (UBC), Canada. She is presently appointed in the Office of the Vice-President Research Office as the natural sciences and engineering research coordinator for UBC.

She has received many awards, and is Fellow of the Royal Society of Canada, the IEEE, the Canadian Academy of Engineers and the Engineering Institute of Canada.

**Dr. Hermam Dommel**



**“For outstanding contributions to the field of Electromagnetic Transients Simulation”**

Hermann Dommel is the pioneer of electromagnetic transient analysis and EMTP. He developed basic formulation and developed the first computer based program to study fast transients phenomena throughout electrical systems. He has also made monumental contributions to various fields in electrical engineering such as Optimal Power Flow. His world-wide recognition started with his classic 1969 IEEE paper titled “Digital Computer Solution of Electromagnetic Transients in Single - and Multiphase Networks”.

Hermann has also contributed significantly to the IEEE Vancouver Section, having progressed through the executive leadership in the early 1980’s and being the founding lecturer in the Section/UBC extramural courses in electrical engineering.

He has been a professor at UBC since 1973, and is presently Professor Emeritus at that university. From 1995 to 2000 he held the Industrial Research Chair sponsored by B.C. Hydro and the Natural Sciences and Engineering Research Council of Canada. He is a life Fellow of the IEEE and has received many awards, most recently, the Power and Energy Society 2011 Charles Concordia Award.

**Dr. James McFarlane**



**“For a lifetime of contributions to underwater vehicles and robotics and the Canadian advanced technology sector”**

James McFarlane is the founder and current president of ISE since 1974 and has been involved with the design, construction, and operation of manned, tethered and untethered Remotely Operated Vehicles as well as subsystems of these vehicles include manipulators and computer control systems. Since that time, he has been a part of engineering teams that have built over 400 robotic manipulators and over 200 vehicles. In 2009, ISE was inducted into the Offshore Energy Center Hall of Fame and was also named as one of Canada’s top 40

defence companies.

He is the author of many papers on submarines, manned submersibles, ROVs and AUVs (Autonomous Underwater Vehicles). He has also made keynote presentations in Europe, Southeast Asia, USA and Canada. Dr. McFarlane has served on many committees for international meeting and as a guest speaker at many conferences. He has also received many awards including the Officer of the Order of Canada, BC Science Council Award for Industrial innovation, and the BC Science and Engineering Gold Medal.

## **IEEE Vancouver Section Centennial Awards – 23<sup>rd</sup> August, 2011**



**Dr. John MacDonald**

**“For a lifetime of contributions to digital systems, remote sensing, space technology renewable energy and the Canadian advanced technology sector”**

Day4 Energy's Chairman and CEO, John MacDonald is known as a true visionary and entrepreneur in the space technology and renewable energy industry. His many contributions have positioned Canada as a world leader within the fields of space science and technology.

Prior to helping establish Day4 Energy in 2001, John MacDonald co-founded MacDonald Dettwiler and Associates (MDA), Canada's largest space technology company. He served as President and CEO of MDA for 13 years, as Chairman for a subsequent 17 years, and played an instrumental part in many of the organization's highest achievements, including the RADARSAT-2 spacecraft. Prior to MDA, Dr. MacDonald held a faculty position in engineering at UBC and MIT for a total of 12 years. His numerous awards include being inducted as a Laureate of the British Columbia Business Hall of Fame in 2006, as well as accepting the Ernst and Young Entrepreneur of the year Lifetime Achievement Award the same year. In addition to holding eight Honorary Degrees, John Macdonald is an Officer of the Order of Canada and a Fellow of the IEEE.



**Dr. Victor Leung**

**“For outstanding contributions to research on wireless networks and mobile systems”**

Victor Leung has made significant contributions to research and development in wireless networks and mobile systems in industry and academia over the past 30 years. He has contributed more than 500 publications in refereed journals and conference proceedings. He has made ground-breaking contributions in the areas of mobility and location management, radio resource management, medium access control and quality of service provisioning. His work has been cited more than 3200 times. His papers on dynamic call admission control and dynamic location management set new directions in the field and were highly cited. He has collaborated extensively with the Canadian industry, and generated more than 8 million dollars in research funding. He has mentored the completions of more than 12 PhD and 60 master's students.

He is a Distinguished Lecturer of IEEE Communications Society, and has served/is serving on the editorial boards of IEEE Trans. Computers, Trans. Wireless Communications, Trans. Vehicular Technology, JSAC and many other journals. Dr. Leung is a fellow of IEEE, Engineering Institute of Canada and Canadian Academy of Engineers. He has contributed to the organization and technical program committees of numerous international conferences organized by IEEE and other organizations.

## **IEEE Vancouver Section Centennial Awards – 23<sup>rd</sup> August, 2011**



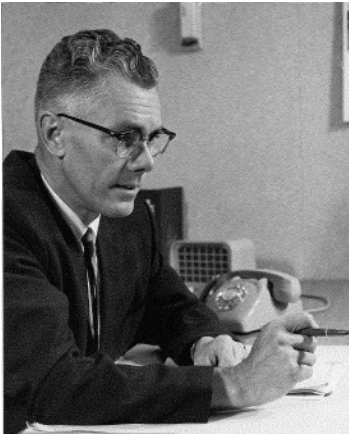
**Dr. José R. Martí:**

**“For outstanding contributions to education and research in simulating multiple infrastructures including electric power systems”**

José Martí has advanced the state-of-the-art power system transient simulators in several areas such as the first frequency dependent transmission line model and other advanced computational techniques. More recently, his work includes the development of a system simulator that integrates the interdependencies and flow of resources among multiple infrastructure systems (e.g., power system, water system, transportation system, ICT system, etc.). This tool is currently being applied in three broad areas: 1) Analysis and design of integrated energy (heat and electricity) systems with multiple sources of conventional and

alternative generation; 2) Development of energy self-sufficient economically prosperous communities; and 3) Development of decision support tools for optimal response during large disaster situations.

He has been an active leader in the IEEE Vancouver Section having been a Chair of the Power Engineering Chapter and the Section itself. Dr. Martí has been a professor at UBC since 1981 and is a Fellow of the IEEE and of the Canadian Academy of Engineering.



**In memory of Thurb Cushing:**

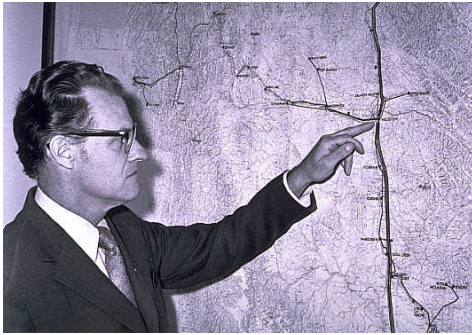
**“For leadership in development of the telecommunications industry in British Columbia”**

Thurb Cushing began his career during the Second World War designing VHF radios for the National Research Council. After a brief stint at Spilsbury-Hepburn, a leading manufacturer of radio communication equipment for the maritime trade, Thurb was hired by NorthWest Tel, then the wireless arm of BC Tel. He was soon put in charge of finding a microwave route from the Alberta border to Vancouver for BC Tel. This became the final link in the Trans Canada Microwave System that brought live network television and direct distance dialling to British Columbia in 1958. He later became engineering manager and, finally, vice-president of Lenkurt Canada.

His contributions to the telecommunications industry in British Columbia were tremendous. He made important technical contributions to BC Tel's wireless infrastructure and helped to train a generation of engineers skilled in the development and deployment of toll-quality wireless communications equipment. His role in establishing Lenkurt Canada as a design and manufacturing operation laid the seeds for BC's high tech explosion of the 1970's, 80's and 90's. One of the first contracts that John MacDonald and Vern Dettwiler secured for their fledgling company, MDA, was to develop an improved operating system for Lenkurt's pioneering System 51 remote monitoring system.

Thurb Cushing passed away at age 45 on 9 March 1962. As a memorial to Thurb, his friends and colleagues established an IEEE scholarship award that has been administered by Vancouver Section ever since.





**In memory of Dr. Harry Ellis**

**“For lifetime contributions to the understanding of the transient and dynamic electromechanical stability of electrical power systems”**

Harry Ellis led the transmission planning activity in development of the 500kV transmission backbone for British Columbia. The initial stages of this development used novel special features to improve the system stability such as series capacitors, special stabilizing signals, static excitation of generators and braking resistors. He also planned the development of the high voltage direct current submarine cable link to Vancouver Island.

He received his B.Ap.Sc degree in Electrical Engineering from UBC in 1945 and his PhD in Electrical Engineering and Physics from the California Institute of Technology in 1951. He moved from Ontario to BC to join BC Hydro in 1961 as an Electric System Planning Engineer. In 1970 he became the manager of the Engineering Division. He was appointed Director of Research and Development at BC Hydro in 1975 and was responsible for the overall planning of BC Hydro's R&D centre that opened in 1980.

He was Chairman of the Vancouver Section of the IEEE and a Fellow of the IEEE. In his lifetime he received many awards for outstanding contributions to the field of Electrical Transmission and Distribution.

Dr. Ellis passed away on 2007-Nov-4.

### IEEE Vancouver Section Centenary Celebration

It is my pleasure to extend my congratulations to the IEEE Vancouver Section on the occasion of celebrating the one hundredth anniversary of its establishment. Originally established as the American Institute of Electrical Engineering Vancouver Section, it was the second such Section established in Canada.

Over the years, the IEEE Vancouver Section has been one of the most active Sections with extensive programs to serve the IEEE Members through the activities of Sub-sections, Student Branches, chapters, Affinity Groups and conferences that encompass all activities of the IEEE, be they technical or otherwise.

I wish the IEEE Vancouver Section and its members continued success over the next one hundred years,

Congratulations and best wishes for continued success,

Om Malik

--

Dr. O. P. Malik, LFIEEE, FEIT, FCAE, FEIC, FEC, FWIF  
Professor Emeritus, ECE, University of Calgary  
President IEEE Canada, 2010-2011

Mazana Armstrong, Chair  
IEEE Vancouver Section  
9812 Rathburn Dr  
Burnaby BC V3J 7L1  
Canada

August 19, 2011

Dear Chairman Armstrong,

I regret that I and the other IEEE top leadership will be unable to attend the Centennial Celebration event for the Vancouver Section. Unfortunately, the event occurs concurrently with the meetings of the IEEE Board of Directors and the Governance and Finance committees, all taking place next week in conjunction with the triennial IEEE Sections Congress in San Francisco.

However, it is with great pleasure that I congratulate you and the more than 2,000 Members of the IEEE Vancouver Section on this 100th anniversary of the official founding of the Section on August 22, 1911. IEEE's predecessor society – the AIEE – had just completed its first quarter century when the Section was formed. Only 21 of the 333 IEEE Sections are older than the Vancouver Section.

Bridging two centuries, the Section continues a wide range of activities for its Members and Student Members throughout the province and Canada. These activities include lectures, seminars and workshops held in conjunction with the Section's nine active technical chapters representing 15 of the 37 societies and councils of IEEE. This impressive array of technical and professional offerings includes such recent technical topics as Wireless Networks with Flow Arrivals and Departures, The European ITS Action Plan and Technological Trends to Build an Integrated Transportation System, and GEOSS Workshop XLI – Global Hydrology Interoperability and Field Applications. The Section also has provided support of its Student Members with Student Branches at BCIT, UBC Okanagan and UBC Vancouver.

I and the thousands of other IEEE Members around the world share your pride in the accomplishments of the Vancouver Section and its Members during this celebration of the Section's 100 years as a vibrant and integral part of IEEE.

Again, I offer my regrets at not being able to attend your event, but please accept the best wishes of the IEEE Board of Directors for your continued success.

Moshe Kam



IEEE President and Chief Executive Officer



# IEEE Vancouver

22 August 1911 – 23 August 2011

100 Years of Technological Excellence



## IEEE Vancouver Centennial Celebration: Dedication Ceremony and 100th Birthday

### Date / Time:

August 23<sup>rd</sup>, 2011

**18:00 Plaque  
Dedication Ceremony**

**18:45 – 20:00 Awards,  
recognitions, celebration**

### Location:

**Creekside Community  
Recreation Centre, 1  
Athletes Way, Vancouver**

### Sponsors:

**SFU • UBC • BCIT  
Telus • BC Hydro  
APEGBC • MDA • Stantec**

Lex Engineering  
Vector Drive Systems  
GE Energy

This special centennial event includes:

- Plaque dedication ceremony
- Awards and recognitions
- New IEEE Vancouver logo
- Historic artifacts exhibition
- Birthday cake, food and refreshments!

Please join us as we celebrate our 100<sup>th</sup> birthday!

We will begin at the Creekside Community Centre in Vancouver and then proceed to a nearby spot on the shore of False Creek. There, we will dedicate a public plaque commemorating the 100<sup>th</sup> Anniversary of our founding as the Vancouver section of AIEE on August 22, 1911.

After the dedication ceremony, we will return to the Creekside Community Centre for a reception. The new IEEE Vancouver logo will be unveiled. Awards and recognitions will follow, along with food, refreshments and a birthday cake. Historic artifacts will be on display.

IEEE members (all grades) and invited guests only. Pre-registration is required. No fee, but donations to IEEE Vancouver student scholarship fund will be gratefully accepted.

For event info and pre-registration: <http://bit.ly/n09WoQ>

For Centennial info: <http://vancouver.ieee.ca/Centennial>

**IEEE Vancouver - 100 Years of  
Technological Excellence**

