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Message from the chair

Dear Members,

I would like to start by thanking all of you who joined us at the centennial birthday celebration event on August 23. The full coverage is provided in this issue of Contact. It was a memorable and enjoyable event – we appreciate all the great feedback we received. I would especially like to thank our volunteers; none of the events would be possible without their engagement and dedication. If you are interested in volunteering with the Section, please let me know. We have several positions currently open, and I would be happy to discuss them with you. Please send me a note to mazana.armstrong@ieee.org.

Our next centennial event is coming up on October 21. We have invited several local speakers as well as a distinguished guest from the US to give us talks about the topics of interest to you. Please see this issue of Contact for more information. This free, all-day symposium, will be a great networking opportunity. I hope to see you there!

We are working on another centennial initiative that will be of interest to you – our centennial booklet. We envisioned it as a record of the first 100 years of Vancouver Section and electrical technology development in our province. We are currently compiling the section's historical records, and we are looking for any articles, stories, memories you may want to share with us. This booklet is intended to be a keepsake, a gift to all our members who wish to preserve a piece of our local engineering history for years to come. Please contact our centennial history committee chair Chris Scholefield if you would like to obtain more information about the booklet or receive your free copy.

If you would like to write your own story about technology developments and your contributions, please visit IEEE Global History Network, and preserve it for future generations. You can begin by simply posting your current curriculum vitae and update your personal story over time.

Finally, it is IEEE election time, please remember to vote for new IEEE leaders before October 3rd!

Sincerely,
Mazana Armstrong
Chair, IEEE Vancouver

Nominations for 2012 IEEE Vancouver executive

The nomination committee is currently accepting nominations from the membership in order to complete the change of officers on 01 January 2012. IEEE Vancouver is seeking volunteers to take on a leadership role in helping to deliver high quality technical programs to our members. The main requirements of IEEE volunteer leaders are willingness to help the technical development of their peers, and memberships in the IEEE and in the technical societies that they lead. Contact Rasvan Mihai by 06 October at rasvanm@analyticsystems.com
2012 Nominating Committee: Rasvan Mihai (chair), Eugen Trandafir, Paul Bowler.

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IEEE Vancouver

Centennial Technical Symposium

Friday 21 October 2011 9:00am - 3:00 pm

Creekside Community Recreation Centre, 1 Athletes Way, Vancouver

Sponsored by

BC Hydro • BCIT • SFU • Telus • UBC

APEGBC • MDA • Stantec

GE Energy • Lex Engineering • Vector Drive Systems

Please join us for this special technical symposium celebrating the past, present and future of electrical technology development in Vancouver and British Columbia. This symposium will address topics such as communications, power engineering, information technologies and energy by distinguished speakers.

This event is free of charge for IEEE members (all grades) but pre-registration is required. Donations to IEEE Vancouver Student Scholarship fund will be gratefully accepted. To register contact Gruja Blagojevic gruja.blagojevic@ieee.org or visit http://meetings.vtools.ieee.org/meeting_view/list_meeting/8391. For centennial info: http://vancouver.ieee.ca/Centennial

Symposium presentations and speakers

Miroslav Begovic

The future of renewable energy - a case for photovoltaics

Worldwide consumption of electricity is expected to nearly double over the next two-and-a-half decades. International Energy Agency (IEA) predicts that meeting this demand for power will require over 5,000 GW of new electricity generating capacity (including replacement capacity) at a cost of over $5 trillion. The new plants will require an additional $6 trillion worth of additional infrastructure, making electric power an $11 trillion market over the next 25 years. The search for new generation technologies is accelerating.

Photovoltaics (PV) technology converts light directly to electricity via solar cells, solid-state semiconductor devices free of moving parts, costly fuel requirements, and harmful emissions. Solar-electric technology is extremely modular, allowing it to be quickly deployed at or near the point of consumption, minimizing transmission losses and even providing electricity in regions that lack centralized power stations and their requisite distribution systems. This modularity makes PV attractive in industrialized and developing nations alike. Furthermore, the cleanliness and environmental friendliness of PV make it an attractive technology for meeting the challenges of global electricity demand growth while simultaneously satisfying requirements for reduced emissions.

Productions PV cell efficiencies are still below 20 percent. The scale of the PV market, however, grew at a rate of ~13 % per year during 1982-1996, and further expanded to a growth rate of ~40 % during 1996-2008. Crystalline Si increased its share of the marketplace from 68 % to 90 % in 1990-2007. Current module prices are about $2/W, balance of system (BOS) cost of $3/W, and installed system cost of ~$5/W and levelized cost of electricity (LCOE) of ~18 ¢/kWh. Further installed price decrease are needed (to approximately $3-3.50/W) to reach LCOE of 8 – 10 ¢/kWh, which is viewed as grid parity in the U.S for residential applications and is expected to happen in the 2015-2020 range. In the presentation, the status and basic features of the PV technology will be presented along with outlook for its wider implementation in the near future. Recent advances and trends will be discussed from both engineering and economic perspectives.

Miroslav M. Begovic is Professor in the School of Electrical and Computer Engineering and a affiliated faculty member of the Brook Byers Institute for Sustainable Systems at Georgia Tech. He received a PhD from Virginia Tech and MS and Dipl. Ing., all in electrical engineering, from Belgrade University. Dr. Begovic's research interests are in monitoring, analysis, and control of power systems, as well as development and applications of renewable and sustainable energy systems. He is a faculty member of the University Center of Excellence in Photovoltaic Research at Georgia Tech, one of two such centers in the United States.

For the Centennial Olympic Games in 1996 in Atlanta, he designed with Professor Ajeet Rohatgi a 340 kW photovoltaic system on the roof of Aquatic Center at Georgia Tech, which at that time was the largest roof-mounted PV system in the world. Professor Begovic published over 125 publications and completed numerous research projects during his career at Georgia Tech. He has been a member of the IEEE PES Power System Relaying Committee for two decades and chaired many of its working groups. Dr. Begovic is currently a Chair of the Electric Energy Technical Interest Group in the School of ECE at Georgia Institute of Technology, former Chair of the Emerging Technologies Coordinating Committee of IEEE PES, member of the IEEE Smart Grid Task Force, IEEE PES Distinguished Lecturer, and Treasurer of the IEEE Power and Energy Society in 2010-2011 and *candidate for IEEE Power and Energy Society President* (the election will be held in the Summer of 2011.) He is a Fellow of the IEEE and member of Sigma Xi, Eta Kappa Nu, Phi Kappa Phi & Tau Beta Pi.

Ark Tsisserev
Interconnection of life safety systems with a building fire alarm system

This presentation covers application and installation requirements of electrically connected life and fire safety systems and their interlocks with a building fire alarm system. The presentation reflects a development of integrated life safety systems and their interconnection in an operational building infrastructure.

This presentation addresses provisions of various safety codes and system standards and dwells on a development of technology in the area of fire protection and electrical safety.

Arkady Tsisserev has recently joined Stantec Consulting as one of the company's Principal Engineers.Prior to his current position Ark was the Electrical Safety Regulator for more than 25 years. Since 1993 he has held the position of the Electrical Safety Manager, Chief Electrical Inspector and City Electrician for the City of Vancouver.

Before moving to the City of Vancouver he was Head of Electrical Section for the City of Winnipeg Inspections Department. Mr. Tsisserev has written and published many articles, course notes, and taught various CE Code and fire alarm and emergency system courses at the University(s) of B.C. and Manitoba and via other venues. He is an active member of many industry associations and is involved in numerous technical committees and associations such as CSA/CEC, NFPA/NEC, IEEE, ULC, SCC and IEC. Mr. Tsisserev is currently chairing the technical committee for the development of the CE Code and represents Canada on the NEC and IEC Code Committees.

As Chief Electrical Inspector for the City of Vancouver for the past 17 years, Ark was active in communication with various stakeholders of the electrical industry, including the IEEE. Ark started his work in the electrical industry in 1962 as a construction electrician.
He obtained his PhD from the State University in Ukraine and also holds a Master's Degree in Electrical Engineering from the University of Manitoba.

Ljiljana Trajkovic
Understanding communication networks

Understanding modern data communication networks such as Internet involves analysis of data collected from deployed networks and characterization and modeling of network traffic. It also calls for development of tools for analysis of Internet topologies and performance evaluation of routing protocols.

In this talk, I will describe collection and analysis of real-time Internet traffic data using special purpose hardware and software tools. Analysis of collected datasets indicates a complex underlying network infrastructure that carries a variety of the Internet applications. Furthermore, data collected from the Internet routing tables can be used to illustrate the existence of historical trends in the development of the Internet.

Ljiljana Trajkovic received the Dipl. Ing. degree from University of Pristina, Yugoslavia, in 1974, the M.Sc. degrees in electrical engineering and computer engineering from Syracuse University, Syracuse, NY, in 1979 and 1981, respectively, and the Ph.D. degree in electrical engineering from University of California at Los Angeles, in 1986.

She is currently a Professor in the School of Engineering Science at Simon Fraser University, Burnaby, British Columbia, Canada. From 1995 to 1997, she was a National Science Foundation (NSF) Visiting Professor in the Electrical Engineering and Computer Sciences Department, University of California, Berkeley. She was a Research Scientist at Bell Communications Research, Morristown, NJ, from 1990 to 1997, and a Member of the Technical Staff at AT&T Bell Laboratories, Murray Hill, NJ, from 1988 to 1990. Her research interests include high-performance communication networks, control of communication systems, computer-aided circuit analysis and design, and theory of nonlinear circuits and dynamical systems.

Dr. Trajkovic served as 2007 President of the IEEE Circuits and Systems Society. She was a member of the Board of Governors of the IEEE Circuits and Systems Society (2001 - 2003 and 2004 - 2005). She serves as Vice President Publications of the IEEE Systems, Man, and Cybernetics Society (2010 - 2011) and served as Vice President Long-Range Planning and Finance (2008 - 2009) and as a Member at Large of its Board of Governors (2004 - 2006).

She is Chair of the IEEE Circuits and Systems Society joint Chapter of the Vancouver/Victoria Sections. She was Chair of the IEEE Technical Committee on Nonlinear Circuits and Systems (1998). She was Technical Program Co-Chair of ISCAS 2005 and served as Technical Program Chair and Vice General Co-Chair of ISCAS 2004. She served as an Associate Editor of the IEEE Transactions on Circuits and Systems (Part I) (2004 - 2005 and 1993 - 1995), the IEEE Transactions on Circuits and Systems (Part II) (1999 - 2001 and 2002 - 2003), and the IEEE Circuits and Systems Magazine (2001 - 2003). She is a Distinguished Lecturer of the IEEE Circuits and Systems Society (2010 - 2011 and 2002 - 2003) and a Fellow of the IEEE.

José Martí: The transparent grid: transition to green technologies and user awareness

With the advent of the modern power grid in the twentieth century (Tesla/Westinghouse), availability of electricity has become ubiquitous, to the point that in modern societies it is taken for granted. This has been true to the extent that price has been reasonable, availability has not been a concern (at least in the eyes of the common man, despite behind-the-scenes warfare), service continuity has been excellent, and environmental effects have been ignored. Monopolistic ownership and technical prowess made the 20th century power grid "transparent".

Despite the apparent calm of most of the 20th century regarding transparent electrical energy availability, the economic and technological seeds that will define electricity in the 21st century have been brewing in the background. Oil prices have been growing in inverse proportion to the supplies of easy-to-extract fossil fuel. Environmental concerns are putting a high environmental price to conventional fuels. Power electronic technologies are making possible a more seamless integration of alternative renewable sources and the existing conventional grid.

The twenty-first century will be defined by a much higher level of public awareness. The traditional "paternalistic" grid of the 20th century will be broken down not by "mandated" de-regulation (unsuccessful since the 90's), but by the need to use local energy resources, like solar, wind, and other renewables, and not letting any form of energy "go to waste". Distributed ownership of generation and user awareness of consumption will become the norm.

This presentation will discuss the technological advances that made electricity in advanced societies transparent in the twentieth century and the challenges on technology and user awareness under the new constraints of cost, renewable energy resources, and environment preservation that will define the twenty-first century.

José Martí is a Professor in the Department of Electrical and Computer Engineering of the University of British Columbia. He has over 25 years of experience in real time computer simulation of large electrical networks using parallel processing techniques. He received a Masters degree in Electric Power Engineering from Rensselaer Polytechnic Institute in New York and a Ph.D. degree in Electric and Computer Engineering from the University of British Columbia in Vancouver, Canada. He is a registered Professional Engineer in British Columbia, a Fellow of the Institute of Electrical and Electronic Engineers, and a Fellow of the Canadian Academy of Engineering. He is the leader of UBC's Complex Interdependent Systems Simulation Laboratory developing real time simulation tools for optimization and decision support in complex integrated physical and human environments.

Current work includes the development of a system of systems simulator that integrates the interdependencies and flow of resources among multiple critical infrastructures (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, considering cost, GHG, and sustainability; 2) Development of energy self-sufficient economically prosperous communities; and 3) Development of decision support tools for optimal response during large disaster situations

Philippe Kruchten: Why is software so bad? (Is it?)

With software so prevalent in our lives, we will have endless stories about its inadequacies, bugs, failures or complete disasters. We've heard of the "software crisis" ever since the late 1970s and we seem to have never gotten out of it. The "Chaos reports" spoke of failures in the range of 30% to 50%... In this presentation we will look at the real state of affairs: is software really that bad? We will sort out the facts from the myths. And when it is bad or inadequate, what are the root causes and what are our prospects for the future: will we improve the situation? How?

Philippe Kruchten is professor of software engineering in the department of Electrical and Computer Engineering of the University of British Columbia, in Vancouver Canada. He holds an NSERC chair in design engineering. He joined UBC in 2004 after a 30-year career in industry, where he worked mostly in with large software-intensive systems design, in the domains of telecommunication, defense, aerospace and transportation. Some of his experience is embodied in the Rational Unified Process (RUP) whose development he directed from 1996 until 2003, when Rational Software was bought by IBM. RUP includes an architectural design method, known as "RUP 4+1 views".

His current research interests still reside mostly with software architecture, and in particular architectural decisions and the decision process, as well as agile software engineering processes. He is a founding member of IFIP WG2.10 Software Architecture. Kruchten received his mechanical engineering diploma from Ecole Centrale de Lyon, and his doctorate degree in Information Systems from Ecole Nationale Supérieure des Télécommunications, Paris. He is a member of IEEE, ACM and AIS, and a Professional Engineer in British Columbia.

Cheong Siew: Grid Modernization

Today's technology is more reliant on electricity than ever before, but our grid has not changed significantly since the 1950's. We have an opportunity to use technology to improve the Grid's functionality to achieve significant benefits for the future, such as improving safety, efficiency & reliability, integrating renewable energy & PEVs, and helping customers manage their own energy use.

This presentation will provide insight on the opportunities and decisions that we face as we prepare the grid for the future.

Cheong Siew, P.Eng. (M'89) received a BASc (1989) in Electrical Engineering (Computer Engineering Option) from University of British Columbia, Canada. Mr. Siew is a registered Professional Engineer in the Province of British Columbia, has worked for BC Hydro since 1989 and is presently working in T&D Advanced Infrastructure and R&D . He has spent ten years in various aspects of Distribution, and twelve years in System Planning working on reliability initiatives, risk management, seismic risk management, planned performance, and transmission planning. Mr. Siew has authored or co-authored dozens of technical publications, guidelines and standards for BC Hydro, CEA, IEEE, EPRI, and other international organizations.

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Compositional network mobility

Pamela Zave
AT&T Research

Thursday 20 October
4:00 pm

UBC Vancouver Campus,
ICICS/CS X836
2366 Main Mall

Sponsors
IEEE Computer and Computational Intelligence Societies and UBC Department of Computer Science

Information
Joint Computer Chair
Sathish Gopalakrishnan
sathish@ece.ubc.ca

To meet the needs of society, the future Internet must support a much wider variety of applications, stakeholders, resources, endpoint devices, communication functions, service guarantees, and resource policies than the Internet does today. Evolution will require a tremendous amount of new, high-quality network software. We believe that the importance of network software justifies considerable effort to understand this software domain, and to develop architectural principles for network software. This talk reports on our early efforts toward this goal.

Network mobility is a central and desirable software function that provides uninterrupted communication service to mobile machines. We define mobility and formally specify its effect on network services. Starting with a basic architecture for the software of a network layer, we describe two fundamentally distinct mechanisms for implementing mobility. All known implementations of mobility use one of these generic mechanisms, despite many design variations within the broad description. By delineating the exact effect of each implementation on layer software, we show that different mobility implementations in the same and adjacent layers compose freely, without alteration or interference.

This is joint work with Jennifer Rexford at Princeton University.

Speaker: Pamela Zave received an A.B. in English from Cornell University, and a Ph.D. in computer sciences from the University of Wisconsin—Madison. She has held positions at the University of Maryland and Bell Labs, and is now with AT&T Laboratories—Research.

Dr. Zave is interested in all aspects of formal methods for software engineering as applied to networking. For the past twelve years she has led a group of researchers building and analyzing IP-based voice and multimedia services using the Distributed Feature Composition architecture, invented by her and Michael A. Jackson. This group has developed two successful large-scale telecommunication systems.

Dr. Zave is an ACM Fellow and an AT&T Fellow. She has won three Ten-Year Most Influential Paper awards, four Best Paper awards, the AT&T Strategic Patent Award, and the AT&T Science and Technology Medal. She holds 18 patents in the telecommunications area, and is currently chair of IFIP Working Group 2.3 on Programming Methodology.

IEEE computer society

IEEE Computational Intelligence Society

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

Fiorenza Howard

Wednesday 28 Sept
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

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 stubborness 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.

IEEE Women in Engineering We

Law and insurance as it pertains to starting and running a business

Sidney W. Kemp
Rhombic Consulting

Whether you are just started a consulting company, creating a company or thinking about offering consulting services, you need a plan for managing the associated legal risks and exposure. We will focus on legal matters and insurance and use the creation of a consulting company as a case study. The talk will focus on legal matters such as incorporating a company, contract law, tort law and insurance. In doing so we will go through all the steps required to create a consulting company.

Upon the conclusion of this IEEE seminar, attendees will have an essential understanding of:

- Choice of corporate structure; Company, Partnership and Sole Proprietorship, the advantages and disadvantages of each.
- How to incorporate a company in BC. What you need to file where and how and the cost. The creation and maintaining of a minute book. Annual filings how and where and what.
- Internet matters, reserving URL, setting up hosting services, e-mails, drop box, creating a website.
- Administrative matters; HST, PST, GST registration, Worksafe BC registration, City Business Licenses, Revenue Canada filings.
- Contract Law - the elements of a contract, breach of contract, how to interpret a contract, how to negotiate a contact. How a contract may be terminated. The types and forms of contracts needed to start and run a consulting company.
- Corporate Law - the difference between a corporation and a partnership, the concept of corporate veil and limited liability, piercing the corporate veil and personal guarantees.
- Tort Law – negligence and defamation as it relates to running a consulting company and how to protect yourself and your company. The role of Insurance in protecting you and your company.
- Insurance Law – how the industry is structured and operates, the role of a Broker, selecting a Broker.
- Insurance Law – types of Insurance and the need. We will look at: Errors and Omissions Insurance (E & O); Commercial General Liability (CGL); Directors and Officers Insurance (D & O) and Business Interruption Insurance.
- Insurance Law – How to obtain Insurance, the pitfalls, the application form and the concept of full disclosure and material change.
- Insurance Law – Certificates of Insurance (Certs), the role of Certs and how they are obtained, the importance of a Broker in this process.
- Insurance Law – the Duty to Defend and the requirement of Indemnification. Legal cost how much, trends and who pays.
- Insurance Law – what is a claim, and when do you report it. The consequences of failing to report a claim to your Broker.

Speaker: Sidney W. Kemp, B.Comm, MSc, LLB has had a lifelong interest in radio sciences obtaining his amateur radio license at age 13 and serving as president of the UBC Amateur Radio club while attending law school. Upon graduating from UBC served as an Associate at Goldman and Co., Managing Partner at Walker and Co., CFO and Corporate Secretary at IXOU.com, Director of Business Development & Corporate Counsel at OmniRIM Solutions. He went on to become licensed Insurance Broker in the Province of British Columbia and was National Aviation Claims Manager at AON Reed Stenhouse. Most recently Mr. Kemp was Vice President of Legal at Antenna Management Corp. and is now President of Rhombic Consulting Group Inc.

BCIT Burnaby Campus
SW5-1840

Tuesday 11 October
7:00pm - 9:00pm

Information
Joint Communications
Chair Alon Newton
alon.newton@gmail.com

IEEE COMMUNICATIONS SOCIETY
IEEE Information Theory Society
IEEE photonics SOCIETY
BTS IEEE Broadcast Technology Society
VTS
ITSS

Jt. Chapter BT-02/COM-19/IT-12/ITS-38/PHO-36/VT-06

Quality management - best practice

How Schneider Electric, a global energy management company, handles quality control to help products be safe and reliable.

Spyros Thomas
Schneider Electric

Tuesday 25 October
6:00pm - 8:00pm

BCIT Burnaby Campus
Lecture theatre
SW5 building
(SW5-1850)

Information
Technology Mgmt chair
Adam Krolak
a.krolak@ieee.org

Design for safety and reliability can be improved through rigorous adoption of stringent safety & design rules and processes within a quality framework. During this talk we will provide an inside how from concept & specification we arrive to the lessons learned for the design of the next generation focusing on the risk mitigation process as well as the applied design activities to meet the high standards.

Speaker: Mr. Thomas is leading Corporate Quality, Customer Support & Services at the Renewable Business Unit of Schneider Electric and based in Vancouver since July 2009. Mr. Thomas is responsible for developing, deploying and sustaining medium and long term strategic approaches to realize breakthrough process improvements which significantly optimize organizational performance and operational success at Renewable Business Unit. Mr. Thomas joined Schneider Electric in 1999 as Commercial Channel Development Manager in Greece. Since then, Mr. Thomas has undertaken several leading positions in Product Management, Sales and Project Management.

Before moving to Renewable Business Unit he was responsible for Quality & Customer Satisfaction first in Greece and afterwards in Central & Eastern Europe. Prior to joining Schneider Electric Mr. Thomas was at AEG Energietechnik (ALSTOM) in the High Voltage Power transmission group as Project Manager in Sales responsible for Latin America.

Mr. Thomas holds a Bachelor of Electrical Engineering degree and a master in electrical distribution from the Technical University of Thessaloniki, Greece as well as a Master in Business Administration from the Marketing Academy in Hamburg, Germany and has obtained the BB in Six Sigma.

IEEE Vancouver consultants' network affinity group

Who are we going to be?

The IEEE consultants' network is an organization of electrical and electronic consultants formed for the purposes of making our services available to the general public, bringing together consultants, clients and interested parties to exchange ideas about electrical, electronic and software engineering, exchanging contacts, and providing you with information about independent consulting practices.

How can we assist you?

The IEEE consultants'network is an excellent resource for anyone seeking competent consultants in a variety of technical specialties. The IEEE, with more then 400,000 members, is the largest technical professional organization in the world. All members of the IEEE Vancouver consultants' network are IEEE members, and pledged to abide by the IEEE code of ethics. We promote professional development of members in both business and technical matters. We offer more opportunities for easy communications among members.We increase and recognize active members for their volunteer efforts and Improve knowledge of target markets for both clients and members

Mission statement

• Attract the best engineering consultants in IEEE Vancouver • Present network members effectively to potential clients • Serve as a platform for networking • Accomplish all of above synergistically

Examples:

IEEE USA Consultants Database
http://www.ieeeusa.org/consultants

Seattle Section Consultants' Network
http://www.ieee-seattle.org/cnet/

Ottawa Section Consultants Network
Chair: Bhagvat Joshi bjoshi@ieee.org

Sample presentation topic: //www.occn.org/
The Orange County Entrepreneurs' Network 2008
"Essential Homework for Entrepreneurs -
Before you quit your day job!" By Naeem Zafar

"Are you really excited about your new idea and want to start a new business? Have you been secretly working on the product and looking to form a company. DON'T! Are you ready to plunge into this? How do you know that it is time to quit your day job? This presentation and talk will outline the essential six-step homework that you should do before you know the answer."

If you are a member of IEEE in the Vancouver Section area and are interested in joining the Vancouver Consultants Network, please contact Alon Newton at anewton.ieee@gmail.com

PSES

Product Safety Engineering Society

2011 IEEE Symposium
PRODUCT COMPLIANCE ENGINEERING

October 10-12, 2011 - San Diego, California

CONFERENCE INFORMATION

The exciting 2011 technical program features presentations from many leading compliance engineering experts. Three full day tracks will allow attendees to:

- *Acquire forensics skills on metal oxide varistors (MOVs), supercapacitors, arcing faults, AC & DC adapters, advanced analysis tools, utility guy wires, fuses, and smart meters.*
- *Dive deep into the issues of lithium ion battery design, manufacturing, transportation restrictions, and navigating the sea of changing compliance regulations.*
- *Expand their knowledge of environmental energy efficiency measurement techniques and the regulations for the US, Canada, the EU and Latin America.*

Additional topics of the Symposium can be viewed on the website at: **http://www.psessymposium.org**

KEYNOTE

"Bridging the Gap between Safety and Sustainability"

By Stephen Wenc
President UL Environment, Inc.
President & Managing Director - Europe & Latin America

VENUE

Hilton San Diego Mission Valley
901 Camino del Rio South
San Diego, CA 92108
(619) 543-9000
sandiegomissionvalley.hilton.com
$129 single/double
Reservations should be made online through the Symposium website.

IEEE

http://www.psessymposium.org

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IEEE Vancouver celebrates and begins its second century

100th birthday celebration and dedication ceremony, 23 August 2011
Creekside Community Centre, Vancouver

On Tuesday 23 August over 150 members, friends and guests of IEEE Vancouver gathered to celebrate the 100th anniversary of its founding, and to propel it forward into its second century. After the presentation of an inspirational IEEE video about "The Solutionists", the evening was opened with a welcome and salutation from City of Vancouver councilor Geoff Meggs. IEEE Vancouver chair **Mazana Armstrong** recognized and called on each of the centennial sponsors in order to thank them for their support. (A1 - councilor Meggs and Armstrong.) The results of the logo competition were then announced by Pieter Botman, communications officer. The most popular logo in the competition was that submitted by **Peter Kezhou Guan** (A2). Section executives decided the final design would incorporate elements of Peter's logo and worked with graphic designer, **Paolina Amadio**, to include them in a unique style. Peter was given an award in recognition of his winning design and for his contribution to the final logo design.

The new official logo was then displayed to the approval of all in attendance. The centennial version was also displayed (A3 - IEEE Vancouver vice-chair Kouros Goodarzi and councilor Meggs with the centennial plaque). This version contains the text "1911-2011" as a reminder of the key IEEE Vancouver milestone dates. Attendees (A4) received a pin which was fashioned with the design of the centennial version.

Several members were honoured with centennial awards:

Dr. Rabab Ward "For outstanding contributions in the areas of signal detection, image processing, and applications of those technologies" (B1)

Dr. Arkady (Ark) Tsisserev "For outstanding contributions to Codes and Standards Development & Electrical Engineering" (B2)

Dr. James McFarlane "For a lifetime of contributions to underwater vehicles & robotics & the Canadian advanced technology sector" (B3)

Dr. José Martí "For outstanding contributions to education and research in simulating multiple infrastructures including electric power systems" (B4, award accepted by Dr. KD Srivastava, UBC)

Dr. John MacDonald "For a lifetime of contributions to digital systems, remote sensing, space technology renewable energy and the Canadian advanced technology sector" (B5)

Dr. Victor Leung "For outstanding contributions to research on wireless networks and mobile systems" (B6 - award accepted by Alain Bergeron, Joint Communications chapter vice-chair)

Dr. Harry Ellis (in memoriam) "For lifetime contributions to the understanding of the transient and dynamic electromechanical stability of electrical power systems" (B7 - accepted by daughter Wendy Beauchamp)

Dr. Hermann Dommel "For outstanding contributions to the field of Electromagnetic Transients Simulation" (B8)

Thurb Cushing (in memoriam) "For leadership in development of the telecommunications industry in British Columbia" (B9 - award accepted by daughters Susan Wingate and Moira Rowan)

With the awards bestowed and recognitions completed, it was time for the real birthday celebration to begin. Members feasted on cold cuts, hors d'oeuvres, and salads. To top off the evening, a special 100th birthday cake was unveiled and members joined in singing Happy Birthday to the Section! Life Member Mark Bradwell did the honours of blowing out the (not quite 100) candles (C1). Members attending enjoyed the cake, but also enjoyed reminiscing and meeting their colleagues on this happy occasion.

Permanent monument announced and centennial plaque dedicated

The attendees exited the community centre, and after a short walk, arrived at an open green space on the shore of False Creek, immediately south of Science World.

Here **Gruja Blagojevic**, Publicity Chair of IEEE Vancouver, explained the concept for a permanent monument at that location. Gruja used an artist's rendering of the planned monument base and the installation of a permanent plaque to commemorate the expertise and contributions made by IEEE Vancouver members during its first century (A5).

Life Member **Mark Bradwell** (a former chair, and currently the longest tenured IEEE Vancouver member) spoke about the early days, and proceeded with a great flourish to unveil the plaque. To great cheers and applause, the plaque was dedicated on that spot by all members present (A6 - dedication plaque).

After the dedication ceremony, attendees strolled along the seawall to return to the community center, pausing long enough to take a historic group photograph just outside, on the picturesque shore of False Creek (A7). Surely this group photo will be of great interest to all members at the bi-centennial anniversary celebration scheduled for August 2111!

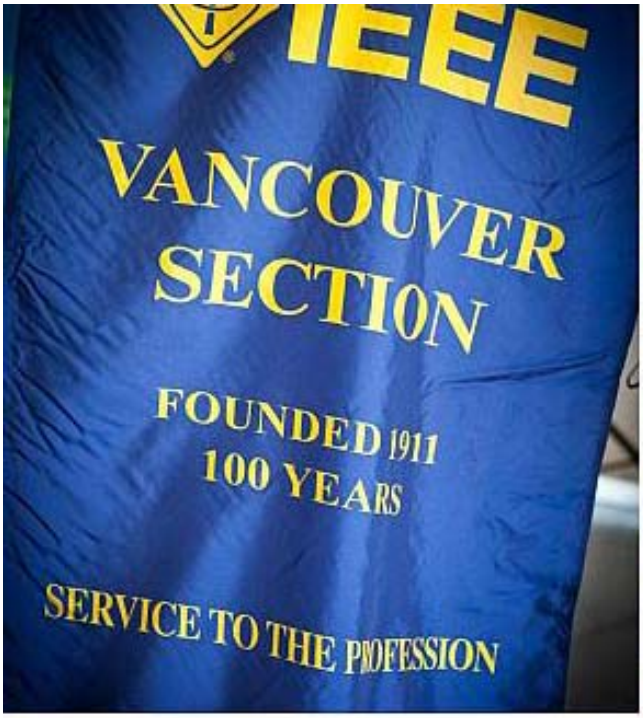
Chair Mazana Armstrong concluded the evening by thanking the volunteers who worked hard in assembling the many components of the celebration (C10 - section volunteers with remaining guests after the event ended)…

- Gruja Blagojevic – monument, venue, catering, sponsorship, event setup (C2 2nd from left)
- Pieter Botman – logo, slogan and communications (C2 left)
- Charlie Henville – centennial awards (C3 - lighting the centennial candles)
- Kouros Goodarzi – posters
- Nina Selak – sponsorship and advertising (C4 right – trivia questions and prizes)
- Sharhrzad Rostamirad – plaques and pins (A4 right)
- Valentina Dabic – plaques
- Zahra Ahmadian – registration and setup
- Alain Bergeron – registration and setup
- Koji Otomo – registration and setup (C9 middle right)
- Neda Eskandar - registration and setup
- Steven McClain – photography and video (C5 right)

… and gave special thanks to the Centennial sponsors and their representatives:

• BC Hydro	**Jim Thomson**, Vice President, T&D Engineering (C6)
	Bruce Barrett, Vice President, Major Projects
• UBC	**Carol Jaeger**, Associate Dean of Applied Science (C7)
• SFU	**John Jones**, Director School of Engineering Science
• BCIT	**Craig Cowan**, Associate Dean, Electrical and Computer Engineering Technology
	Bob Gill, Faculty/Program Head Telecomm & Networks
• APEG BC	**Derek Doyle**, APEG BC CEO
	Jeff Holm, APEG BC Vice President
	Mike Waberski, APEG BC Councillor
• MDA	**Cam Pearce**, Manager, Engineering Department
• GE Energy	**Kevin Parlin**

For additional pictures please visit our centennial site at:
http://vancouver.ieee.ca/centennial


IEEE
VANCOUVER
SECTION
FOUNDED 1911
100 YEARS
SERVICE TO THE PROFESSION


A5


A1


A7


A4


A3


IEEE
Engineering a Brighter Future


A8


IEEE
IEEE Vancouver Section
A6


A2

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C2


C9

C6


C5

C7

C1

C4


C3


C10


C8

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IEEE Vancouver
100th birthday celebration
23 August 2011

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Historic plaque dedicated

IEEE Vancouver has commissioned a special historic plaque to be installed in a permanent public monument. The plaque was formally unveiled and dedicated during the centennial birthday celebration 23 August 2011. The monument honours IEEE Vancouver members in recognition of their contributions to the development of Vancouver and British Columbia over the last 100 years. The site will be on the shore of False Creek immediately south of Science World.

Artist's conception

IEEE

IEEE SYSTEMS COUNCIL

CALL FOR PAPERS

6th Annual IEEE
International Systems Conference

March 19 - 23, 2012
Marriott Pinnacle Vancouver Hotel
Vancouver, British Columbia, CANADA

Abstracts should be submitted electronically to the EDAS Website at www.edas.info.
For comprehensive information, please reference the conference web site at http://ieeesyscon.org

IEEE Vancouver logo

Unveiled on 23 August at IEEE Vancouver's 100th birthday celebration the logo contains a stylized representation of Lion's Gate bridge and local mountains. An alternate version has text "1911-2011" in recognition of IEEE Vancouver's centennial.

IEEE VANCOUVER SECTION

Contributers:

- Members submitting (17!!) designs to the competition
- Panel to select logo finalists
  - Fiorenza Albert–Howard
  - Alon Newton
  - Patrick Sandi
- Final logo design elements contributed by:
  - Peter Kezhou Guan
- Logo sub-committee:
  - Mazana Armstrong
  - Ljiljana Trajkovic
  - Pieter Botman
- Graphic designer: Paolina Amadio

Welcome.. recent arrivals to the best IEEE section on Earth! *

Pooyan Abouzar Djirandehi	GS	Mehdi Karimibiuki	M	Zhen Liang Seow	ST
Shahzad Ahmed	M	Ophir Kendler	GS	Esther Soko	ST
Farzad Aminravan	ST	Mike Kent	M	Greg Stortz	GS
Maryam Azimi	GS	Hanieh Khalilian	GS	Chris Struthers	M
Ken Baxter	AM	Parastoo Kheirkhah Dehkordi	ST	Ho Ming Tay	ST
Harman Brar	M	Farah Khurrum	ST	Annelies Tjebbes	ST
Joshua Brenner	ST	Woo Soo Kim	M	Michael Trasolini	M
Anna B Brounstein	M	Stephen Kong	M	Steven Truant	ST
Ambrose Chan	GS	Xiaorong Lai	M	Gary Tse	ST
Yingjie Chen	GS	Justin Lammi	ST	David Turner	GS
Billy Cheung	GS	Carol Ya Ting Lee	M	Yuval Uriel	M
Eric Chu	ST	Yubo Lei	GS	Sima Valizadeh	GS
Justin Clapperton	ST	Honghua Li	GS	Joel Vandergriendt	ST
Jarrod Connolly	AM	Soliman Mahmoud	M	Andrew Verhoeven	AM
Gordon Davidson	M	Amar Manj	ST	Michael Vincent	ST
Alireza Dibaienia	ST	John Mollica	ST	Yan Wang	GS
Lisa Dorval	ST	Kristopher Montpetit	ST	Weing Kai Wee	ST
Vairavanathan Emalayan	GS	Steven Nguyen	ST	Sultan Wehaibi	ST
Guy Esselen	M	Viorel Nica	M	Christopher Wilson	M
Pooyan Fazli	GS	Binglai Niu	GS	Peiran Wu	ST
Charles Foell	GS	Theodore Noyes	ST	Meng Yang	ST
Rajvir Gill	GS	Ali Palizban	M	Weilong Yang	M
David Gloyn-Cox	M	Ting Pan	ST	Hamidreza Younesy	GS
Rick Godwin	AM	Glenn Parsons	M	Sheldon Young	M
Christopher Green	ST	Ravinder Paul	GS	Ge Yu	GS
Soroush Haeri	GS	Harry Pigot	ST	Yang Zhang	M
Gavin Han	ST	Shristi Pradhan	ST	Ruibing Zhao	ST
Xiaolei Hao	GS	Anca Simona Radu	GS	Slobodan Vukadinov	M
Lawrence Harris	M	Michael Randall-Stevens	AM	Jiesheng Wei	GS
Mike Henrey	GS	Ken Rarama	M	Michael Wiltshire	ST
Isha Isha	ST	Sarah Rastkar	GS	Yi Ran Wu	ST
Camille Jaggernauth	GS	Daniel Richter	ST	Andy Wu	GS
Paria Jokar	GS	Greg Roy	M	Joseph Yu Mu	ST
Michael Jones	ST	Isaac Scheffers	ST	Cheng Zhang	GS
Avery Jones	M	Michael Sedlmair	M		

AF Affiliate - AM Associate Member - F Fellow - GS Graduate Student Member - LF Life Fellow
LM Life Member - LS Life Senior - M Member - SM Senior Member - ST Student Member

ED. 26 Sep 11

* IEEE Vancouver named Outstanding Large Section for 2009!

Motion perception in displays

Scott Daly
Dolby Laboratories

Tuesday 25 October

3:30 - 4:30pm

ASB 10900 (IRMACS Presentation Studio)
Simon Fraser University
Burnaby, BC

Co-sponsor
Victoria Chapter
Circuits and Systems Society

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

ED. 20 Oct 11

This talk will begin by covering the basics of Liquid Crystal Displays (LCDs) as applied toward television, referred to as LCTV. After setting the foundation for several dimensions of image quality such as spatial, color, temporal, and dynamic range, as well as the corresponding human visual system capabilities along those dimensions, the tutorial will focus in on the main problem that has hindered the LCTV: motion.

Since their introduction, LCDs were known for having a slower and asymmetrical temporal response compared to CRTs, which led to motion blur and flicker, respectively. For many years this hindered the use of LCD technology for television. Improving the temporal response time and the use of digital overdrive techniques led to a substantial reduction in motion blur. Still, some residual blur was visible in panned textures and scrolling text. Further analysis considering human visual system smooth pursuit eye tracking combined with the hold-type temporal aperture used with LCTV has identified the remaining sources of blur. New techniques such as backlight flashing, black data insertion, and frame rate conversion reduce the motion blur to that of CRT levels.

However, the CRT is not necessarily the ultimate benchmark, as it suffers from other motion artifacts, especially with slow velocities. This talk will describe the key spatiotemporal properties of the visual system relevant to motion blur, and the various approaches used in LCTV technology toward improving overall moving picture sharpness.

Speaker: Scott Daly received a B.S. EE degree in 1980 from North Carolina State University, and then worked for a number of years with early high-resolution laser scanning systems at Photo Electronic Corporation in West Palm Beach, Florida. Shifting from hardware to wetware, he obtained an M.S. in Bioengineering from the University of Utah in 1984, where he was engaged in retinal neurophysiology, completing a thesis on the temporal information processing of cone photoreceptors. He then worked from 1985 to 1996 in the Imaging Science Division at Eastman Kodak in the fields of image compression, image fidelity models, and image watermarking.

The years 1996-2010 were spent at Sharp Laboratories of America in Camas, Washington, where he led a group on display algorithms. Eventually becoming a research fellow and leader of the Center for Displayed Appearance, he had opportunities to apply visual models towards digital video and displays, with numerous publications on spatiotemporal and motion imagery, including starts in human interaction with wall-sized displays, audio perception and stereoscopic displays. These topics led him to recently join Dolby Laboratories in 2010 to focus on overall fundamental perceptual issues, and toward applications whose aim is to preserve artistic intent throughout the entire video path to reach the viewer. He is currently a member of IEEE, SPIE, and SID.

IEEE CIRCUITS AND SYSTEMS SOCIETY

Scheduling in Grid Networks

Nelson L. S. da Fonseca,
University of Campinas

Distinguished Lecturer

Thursday 13 October
4:30 pm
MacLeod 418, UBC

Co-sponsor
ECE@UBC

Information
Joint Communications Chair Alon Newton
alon.newton@gmail.com

ED. 07 Oct 11

Scheduling is the decision-making process which matches application demands to grid resources, and includes the specification of the specific time at which these resources should be used to satisfy these demands. Grid resources comprise the computational capacity of the hosts as well as network bandwidth. Uncertainties in relation to both computational and communication demands can jeopardize the optimality of schedules produced by grid schedulers. Furthermore, such uncertainties can also jeopardize the whole network operation as well as the profit made by service provider.

Both reactive and proactive solutions have been proposed to deal with uncertainties in application demands. In reactive mechanisms, the state of the grid is periodically monitored to verify if the current schedule remains effective along the execution of the application. If resource availability changes, a new schedule is produced and, as a consequence, task migration occurs. In proactive mechanisms, the scheduler is executed just once and this execution considers potential fluctuations in the values of resource availability and application demands. In this talk, the self-adaptation capacity of different grid systems is reviewed and the effectiveness of reactive and pro-active scheduling mechanisms are compared.

Speaker: Nelson L.S. da Fonseca received his Ph.D. (1994) degrees in Computer Engineering from The University of Southern California, USA. Since 1995, he has been affiliated with the Institute of Computing of The State University of Campinas, Campinas – Brazil where is currently a Full Professor. Prof. Fonseca published over 250 refereed papers and supervised over 50 graduate students. He is the Editor-in-Chief of the IEEE Communications Surveys and Tutorials. He served as IEEE Commnications Society (ComSoc) Director for Latin America and ComSoc Director of On-line Services. Currently, he is an elected Member-at-Large of the Board of Governors of ComSoc.
Prof Nelson L. S. da Fonseca, State University of Campinas, Brazilnfonseca@ic.unicamp.br
http://www.ic.unicamp.br/~nfonseca

IEEE COMMUNICATIONS SOCIETY

Hongwei Zhang
Wayne State University

Thursday 20 October

2:30 - 3:30 pm

Kaiser 2020
UBC

Information
Joint Communications Chair Alon Newton
alon.newton@gmail.com

From open-loop sensing to closed-loop sensing and control:

challenges to embedded wireless networking

Moving beyond open-loop sensing, embedded wireless networks are increasingly being applied to closed-loop, real-time sensing and control (e.g., for next-generation vehicles/transportation, industrial plants, and smart power grids). In supporting mission-critical tasks, closed-loop, real-time sensing and control requires predictable reliability and real-time in wireless networking. Nonetheless, wireless networking is subject to inherent dynamics and uncertainties within the system and the environment.

Within a system, wireless communication assumes complex spatial and temporal dynamics, network topology may constantly change due to node mobility, network traffic pattern may be dynamic due to event-triggered data traffic and time-varying control strategies, and application requirements on networking quality (e.g., reliability, timeliness, and throughput) may also vary over time and across different applications. Moreover, different dynamics may well interact with one another to yield complex behavior.

Within the environment, a wide variety of factors affect wireless networking. Environmental factors such as temperature and humidity can affect wireless communication, electromechanical equipments can introduce complex environmental noise, moving objects or persons may introduce uncertainties to wireless communication, and malicious attackers may try to jam a network. For predictable reliability and real-time in wireless networking, it is important to address the aforementioned systems and environmental dynamics. Given the potential resource constraints of embedded wireless networks, the solutions have to be light-weight and efficient too. In this talk, we will review these challenges, and we will discuss in detail how to address co-channel interference and how to enable real-time routing in highly-dynamic settings. We will also discuss how to enable measurement-based protocol analysis, as a part of our project in the NSF Global Environment for Network Innovations (GENI) program.

Speaker: Hongwei Zhang received his Ph.D. in computer science and engineering from The Ohio State University in 2006, and he joined Wayne State University as an assistant professor thereafter. His work explores new theories, methods, and systems building-blocks that address dynamics and uncertainties in networked systems that involve wireless networks, sensor networks, embedded networks, and the Internet.

Presently, with support from the National Science Foundation (NSF) and industry (Ford Research, GM Research, and Detection Innovation Inc.), he is especially interested in the modeling, algorithmic, and systems issues in wireless, vehicular, sensor, control, and embedded networks. For instance, with support from the NSF CAREER program and the NSF CPS program, his group investigate field-deployable mechanisms for reliable, real-time, and secure wireless networking, and they investigate cross-layer approaches to taming cyber-physical uncertainties in wireless networked sensing and control; as a part of the NSF GENI program, they develop the theoretical and systems foundations for experimentation and service provisioning in federated, networked sensing.

Their work has also provided foundational components for several large scale wireless network systems including the NetEye experimental infrastructure (which has 130 IEEE 802.15.4 nodes and 15 802.11b/g nodes) and the DARPA sensornet project ExScal (which, with its 200-node 802.11b mesh network and 1,200-node mote network, was the world's largest wireless sensor network and 802.11b mesh network deployed at its time). His work has been published in premier journals/conferences in networking, distributed computing, real-time systems, and dependable systems. His papers have been selected as a Spotlight Paper of the IEEE Transactions on Mobile Computing (TMC) and a Best Paper Candidate for IEEE International Conference on Network Protocols (ICNP) in 2010. He is a recipient of the NSF CAREER Award. More information about his work can be found from his website at http://www.cs.wayne.edu/~hzhang/ .

ED. 07 Oct 11

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