IEEE VANCOUVER CONTACT

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Proposed IEEE Constitutional Amendment

Dear Vancouver section members,

In addition to balloting for the IEEE leadership, this year's ballot includes proposed revisions to the IEEE Constitution. These revisions were proposed by the IEEE Board and include changes on how Directors are nominated to the Board.

The proposed changes will also effect the Board's method of functioning. A significant portion of the large IEEE Technical Societies perceive it as an unwanted change and are urging their members to vote no. Others have a different perspective seeing merit in the changes.

You will find the proposed amendments, the IEEE Board of Directors Statement in Support of the Amendment and Statements in Opposition to the Amendment and Rebuttal Statements all at: **http://www.ieee.org/about/corporate/election/2016_constitutional_amendment.html.**

Get out and vote and support the position you think is best for the IEEE.

Xing Zhou
Nanyang Technological U

Distinguished Lecturer

Wednesday 20 September
100 - 200 pm

ASB9896
Simon Fraser University
Burnaby campus

Refresments
will be provided

Information
Electron Devices Chair
Bonnie Gray
bgray@sfu.ca

Generic HEMT compact model for future hybrid III-V/CMOS technology

This talk presents a unified compact model for generic GaN/InGaAs-based HEMTs in the context of the hybrid III-V + CMOS technology being developed for future integrated circuits. The model is based on unified regional modeling (URM) of the 2-dimensional electron gas (2DEG) charge density, adopted in the surface-potential-based model for conventional bulk/SOI/multigate MOSFETs, which makes it compatible and scalable for future III-V/Si-CMOS hybrid designs. A comprehensive trap-charge model is also developed for modeling the "current collapse" and gate-/drain-lag effects. The developed model is being implemented in a hybrid III-V/CMOS PDK for future heterogeneous III-V/Si co-integrated technology.

Speaker: Dr. Xing Zhou's research mainly focuses on nanoscale CMOS compact model development. His research group has been developing a unified core model for nanoscale bulk, SOI, double-gate, nanowire CMOS, as well as III-V HEMTs. Dr. Zhou is the founding chair for the Workshop on Compact Modeling (WCM) in association with the NSTI Nanotechnology Conference since 2002.

He is a member of the modeling and simulation sub-committee for the IEEE Electron Devices Meeting (IEDM) in 2016. He was a guest Editor-in-Chief for the special issue of the IEEE Transactions on Electron Devices (Feb. 2014) on compact modeling of emerging devices, and an editor for the IEEE Electron Device Letters in 2007–2016. Dr. Zhou is an elected member-at-large of the IEEE EDS AdCom/BoG in 2004–2009 and 2011–2016, and EDS vice-president for Regions/Chapters in 2013–2015.

IEEE Electron Devices Society

IEEE DAY — TUESDAY 04 OCTOBER — IEEE DAY
There are plenty of events to prepare — Register your event at www.ieeeday.org website — Plan your group photo — there are great prizes to be won for the best photo and plenty more

Device Research at Yamagata University *— A brief overview of the partnership between Simon Fraser University and Yamagata University will precede two technical presentations of about 45 minutes each.*

Hidemitsu Furukawa
Yamgata University

Thursday 01 September

11:15 am

Room: 9896
Applied Sciences Bldg
(ASB) Simon Fraser
University Bby Campus

Refreshments will be provided.

3-D printing innovation with soft and matter

Dr. Hidemitsu Furukawa

3D printing technology is becoming useful and applicable by the progress of information and communication technology (ICT). 3D printer is a kind of robot controlled by computer for additive manufacturing. Based on 3D printing technology, users can easily design and 3D-print various objects of soft and wet materials like gels, which are usually too soft and breakable to handle. Here we introduce the recent progress of 3D printing (i.e. additive manufacturing), especially focusing on our 3D gel printer. We are trying to develop new industrial applications of 3D gel printer, including gel-mechanics, gel-photonics and gel-robotics. Also we are challenging to apply 3D gel printing to start new company, to innovate new businesses in county side, and to create new 3D-printed foods.

IEEE Electron Devices Society

Tomoya Higashihara
Yagamata University

Thursday 01 September

12 noon

Room: 9896
Applied Sciences Bldg
(ASB) Simon Fraser
University Bby Campus

Refreshments will be provided.

Information
Electron Devices Chair
Bonnie Gray
bgray@sfu.ca

Architectural design of pi-conjugated polymers for organic photovoltaics

Dr.Tomoya Higashihara

A series of novel pi-conjugated copolymers based on the 2,2'-bis(1,3,4-thiadiazole) (BTDz) acceptor units has been developed. Among them, the BTDz-based donor-acceptor alternating copolymer with (E)-1,2-di(3-(2-ethylhexyl)thiophene)vinylene (PBTDzTV) donor unit exhibited high solubility and high crystallinity in the film state. The strong electron-withdrawing ability of BTDz units effectively decreased the HOMO and LUMO energy levels of PBTDzTV to -5.47 and -3.54 eV, respectively. The PBTDzTV polymers favorably self-assembled, forming face-on and edge-on multibilayer structures in nanoscale thin films. The relative volume fractions of these structures varied depending on the polymer molecular weight. Higher molecular weight polymer formed higher volume fraction of face-on structure; in particular, the polymer with 26.6 kDa of number averaged molecular weight made only face-on structure. This molecular weight dependent nanostructure formation was found to reflect into the bulk-heterojunction organic photovoltaic device performance. The device performance was improved as the polymer molecular weight and the volume fraction of face-on structure were increased. The photovoltaic device demonstrated a high power conversion efficiency (PCE) of 8.04% with 0.87 V open-circuit voltage (VOC), 13.14 mA/cm2 short-circuit current density (JSC) and 70.4 fill factor (FF) when the device was fabricated with the highest molecular weight polymer revealing only face-on structure.

IEEE Electron Devices Society

IEEE youngprofessionals

Saturday 10 September

4:30 pm

Storm Crow Alehouse
1619 W Broadway
Vancouver

IEEE UBC and IEEE Vancouver Young Professionals joint event

Welcome to the first annual joint networking social between the IEEE UBC and IEEE Vancouver Young Professionals. This is an excellent opportunity for students and industry professionals to connect in a casual environment. An assortment of appetizers will be provided at the event. Registration Link: https://www.eventbrite.ca/e/ieee-ubc-and-young-professionals-networking-social-tickets-27363588229

Tuesday 13 September

6:00 pm

Elephant & Castle
385 Burrard St
Vancouver

Networking social with the Association of Consulting Engineers of Canada Young Professionals

Description: Welcome back from summer everyone! We are excited to announce our 1st annual ACEC YPG - IEEE Mixer, providing an opportunity for the IEEE Young Professionals to network with their counterparts from the Association of Consulting Engineering of Canada. An assortment of appetizers will be offered at the event, cash bar available. Registration Link: https://www.eventbrite.co.nz/e/acec-bc-and-ieee-young-professionals-group-pub-social-mixer-tickets-27138330477

Saturday 08 October
10:00 am - 0200 pm

Stave Falls Powerhouse
31338 Dewdney Trunk Rd,
Mission, BC

Address questions to
Grahame.Hamilton.CA@ieee.org

Tour of the historic Stave Falls Powerhouse

This 100-year-old power generating facility is a National Historic Site of Canada where you can explore the original mechanical and electrical components installed over a century ago. Discuss vintage protection equipment basics and explore the evolution of modern system design. Questions and sharing encouraged! Participants are encouraged to carpool from BC Hydro Edmonds at 8:30am (leaves at 9am sharp). Group tour meets in the Stave Falls Powerhouse Entrance at 10am. Limited registration available on Eventbrite https://www.eventbrite.com/e/power-house-at-stave-falls-tour-tickets-27297104374

IEEE PES Power & Energy Society®

DEIS

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

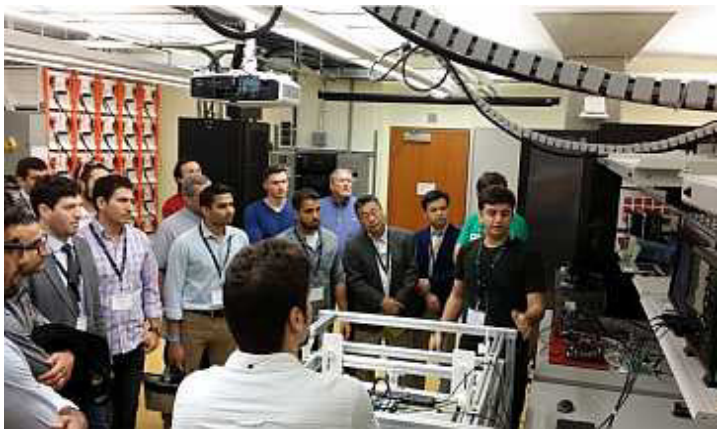
Information
Sean Garrity, Chair
IEEE youngprofessionals
sean.garrity.ca@ieee.org

IEEE youngprofessionals

Tours and demos make for great events! Why not show off *your* company?

Almost everybody loves getting the inside story that goes with a tour. If your business is interesting (and most are when you dig below the surface) please talk to your local IEEE technical chapter chair about arranging an event at your place of business. Your boss will like the publicity, it will be fun to have people to talk to about your work that might actually understand it and find it interesting and you get a chance to socialize with your peers. You can find all the chapter chairs all listed listed below. Many tours make great joint chapter activities as well. Tours and product demos will also attract prospective employees.

A few of the 160 attendees at the Power Electronics Chapter demo night in June. Congratulations to Martin Ordonez and Shahriar Mirabbasi and their teams for organizing this successful event in coordination with their conferences. Hosted at the ECE department at UBC, the event featured lab tours as well as multiple student clubs and societies demos/showcases. The event provided an opportunity for students to interact with the international delegates attending the IEEE PEDG 2016 and IEEE NEWCAS 2016 conferences in Vancouver



IEEE Vancouver technical chapter chairs

Electron Devices	Bonnie Gray	bgray at SFU.CA
Engineering in Medicine and Biology	Sara Khosravi	sarak at ieee.org
Joint Aerospace & Electromagnetics	Dave Michelson	davem at ECE.UBC.CA
Joint Applied Physics	Ahmed Hussein	ahmed.hussein at UNBC.CA
Joint Circuits and Systems	Ljiljana Trajkovic	ljilja at sfu.ca
Joint Communications	Vincent Wong	vincentw at ECE.UBC.CA
Joint Computing	Bob Gill	bgill at ieee.org
Joint Control, Robotics & Cybernetics	Ryozo Nagamune	nagamune at MECH.UBC.CA
Joint Industry Applications and Electronics	Jeff Bloemink	j.m.bloemink at ieee.org
Joint Management	Darrell Koskinen	mr.darrell.koskinen at ieee.org
Joint Oceans, Geoscience & Remote Sensing	Serddor Soylu	ssoylu at cellula.com
Joint Power & Energy	Dipendra Rai	Dipendra.rai at BCHYDRO.COM
Joint Solid State Circuits & Technology	Shahriar Mirabbasi	Shahriar at ece.ubc.ca
Power Electronics	Martin Ordonez	mordonez at ieee.org
Signal Processing	Ivan Bajic	ivan.bajic at GMAIL.COM

IEEE Vancouver affinity group chairs

Consultants Network	Scott Tulley	s.t.tully at ieee.org
Life Members	Abhijit Sen	abhijit.sen at kwantlen.ca
Young Professionals	Sean Garrity	Sean.Garrity.CA at ieee.org
Women In Engineering	Parastoo Kheirkhah Dehkordi	parastoo.dehkordi at gmail.com