



Emerging Technologies

Communications Microsystems Optoelectronics Sensors

2018 Conference Program

May 9 - 11, 2018

Hilton Whistler Resort & Spa

Whistler

May 9, 2018

Session P1: Plenary I

9:00

TBD

Chairs: Chair to be Announced

Sorin Voinigescu, University of Toronto (sorinv@eecg.toronto.edu)

Silicon Device and Circuit Scaling to the End of the ITRS 2030 Time Horizon and natural Evolution into Si QC at the Atomic Scale

Seung Kang, Qualcomm (kang@qti.qualcomm.com)

Drew Evans, University of South Australia (Drew.Evans@unisa.edu.au)

Session A1: Devices, Circuits and Systems

13:30

TBD

Chairs: Chair to be Announced

Tetsuo Endoh, Tohoku University (tetsuo.endoh@cies.tohoku.ac.jp)

Impact of Nonvolatile Brain-Inspired VLSIs with CMOS/MTJ Hybrid Technology

Antonio Liscidini, University of Toronto (antonio.liscidini@utoronto.ca)

Complex Poles with Passive Switched Capacitor Filters

Carlos Galup Montoro, Universidade Federal de Santa Catarina (carlosgalup@gmail.com)

Ultra Low Voltage/Power LNA and Mixers

Naoya Onizawa, Tohoku University (nonizawa@m.tohoku.ac.jp)

Energy-Efficient Brainware LSI Based on Stochastic Computation

Sarit Dhar, Auburn University (sarit_dhar@auburn.edu)

Ramesh Harjani, University of Minnesota (harjani@umn.edu)

Tohru Ishihara, Kyoto University (ishihara@i.kyoto-u.ac.jp)

Alex James, Nazarbayev University (apj@ieee.org)

Francois Leonard, Sandia National Laboratories (fleonar@sandia.gov)

Hassan Maher, Université de Sherbrooke (hassan.maher@Usherbrooke.ca)

Seung-Tak Ryu, KAIST (stryu@kaist.ac.kr)

Zhihua Wang, Tsinghua University (zhihua@tsinghua.edu.cn)

Zhengya Zhang, University of Michigan (zhengya@umich.edu)

Huilong Zhu, Chinese Academy of Sciences (zhuhuilong@ime.ac.cn)

Session B1: Nanotechnology

13:30

TBD

Chairs: Chair to be Announced

An Chen, Nanoelectronics Research Initiative (anchen04@gmail.com)

Malgorzata Chrzanowska-Jeske, Portland State University (jeske@ece.pdx.edu)

Shamik Das, Mitre Corporation (sdas@mitre.org)

Scott Retterer, Oak Ridge National Laboratory (rettererst@ornl.gov)

Heike Riel, IBM Zurich (hei@zurich.ibm.com)

D. Keith Roper, University of Arkansas (dkroper@uark.edu)

Session C1: Energy Harvesting and Storage

13:30

TBD

Chairs: Chair to be Announced

Daniel Guay, INRS (guay@emt.inrs.ca)

Microsupercapacitor Has On-board Energy Storage Device

Darren Frew, BC Bioenergy Network (frew.darren@gmail.com)

Terry J. Hendricks, NASA (terry.j.hendricks@jpl.nasa.gov)

Fangxing Li, University of Tennessee, Knoxville (fli6@utk.edu)

Session D1: Biotechnology

13:30

TBD

Chairs: Chair to be Announced

Hui Fang, Northeastern University (fangh05@gmail.com)

Chronically Stable, Flexible Bio-electronics for Brain and Heart Activity Mapping.

Michael Canva, Université de Sherbrooke (Michael.Canva@USherbrooke.ca)

Fabio Cicoira, École Polytechnique de Montréal (fabio.cicoira@polymtl.ca)

Brian Cunningham, University of Illinois at Urbana-Champaign (bcunning@illinois.edu)

Massimo De Vittorio, Università del Salento (massimo.devittorio@unisalento.it)

Myeongsub (Mike) Kim, Florida Atlantic University (kimm@fau.edu)

Sunil Patil, Technische Universität Braunschweig (sunilpatilhere@gmail.com)

Clara Santato, École Polytechnique de Montréal (clara.santato@polymtl.ca)

Jonathan Rivnay, Centre Microélectronique de Provence (rivnay@emse.fr)

Edmond W.K. Young, University of Toronto (eyoung@mie.utoronto.ca)

Session E1: Advanced Materials

13:30

TBD

Chairs: Chair to be Announced

Emmanuel Defay, LIST (emmanuel.defay@list.lu)

Transparent Piezoelectric Films on Glass for Haptic Applications

Federico Rosei, INRS (rosei@emt.inrs.ca)

Multifunctional Materials for Electronics and Photonics

Fernando Calle, Universidad Politécnica de Madrid (fernando.calle@upm.es)

Majeed Foad, Applied Materials (Majeed_Foad@amat.com)

Bonnie Gray, Simon Fraser University (bgray@sfu.ca)

Daniel J. Inman, University of Michigan (daninman@umich.edu)

Omkaram (Om) Nalamasu, Applied Materials (Om_Nalamasu@amat.com)

Marco Rahm, Technische Universität Kaiserslautern (marco.rahm@eit.uni-kl.de)

Sigurd Wagner, Princeton University (wagner@princeton.edu)

May 10, 2018

Session A2: Memories and Computing

9:00

TBD

Chairs: Chair to be Announced

Kerem Camsari, Purdue University (kcamsari@purdue.edu)

Stochastic p-bits for Invertible Logic

Zhihong Chen, Purdue University (zhchen@purdue.edu)

Bastien Giraud, CEA (bastien.giraud@cea.fr)

Markus Levy, EEMBC (markus.levy@eembc.org)

Vikas Rana, Research Center Juelich (v.rana@fz-juelich.de)

Seiji Kajihara, Kyushu Institute of Technology (kajihara@cse.kyutech.ac.jp)

Nasser Kurd, Intel (nasser.a.kurd@intel.com)

Luc Thomas, Headway Technologies, Inc. (luc.thomas@headway.com)

Session B2: Nanoscale Devices and Circuits

9:00

TBD

Chairs: Chair to be Announced

Krishna Saraswat, Stanford University (saraswat@stanford.edu)

Emerging Interconnect Technologies for Nanoelectronics

Hagen Klauk, Max Planck Institute for Solid State Research (h.klauk@fkf.mpg.de)

Organic Thin-Film Transistors and Complementary Circuits for Flexible Electronics Applications

Ji Ung Lee, SUNY Polytechnic Institute (jlee1@sunypoly.edu)

Reconfigurable Logic Devices in 2D Materials

Andreas Ruediger, INRS (ruediger@emt.inrs.ca)

Gregory Snider, University of Notre Dame (snider.7@nd.edu)

Toshiyuki Tsuchiya, Kyoto University (tutti@me.kyoto-u.ac.jp)

Fabrice Vallee, Université de Lyon (fabrice.vallee@univ-lyon1.fr)

Feng Xiong, University of Pittsburgh (f.xiong@pitt.edu)

Peng Zhou, Fudan University (pengzhou@fudan.edu.cn)

Session C2: Radiation Detection and Imaging

9:00

TBD

Chairs: Chair to be Announced

Maurice Garcia-Sciveres, Lawrence Berkeley National Laboratory (mgarcia-sciveres@lbl.gov)

Mehadi Hassan, Duke University (mehadi.hassan@duke.edu)

Ralph James, Savannah River National Laboratory (ralph.james@srnl.doe.gov)

Ali Kenchaf, ENSTA Bretagne (ali.khenchaf@ensta-bretagne.fr)

Pierre Khuri-Yakub, Stanford University (khuri-yakub@stanford.edu)

Paul Lecoq, CERN-European Organization for Nuclear Research (paul.lecoq@cern.ch)

Val O'Shea, University of Glasgow (val.o'shea@glasgow.ac.uk)

Alvaro Pena-Quevedo, University of Puerto Rico (alvarojpena@gmail.com)

Paul Seller, Science and Technology Facilities Council (paul.seller@stfc.ac.uk)

Session D2: Medical Technologies

9:00

TBD

Chairs: Chair to be Announced

Thomas Webster, Northeastern University (th.webster@neu.edu)

Design, Fabricating, and Commercializing In The Body Nano Sensors: The Future of Health

Soojin Lee, University of British Columbia (soojin.lee.e@gmail.com)

Engineering Approaches to Non-invasive Electrical Stimulation of the Brain: Application to Parkinson's Disease

Philip Butler, University of Canterbury (phil.butler@canterbury.ac.nz)

Kullervo Hynynen, University of Toronto (khynynen@sri.utoronto.ca)

Ross Walker, University of Utah (ross.walker@utah.edu)

Session E2: Advanced Materials

9:00

TBD

Chairs: Chair to be Announced

Deji Akinwande, University of Texas (deji@ece.utexas.edu)

Materials and Electronic Systems based on 2D Atomic Layers

Rehan Kapadia, University of Southern California (rkapadia@usc.edu)

Compound Semiconductors on Anything

Yvon Cordier, Centre National de la Recherche Scientifique (Yvon.Cordier@crhea.cnrs.fr)

Byron Gates, Simon Fraser University (bgates@sfu.ca)

Hasina Huq, University of Texas, Pan American (hhuq@utpa.edu)

Diego Mantovani, Université Laval (Diego.Mantovani@gmn.ulaval.ca)

Cengiz Ozkan, University of California, Riverside (cozkan@engr.ucr.edu)

Guangrui (Maggie) Xia, University of British Columbia (gxia@mail.ubc.ca)

Jian-Gang (Jimmy) Zhu, Carnegie Mellon University (jzhu@ece.cmu.edu)

Session A3: Sensors

13:30

TBD

Chairs: Chair to be Announced

Mohammad Al Sharman, American University of Sharja (alsharman.mohammad@gmail.com)
State Estimation, Sensor Fusion, Control Theory

Lado Filipovic, Technische Universität Wien (filipovic@iue.tuwien.ac.at)
CMOS-compatible Semi-conducting Metal-oxide Gas Sensors

Fabio Di Francesco, Università di Pisa (fabio.difrancesco@unipi.it)

John Madden, University of British Columbia (jmadden@ece.ubc.ca)

Boris Mizaikoff, Universität Ulm (boris.mizaikoff@me.com)

Yves-Alain Peter, École Polytechnique de Montréal (yves-alain.peter@polymtl.ca)

Brett Smolenski, SUNY Polytechnic Institute (bsmolens@gmail.com)

Session B3: MEMS and NEMS

13:30

TBD

Chairs: Chair to be Announced

Farrokh Ayazi, Georgia Tech (ayazi@ece.gatech.edu)

Vamsy Chodavarapu, University of Dayton (vchodavarapu1@udayton.edu)

Edmond Cretu, University of British Columbia (edmond@ece.ubc.ca)

Raafat Mansour, University of Waterloo (raafat.mansour@ece.uwaterloo.ca)

Alan Mathewson, Tyndal National Research Lab (alan.mathewson@tyndall.ie)

Mina Rais-Zadeh, University of Michigan (minar@umich.edu)

Matthew Spencer, Harvey Mudd College (mspencer@g.hmc.edu)

Harry van der Graaf, National Institute for Subatomic Physics (vdgraaf@nikhef.nl)

Session C3: Optics and Photonics

13:30

TBD

Chairs: Chair to be Announced

Antonio Agresti, Università degli Studi di Roma "Tor Vergata" (antonio.agresti@uniroma2.it)
Perovskite Solar Cells

Daniel Amkreutz, Institut für Silizium-Photovoltaik (daniel.amkreutz@helmholtz-berlin.de)

Pablo Bianucci, Concordia University (pablo.bianucci@concordia.ca)

Abderraouf Boucherif, Canada-3IT (abderraouf.boucherif@usherbrooke.ca)

Lukas Chrostowski, University of British Columbia (lukasc.ubc@gmail.com)

Andy Knights, McMaster University (aknight@mcmaster.ca)

Zhaojun Liu, SYSU-CMU Joint Institute of Engineering (liuzhaojun@mail.sysu.edu.cn)

Rusli, Nanyang Technological University (erusli@ntu.edu.sg)

Session D3: Medical Imaging

13:30

TBD

Chairs: Chair to be Announced

Vesna Sossi, University of British Columbia (vesna@phas.ubc.ca)

Takashi Tokuda, NAIST (tokuda@ms.naist.jp)

Session E3: Nanomaterials

13:30

TBD

Chairs: Chair to be Announced

Kyle Alvine, Pacific Northwest National Laboratory (kyle.alvine@pnnl.gov)

Francis Balestra, MINATEC (balestra@minatec.grenoble-inp.fr)

Thierry Baron, LTM-CNRS Grenoble (thierry.baron@cea.fr)

Karen Kavanagh, Simon Fraser University (kavanagh@sfu.ca)

Jeffrey Kelber, University of North Texas (kelber@unt.edu)

Shankar Ranavare, Portland State University (ranavas@pdx.edu)

May 11, 2018

Session A4: Circuits and Systems Design

9:00

TBD

Chairs: Chair to be Announced

Tanbir Haque, InterDigital (tanbir.haque@interdigital.com)

Developing Flexible Architectures for Wideband Data Reception and Rapid Interference Detection for Cognitive Radio Type Applications

Salvador Pinillos Gimenez, Centro Universitário da FEI (sgimenez@fei.edu.br)

Layout Techniques for MOSFETs

Joachim Burghartz, Institut für Mikroelektronik Stuttgart (burghartz@ims-chips.de)

Edoardo Charbon, EPFL, Technische Universität Delft (e.charbon@tudelft.nl)

Yue Fu, Crosslight Software (fred@crosslight.com)

Carlos Gracios-Marin, CERN-European Organization for Nuclear Research (cgracios@cern.ch)

Maciej Ogorzalek, Uniwersytet Jagiellonski Krakow (maciej.ogorzalek@uj.edu.pl)

Juan Rey, Mentor Graphics (juan_rey@mentor.com)

Lubab Sheet, Lam Research Corporation (lubab.sheet@lamrc.com)

Sidney Tsai, IBM (htsai@us.ibm.com)

Session B4: Quantum Technologies

9:00

TBD

Chairs: Chair to be Announced

Michael Adachi, Simon Fraser University (mmadachi@sfu.ca)

Colloidal Quantum Dot Solids

Benoit Bertrand, CEA (Benoit.BERTRAND@cea.fr)

Using Si CMOS Technology as a Platform for Quantum Computing

Kirk Bevan, McGill University (kirk.bevan@mcgill.ca)

Dieter Bimberg, Technische Universität Berlin (bimberg@physik.tu-berlin.de)

Jan Dubowski, Université de Sherbrooke (Jan.J.Dubowski@USherbrooke.ca)

Mark Eriksson, University of Wisconsin-Madison (maeriksson@wisc.edu)

Jean-Marie George, CNRS (jeanmarie.george@cnrs-thales.fr)

Mark Johnson, D-Wave Systems (mwjohnson@dwavesys.com)

Marek Korkusinski, National Research Council (Marek.Korkusinski@nrc-cnrc.gc.ca)

Session C4: Wireless Technologies

9:00

TBD

Chairs: Chair to be Announced

John Ho, National University of Singapore (johnho@nus.edu.sg)

Wireless Technologies for Bioelectronic Therapies

Manos Tentzeris, Georgia Tech (etentze@ece.gatech.edu)

3D-/4D-Printed RF and Millimeter-Wave Components and Modules for IoT applications

Shuhei Amakawa, Hiroshima University (amakawa@hiroshima-u.ac.jp)

Syed Kamrul Islam, University of Tennessee, Knoxville (sislam@utk.edu)

Rouzbeh Kananizadeh, University of California, Davis (rkanani@ucdavis.edu)

Harish Krishnaswamy, Columbia University (hk2532@columbia.edu)

Besh Ray, Aether Spectrum, Inc. (besh.ray@aetherspectrum.com)

Jacques C. Rudell, University of Washington (jcrudell@u.washington.edu)

Farhana Sheikh, Intel (engenia@gmail.com)

Yahya Tousi, University of Minnesota (ymtousi@umn.edu)

Fei Yuan, Ryerson University (fyuan@ryerson.ca)

Session D4: Emerging Technologies

9:00

TBD

Chairs: Chair to be Announced

Speakers To Be Announced

Session E4: Optical Materials and Devices

9:00

TBD

Chairs: Chair to be Announced

Magnus Borgström, Lund University (magnus.borgstrom@ftf.lth.se)

Beatrice Fraboni, University of Bologna (beatrice.fraboni@unibo.it)

Zubin Jacob, University of Alberta (zjacob@ualberta.ca)

Nick Jaeger, University of British Columbia (nick_jaeger@ieee.org)

Swastik Kar, Northeastern University (S.Kar@neu.edu)

Gary Leach, Simon Fraser University (gleach@sfu.ca)

Lance Li, King Abdullah University of Science & Technology (lance.li@kaust.edu.sa)

Paul McIntyre, Stanford University (pcm1@stanford.edu)

Muhammad Sayyad, Ghulam Ishaq Khan Institute of Engineering Sciences and Technology (hsayyad62@gmail.com)

Fiorenzo Vetrone, INRS (vetrone@emt.inrs.ca)

Session P3: Plenary III

13:30

TBD

Chairs: Chair to be Announced

Kourosh Kalantar-Zadeh, RMIT University (kourosh.kalantar@rmit.edu.au)

Ricardo Reis, Universidade Federal do Rio Grande do Sul (reis@inf.ufrgs.br)



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