

May 21, 2010

Session 5A – Photonics (Sutcliffe A), Michael Hochberg, U of Washington, hochberg@u.washington.edu and Kenneth Chau, UBC, Kenneth.Chau@ubc.ca

8:00-8:20 Yukio Kawano, ykawano@riken.jp, RIKEN, Terahertz sensing, imaging and application

8:25-8:45 John Cunningham, J.E.Cunningham@leeds.ac.uk, Leeds U, Evanescent-field Terahertz Time-domain Microscopy

8:50-9:10 David Engström, david.engstrom@physics.gu.se, U of Gothenburg, Optical Micromanipulation using Holographic Optical Trapping

9:15-9:35 Kanna Aoki, kanna.aoki@riken.jp, RIKEN, Connecting quantum dots and a nanocavity in a 3D photonic crystal

9:40-10:00 Kiyomi Monro, kmonro@mobiustronics.com, Mobius Photonics, Advanced fiber laser for wafer singulation

10:20-10:40 Rashid Zia, Rashid.Zia@brown.edu, Brown U, Leveraging Electric and Magnetic Dipole Transitions for Active Nanophotonic Devices

10:45-11:05 Sabarni Palit, sabarni.palit@gmail.com, DukeU, Integration of thin film compound semiconductor edge emitting lasers on silicon substrates

11:10-11:30 Jeremy Witzens, jwitzens@gmail.com, UWashington, CMOS Photonics and Applications

11:35-11:55 Yegao (George) Xiao, Fred Y. Fu, Zhanming Simon Li, fred@crosslight.com, Crosslight Software Inc., 3D Modeling of CMOS Image Sensors by Using Crosslight CSuprem and APSYS

12:00-12:20 Nick Jaeger, nick.jaeger@ieee.org, UBC, Current Trends in Silicon Photonics in the Context of Higher Education

Session 6A –Imaging (Sutcliffe A), Purang Abolmaesumi, purang@ece.ubc.ca, UBC and Shuo Tang, tang@ece.ubc.ca UBC

1:30-1:50 Mario Kupnik, kupnik@stanford.edu, Butrus T. Khuri-Yakub, Stanford U, Wafer bonded CMUT meets CMOS: MEMS-based Ultrasonic Transducer Arrays Including Electronics Integration

1:55-2:15 Yiping Shao, yiping.shao@mdanderson.org, U of Texas, Houston, Towards to 3D gamma-ray detection PET detector: Its significance, historical approach, and the latest development

2:20-2:40 Farhad Taghibakhsh, farhad@uoft.utoronto.ca, Sunnybrook Health Sciences Centre, Detectors with Silicon Photomultipliers for High Resolution PET

2:45-3:05 Michael Casey, Michael.E.Casey@siemens.com, Siemens, Experience with Time-of-flight Positron Emission Tomography

3:25-3:45 Orly Yadid Pecht, orly.yadid.pecht@ucalgary.ca, U Calgary, Progress on a Low Light Level Illumination CMOS based sensor system for bio-medical applications

3:50-4:10 Dongsoo Kim, dongsoo.kim@yale.edu, Yale, Smart CMOS Image Sensor for an Eye Tracking System

4:15-4:35 Al Molnar, molnar@ece.cornell.edu, Cornell U, Optical image processing in standard CMOS

4:40-5:00 George Yuan, eeeyuan@ust.hk, HKUST, WDR CIS for bio-medical imaging

5:05-5:25 Kartikeya Murari, kartik@jhu.edu, Ralph Etienne-Cummings, Johns Hopkins U, CMOS imagers and imaging systems for imaging in awake, behaving rats

5:30-5:50 Kevin F. Kelly, kkelly@rice.edu, Rice University, Imaging by Compressive Sensing: A 1-Pixel Camera & Beyond

Session 5B – Radiation (Sutcliffe B), Orly Yadid Pecht, orly.yadid.pecht@ucalgary.ca, U Calgary and Kenneth Chau, UBC, Kenneth.Chau@ubc.ca

8:00-8:20 Ian Johnson, ian.johnson@psi.ch, PSI, A large area pixel detector for high frame rate X-ray applications

8:25-8:45 Paul O'Connor, poc@bnl.gov, BNL, Analog front ends for X-ray direct detectors

8:50-9:10 Gabriella Carini, carini@bnl.gov, BNL, Monolithic imaging detectors with fast readout

9:15-9:35 Anton Tremsin, ast@ssl.berkeley.edu, Berkeley, Medipix CMOS sensor for material analysis, strain mapping and neutron tomography (MCP-Medipix collaboration)

9:40-10:00 Goro Sato, gsato@astro.isas.jaxa.jp, Tadayuki Takahashi, JAXA, CdTe Pixel Detector with a Low-noise Front-end ASIC for Space Application

10:20-10:40 Juha Kalliopuska, Juha.Kalliopuska@vtt.fi, VTT, Development of 4-side buttable and thin radiation detectors

10:45-11:05 Maurice Garcia-Sciveres, mgarcia-sciveres@lbl.gov, LBL, Overview of radiation hard power conversion

11:10-11:30 Jan Visser, janvs@nikhef.nl, Nikhef, Technological advances in hybrid photon-counting detection systems

11:35-11:55 Massimo Violante, massimo.violante@polito.it, Ionizing radiation effects in commercial-off-the-shelf reprogrammable FPGAs

12:00-12:20 Luis Entrena, entrena@ing.uc3m.es, Soft Error Sensitivity Evaluation

Session 6B – Radiation (Sutcliffe B), Peyman Servati, UBC, peymans@ece.ubc.ca and Cengiz Ozkan, UCR, cozkan@engr.ucr.edu

1:30-1:50 Amit Lal, amit.lal@cornell.edu, Cornell U, Radioisotopes for power sources and self-powered electron lithography

1:55-2:15 Hugh Barnaby, hbarnaby@asu.edu, ASU, Ionizing Radiation Effects and Modeling In Advanced CMOS Technologies,

2:20-2:40 Lawrence Clark, Lawrence.Clark@asu.edu, Arizona State University, Single Event Effects and Their Mitigation in High Speed Register Files and Cache Memory

2:45-3:05 Valentino Liberali, valentino.liberali@unimi.it, Università degli Studi di Milano, A radiation-hardened-by-design SRAM memory in commercial CMOS technology

3:25-3:45 Marta Bagatin, bagatinm@dei.unipd.it, S. Gerardin, Alessandro Paccagnella, U of Padova, Ionizing radiation effects on floating gate memories

3:50-4:10 Cinzia Da Via, Cinzia.Da.Via@cern.ch, U of Manchester, 3D silicon detectors: status and applications

4:15-4:35 Lawrence Pinsky, pinsky@uh.edu, Uof Houston, Developing a Space Radiation Dosimeter Based on the Medipix2 CMOS Technology

4:40-5:00 Gianluigi Zampa, gianluigi.zampa@ts.infn.it, INFN, Very Large Area, Position Sensitive Silicon Drift Detectors for X-ray Spectroscopy Applications

5:05-5:25 Akil K Sutton, aksutton@us.ibm.com, IBM, Radiation effects in HBT digital circuits

Session 5C- Microsystems and Sensors (Diamond Head), John Bumgarner, SRI, john.bumgarner@sri.com and Nikolai Dechev, UViC dechev@uvic.ca

8:00-8:20 Jitendran Muthuswamy, jit@asu.edu, ASU, Packaging and Interconnects for Implantable MEMS devices

8:25-8:45 Gianluca Piazza, piazza@seas.upenn.edu, UPenn, Monolithically Integrated Micro-Nano ElectroMechanical AIN Piezoelectric Resonators and Switches for Low Power Signal Processors

8:50-9:10 Eric Ollier, eric.ollier@cea.fr, CEA, NEMS and CMOS integration, for new devices and emerging applications

9:15-9:35 Douglas Buchanan, Douglas.Buchanan@umanitoba.ca, U Manitoba, Olfactory Chemical Sensors Design Using a Standard CMOS Process

9:40-10:00 Adrien Lelong, adrienlelong@gmail.com, CEA LIST, On line fault detection and location for complex wire network

10:20-10:40 Dana Weinstein, dana@mtl.mit.edu, MIT, NEMS-Enhanced Electron Devices

10:45-11:05 Joel Kent, jkent@elotouch.com, Elo TouchSystems, www.elotouch.com, Touchscreen technology basics & a new development

11:10-11:30 Mu Chiao, muchiao@mech.ubc.ca, UBC, Magnetic Scanning Microlens

11:35-11:55 Neil Sarkar, nsarkar@engmail.uwaterloo.ca, Raafat R. Mansour, U of Waterloo, MEMS-based Nano Instruments

12:00-12:20 Faisal Mohd-Yasin, faisal.yasin@mmu.edu.my, MMU, Noise Research in MEMS

Session 6C – Microsystems and Sensors (Diamond Head), Chairs: Jeremy Witzens, jwitzens@gmail.com, UWashington and John Bumgarner, SRI, john.bumgarner@sri.com

1:30-1:50 Tsuyoshi Sekitani, sekitani@ap.t.u-tokyo.ac.jp, Koichi Ishida, Makoto Takamiya, Takayasu Sakurai, and Takao Someya, U of Tokyo, Organic CMOS for flexible electronics

1:55-2:15 Jayna Sheats, sheats@terepac.com, Terapac, Printing Silicon Integrated Circuits

2:20-2:40 David Allee, allee@asu.edu, ASU, Flexible Electronics: What can it do? What should it do?

2:45-3:05 Manuel Quevedo, mquevedo@utdallas.edu, UT Dallas, Novel materials and structures for flexible electronics

3:10-3:30 Simon Watkins, simonw@sfu.ca, SFU, Type II mid infrared antimonide photodiodes beyond 5 microns

3:35-3:55 Takashi Tokuda, tokuda@ms.naist.jp, Jun Ohta, and Kiyomi Kakiuchi, Nara Institute of Science and Technology (NAIST), Polarization-analyzing CMOS image sensors with monolithically embedded wire grid structure

4:00-4:20 Arun K. Bhunia, bhuniar@purdue.edu, PurdueU, Light scattering and mammalian cell-based optical sensors for multipathogen detection

4:25-4:45 Hua Wang, hwang@caltech.edu, Caltech, CMOS Magnetic Biosensor Array for Point-of-Care (PoC) Molecular Diagnostics

Session 5D – Networks (Black Tusk), Theresa Carbonneau, tcarbonneau@mac.com and Vikram Devdas, HP, vikram.devdas@hp.com

8:00-8:20 Hiroshi Saito, saito.hiroshi@lab.ntt.co.jp, NTT, Wide Area Ubiquitous Network: Infrastructure for Sensor and Actuator Networking.

8:25-8:45 Ed Park, ed_park@sfu.ca, SFU, Ambulatory Monitoring of Human Motion Using MEMS-based Inertial Sensors

8:50-9:10 Christian Schlegel, schlegel@ece.ualberta.ca, U of Alberta, Wireless Access

9:15-9:35 Alanson Sample, apsample@gmail.com, Intel, Wireless Identification and Sensing Platform

9:40-10:00 Ioanis Nikolaidis, yannis@cs.ualberta.ca, Pawel Gburzynski, pawel@cs.ualberta.ca, U of Alberta, Programming and Versatile Abstractions for Wireless Sensor Networks

10:20-10:40 Susan Dickey, dickey@PATH.Berkeley.EDU, Berkeley, Vehicular Networks

10:45-11:05 Fabienne Nouvel, Fabienne.Nouvel@insa-rennes.fr, Philippe Tanguy, IETR-UMR, PLC network in vehicles

11:10-11:30 Odile Liboiron-Ladouceur, odile.liboiron-ladouceur@mcgill.ca, McGill U, Low-Power Photonic Interconnects for Data Centres

11:35-11:55 Hassan Farhangi, [Hassan Farhangi@bcit.ca](mailto:Hassan_Farhangi@bcit.ca), BCIT Technology Centre, Smart Grids: Technology

12:00-12:20 Chris Tumpach, chris.tumpach@rainforestautomation.com, Rainforest Automation, Smart Grid: Market and Opportunities

Session 6D –Computing (Black Tusk), Theresa Carbonneau, tcarbonneau@mac.com and Vikram Devdas, HP, vikram.devdas@hp.com

1:30-2:15 Ali Tehrani, ali@zymeworks.com, CEO Zymeworks, *In silico* modeling, optimization and design of antibodies and other protein therapeutics

2:20-2:40 Paul Chow, pc@eecg.toronto.edu, U of Toronto, Bringing High-Performance Reconfigurable Computing into the Mainstream

2:45-3:05 Daniel Coca, D.Coca@Sheffield.ac.uk, University of Sheffield, High-speed protein identification on reconfigurable computing platforms

3:10-3:30 Mitchel Doktycz, doktyczmj@ornl.gov, Scott T Retterer, ORNL, Nano-enabled synthetic biology: cell mimics

3:35-3:55 Stephen Neville, sneville@ece.uvic.ca, UViC, Testing distributed system and computer security technologies

4:00-4:20 Dimitris Papamichail, papamicd@gmail.com, University of Miami, Design Tools and Algorithms for Synthetic Biology

Session 5E1 – Research Commercialization (Cheakamus), Shahid Hussain, shahid_hussain@telus.net

8:00-8:20 Åke Severinson, monica.ake@gmail.com, OMNEX, New Business Models

8:25-8:45 Pascal Spothelfer, pspothelfer@bctia.org, BCTIA, Building a strong tech industry ecosystem in BC

8:50-9:10 Brent Sauder, brent.sauder@ubc.ca, UBC, Director, Strategic Initiatives, The Living Lab – the next evolution of Industry-University Partnerships

9:15-9:35 David Makihara, dmakihara@mitacs.ca, MITACS, Industry/Company Sponsored and Managed University Based Incubators

9:40-10:00 Rick Warner, Rick.Warner@nserc-crsng.gc.ca, NSERC-Pacific, Strategy for Partnership and Innovation

Session 5E2 – Emerging Technologies for Health (Cheakamus), Shuo Tang, tang@ece.ubc.ca UBC

10:20-10:40 Rainer Iraschko, iraschko@trlabs.ca, TRILabs, VP Research, eHealth Inter-Provincial Collaboration on ICT Innovation

10:45-11:05 Roozbeh Jafari, rjafari@utdallas.edu, UTDallas, Towards Helmets that Can Read Your Mind!

11:10-11:30 Ali Roula, maroula@glam.ac.uk, Glamorgan U, Magnetic Induction Tomography

11:35-11:55 Gayle Woloschak, g-woloschak@northwestern.edu, Northwestern U, Applications of Semi-conductor TiO₂ bionanoconjugates for Cancer Imaging and Therapy

12:00-12:20 Urs O. Häfeli, uhafeli@interchange.ubc.ca, and Katayoun Saatchi, UBC, (Pre)Medical Imaging to Optimize Radiotherapy

Session 6E – Green Energy (Cheakamus), Malcolm Metcalfe, mmetcalfe@sempapower.com, Sempa Power

1:30-1:50 Koji Kotani, kotani@ecei.tohoku.ac.jp, Tohoku University, Efficient energy scavenging from radio waves

1:55-2:15 Bor Yann Liaw, bliaw@hawaii.edu, UHawaii, "Sweet micro-power" - a sugar battery for energy harvesting

2:20-2:40 Andras Pattantyus-Abraham, andras.pattantyus@utoronto.ca, Ted Sargent, U of Toronto, Low-cost large-area high-efficiency photovoltaics

2:45-3:05 Darren Frew, frew.darren@gmail.com, BC Bioenergy Network, Investment Opportunities in Bioenergy

3:10-3:30 Arash Takshi, arasht@ece.ubc.ca, John D Madden, UBC, New approach to solar cells that employs photosynthetic proteins and saltwater

3:35-3:55 Shabnam Shambayati, B. Gholamkhash, S. Ebadian, Peyman Servati, peymans@ece.ubc.ca, Models of post-annealing effects in bulk-heterojunction photovoltaic devices