Connecticut Symposium on Microelectronics & Optoelectronics

TWENTY FOURTH ANNUAL SYMPOSIUM: Micro-and Nano-technologies for Electronics & Photonics

University of Bridgeport
Arnold Bernhard Center, 84 Iranistan Avenue, Bridgeport, Connecticut

April 1, 2015

Invited Keynote Talks

- Eric Fossum, CMOS Image Sensors - From Zero to Billions: A Story of Technology Innovation, Dartmouth College, Hanover, NH
- Shu-Jen Han, Carbon Nanotubes: Can They Really Replace Silicon? IBM, Yorktown Heights, NY.

Invited Technical Presentations from industrial and academic experts.


Discover R&D resources available in Connecticut and neighboring states.

Network with internationally renowned experts and learn about the R & D activities in micro- and nano-technologies applied to electronics, photonics, biosensors and energy applications.

CMOC Home Page: http://www.ee.uconn.edu/cmoc

Online registration: https://www.regonline.com/cmoc2015

The principal purpose of the 24th Connecticut Symposium on Microelectronics and Optoelectronics is to strengthen cooperation and sharing of resources between Connecticut industries and universities in the areas of microelectronics, optoelectronics, biosensors, energy and emerging technologies.

Another goal is to expose Connecticut industries to new technologies, trends, and current issues through invited presentations by nationally and internationally recognized experts. The symposium will act as a forum to disseminate, to state government leaders and the public at large, information about current directions and developments in these key areas. Finally, the symposium will seek to identify resources that encourage cooperative entrepreneurship among Connecticut industries and universities in the areas of microelectronics and optoelectronics.
SESSION I: Materials (8:45-10:00am)
- Ge Nanowire/III-V Nanocomposites, Larry Lee, Yale (Invited).
- Lanthanum Chromite based Perovskites for Oxygen Transport Membrane, S. Gupta and P. Singh, UConn (Invited).
- Progress and Challenges of MOCVD GST for Phase Change Memory, J-F. Zheng, Entegris (Invited).
- Manipulating and Perfecting the Physical-Chemical Environment around Single Wall Carbon Nanotubes, F. Papadimitrakopoulos, UConn (Invited).
- Memristors: From Devices to Systems, A. Mazady, A. Rivera, A.F. M. Anwar, UCONN.
- Total Ionizing Dose (TID) Effects on Ultra-thin InGaAs Nanowire Gate-All-Around MOSFETs with ALD Al2O3 Gate Dielectrics, S. Ren, X. Sun, M. Si, E. X. Zhang, J. Chen, D. M. Fleetwood, P. D. Ye, S. Cui, and T. P. Ma, Yale and Purdue. (Invited)
- Fabrication and Characterization of Radhard Power MOSFETs, X. Wan, D. Liu, J. Wen, W. Zhou, B. Zhang, J. Xun, and H. Bo, Yale.
- TCAD Modeling of Devices for Quanta Image Sensors, Jiaju Ma, Eric R. Fossum, Thayer School of Engineering, Dartmouth College, Hanover, NH.

SESSION II: Devices (10:00-11:45am)
- Fiber to Home, V. Matalik, Arris (Invited).
- Enhancing Low Light Color Imaging with Pixel Concept utilizing two vertically stacked Detector layers, L. Anzagira & E.R. Fossum, Dartmouth.

SESSION IV: Biosensing/Nano-Biosystems
- Co-detecting 40+ proteins in single cells via a high-density nanoliter microchamber array, R. Fan, Yale (Invited).
- Protein Characterization using Surface Acoustic Wave Devices, V. Durgat, J. Kahl, P. Daflie, D. Kalonia, and F. Jain, UConn and Phonon Corp.

SESSION V: Clean Energy / Storage / Emerging Technologies (4:20-5:30pm)
- Nanoporous GaN distributed Bragg reflector with near unity (>99%) reflectance, Cheng Zhang, Sung Hyun Park, Danzi Chen, and J. Han, Yale.
- Use of Glucowizard™ to Predict Exhaustion via Continuous Metabolic Monitoring, M. Kastellorizios, S. Vaddiraju, A. Legasse, F. Jain, F. Papadimitrakopoulos, and D. J. Burgess, UCONN and Biorasis.

SESSION III: Applications (1:30-2:45pm)
- Challenges of MOCVD GST for Phase Change/Perovskite Systems, N. V. Johannessen, and R. R. Birge, UConn.
- TCAD Modeling of Devices for Quanta Image Sensors, Jiaju Ma, Eric R. Fossum, Thayer School of Engineering, Dartmouth College, Hanover, NH.
REGISTRATION INFORMATION

Fees: The registration fee of $199 includes all costs of presentation materials, refreshments, lunch, and reception on April 1, 2015. Registration must be received by Monday, March 30, 2015, in order to ensure a place at reception. Students registration is free via email to Dr. Ahlgren at dave.ahlgren@trincoll.edu by March 30, 2015.

Online Registration: https://www.regonline.com/cmoc2015

For Hotel accommodations, please contact Bridgeport Holiday Inn 1070 Main St, Bridgeport, CT 06604 Phone: 203 334-1234 or 888-Holiday (465-4329)

For information regarding symposium contents: Contact F. Jain at (860) 486-3752. http://www.ee.uconn.edu/cmoc

For information regarding symposium logistics: Contact University Events and Conference Services at (860) 486-1038.

Symposium Location: University of Bridgeport Arnold Bernhard Center, 84 Iranistan Avenue, Bridgeport CT

Local Arrangements: Ashkan Vakil (203) 893-9294 Maria Gherasimova (mgherasi@bridgeport.edu)

Symposium Parking: Free parking lot directly adjacent to the building Arnold Bernhard Center, 84 Iranistan Avenue

Refunds and Cancellations: The registration fee is refundable less a $35 processing fee, prior to the first day of the program. Participant substitutions may be made at any time. The University of Connecticut supports all federal and state laws that promote equal opportunity and prohibit discrimination. This is a self-supporting program.

Organizing Committee

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April 1, 2015

Registration Form for Paying Participants: (not for student use)

Connecticut Symposium on Microelectronics & Optoelectronics
At University of Bridgeport, Arnold Bernhard Center, 84 Iranistan Avenue, Bridgeport, CT

Registration Fee: $199

Registration is free for graduate and undergraduate students (Inform Dr. D. Ahlgren by email:david.ahlgren@trincoll.edu)<http://trincoll.edu>

To Register:

Online: https://www.regonline.com/cmoc2015

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PAPERS FOR POSTER PRESENTATIONS


P-11. Multiple Coupled Quantum Wells (CQW) Based Optical Modulator, M. Lingalugari, P-Y. Chan, W. Huang, E. Heller, and F. Jain.

P-12. Comparison of Sonochemically and MOCVD grown ZnMgO Nanowires and Nanorods, A. Rivera, A. Mazady, and A. F. M. Anwar.

P-13. THz Optical properties of ZnMgO/ZnO core-shell nanostructures, A. Rivera, K. Ahi, A. Mazady, and A. F. M. Anwar.


P-28. Finite Element Analysis of Thermoelectric Generator Scaling, N. Williams, H. Silva, and A. Gokirmak.


UP-33. SRAMs using QDG-FETs, A. Clark, F. Javed, P. Vicente, G. Gutierrez, N. Kulla, M. Lingalugari, P. Mirdha, and F. Jain.

P-34. Denoising and Beat Detection of ECG Signal by Using FPGA, D. Alhelal and M. Faezipour.