Connecticut Symposium on Microelectronics & Optoelectronics

TWENTY SIXTH ANNUAL SYMPOSIUM:
Nanotechnology in Electronics, Photonics, Biosensors, and Energy Systems.

University of Connecticut
Thomas Dodd Research Center, Konover Auditorium,
405 Babbidge Road,
Storrs, Connecticut 06269-1205

April 5, 2017

Invited Keynote Talks
• Jessie Rosenberg, Si Photonics for Optical Interconnects, Thomas J. Watson IBM Research Center, Yorktown Heights, NY.
• Rajit Manohar, Neuromorphic Computing, Yale University, New Haven, CT.
• Invited Technical Presentations from industrial and academic experts.


Discover R&D resources 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/cmoc2017

The principal purpose of the 26th 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 & Characterization 8:45-10:00

- Erandika Karunarathne, Mehdi Mollahosseini, Jose A. Gascón, and Fotios Papadimitrakopoulos, Flavin-C60 Complex Assisted Photo induced Charge Transfer of Single-Walled Carbon Nanotubes, UCONN.
- A. Rivera, A. Mazady and M. Anwar, Memristors: From Devices to systems, UCONN.
- A. Gokirmak, Electro-thermal processes and phase-change memory and logic, UCONN (Invited).

SESSION II: Devices (10:15-11:30am)

- M. Bhuyian, H. Zhou, R. Jiang, H.Gong, E.X. Zhang, R.A. Reed, D.M. Fleetwood, P. Ye, T.P. Ma, Total ionizing dose effects on GaN-based HEMTs and MOSHEMTs: Effects of channel thickness and epitaxial MgCaO as gate dielectric, Yale, Purdue, and MIT.
- P. Sengupta and J. Shi, Polarization controlled valley Hall current in monolayer transition metal dichalcogenides, University of Illinois, Chicago.
- Z. Liu, N. Gong, T.P. Ma, Clock-delayed Dynamic Unipolar CMOS Logic Scheme for Post-silicon Logic Circuits, Yale.
- X. Zhang and N. Dutta, All-Optical Logic Gates Based on Quantum-Dot Semiconductor Optical Amplifier, UCONN.

SESSION III: Applications (1:20-2:50pm)

- Laigi Frunzio, Quantum Computing, Yale (Invited).
- V. Mutalik, Moving the Nation from HFC to FTTH: Technologies for the Long Transition, Arris (Invited).
- Siwei Zhao, Fiorenzo Omenetto and David Kaplan, Silk Based Dissolvable and Implantable Electronics, Tufts University (Invited).
- D. Hondongwa and E. Fossum, Temporal oversampling CMOS based X-ray photon counting, Dartmouth, NH.
- M. Erfanazadeh, Q. Zhu, Low-cost and fast laser scanning photoacoustic microscopy system with a high power pulsed laser diode excitation source, UCONN and U. Washington, St. Louis, Mo.

SESSION IV: Biosensing/Nano-Biosystems (3:30-4:45pm)

- M. Choma, Coherence engineering for biomedical microscopy, Yale University, Invited.
- B. Wu, X. Gao, J. Smith, J. Bailin. Optical Biopsy for Prostate Cancer Diagnosis Using Fluorescence Spectroscopy, SCSU.
- Y. Lei, Biosensor for organophosphorus pesticides monitoring, UCONN.
- A. Tadimety, Y. Zhang, T. Pulinskii, K. Kready, J. X.J. Zhang, Nanopatterned Plasmonic Arrays for Circulating Tumor DNA Capture and Detection, Dartmouth, NH.

SESSION V: Emerging Technologies (4:45-6:00pm)

- M. Tentzeris, Flexible Electronics, Georgia Tech (Invited).
- J. Jagtiani, C. Bach, C. Huntley, Methods to Increase the Application & Transferability of Systems & Applications Related Research By Using Open Source Data, UB.
- R. Fan, BioMEMS industry and technology innovation, in the state of Connecticut, Yale University (Invited).
- S. B. Sukhavasi, S. B. Sukhavasi, K. Elleithy, Implementation of CMOS Quasi-digital Temperature Sensor, UB.

POSTER SESSION: (LUNCH and 6:00-7:00pm)
Over 35 Poster Papers (see page 4).

RECEPTION AND AWARDS: (7:00-8:00pm)
REGISTRATION INFORMATION Prof. M. Gherasimova

Fees: The registration fee of $199 includes all costs of presentation materials, refreshments, lunch, and reception on April 5, 2017. Registration must be received by Monday, March 30, 2016, in order to ensure a place at reception. Students registration is free via email to Dr. Gherasimova at mgherasi@bridgeport.edu by March 31, 2017.

Online Registration: https://www.regonline.com/cmoc2017

For Hotel accommodations. Please contact (860) 427-7888 for Nathan Hale Inn, 855, Bolton Road, Storrs, CT 06268.

Parking: Please park in the South Garage (across from Gampel Pavilion Dome), 505, Jim Calhoun Way (off Hillside), Storrs, CT 06269-3204

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 Connecticut
Thomas Dodd Research Center, 405 Babidge Road, Storrs, CT

Local Arrangements: University and Conf. Services: 860-486-1038

Symposium Parking: South Garage adjacent to UCONN Co-Op
Jim Calhoun Way (of f Hillside Road)

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.

Registration Form for Paying Participants: (not for student use)
Connecticut Symposium on Microelectronics & Optoelectronics
At UCONN, Thomas Dodd Research Center, Konover Auditorium, 405 Babidge Road, Storrs, CT 06269-1205

Registration Fee: $199

Registration is free for graduate and undergraduate students (Inform Dr. M. Gherasimova by email: mgherasi@bridgeport.edu)

To Register:
Online: https://www.regonline.com/cmoc2017

Method of Payment: Credit Card
In an effort to increase security and prevent identity theft, we have changed our payment methods. Please choose one of the methods below:

Check enclosed payable to UConn

Purchase Order number_________________________Issuer of Purchase Order

IN PERSON: At the conference site at UCONN.

Please indicate below if you have any special needs we should know about.
PAPERS FOR POSTER PRESENTATIONS

P1. Althowibi, F. A., Ayers, J. E., Dynamical X-ray Diffraction Analysis of a GaAs/InGa0.7As/GaAs Single Quantum Well Grown on a GaAs (001) Substrates, UCONN.

P2. Md Tanvirul Islam, Xinkang Chen, Tedi Kujofsa, J. E. Ayers, Chirped Superlattices as Adjustable Strain Platforms for Metamorphic Semiconductor Devices, UCONN.

P3. Abul Hasan Fazulullah, Purva Vansia, Kartavi Patel, Dipesh Patel, A. Abuzneid, Secure Transmission with Data Encryption and Data Compression Mechanism, University of Bridgeport.

P4. Ajay Menon Muralidhar, Muhammad Bahauddin Khan, Nitish Makam Prashanth, Neha Nomula, Prachi Pathak, Shackour Abuzneid, Heating Oil Level Detection and Assistance Using Amazon Alexa, University of Bridgeport.

P5. Alexander W. Bruch, Kanglin Xiong, Hojoong Jung, Xiang Guo, Jung Han, Hong Tang, Low-Loss AlGaN Waveguides for Near-Visible Integrated Photonics, Yale University.

P6. Yuntao Xu, Wei Fu, Zhen Shen, Changlei Zou, Hong Tang, High Q GaN Surface Acoustic Wave Phononic Crystal Resonator, Yale.

P7. Juanjuan Lu, Alexander Bruch, Hong Tang, Hybrid Fiber/Free-space Coupling to Integrated Photonic Circuits, Yale University.


P9. Mingrui Xu, Xu Han, Hong X. Tang, Tunable microwave superconducting resonator via kinetic inductance, Yale University.

P10. B. Saman, A. Aziz, K. Alomari E. Heller, F. Jain, Noisy tolerant SRAMs: conventional 20 nm CMOS vs n-SWS-FET cells, UCONN.

P11. B. Parthasarathy, P. Mirdha, J. Kondo, M. Lingalaguri, F. Jain, Germanium and Silicon Dual Quantum Dot Super Lattice, UCONN.


P14. J. Kondo, P. Mirdha, B. Parthasarathy, P-Y. Chan, E. Heller, F. Jain, Modeling and Fabrication of GeOx-Ge Cladded Quantum Dot Channel (QDC) FETs on Poly-Silicon, UCONN.

P15. N. Gong, T.P. Ma, A Study of Depolarization Field and Related Retention in HfO2-based Ferroelectric Field Effect Transistors, Yale.


P18. Abdulbust Abushagra, Khaled Elleithy, SSK Initiated by Third Party and Superposition Submissions, University of Bridgeport.


P20. Muneer Alshowkan, Khaled Elleithy, Reconfigurable and Dynamic Backbone nodes for EPR Pairs Distribution in Metropolitan Optical Networks Networks, University of Bridgeporp.


P22. A. Teber, K.Cil, T. Yilmaz, B. Eraslan, D. Uysal, G. Surucu, A. Baykal, R. Bansal, Manganese/Zinc Spinel Ferrites Blended with Multi-walled Carbon Nanotubes (MWCNTs) as Microwave Absorbing Materials, UCONN.

P23. Adimali Piyadasa,Yanbing Guo, Pu-Xian Gao, Design and Fabrication of piezoresistive silicon micro column flow rate sensor, UCONN.


P27. Zakareya Lasefr, Sai Shiva VNR Ayyalasomayajula, Rakesh R Ramasani, Khaled Elleithy, An Efficient Automated Technique and Smartphone Application for Epilepsy Seizure Identification using EEG signals, University of Bridgeport.


P29. Tedi Kujofsa and John E. Ayers, Metamorphic Buffer Layers with Bi-parabolic Compositional Profiles, UCONN.


P31. Jason Smith, Jacob Bailin, Binlin Wu, Characterization and discrimination of basal cell carcinoma and normal human skin tissues using resonance Raman spectroscopy, SCSU.

P32. Tyler Lyon, Daniel Wohlmut, Mohammed Ameen, Mohammed Alqahtani, B. Parthasarathy, P. Mirdha, J. Kondo, and F. Jain, Quantum Dot Superlattice (QDC)-FETs,ECE Department, UCONN.

P33. Abdiel Rivera, Anas Mazady, Mehdi Anwar, Zinc Oxide: From Material to Devices Advancing the State of the Art, UCONN.

P34. Abdiel Rivera, Anas Mazady, Mehdi Anwar, Variation of ZnMgO Properties in THz Spectrum – Dependence upon Growth, UCONN.

P35. Lhacene Adnane, Ali Gokirmak, Helena Silva, Simultaneous Seebeck Coefficient and Electrical Resistivity Characterization of GeSbTe Thin Films, UCONN.
