LEC program

Sunday 8/12/18
Start time Event
5:30 PM Evening Reception

Tuesday 8/14/18
Start time Event
8:30 Session II - RF Devices
11:00 Break
11:00 Session IIIA - Materials

Monday 8/13/18
Start time Event
8:30 Intro/welcome (Rajan, Fay)
8:45 Keynote, Leo Schowalter
9:30 Keynote, Keisuke Shinohara
10:15 Break
10:30 Session I - Power Devices
12:30 Lunch & Excursion

Session details

Monday

Keynote Session
Start time Author (lead) Title
8:45 Leo Schowalter Development of Pseudomorphic AlGaN/AIn Technology for Optoelectronic, Power, RF, and High Temperature Applications: the Better Wide Bandgap Semiconductor Technology
9:30 Keisuke Shinohara Development of High-Power High-Linearity GaN BRIDGE FETs with Laterally Gated Multi-2DEG Channels

Start time Author (lead) Title
10:30 Andy Armstrong Advances in Al-rich AlGaN transistors for power switching and UV photodetection
11:00 Grigory Simin High-Al AlxGa1-xN Channel HEMTs over thick AIn/Sapphire Templates
11:15 Matthew Peart AlInN for Vertical Power Electronic Devices
11:30 Grigory Simin Al0.65Ga0.35N/Al0.40Ga0.60N HEMTs with insulating oxide-gates
11:45 Jaey Chu Demonstration of GaN Static Induction Transistor with Ron < 2 mOhm-cm2
12:00 Vishank Talesara Thermal Management of High Power SiC MOSFETs using Graphene Nanomaterial
12:15 Wu Lu High-Current Perovskite Oxide BaTiO3/BaSnO3 Heterostructure Transistors

Tuesday

Session II - RF Devices
Start time Author (lead) Title
8:30 Jeong Moon GaN HEMT: Efficiency vs Linearity
9:00 Shahadat Sohel Polarization Engineering of AlGaN/GaN HEMT with Graded InGaN Sub-channel for High Linearity X-band
9:15 Brian Romanczyk Temperature-Independent Small-Signal Behavior of mm-Wave N-Polar GaN Deep Recess HEMTs
9:30 Shuoqi Chen Qorvo’s GaN09 Technology for V-band and W-band Applications
9:45 David Meyer Micro-Transfer Printing of GaN HEMTs to Alternative Substrates
10:15 Yusuke Kumazaki Improved Device Performance in InAlGaN/GaN HEMTs by Pit-Assisted Ohmic Contact
10:30 Sanderp kumar Investigation of Ta2OS as a promising high k dielectric for InAlN/GaN-on-Si HEMT
10:45 Yihao Fang 90nm Emitter Width InGaAs/InP DHBTs with DC Current Gain beta > 40

Session IIIA/B - Materials and Circuits
Start time Author (lead) Title
11:00 Mathias Schubert Unraveling physics and material properties of semiconductors with monolincrystal symmetry
11:30 Uttam Singisetty Low-field and high field transport in monolincnic beta-Ga2O3
1:00 Yuewei Zhang Evaluation of Saturation Velocity in \( \text{InGaAs} \times \text{Ga2O3} \) Modulation-doped Field Effect Transistors
1:15 Christian Robertson Dislocation Assisted Carrier Transport Mechanism in GaN Bipolar Devices Leakage
1:30 Esrat Farzana Investigation of Neutron Irradiation on Deep Levels in beta-Ga2O3
1:45 Morteza Monavarian High-voltage regrown nonpolar m-plane vertical GaN p-n diodes for selective-area dopes power switches
2:00 Hongping Zhao Low pressure chemical vapor deposition of In2O3 on yttria stabilized zirconia substrates
2:15 Yasuyuki Miyamoto Multi-level inverter toward GaN HEMT monolithic integrated circuit
2:30 Yu Shi An Integrated Polarization-Resolved Quasi-Optical THz Detector Based on Heterostructure Backward Diodes

Session IV - Optoelectronics
Start time Author (lead) Title
3:00 Hongxing Jiang MicroLEDs and displays
3:30 Takayoshi Oshima High voltage operation of Ga2O3 MOS photodiodes
4:00 Arman Rashidi Exclusion of injection efficiency as the primary cause of efficiency droop in InGaN/GaN light-emitting diodes
4:15 Ashwin Rishinaramangalam Lasing Suppression in Nonpolar GaN-based Superluminescent Diodes via Cavity Design Optimization
4:30 James Gallagher Fabrication and Evaluation of GaN-Based Photoconductive Semiconductor Switches
4:45 Sadhvikas Addamane Development of novel semiconductor saturable absorber mirrors (SESAMS) for passively mode-locked optically pumped vertical-external-cavity surface-emitting lasers (VECSELs)
5:00 Zhenqiang Ma UVC LEDs with Silicon as Hole Injector
5:15 Daniel Feezell High-Speed Nonpolar and Semipolar Light-Emitting Diodes for Visible-Light Communication