



The DRIFT Review



Massachusetts Institute of Technology
50 Vassar Street, Building 34, Room 401
July 30, 2009

- 8:00-9:00 Registration and Breakfast
- 9:00-9:10 Paul Maki
- 9:10-9:50 **Seminar** - Carl Thompson (MIT): General Reliability Assessment Methods
- 9:50-10:35 **UCSB**
Umesh Mishra: Photo-Assisted HF CV Characterization of $\text{Si}_3\text{N}_4/\text{GaN}$ Interface State Density
James Speck: MBE of AlGaIn/GaN HEMTs: Materials Developments and Effect of Growth Methods and Dislocations
- 10:35-10:50 Break
- 10:50-11:35 **MIT**
Jesus del Alamo: A model for the critical voltage for electrical degradation in GaN HEMTs
Prashanth Makaram: Materials Reliability in AlGaIn/GaN HEMTs
Tomas Palacios: InAlIn/GaN HEMTs: Technology development and reliability analysis
- 11:35-12:00 **Univ. Michigan** - Jasprit Singh: Hot carrier distributions in nitride and other HFETs
- 12:00-13:10 Lunch
- 13:10-13:55 **OSU**
Aaron Arehart, Drew Malonis, Steven A. Ringel: Next Generation of Precision Defect Characterization in AlGaIn/GaN Devices: Toward HEMT-Based Quantitative Trap Spectroscopy
Len Brillson: Nanoscale Lateral and Depth-Wise Mapping of Temperature and Defect Evolution Inside Operating AlGaIn/GaN HEMTs
- 13:55-14:40 **Vanderbilt Univ.** - Sokrates Pantelides and Ron Schrimpf: Defect identification in new technologies based on first-principles calculations and targeted experiments
- 14:40-15:00 Break
- 15:00-15:20 **NCSU** – Robert Trew and Griff Bilbro: Modeling Physical Effects in AlGaIn/GaN HFETs
- 15:20-16:50 **Univ. of Bristol** - Martin Kuball: Integrated Raman-EL-Electrical Analysis: Novel Analysis for Device Reliability
- 16:50-???? **Government caucus**
- 18:00 Reception and Dinner at the MIT Faculty Club