

ADVANCE PROGRAM

2001 GaAs REL Workshop

SUNDAY October 21, 2000, Preceding the GaAs IC Symposium
Baltimore Salon B, Renaissance Harbor Place, Baltimore, Maryland

SPONSORED BY JEDEC COMMITTEE JC-14.7, EIA, and in cooperation with the IEEE.

Registration (Cost of Workshop is \$125 at the door, make checks payable to EIA) **7:30 AM**

Welcome, Opening Remarks, Introductions, Start Anthony Immorlica, Workshop Chairman . . . **8:00 AM**

SESSION 1 - Non-GaAs and GaAs Comparisons Roberto Menozzi, Session Chair . . . **8:15-9:15 AM**

1. **Comparative Thermal Characterizations of GaAs And SiC Devices.** J. Mittereder, and W. Anderson, Naval Research Laboratory, and D. Ioannou, George Mason University.
2. **Comparison of Silicon Carbide and GaAs Schottky Diode.** J. Luo, K. Chung, H. Huang, and J. Bernstein, University of Maryland.
3. **Investigation of the Hot-carrier Degradation in Si/SiGe HBT's by Intrinsic Low Frequency Noise Source Modeling.** M. Borgarino et al., University of Modena.

SESSION 2 - Reliability and Defects Sammy Kayali, Session Chair **9:30 – 10:30 AM**

1. **Reliability Issues in GaAs-based Devices for Space Applications.** R. Leon, J. Okuno, R. Ruiz, M. Gallegos, and D. T. Vu, Jet Propulsion Laboratory, California Institute of Technology.
2. **Effects of Crystal Imperfections in Multiple Quantum Well PIN Optoelectronic Devices and a Method of Restoring Failed Device Characteristics.** K. Ikossi, et al., Naval Research Laboratory.
3. **Getting to Zero – Methods of Reducing Defects.** W. Roesch, TriQuint Semiconductor, Inc.

Tutorial - Design for Reliability Concepts for the Electronics Industry Presented by M/A Com

1. **Design for Reliability and its Application to the GaAs Marketplace** Peter Ersland . **10:45-11:15 AM**
2. **Physics of Failure in the Electronics Industry** Carl Bunis **11:15-11:45 AM**

Lunch **NOON-1:10 PM**

SESSION 3 - Temperature and Field-accelerated Testing Robert Ferro, Session Chair **1:15-2:35 PM**

1. **Effect of Gate Metal on Reliability of Metamorphic HEMTs.** M. Dammann, A. Leuther, H. Konstanzer, and W. Jantz, Fraunhofer Institut für Angewandte Festkörperphysik.
2. **Experimental/Numerical Investigation of the Physical Mechanisms Behind High-Field Degradation of Power HFETs and their Implications on Device Design.** R. Menozzi, et al., University of Parma.
3. **Channel-Substrate Current and Breakdown Characteristics of GaAs MESFETs with Varied MBE Buffer Thickness.** F. Gao, R. Chanana, and T. Nicholls, Alpha Industries Inc.
4. **Reliability of Metamorphic HEMTs on GaAs Substrates.** P. Marsh, C. Whelan, W. Hoke, R. Leoni III and T. Kazior, Raytheon RF Components.

SESSION 4 - HBT Reliability Bill Roesch, Session Chair **2:50-4:15 PM**

1. **Exploring Physical Mechanisms for Sudden Beta Degradation in GaAs-based HBTs.** R. E. Welser and P. M. DeLuca, Kopin Corporation.
2. **Determination of MOCVD Grown InGaP HBT Reliability under both Thermal and Current Accelerated Stresses.** K. Feng, L. Runshing, L. Flores Conexant Systems, and P. Canfield, InPhi Corporation.
3. **Modeling HBT Ledge Variations for Insight into GaAs HBT Reliability.** T. Henderson, TriQuint Semiconductor Texas.
4. **Reliable AlGaAs/GaAs HBTs grown by MBE with increased Beryllium Doping and Aluminum Concentration.** M. Fresina, M. Logue, J. Fendrich and T. Rogers, RF Micro Devices.

Late Papers Wallace Anderson, Technical Program Chairman **4:25 PM**