◆IEEE

2014 IEEE INTERNATIONAL RELIABILITY PHYSICS SYMPOSIUM
June 1 - 4, 2014 • Hilton Waikoloa Village, Waikoloa, Hawaii, USA

CALL FOR PAPERS
www.irps.org

IRPS addresses state-of-the-art developments in the Reliability Physics of devices, materials, circuits, and products used in electronics industry. IRPS is the venue where important reliability challenges and possible solutions are first discussed.

The IRPS technical program includes • Paper Presentations • Keynote and Invited Talks • Poster session • Tutorials • Year-in-Review seminar • Workshops • Panel Discussions • Equipment Demonstrations

IRPS bestows awards for Best Paper, Outstanding Paper, Best Poster and Best Student Talk.

YOUR ORIGINAL PAPERS AND POSTERS ARE SOLICITED IN THE FOLLOWING AREAS:

Circuits and Products

Circuits Reliability – Reliability in Circuits for Digital and Analog/Mixed-signal applications. Including Volatile memories (SRAM, DRAM, etc).
Circuits Aging Simulation – Compact Modeling, Reliability by Design. Analytical, numerical and statistical methodologies for Circuit and Device Level Reliability Simulation. Model impact of processes, devices aging to circuits reliability at application conditions.
Product IC Reliability – Chip-level Reliability; Burn-In, Defect Detection; Technology Model Predictions.
Electronic Systems Reliability – Challenges of IC components and circuits to meet the reliability requirements of systems in various complex applications (automotive, space, communications, medical, energy, photovoltaic etc.). Screening techniques, system monitoring, failure root cause determination and modeling methodologies to improve IC component reliability performance in system applications.
ESD and Latchup – Novel Structures, Modeling & Checking.
Soft Errors – Neutron and Alpha SER including Multi-Bit and Logic SER/SEU, Mitigation Techniques, Simulation, Modeling.
MEMS – Reliability of New Structures, Sensors, Actuators; Reliability Testing, Analysis & Modeling.
CPI (TSV, 3D) – Chip-Package Interaction, Multichip Modules, 3D Integration including TSV; Thermomechanical Stress Modeling; Wafer Thinning effects, Bump/Solder EM&Stress.

Device, Process, and Materials Reliability

Transistors – Hot Carrier Phenomena and Bias-Temperature Instabilities characterization and modeling; Dynamic models development for Reliability by Design; Transistor Advanced Scaling Challenges (HK, Finfets)
Technologies/Devices beyond CMOS – Reliability of Nanoelectronics, CNTs, Carbontube devices, Graphene Devices, Molecular Devices, Novel Transistors.
Compound/Opto Electronics - Reliability of wide bandgap (GaN, SiC) semiconductors devices (MESFETs, HEMTs), and of III-V devices (GaAs, InP). Lasers and Optoelectronics Reliability Challenges, Silicon Photonics Reliability
Gate Dielectrics – Breakdown Mechanisms & Modeling; Novel Dielectric Materials Reliability, Post-Breakdown Modeling.
BEOL Reliability – Low-k Dielectric Breakdown; Inter/Intra-Level Reliability including Impact of Process Variation.
Interconnects – Wearout in Cu and Al Metallization; Electromigration, Joule Heating, Stress migration.
Process Integration – Reliability-Driven Process Interactions; New Process Related Reliability Issues. Foundry Reliability Challenges.
Failure Analysis – Evidence of New Failure Mechanisms; Advances in Failure Analysis Techniques; New Technologies.
Memory – Unique Reliability Phenomena and Failure Mechanisms in novel Memory Devices.
Photovoltaic Devices – Advances Solar Cell Devices (monocrystalline/ polycrystalline/amorphous silicon, CdTe, CIGS, etc) Reliability.

Abstract/Paper/Poster Submission: All submissions are done electronically at www.irps.org.

Your original abstract submission (2 pages must be submitted) should clearly and concisely state specific results, why they are important, and how they relate to prior work. Please use the IRPS document template available at www.irps.org. Following abstract review and paper acceptance, full manuscripts of accepted papers will be due before the conference.

Abstracts Must Be Received By: DECEMBER 1, 2013.

Late Paper Submission: Space permitting, full-length manuscripts with late breaking news may be considered for inclusion in the conference/proceedings. **Late Papers Must Be Received By: March 16, 2014.**

Technical Program Chair:
Chris Henderson
Semitracks
Tel: +1-505 858-0454
Email: henderson@semitracks.com

General Chair:
Prasad Chaparala
Alta Devices
Tel: +1-408-886-9381
Email: prasadc@altadevices.com

Sponsored by:

ELECTRON DEVICES SOCIETY   **Reliability**Society

Find us online [in] [f] [t]