2017 IEEE INTERNATIONAL RELIABILITY PHYSICS SYMPOSIUM

April 2nd – 6th 2017, Hyatt Regency, Monterey, CA USA

IRPS is the preeminent conference for timely research on Reliability Physics of devices, materials, circuits, and products used in the electronics industry. IRPS is the venue where important reliability challenges and solutions are first discussed.

IRPS17 is soliciting increased participation in the following areas: System reliability; Middle of Line; Extrinsic defect impact on yield and reliability; and COTS components in high-reliability applications – screening, derating, case studies, design considerations, etc.

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 Presentation

Circuits and Products and Systems

Circuit Reliability – Includes digital, mixed-signal, and RF applications; design for reliability

Circuit Aging Simulation – Includes compact modeling; statistical methods

Product IC Reliability – Includes burn-in; defect detection; on-chip sensors; modeling

Consumer Electronics Reliability – Includes smart phones; wearable devices; tablets; health devices

Reliability Testing – Includes reliability equipment, tools, and test methods

Electronic System Reliability – Includes automotive, space, communications, medical, energy, and photovoltaic applications; screening techniques; system monitoring; failure root cause determination; modeling methodologies

Soft Errors – Includes neutron and alpha particle SER; multi-bit SER/SEU; mitigation techniques; simulation

ESD and Latchup – Includes component and system-level ESD design; modeling and simulation

3D Assembly – Includes multichip modules; 3D integration with TSV; thermomechanical stress; wafer thinning effects

Packaging – Includes chip-package interaction; fatigue; power dissipation issues

Device, Process, and Materials

Transistors – Includes hot carrier phenomena; bias-temperature instability; random telegraph noise; advanced transistor scaling challenges; Ge and III-V channels

Gate Dielectrics – Includes TDDB modeling; reliability of novel gate dielectrics; modeling of progressive breakdown; gate dielectric reliability for III-V FETs

Beyond CMOS Devices – Includes reliability of tunnel FETs, transistors with 2D semiconductor (graphene, MoS_2), and spintronics

Wide Band-Gap – Includes reliability of wide bandgap (GaN, SiC) power devices

Back-End Reliability – Includes Electromigration; Joule heating; stress migration; low-k dielectric breakdown; middle of the line processes

Process Integration – Includes new process related reliability issues; foundry reliability challenges

Failure Analysis – Includes evidence of new failure mechanisms; advances in failure analysis techniques

Memory – Includes DRAM and NVM**;** failure mechanisms in novel memory devices including 3D Flash and ReRAM

Photovoltaic Devices – Includes reliability of solar cell devices in silicon, CdTe, CIGS, etc.

MEMS – Reliability of New Structures. Sensors. Actuators. Reliability Testing. Analysis & Modeling

Abstract (Paper/Poster) Submission due October 25, 2016: Your two-page original abstract submission should clearly and concisely present specific results, and explain the importance of your work in the context of prior work. Use the IRPS document template available at www.irps.org. Notification of acceptance will be made by December 16, 2016. Full manuscripts of accepted papers will be due before the conference. Registration for the conference is required for the author presenting the paper.

Late Paper Submission: Camera-ready, full-length manuscripts with late breaking news may be considered for inclusion in the conference/proceedings. **Due January 6, 2017.**

Technical Program
Chair: **Mark Porter** (Medtronic, 1-480-929-5661, mark.porter@medtronic.com)
Vice-Chair: **Christine Hau-Riege** (Qualcomm, 1-408-386-0536, chaurieg@qti.qualcomm.com)

General Chair
Yuan Chen (NASA, 757-864-3344, yuan.chen@nasa.gov)

Rev 12-Oct-2016