Diverse topics: Materials, Doping and Systems for PV, New Metrologies for GaN, Implant Applications for New IC Apps.

Date: Friday, Oct 20, 2017
Time: 1:00 pm - 4:00 pm

Location:
EAG Laboratories
810 Kifer Road, Sunnyvale, CA

Co-Chairs:
Michael Current, Current Scientific
John Borland, JOB Technologies

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1-1:30 pm **John Borland**: JOB Technologies, Aiea, HI.
Achieving 100% Residential Renewables in Hawaii with Solar & Multi-Storage.

1:30-2 pm **Mingguo Liu**, Rayton Solar, Santa Monica, CA
Hydrogen Implant and Cleaving to Unlock Previously Untapped Solar Real-Estate.

2-2:30 pm **Lisa Mandrell**, Intevac Inc., Santa Clara CA
High Productivity, Low Cost Ion Implant for Solar Power

2:30-3 pm **Break: Cookies & conversation**

3-3:30 pm **Udit Sharma**, EAG, Sunnyvale, CA
Study of Mg Implant Damage in GaN using RBS channeling, TEM & Atom Probe.

3:30-4 pm **K.V. Rao**, Applied Materials, Gloucester, MA
Ion Implant Applications to Enable Advances in Semiconductor Technologies.

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Ion Implantation Technology-2018:
Wurzburg, Bavaria

Chairman:
Prof. Lothar Frey, IISB, Erlangen

Venue: Hotel Maritim Würzburg /
Conference Center Würzburg

School: September 13 – 15, 2018
Conference: September 16 – 21, 2018

https://www.iit2018.org/

Opening registration: May 1, 2018
Abstract submission deadline: May 18, 2018
Notification of paper acceptance: July 2, 2018
Early registration deadline: July 14, 2018
Full paper submission deadline: September 14, 2018

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Topics: Ion Implantation Technology-2018

1. Equipment for Ion Implantation, Annealing, and Metrology

Tools for advanced beam line ion implantation
Tools for plasma doping, cluster, and molecular ion beams
Equipment for thermal and a-thermal annealing (laser, microwave, flash, neutral beams, etc.)
Equipment for metrology of implantation control (particles, contamination, charging, etc.) and implanted layers
Advanced process control (tool software assisted, fab solutions, "tool health factors")

2. Ion Implantation and Annealing Process for Semiconductor Materials

Ion implantation and annealing of Si, Ge, SiC, GaN and other III-V semiconductors, graphene, etc.
New doping techniques: monolayer doping (MLD), atomic layer deposition (ALD), selective CVD/epi, MOCVD, laser-assisted doping,
Ion-assisted methods for advanced photovoltaic devices and photon energy-shifting layers, etc.
Layer transfer for heterogeneous materials integration, 3D IC stacking, etc.

3. Ion Implantation and Annealing Process for Non-Semiconductor Materials

Etch rate control, Dielectric constant modification, Photo resist stabilization for multi-exposure lithography, etc.
Biotechnology: processing of bio-compatible surfaces and interfaces, fabrication of DNA-scale sensors and bio-active devices, etc.

4. Ion Implantation Process for Power, LED, IoT and Photonic Devices

Power and RF devices (Si, Ge, SiC, GaN, etc.)
Large-area devices (displays, solar cells, wearables, etc.), LEDs, MEMS, image sensors, chemical and physical sensors, etc.
Junction contact and metal gate work function engineering
Photonic devices: CMOS-photonic integration, materials for multi-dimensional photonic signal processing and transmission,
Nano-scale device fabrication for quantum confined films, wires and dots, quantum information processing, etc.
Metrology methods: elemental, electrical, and morphological analysis of 3D devices, junctions, strain, interfaces and contacts, etc..

5. Modeling and Simulation

Non-mainstream ion implantation methods (using plasma, high energy ions, atomic clusters, ion beam mixing, etc.)
Ion implantation into novel and exotic materials or device structures
Defect generation Sputtering and surface modification due to ion irradiation

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