

Symposium L: Advanced Materials for Microelectronics

Scope of the Symposium

This symposium provides an open forum for the discussion of recent research on advanced materials and devices for microelectronics. The subject is to be treated in its large sense, from basic physics research to technology. Contributions are welcome on synthesis, characterization, modeling, simulation and applications.

Abstracts will be solicited in (but not limited to) the following topics:

- Advanced materials for Silicon technology: Semiconductor-On-Insulator, high mobility materials, strained Si, SiGe and SiC alloys, high-k and low-k dielectrics, gate stack, doping, metallization, epitaxy, materials integration...
- Thin-films technology and characterization: PECVD, LPCVD, ALD, Magnetron Sputtering...
- Surfaces and interfaces
- III-V semiconductors, Group III Nitrides and Dilute Nitride Semiconductors, Silicon Carbide, Oxide Semiconductors and other compound semiconductors
- Devices: CMOS scaling and alternative architectures, flexible electronics, sensors, micro and nanoelectromechanical systems (MEMS/NEMS)...
- Low dimensional semiconductor and interconnect structures: two, one and zero dimensional systems, carbon based electronics, quantum wells...
- Photovoltaics: low cost materials, high efficiency materials, bulk materials, thin films, photonics, dye-sensitized solar cells (DSSC), organic solar cells, nanoparticle applications...
- New materials for electronics, photonics and plasmonics
- Defects
- Organic electronics: electronic polymers, molecular devices, OLEDs..
- Integration of microelectronics with biology and medicine: sensors, drug delivery, lab-on-chip...

Symposium Organizers

Shay Reboh (CEA-Leti, France)

Cristiano Krug (Ceitec S. A. - Instituto de Fisica/UFRGS)

João Marcelo Lopes (Paul Drude Institut, Berlin)

List of invited speakers

Alain Claverie (CEMES/CNRS, France), Topic: "Strain engineering"

Frank Torregosa (Ion Beam Services, France) Topic: "3D doping and Plasma Immersion Ion Implantation applications"

Joachim Knoch (RWTH, Germany), Topic: "New materials and architectures for beyond CMOS devices"

Lutz Geelhaar (Paul-Drude Institute, Germany), Topic: "III-V nanowires for optoelectronics"

Juergen Schubert (Forschungszentrum Juelich, Germany), Topic: "Alternative dielectric materials for future nanoelectronics"

Scientific comitee

P. F. P. Fichtner (IF-UFRGS, Brazil)

N. Cherckashin (CEMES/CNRS, France)

P. Morin (STMicroelectronics/IBM, USA)

F. Mazen (CEA-Leti, France)

V. Paillard (Univ. Paul Sabatier, France)