2011 MRS SPRING MEETING
April 25-29 · San Francisco, CA

CALL FOR PAPERS

Abstract Deadline: November 2, 2010

REMINDER:
In fairness to all potential authors,
late abstracts will not be accepted.

www.mrs.org/spring2011

MRS Symposium II: Ion Beams—New Applications from Mesoscale to Nanoscale

This symposium solicits abstracts on ion-beam engineering and characterization for materials properties, structure, topography, or functionality, spanning dimensions from mesoscale to nanoscale. Indeed, while the unique capabilities of ion-beam techniques in the diverse emerging fields of nanoscience and nanotechnology are fast becoming critical for many new applications, the flexibility of ion-beam techniques now enables the development of tools to integrate nanoscale engineering and characterization within mesoscale platforms. Accordingly, the recent evolution of such tools and instrumentation has energized new programs, both basic and applied, in fast-developing areas ranging over advanced semiconductor integration, information storage, sensors, plasmonics, molecular engineering, biomaterials, and many aspects of the development of alternative energy resources. This symposium seeks to promote fruitful interactions among such active fields.

Accordingly, the symposium invites abstracts on ion-beam-based patterning, lithography, writing, and guided self assembly of surfaces and structures with nanoscale precision. It solicits papers on innovative applications of ion-beam techniques and instrumentation, including practical nanofabrication, as well as microscopy and advanced characterization, analysis, and high-sensitivity elemental/isotopic detection. Progress in the areas of bioengineering, device fabrication, and ion-beam processing of polymers and soft matter are of special interest. Abstracts relating to radiation-hardened devices and radiation-resistant materials are also welcome. New insights, modeling, and simulation for fundamental ion-beam interactions, and for the resulting mechanisms of modification and surface patterning, are highly relevant.

Topics of interest include (but will not be limited to):

- Nanopore systems for sensors and DNA sequencing
- Surface modification for biosciences
- Tracer isotope applications
- Thermoelectric sensors
- Helium ion microscope—new applications
- Basic ion-beam interactions and simulation
- Ion-beam lithography for post-CMOS
- Carbon engineering: graphene, CNTs, diamond, etc.
- Self-assembled periodic structures (ripples, templated co-polymers, etc.)
- Cluster ion-beam processing

Invited speakers include (partial list):

Michael Aziz (Harvard Univ.), **Marcela Bilek** (Australian Academy of Science, Australia), **Paul K. Chu** (City Univ. of Hong Kong, China), **Robert G. Elliman** (The Australian National Univ., Australia), **Naoki Kishimoto** (National Inst. for Materials Science, Japan), **Arkady Krasheninnikov** (Univ. of Helsinki, Finland), **Diederik Maas** (TNO, Delft, Netherlands), **Kai Nordlund** (Univ. of Helsinki, Finland), **Anand P. Pathak** (Univ. of Hyderabad, India), **Isao Yamada** (Univ. of Hyogo, Japan), **Yanwen Zhang** (Pacific Northwest National Lab), and **Robert L. Zimmerman** (Alabama A&M Univ.).

Symposium Organizers

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