



2006 SPRING MEETING – Nice, France CALL FOR PAPERS

Abstract Submission Deadline: January 11, 2006

E-MRS SYMPOSIUM G: Functional Materials for Micro and Nanosystems

This symposium will focus on the synthesis, processing, characterization, and modelling of functional materials and their potential use as active elements in integrated sensors, actuators and Micro&Nano systems. Besides conventional microtechnologies, especial attention will be paid on nanomaterials and their improved properties as sensing elements. Likewise, emphasis will be devoted on the ability to design and control the structure of the nanocrystal surface and grain boundaries. Successful design of nanoscale materials, -nanoparticles, nanowires and nanotubes, and related alternative nanostructured materials- and their functionalization could lead to a wide range of novel devices and technologies useful and essential for the new generation of physical, chemical and biosensors as sensing elements in micro and nanosystems. This symposium aims to discuss the most recent and relevant results pertaining to electrochemical and catalytic properties of nanomaterials, as well as their application and functionalization to develop chemical sensor and biosensors.

Convergent top down microsystem approaches with bottom up nanomaterials approach will be welcome and emphasised for their applications in chemistry and biosensing,

Fundamental understanding of catalytic and sensing mechanisms in nanoscale; their optical, electronic, and mechanical properties; and the size-dependent catalysis and sensing properties by tailoring their surface properties and nanostructures; as well as novel functions and applications of nano/mesoporous and nanostructured materials, should be the highlights of the aims to have final operative devices and systems. The focus will be on new phenomena observed in nanostructured materials when the characteristic length scales (such as grain size or layer thickness) approach nano scale range.

This symposium will also be focused on new nanotechnology tools and technologic procedures useful for develop new sensor devices and micro&nano systems. Likewise, it will address the relations among synthesis, structures, and physics-chemical properties of nanoscale materials, studied using experiments and/or modelling and considering their effects on the device reliability.

Contributions are requested to be focused on the relationships between materials properties and sensor&actuator performances including the entire range of basic and applied materials on synthesis, functionalization, processing, characterization, computer modeling, and industrial development of devices for sensor&actuators and micro&nano systems. Accepted contributions to symposium will tentatively be published in a Sensors and Actuators B special issue.

Invited speakers include:

- Dr. Christian Bergaud - LAAS CNRS, Toulouse, France
- Prof. Achim Goepferich – Regensburg University, Germany
- Prof. Peydong Yang – University of California, Berkeley, USA
- Prof. Nikos Chaniotakis – University of Crete, Greece
- Dr. Volker Cimalla - TU Ilmenau, Germany
- Prof. Ralf Moos – Bayreuth University, Germany

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For additional information, visit the E-MRS website: www.e-mrs.org/meetings/

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