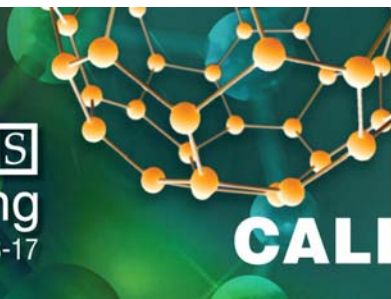




2009 MRS
spring meeting
San Francisco, CA • April 13-17



Abstract Deadline: November 3, 2008

www.mrs.org/spring2009

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

CALL FOR PAPERS

MRS Symposium N: Materials and Devices for Thermal-to-Electric Energy Conversion

Increasing awareness and concern for energy resources and the environment have stimulated significant advances in materials and technology for energy conversion in recent years. This symposium features novel materials, materials processing, and device technologies for direct thermal-to-electric energy conversion. The primary focus will be on recent material and technological advances in the fields of thermoelectrics, thermionics, thermophotovoltaics, and thermoacoustics. The symposium intends to highlight material and device-design innovations that lead to high-efficiency thermal-to-electric energy conversion. The symposium will be designed to emphasize the multidisciplinary nature (materials science, physics, chemistry, and engineering) of the research needed to advance the state-of-the-art technology. Thermal, electrical, and mechanical properties of new materials, and the processing of those materials into device structures, will be emphasized. Theoretical studies of transport properties, band structure, and crystal chemistry of materials, thermodynamic analysis, and energy transfer in various processes will also be included. Experimental efforts will include new capabilities in solid-state synthesis, new bulk materials, thin films, superlattices, and nanostructure materials. New developments in material property and device performance measurements will also be underlined in this symposium.

Topics to be addressed include (but are not limited to):

- Theoretical guidance to high-efficiency thermo-to-electrical energy conversion
- New and emerging technologies for thermoelectric power conversion
- High-efficiency bulk thermoelectric materials
- Composite thermoelectrics
- Synthetic strategies for preparing novel materials and compounds
- Processing of bulk and thin-film nanostructured materials
- Materials property measurement and new measurement techniques
- Design, performance testing, fabrication, and processing of energy-conversion devices
- Device performance requirements for future applications
- Novel applications of thermoelectric generators

Joint sessions with Symposia J: *High-Temperature Photonic Structures*, and T: *Nanoscale Heat Transport—From Fundamentals to Devices*, are being considered.

A tutorial on thermoelectric applications is tentatively planned. Further information will be included in the MRS Program that will be available online in January.

Partial graduate student support may be available. For information, contact Dr. Jihui Yang: jihui.yang@gm.com

Invited speakers (tentative) include:

Harald Böttner (Fraunhofer Inst. IPM Freiburg, Germany), **T. Caillat** (Jet Propulsion Lab), **L. Chen** (Shanghai Inst. of Ceramics, P.R. China), **M. S. Dresselhaus** (Massachusetts Inst. of Technology), **R. Funahashi** (AIST, Japan), **C. Godart** (ICMPE: Inst. de Chimie et Matériaux Paris-Est, Thiais, France), **S. Hase** (Sango Co., Ltd, Japan), **T. Hogan** (Michigan State Univ.), **D. Johnson** (Univ. of Oregon), **M. Kanatzidis** (Northwestern Univ.), **G. Mahan** (Pennsylvania State Univ.), **H. Ohta** (Nagoya Univ., Japan), **P. Rogl** (Univ. of Vienna, Austria), **A. Shakouri** (Univ. of California-Santa Cruz), and **V. Zlatic** (Inst. of Physics, Croatia). *Others may be added or upgraded from contributed papers.*

Symposium Organizers

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