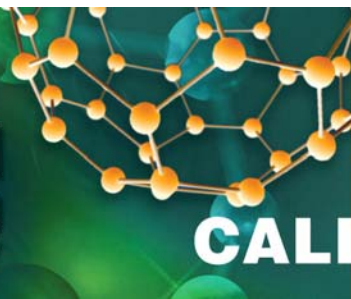




2009 MRS
spring meeting
San Francisco, CA • April 13-17



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 W: Novel Functional Properties at Oxide-Oxide Interfaces

Complex oxide materials exhibit a broad range of functional properties, such as high-dielectric permittivity, piezoelectricity, ferroelectricity, superconductivity, colossal magnetoresistance, and ferromagnetism. Many of these phenomena occur in oxides that are lattice-matched within a few percent of one another. This enables fabrication of heteroepitaxial structures in which multiple degrees of freedom can be accessed that are not available in conventional metals and semiconductors. Because correlations control the electronic behavior of the material, their modification can induce remarkable changes of the collective electronic and magnetic properties to the extent that novel quantum states, not attainable in bulk, emerge. A completely new class of (nano)devices can be envisaged and engineered by tailoring the physical properties at the interface on the atomic scale. The last years have witnessed an unprecedented activity both on the experimental and theoretical side. The symposium will reflect the rapid developments in this field and will provide an interdisciplinary forum for theorists and experimentalists on the design, fabrication, analysis, and theory of functional interfaces in oxides.

Topics of interest include (but are not limited to):

- Novel functional properties of interfaces in oxides
- Controlling and exploiting interfacial properties in oxide heterostructures
- Electronic and atomic reconstruction at interfaces in oxide heterostructures
- Predicting and understanding new phenomena with theoretical techniques
- Advanced fabrication and characterization techniques
- Interface issues in oxide-electronic devices

Invited speakers include (partial list):

Sara Bals (Univ. of Antwerp, Belgium), Agnes Barthelemy (CNRS/Thales, France), Alexander Brinkman (Univ. of Twente, The Netherlands), Elbio Dagotto (Oak Ridge National Lab), John Freeland (Argonne National Lab), Adrian Gozar (Brookhaven National Lab), Harold Y. Hwang (Univ. of Tokyo, Japan), Tomoji Kawai (Osaka Univ., Japan), Masashi Kawasaki (Tohoku Univ., Japan), Bernhard Keimer (Max-Planck-Inst. for Solid State Research, Germany), Daniel Khomskii (Univ. of Cologne, Germany), Jochen Mannhart (Univ. of Augsburg, Germany), Ranjit Nanda (Univ. of Missouri-Columbia), Tae W. Noh (Seoul National Univ., Korea), Beatriz Noheda (Univ. of Groningen, The Netherlands), Satoshi Okamoto (Oak Ridge National Lab), Stuart Parkin (IBM Almaden Research Ctr.), Eva Pavarini (Forschungszentrum Jülich, Germany), Warren Pickett (Univ. of California-Davis), Silvia Picozzi (INFM, Italy), Jacobo Santamaria (Univ. of Madrid, Spain), Darrell Schlom (Cornell Univ.), Serban Smadici (Univ. of Illinois, Urbana-Champaign), Massimiliano Stengel (Univ. of California-Santa Barbara), Phil Willmott (Paul Scherrer Inst., Switzerland), and Hiroyuki Yamada (AIST, Japan).

Symposium Organizers

Guus Rijnders

University of Twente, MESA+ Institute for Nanotechnology,
P.O. Box 217, 7500AE Enschede, The Netherlands
Tel 31-53-489-2618, Fax 31-53-489-3595, a.j.h.m.rijnders@utwente.nl

Rossitza Pentcheva

University of Munich, Dept. of Earth and Environmental Sciences,
Section Crystallography, Theresienstr. 41, D-80333 Munich, Germany
Tel 49-89-2180-4352, Fax 49-89-2180-4334, rossitzap@lmu.de

Jak (Jacques) Chakhalian

University of Arkansas, Physics Dept. PHYS226, Fayetteville,
AR 72701
Tel 479-575-4313, Fax 479-575-4580, jchakhal@uark.edu

Ivan Bozovic

Brookhaven National Laboratory, Condensed Matter Physics
and Materials Science Dept., Upton, NY 11973-5000
Tel 631-344-4973, Fax 631-344-4071, bozovic@bnl.gov