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**The SIMC-XIV conference** will highlight recent advances in semiconducting and insulating materials and applications. While retaining long-standing topics that have become well established throughout the 26-year SIMC history, the scientific sessions will also encompass many new and developing topics, including wide bandgap compound semiconductors, low dimensional semiconductor nanostructures, functional nanomaterials, and complex oxide materials.

**Take Action!** To receive an early evaluation please submit your abstract to [simc@ibiblio.org](mailto:simc@ibiblio.org) before **December 22, 2006**. Young scientists and students are encouraged to apply for SIMC awards with their abstract submissions.

**An early-bird rate** of US\$350 is available for any conference registration made before **January 15, 2007**. Students qualify for an early-bird rate of US\$150. These fees cover the conference organization, and most meals as well as a variety of social programs.

**Publication of the SIMC-XIV proceedings** is sponsored by Springer. Currently, two Springer journals, *Journal of Materials Science: Materials in Electronics* (JMSE), and *Nanoscale Research Letters* (NRL) are open for submission of SIMC proceedings. The submissions should follow the format of the associated journals. Manuscript deadline is May 16.

**Hotel and Travel:** Arrangements for inexpensive room accommodations have been made and is described on the conference web page (<http://ibiblio.org/simc/>). Travel from the airport is also described.

**SIMC-XIV, University of Arkansas**  
**248 Physics Building**  
**Fayetteville, AR 72701, USA**  
**Tel: (479) 575-4084, Fax: (479) 575-4580**  
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# SIMC XIV 2007

**May 15-20, 2007**  
**Fayetteville, Arkansas, USA**



**NanoRS**



**Submit Abstract Before December 22 for Early-Bird Registration**

**Deadline for Abstract Submission: February 15, 2007**

**14th Semiconducting and Insulating Materials Conference**

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## Wide Bandgap Semiconductors

**Alexander Belyaev**, Microwave devices based on wide gap semiconductors

**Frank Bertram**, EL and micro PL on wide bandgap semiconductor devices

**Scott A. Chambers**, Room-Temperature Ferromagnetism and Structure in Doped ZnO Epitaxial Films

**David Cherns**, Understanding and control of threading dislocations in GaN

**Shigefusa F. Chichibu**, Radiative and nonradiative processes in (Al,In,Ga)N alloy films

**Zhaoqiang Fang**, Characterization of deep centers in semi-insulating GaN and SiC: Application of thermally stimulated current spectroscopy

**Jaime Freitas**, Current status of bulk nitride crystals and epitaxial films

**Huaxiang Fu**, Electronic structure and electromechanical properties in ZnO under inplane strain

**Asif Khan**, Deep UV Optoelectronic Devices using AlInGa<sub>N</sub> Material System

**Maria Kamińska**, Mn and other magnetic impurities in GaN - perspective for spintronic applications

**Peter Kiesel**, ZnO Devices with tunable performance based on Schottky contacts

**Michael Kneissl**, InAlGa<sub>N</sub>-based UV Light Emitters

**Zuzanna Liliental-Weber**, Comparison of structure of laterally overgrown GaN grown on polar and non-polar substrates

**Zlatko Sitar**, Title TBA

**David Storm**, MBE growth of AlGa<sub>N</sub>/Ga<sub>N</sub> HEMTs on free-standing Ga<sub>N</sub> substrates

**Yoshitaka Taniyas**, AlN deep-ultraviolet light-emitting diodes

**Chris G. Van de Walle**, Controlling the conductivity of ZnO

**Rong Zhang**, GaIn<sub>N</sub>/Ga<sub>N</sub> quantum wells and LEDs grown on AlLiO<sub>2</sub>

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## Low Dimensional Semiconductor Nanostructures

**Yasuhiko Arakawa**, III-Nitride Based Quantum Dots and Photonic Crystal for Single Photon Sources

**Nicolai Ledentsov / Dieter Bimberg**, Submonolayer Quantum Dots for High Speed Surface Emitting Lasers

**Michael Gao**, III-V compound semiconductor Nanowires for optoelectronic applications

**Dan Gammon**, Optical spectroscopy of single pairs of vertically stacked InAs/GaAs quantum dots

**Erich Gornik**, Title TBA

**Pawel Hawrylak**, Quantum information- future of Microelectronics?

**Tim Jones**, Key Issues in the Growth of III-V Semiconductor Nanostructures

**Jean-Pierre Leburton**, Spintronics in GaAs coupled quantum dots

**Pierre Petroff**, Optical properties of self assembled quantum posts in III/V heterostructures

**Martin Schmidbauer**, X-Ray Diffuse Scattering From Semiconductor Nanostructures

## Advances in Compound Semiconductors

**František Dubecký**, Radiation detector grade bulk semi-insulating GaAs: Progress in material development and applications

**Michael Johnston**, Controlling carrier dynamics in terahertz photonic devices

**Paul M. Koenraad**, Wavefunction analysis of single impurities in semiconductors

**Michael B. Santos**, InSb-Based Heterostructures for Electronic Device Applications

**Maurice S Skolnick**, Polariton Phenomena in Semiconductor Microcavities

## Towards Functional Nanomaterials

**Alexander O. Govorov**, Optics of semiconductor-metal nanoparticle molecules: exciton-plasmon interaction, hybrid excitons, and nonlinear effects

**Philippe Guyot-Sionnest**, Carrier interactions in Conductivity and luminescence of thin films of charged colloidal quantum dots

**Brian A. Korgel**, Solution Synthesis of Silicon and Germanium Nanowires and Their Applications

**Jie Liu**, Few Walled Carbon Nanotube: A Unique member in the Carbon nanotube Family

**Xiaogang Peng**, Bandgap and Composition Engineering in Solution

**Michael Shur**, Active Terahertz Media with Nanodots or Nanowires

**Younan Xia**, Chemical Transformation Methods for Semiconductor Nanostructures

## Complex Oxide Materials

**Laurent Bellaiche**, Unusual Phenomena in Ferroelectrics

**Robert Blinc**, Electric Field Induced Critical Phenomena in Oxide Relaxor Ferroelectrics

**Alexander Boris**, Spin-controlled optical anomalies in magnetic insulators

**Jacques Chakhalian**, Electronic and magnetic structure at the interfaces of strongly correlated insulators

**W. Alan Doolittle**, MBE of Lithium-Metal-Oxide Multifunctional Materials

**Satoshi Okamoto**, Theoretical study of correlated-electron interfaces of complex oxides

**Ramamoorthy Ramesh**, Electrically Controllable Antiferromagnets for Spintronics

**Jörg Stremper**, Electronic properties of novel complex oxide multiferroics

**Jun Sugiyama**, Electronic and magnetic properties of novel layered cobalt dioxides

**Maria Varela**, Complex oxide characterization in the aberration corrected STEM