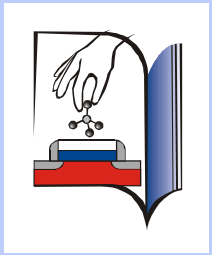

Nano and Giga Challenges in Microelectronics Research and Opportunities in Russia Symposium and Summer School

St. Petersburg, Russia
September 13-17, 2004

http://www.atomicscaledesign.net/ngcm2004

Conference Background

Microelectronics technologies have reached a new stage in their development: the ultimate miniaturization of electronic devices is approaching atomic dimensions, the interconnect bottleneck is posing to limit circuit speeds, new materials are being introduced into microelectronic manufacture at an unprecedented rate, and alternative technologies to mainstream CMOS are being considered. As a marriage of the today's micro-, tomorrow's nano- and future molecular electronics the series of conferences on Nano and Giga Challenges in Microelectronics (NGCM) is being launched. Following the first successful Summer School and Symposium in Moscow (NGCM2002) the second biennial meeting will be held in St. Petersburg in 2004, hosted by the Ioffe Physico-Technical Institute.

Meeting Format

The scientific program includes a Summer School (first 2 days) and a Symposium (last 3 days). The Summer School program consists of tutorial (plenary) lectures followed by panel discussions involving both participants and speakers. The Symposium includes plenary sections in the morning, which are followed by oral section presentations and poster sessions in the afternoon. Evening sessions will focus on technology trends and collaborative discussions.

Venue

Summer School: Educational Center of Ioffe Institute
Symposium: St Petersburg Hotel

Conference Sponsors

Ioffe Physico-Technical Institute, St Petersburg, Russia
Elsevier Science Publishers, Amsterdam. Netherlands
Ohio Supercomputer Center, Columbus, Ohio

Sponsorship is welcome. Please, contact us by sending e-mail to organizers@asdn.net if you or your organization are interested to support NGCM'2004.

Technical scope

Abstracts are invited in the following areas:

- atomic scale design: theory and experiment
- highest frequency electronics
- fabrication of nanodevices
- future bio- and molecular electronics
- magnetic materials and spintronics
- materials and processes for integrated and subwave optoelectronics T molecular electronics
- nanotubes and clusters: wires and other devices
- new materials for gate and dielectrics in FETs
- non-silicon materials and devices
- quantum effects in devices

For additional information, please, contact us by sending email to organizers@asdn.net

Nano and Giga Challenges in Microelectronics
Research and Opportunities in Russia
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St. Petersburg, September 13-17, 2004

Speakers

Asen Assenov, University of Glasgow, Glasgow, UK, *NanoCMOS Simulation: Every Atom Counts*
Sorin Cristoloveanu, ENSERG, Grenoble, France, *Silicon on Insulator Technologie*"
Jan Fompeyrine, IBM Research, Zurich, Switzerland *Atomic Jewerly: Exploring Epitaxial Technologies for Silicon's future*
David Gilmer, Motorola, Austin, TX, USA, *A Future CMOS Gate Stack: Mining the Periodic Table*
Eric Garfunkel, Rutgers University, Newark, NJ, USA, *Junctions in Molecular and Nano-electronics*
Torgny Gustafsson, Rutgers University, Newark, NJ, USA, *Composition and Structure of High-k Materials on Silicon*
Henk van Houten, Philips, Aachen, Germany, *From System on Chip to System in Package*
Efim Portnoi, Ioffe Institute, St Petersburg, Russia, *Teraherz Optoelectronics*
Nicholas Rambidi, Moscow State University, Moscow, Russia, *Distributed Biomolecular Systems: from Computing to Thinking*
Paul Seidler, IBM, Zurich, Switzerland, *Nanotechnology and the Information Age*
Alexey Toropov, Ioffe Institute, St Petersburg, Russia, *Spin Injection in Semiconductor Nanostructures*
Bruce White, Motorola, Austin, TX, USA, Silicon *Nanocrystal Memories: A Bridge from Micro to Nanoelectronics*
Stanley Williams, Hewlett-Packard, Palo Alto, CA, USA, *Molecular Electronics: from Devices to Logics*
Alexey Zhukov, Ioffe Institute, St Petersburg, Russia, *Lasers Based on Quantum Dots*

International Advisory Board

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Registration and Abstract Submission

Online registration and abstract submission:
http://www.atomicscaledesign.net/ngcm2004
By mail:
For preliminary registration fill in and mail the form below.

Name: _____

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Email: _____

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Jan K. Labanowski
Ohio Supercomputer Center
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Columbus, OH 43212-1163, USA
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Conference fee, Visa, Social Programm & Accomodation

Please, visit the NGCM2004 web site for details and frequently updated information:

http://www.atomicscaledesign.net/ngcm2004