



**Nano and Giga Challenges  
in Electronics, Photonics  
and Renewable Energy**

**14th Canadian Semiconductor  
Technology Conference**

**Symposium and Summer School (Tutorial Lectures)  
Hamilton, Ontario, Canada, August 10-14, 2009  
<http://www.AtomicScaleDesign.Net/ngc2009>**



**Co-chairmen: Peter Mascher, John Preston, Stephen Goodnick, Anatoli Korkin**

**Invited speakers include :** **School:** G. Cerofolini (STM), S. Datta (Purdue Uni), G. Eres (Oak Ridge Natl Lab), Y. Fainman (Uni of California San Diego), A. Geim (Uni of Manchester), P. Lugli (Technische Universität München), M. Lundstrom (Purdue Uni), A. Nozik (Natl Renewable Energy Lab), C. Ozkan (Uni of California Riverside), F. Ponce (ASU), T. Sargent (Uni of Toronto), M. Stiles (Natl Inst of Standards and Tech), NJ Tao (ASU), T. Thundat (Oak Ridge Natl Lab) **Symposium:** P. Avouris (IBM), H. Aziz (Uni of Waterloo), J. Baugh (Uni of Waterloo), J. Bernholc (North Carolina State Uni), S. Chambers (Pacific Northwest Natl Lab), P. Chen (Natl Uni of Singapore), H. Cheng (Inst of Metal Research Chinese Academy of Sciences), B-C. Choi (Uni of Victoria), P. Cummings (Vanderbilt Uni), L. Dalton (Uni of Washington), R. Dauskardt (Stanford Uni), A. Forchel (Universität Würzburg), Y. Gotkis (KLA-Tencor), S. Hughes (Queen's Uni), W. Ishak (Corning), D. Kaiser (Natl Inst of Standards and Tech), W. King (Uni of Illinois), V. Klimov (Los Alamos Natl Lab), A. Knights (McMaster Uni), V. Konov (General Physics Inst), M. Kozicki (ASU), R. LaPierre (McMaster Uni), J. Liu (Pacific Northwest Natl Lab), S. Luryi (Stony Brook Uni), G. Malpuech (Université Blaise Pascal), Z. Mi (McGill Uni), M. Nardelli (North Carolina State Uni), C-Z Ning (ASU), H. Ohno (Tohoku Uni), M. Ozkan (Uni of California Riverside), O. Painter (California Inst of Tech), D. Perepichka (McGill Uni), T. Picraux (Los Alamos Natl Lab), J. Robertson (Uni of Cambridge), M. Ruzzene (Georgia Inst of Tech), L. Samuelson (Lund Uni), D. Sanvitto (Universidad Autonoma), P. Senellart (Centre Natl de la Recherche Scientifique), M. Sentis (Mediterranean Uni), M. Shur (Rensselaer Polytechnic Inst), H. Sun (Julin Uni), T. Theis (IBM), M. Uusitalo (Nokia), N. Voyer (Université Laval), J. Wang (Uni of Hong Kong), S.-H. Wei (Natl Renewable Energy Lab), D.-X. Xu (Natl Research Council of Canada), D. Yakovlev (Uni of Dortmund), A. Zayats (Queen's Uni of Belfast), J. Zhao (Dalian Uni of Tech) **Innovation:** M. Leiby (Optoelectronics Industry Development Assc), M. Pasqualetti (ASU), Y. Yamaguchi (Uni of Tokyo)

The NGC2009 & CSTC2009 forum in Canada invites academic and industrial researchers to present tutorial, expository and original research papers dedicated to solving scientific and technological problems in electronics, photonics and renewable energy such as atomic scale materials design, bio- and molecular electronics, high frequency electronics, fabrication of nanodevices; magnetic materials and spintronics; materials and processes for integrated and sub-wavelength optoelectronics, nanoCMOS, new materials for FETs and other devices, nanoelectronics system architecture, nano optics and lasers, non-silicon materials and devices, quantum effects in devices, nano science and technology applications in the development of novel solar energy devices, and fuel cells and batteries. We also invite inventors, entrepreneurs and business leaders to explore the unique opportunity provided by our interdisciplinary forum for technical due diligence and potential commercialization of emerging new technologies. Sponsors and exhibitors are welcome and will be supported by the organizers in their needs for networking and marketing of their products and organizations.

**Hosted by McMaster University** the NGC2009 & CSTC2009 meeting (NGC/CSTC 2009) will be held as a joint event of two conference series, Nano & Giga Challenges (*Nano & Giga Forum*) and Canadian Semiconductor Technology Conferences, and will bring together the networks and expertise of both professional forums. CSTC was established 25 years ago in Ottawa as an important symbol of the intrinsic strength of the Canadian semiconductor research and development community, and the Canadian semiconductor industry as a whole. In 2007, the 13th CSTC was held in Montreal, moving for the first time outside the Canadian national capital region.

The first three meetings in the series of Nano & Giga Challenges conferences, NGCM2002 in Moscow, NGCM2004 in Krakow, and NGC2007 in Phoenix, were focused on the interdisciplinary research in electronics and photonics from the fundamentals of materials science to the development of new system architectures. Our next joint forum expands its topics to renewable energy research and development based on semiconductor and other materials, including organic and biomolecular systems.

For further information and registration visit our web site at: <http://asdn.net/ngc2009/> or contact [organizers@asdn.net](mailto:organizers@asdn.net);  
tel: 480-965-0875; fax: 905-525-1062