

Nano and Giga Challenges in Electronics and Photonics

From Atoms to Materials to Devices to System Architecture

**McMaster University, Michael DeGroote Centre for Learning and
Discovery**

August 10th and 11th – 9am to 6pm
Lectures

Nanophotonics for Information Systems

Yeshiahu Fainman, **University of California San Diego**, San Diego, California, USA

Hybrid CMOS/Nanoelectronic Circuits

Konstantin Likharev, **Stony Brook University**, New York, NY, USA

Molecular Electronics: Challenges and Perspectives

Paolo Lugli, **Technische Universität München**, Munich, Germany

Physics of the Ultimate Transistor: An Introduction to Electronics From the Bottom Up

Mark Lundstrom, **Purdue University**, West Lafayette, Indiana, USA

Solution-Processed Optoelectronics

Ted Sargent, **University of Toronto**, Toronto, Canada

Laser : a Tool for Material Processing at Nanometer Scale.

Marc Sentis, **Mediterranean University**, Marcellie, France

Nanopatterning and Bioelectronics

Cengiz Ozkan, **University of California Riverside**, Riverside, California, USA

Third Generation Solar Photon Conversion to Electricity and Fuel: Multiple Exciton Generation in

Quantum Dots; Quantum Dot Arrays and Solar Cells

Arthur Nozik, **National Renewable Energy Laboratory**, Golden, Colorado, USA

Three-Dimensional Silicon-Germanium Nanostructures for CMOS Compatible Light Emitters

David Lockwood, **National Research Council of Canada**, Ottawa, Ontario, Canada

Current-Induced Magnetization Dynamics

Mark Stiles, **National Institute of Standards and Technology**, Gaithersburg, Maryland, USA

Architectural Solutions to the Problem of Linking the World of Microelectronics to that of Living Systems

Gianfranco Cerofolini, **University of Milano**, Bicocca, Milan, Italy

Integrated Molecular Sensor Systems

Erica Forzani, **Arizona State University**, Phoenix, Arizona, USA

The Physics of Solid State Lighting Alfred Forchel, **Universität Würzburg**, Würzburg, Germany

Fernando Ponce, **Arizona State University**, Phoenix, Arizona, USA

Quantum Dot Microcavities - Status and Challenges for Investigations of Physical Properties and Devices

Alfred Forchel, **Universität Würzburg**, Würzburg, Germany

Summer School (tutorial lectures) is a part of CSTC/NGC 2009 conference (www.science.mcmaster.ca/cstc2009).

The school is sponsored by McMaster University. Participation in the school is free for students from Ontario Universities and is included in the conference registration fees for students attending from outside of Ontario. In both cases registration is required. For more information and

online registration, please, visit our website (www.science.mcmaster.ca/cstc2009/school)

or contact Tyler Roschuk (E.mail: roschutr/at/mcmaster.ca; tel: 905-525-9140 ext. 26196)