CALL FOR PAPERS

FCN '13

Workshop on Field-Coupled Nanocomputing

University of South Florida, Tampa
February 7-8, 2013
http://ncrg.eng.usf.edu/FCN13/fcn13.htm

Field-coupled nanocomputing (FCN) utilizes local field interactions between nanoscale building blocks to transfer information and implement logic without the need for charge transport. Each of the leading FCN paradigms - quantum dot cellular automata (QDCA), molecular quantum cellular automata (MQCA), and nanomagnetic logic (NML) –is a potential candidate for post-CMOS nanocomputing, and each faces critical challenges to realization.

FCN'13 will provide a dedicated forum for assessment of the current status of this emerging field, identification of critical challenges for FCN, and advancement of potential strategies for realization of FCN-based nanocomputers. This conference is sponsored by National Science Foundation (NSF).

Suggested Topics

- Enabling FCN device, circuit, and architecture concepts.
- Scalable nanomanufacturing strategies for FCN circuits and systems.
- Clocking strategies and issues.
- Heat dissipation in FCN paradigms.
- Noise, defects, error correction, and fault tolerance.
- Reversible computing in FCN.
- Evolution of the QCADesigner simulation tool.
- Circuit design, CAD, and logic synthesis.

Abstract Deadline: Two-page extended abstract due November 15, 2012.

Kenote Speakers: Professor Craig Lent (Notre Dame), Professor Wolfgang Porod (Notre Dame), and Professor Robert Wolkow (U of Alberta).

Panel Discussion: *"Critical Challenges for FCN and the Road Ahead"*

Graduate Student Support: Graduate student presentations are particularly encouraged, and a number of stipends for travel and lodging will be available for graduate student authors.

Workshop Proceedings: High quality, chapter-length expositions of the workshop contributions will be solicited for publication in book form. Also included in the FCN'13 proceedings will be an edited transcript of the panel discussion on critical challenges.

FCN'13 Organizers: Sanjukta Bhanja (USF) and Neal Anderson (UMass Amherst).