IMPORTANT DATES

Paper Submissions:
December 14, 2010

Acceptance Notification:
December 23, 2010

Camera-Ready Version:
January 17, 2011

Nano-Net Conference:
March 14-16, 2011

Nano-Net 2011
5th International Conference on Nano-Networks
March 14-16, 2011 Atlanta, GA, USA

http://www.nanonets.org

Sponsors: Create-Net, ICST, Springer in Cooperation with ACM* SIGARCH, SIGDA, SIGMICRO

CALL FOR PAPERS

The Nano-Net conference positions itself at the intersection of two worlds, namely, emerging nanotechnologies on one side, and Information & Communication Technologies on the other side. One of the standing questions that this conference addresses is: What are the new communication paradigms that derive from the transition from micro- to nano-scale devices? The convergence of nano-technologies with established and novel engineering disciplines such as communication and network theory, sensors and actuators, and bio-medical engineering is expected to radically shift our notions about efficient system and network design. Nano-Net provides a unique multidisciplinary forum for the discussion of novel techniques in modeling, design, simulation, and fabrication of nano-scale systems.

The conference invites original technical papers that have not been published and are not currently under review for publication elsewhere. Contributions addressing subjects pertaining to nanotechnology and networking are solicited. Suggested topics include, but are not limited to the following:

1. Nano-Bio Systems and Applications – New paradigms linking nanotechnology and biology for nano-networks and applications, bio-inspired circuits and architectures, reconfigurable nano-bio systems, nano-mechatronics, nano-robotics, nano-sensors, molecular motors, in-body nanonetworks, bio-nano networks with molecular cells/machines, in-vivo nanosensing.

2. Nano Modeling and Simulations – Physical characterization and modeling of nano-devices, interconnects, statistical mechanics modeling, power/thermal modeling in nano-devices and systems, modeling of nano-bio channels, modeling and simulation of nano/bio networks and systems.

3. Nano-electronics/devices/materials for Communications – Emerging nano-devices and fabrication technologies for nanonetworks, CNTs, nanowires, nanoparticles, GNRs, graphene devices, molecular processing and self-assembly, nano-patterning, emerging 3D-interconnects, nano-materials, coatings and surfaces, dendrimers, energy storage, catalysis, optical modulators and switches, optical and wireless interconnects**,** quantum electronics, molecular electronics.

4. Theoretical Aspects of Nano-Bio Networks – Information theory for (natural) bio systems, modeling of nano/bio communication channels, capacity bounds and theorems for various nano/bio channels, intercellular communication, transceiver and modulation optimization, reliability and fault tolerance, molecular sensing and sampling, information processing for nano-bio networks, self-organization in nano-bio systems, network calculus and analysis for nano-bio networks.

5. Nano-Bio Computing – Nanoscale processor and memory architectures, new computing paradigms, array processing nano-fabrics, routing and addressing issues in nanonetworks, NoC performance and trade-off analysis, molecular computing, quantum computing.

6. Nano-Bio Networking – Network architectures, topologies, and communication algorithms for nano-bio networks, molecular communication in bio-networks, synchronization, routing/addressing, error control, energy efficiency, nanoscale sensor networks, networks of micro/nanorobotic systems, nanoscale optical, wireless, and, quantum communication networks.

SUBMISSION INSTRUCTIONS: Prospective authors are encouraged to submit a PDF version of the full paper in English. Papers are limited to 6 pages (regular papers), or 4 pages (work-in-progress papers), and must fulfill the submission details listed at: http://www.nanonets.org/ (submission guidelines); the Author's Kit for the LNICST style listed at: http://www.nanonets.org/ (author's kit). Presentation will be either oral (regular papers) or in the poster format (work-in-progress papers).

PUBLICATION: All submitted papers will be subject to a rigorous peer-review. Accepted papers will be published by Springer in the Nano-Net Conference Proceedings, and made available online through Springer Lecture Notes LNICST, and ICST digital library, the European Union Digital Library. Selected high-quality regular papers will be invited to a post-conference journal publication in the Nano Communication Networks Journal (Elsevier).

[* *ACM Cooperation pending upon approval.*]

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