

Call for Papers for a Special Issue of *IEEE Transactions on Nanotechnology* on Nanoelectronic Device Interfaces to Biomolecules and Cells

This special issue is devoted to research activities on integrated electronic devices which interface with biomolecules and living cells. Lithography is approaching the sub-30nm resolution in commercial ICs, and hybrid techniques for handling bottom-up nanostructures are also maturing. Thus, we can envision the integration, on commercial IC substrates, of information processing and communication circuits with nanoscale-precision electronic interfaces to molecules and cells. Many novel biomedical and environmental applications can be enabled by these new capabilities for sensing and manipulation at the level of single molecules and cells. Current research approaches in this field are highly interdisciplinary, but share techniques for nanofabrication, information acquisition and modeling. We are primarily interested in the *electronic and electrochemical* interfaces rather than in generic interfaces to biomolecules and cells, and hence research emphasizing only microfluidic devices, cell electric activities or optical response is not included. General areas of interest include, but are not limited to,

- Integrated biomolecular and biosensors
- Integrated patch-clamp based devices
- Electrochemical modeling of interfaces
- Novel electronic devices for bio-interface
- Electrostatic modeling of cell activities
- Reliability and control of long-term drift

Submission deadline: April 30, 2009

Please follow the instructions for authors available on line at the Transactions web site:

<http://www-lmr.usc.edu/~requicha/tnano>

The papers should be submitted electronically through the Manuscript Central system. In the submission enter "Other" as Technical Area, and mention in the cover letter that the paper is for this special issue.

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