Revised: April 9, 2004

Call for User Proposals

Center for Integrated Nanotechnologies
2004 Jump-Start User Program

The Center for Integrated Nanotechnologies (CINT) is a Department of Energy, Basic Energy Sciences Nanoscale Science Research Center (NSRC) jointly operated by Los Alamos and Sandia National Laboratories. As part of the National nanoscience infrastructure, CINT provides user access to state-of-the-art equipment, facilities and personnel for nanoscale science and engineering research. Prior to being fully operational in 2006, CINT is operating in a "jumpstart" phase that enables some equipment, facilities and personnel of the two sponsoring laboratories to be available to external users through a proposal submission and peer review process. There is no cost to users except for proprietary research.

User Facilities - Under the jump-start program, the CINT user community will have access to tools and capabilities that support CINT's overall focus on nanoscience integration. Fabrication and synthesis capabilities will allow the user to build and combine synthetic and biological materials and structures across nano to micro length scales. These capabilities include optical and E-beam lithography, patterned semiconductor, oxide and metal deposition and etch, MEMS, μfluidics, and photonic lattice fabrication, self-assembled meso-porous silica, self-assembled monolayer and LB films, semiconductor and metal quantum dots, and protein synthesis. The set of available characterization tools at jump-start include neutron diffraction, small-angle scattering and reflectivity at LANSCE, short-pulse and high magnetic field studies at NHMFL, low-temperature optical and electronic transport measurements, time-resolved optical spectroscopy and microscopy, scanning probe microscopy (AFM, STM, NSOM), and nanoindentation. Users can also apply for access to computer workstations and expertise in modeling that spans first-principles theory to continuum modeling approaches.

Science Focus - Preference will be given to proposals that will utilize CINT capabilities to address the following challenges:

(1) Integration of top-down fabrication with bottom-up assembly to create new classes of functional materials;
(2) Electronic energy transfer, charge transport, mechanical force and fluidic transport across multiple length scales;
(3) Integration of biological and synthetic materials, and control of the interface between biological and non-biological components.

General Users – The scientific community is invited to apply for open, no cost, access to CINT capabilities. Individual and team proposals from industry, academia, and other laboratories are welcome. Specific instructions for applicants, description of available resources, and key technical contacts are available on the CINT website (**http://CINT.lanl.gov** or **http://CINT.sandia.gov**). Proposals may request either short-term (few days) or long-term (weeks to months) access to CINT capabilities.

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Collaborations with CINT scientists at Los Alamos and Sandia National Laboratories are encouraged. Through a separate process, proposals for proprietary use of CINT resources (with full-cost recovery as required by the DOE) will be considered. Foreign National researchers can work at CINT if their visit is planned with sufficient lead-time (see CINT website).

Contact:

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Detailed information and Proposal submission via the web:

http://cint.lanl.gov or http://cint.sandia.gov

Proposal Submission via the Web
Deadline: June 1, 2004