CINT

Center for Integrated Nanotechnologies

CINT

CINT is a Department of Energy/Office of Science Nanoscale Science Research Center operating as a national user facility devoted to establishing the scientific principles that govern the design, performance, and integration of nanoscale materials. Through its Core Facility in Albuquerque and Gateway to Los Alamos Facility, CINT provides access to tools and expertise to explore the continuum from scientific discovery to the integration of nanostructures into the micro- and macro-worlds. CINT has a broad portfolio of programs in support of discovery science and national security missions.

Capabilities

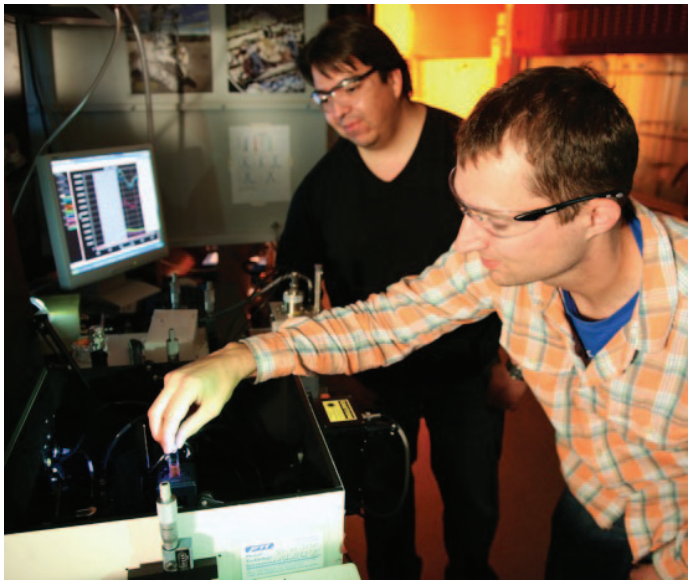
To address the national grand challenges of nanoscience and technology, CINT supports four interdisciplinary science thrusts:

- Nanoscale Electronics & Mechanics - Control of electronic transport and wavefunctions, and mechanical coupling and properties using nanomaterials and integrated nanosystems.
- Nanophotonics & Optical Nanomaterials - Synthesis, excitation and energy transformations of optically active nanomaterials and collective or emergent electromagnetic phenomena (plasmonics, metamaterials, photonic lattices).
- Soft, Biological & Composite Nanomaterials - Solution-based materials synthesis and assembly of soft, composite, and artificial bio-mimetic nanosystems.
- Theory & Simulation of Nanoscale Phenomena - Assembly, interfacial interactions, and emergent properties of nanoscale systems, including their electronic, magnetic, and optical properties.

Facilities

The CINT user community can access research capabilities in the Core Facility and the Gateway to Los Alamos. Together, these facilities provide laboratory and office space for researchers to synthesize and characterize nanostructured materials, theoretically model and simulate performance, and integrate nanoscale materials into larger-scale systems in a flexible, clean- room environment.

User Program

CINT operates as a U.S. Department of Energy National User Facility providing access to state-of-the-art facilities staffed by laboratory scientists, postdoctoral fellows, and technical support personnel who are leaders in the CINT science thrust areas. Access is via peer-reviewed technical proposals, for independent or collaborative research, submitted in response to semiannual Calls for User Proposals. Pre-competitive research that will be published in the open literature can be approved for no-fee access to CINT. Proprietary research may be conducted in accord with federal regulations for full-cost recovery. CINT cannot provide funding to users.

For more information on CINT, its capabilities, and the next call for user proposals, please visit cint.lanl.gov.