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### **The Center for Nanophase Materials Sciences**

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The Center for Nanophase Materials Sciences (CNMS) located at Oak Ridge National Laboratory (ORNL) will be the first DOE Nanoscale Science Research Center to begin operation, with construction to be completed in April 2005 and initial operations in October 2005. The CNMS' scientific program has been developed through workshops with the national community, with the goal of creating a highly collaborative research environment to accelerate discovery and drive technological advances. Research at the CNMS is organized under seven Scientific Themes selected to address challenges to understanding and to exploit particular ORNL strengths (see <http://cnms.ornl.gov>). These include extensive synthesis and characterization capabilities for soft, hard, nanostructured, magnetic and catalytic materials and their composites; neutron scattering at the Spallation Neutron Source and High Flux Isotope Reactor; computational nanoscience in the CNMS' Nanomaterials Theory Institute and utilizing facilities and expertise of the Center for Computational Sciences and the new Leadership Scientific Computing Facility at ORNL; a new CNMS Nanofabrication Research Laboratory; and a suite of unique and state-of-the-art instruments to be made reliably available to the national community for imaging, manipulation, and properties measurements on nanoscale materials in controlled environments. The new research facilities will be described together with the planned operation of the user research program, the latter illustrated by the current "jump start" user program that utilizes existing ORNL/CNMS facilities.