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This report was prepared by Dr. David Lundberg, Director, Global Partnership Program, California NanoSystems Institute (CNSI) at the University of California, Los Angeles, and is presented here as a Special Scientific Report with his permission. NSF supports many of the research and educational activities at the CNSI, some of which have significant international components. The Center has research agreements with a number of Japanese universities and CNSI researchers actively collaborate with Japanese researchers. For further information, contact David Lundberg, Director, Global Partnership Program at dlundberg@cnsi.ucla.edu

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CALIFORNIA NANOSYSTEMS INSTITUTE (CNSI) AT UCLA

The California NanoSystems Institute (CNSI) at UCLA is one of the four Institutes of Science and Innovation established within the University of California System in 2000 by Governor Gray Davis. It is housed in an 188,000 square foot (17,500 square meters), seven story building in the center of the UCLA campus. A partner institution is located at the University of California, Santa Barbara.

CNSI has four goals:

1. Encourage, expand, and support interdisciplinary collaborations in nanoscience and nanotechnology.
2. Train a new workforce prepared for a post-industrial economy utilizing nanotechnology.
3. Accelerate local and national economic growth by transferring commercially viable lab research into the world marketplace.
4. Serve as a global nanoscience research center built upon collaborations and partnerships with universities, institutes, and corporations world wide.

Research at CNSI is both basic and applied, focused on increasing understanding of phenomena at the nano level and finding applications for nanoscience and nanotechnology in the fields of energy, medicine, communications, and the environment. The commercialization of inventions and new materials is strongly emphasized. Collaborations with the private sector and the investment community are a high priority. A tech transfer/business development specialist is on staff to facilitate this process.

CNSI has no permanent research faculty. Its 115 members are drawn from the School of Medicine, School of Engineering, School of Public Health, and the Divisions of the Physical and Life Sciences. All are tenured or tenure track faculty. Support is provided by an administrative staff of 20 and a technical/scientific staff of 11.

The CNSI building, designed by the internationally renowned architect Rafael Vinoly, contains a 260-seat auditorium, eight meeting and conference rooms, wet and dry laboratories, and four class 100 and four class 1,000 clean rooms. Three floors are fitted out with electron microscopes, atomic force microscopes, scanning probe microscopes, X-ray diffraction microscopes, a variety of optical microscopes, and other instruments and equipment necessary for nanoscale research. These are located in eight core facility centers, including the Electron Imaging Center for NanoMachines, Advanced Light Microscopy Center, and the Macro-Scale Optical Imaging Laboratory. These facilities are available for use by approved individuals and institutions outside of UCLA.

Dr. Andre Nel, Professor of Immunology, and CNSI member, recently received a \$24 million grant from NSF for the creation of a Center for the Environmental Implications of Nanotechnology (CEIN). This project, directed by Dr. Nel and housed at CNSI, will develop of new techniques for the rapid and inexpensive testing of the toxicity of nanoparticles and other nano materials.

CNSI operates upon the assumption that scientific inquiry is borderless and advances rapidly through international partnerships and collaborations. To this end, CNSI has entered into formal agreements with the University of Tokyo, University of Kyoto, Kyushu University, Yonsei University, Seoul National University, KAIST, University of Bristol, and the Technical University

of Munich. It also maintains strong global presence through sponsorship on an annual basis of workshops, symposia, and conferences. Over the past three years these have brought together scientists from Japan, Korea, Singapore, China, Germany, France, the Netherlands, and the UK to discuss such topics as nanobiotechnology, nanotheranostics, nanotoxicology, nanopediatrics, and nanobiosensors.

CNSI is directed by Paul Weiss, Professor of Chemistry and Kavli Professor of Nanoscience. The two associate directors are Leonard Rome, Senior Associate Dean for Research, in the David Geffen School of Medicine, and Kang Wang, Director, Functional Engineered Nano Architectonics Focus Center (FENA) and Professor of Electrical Engineering in the Henry Samueli School of Applied Science and Engineering.

Further details can be obtained at www.cnsi.ucla.edu