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THE UNIVERSITY OF NORTH CAROLINA AT GREENSBORO

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SPECIAL INFORMATION ITEM:

Joint School of Nanoscience and Nanoengineering (JSNN)
Dr. James G. Ryan, Dean, Joint School of Nanoscience and Nanoengineering

BACKGROUND INFORMATION:

The Joint School of Nanoscience and Nanoengineering (JSNN) has been created by the University of North Carolina at Greensboro and North Carolina Agricultural & Technical State University with the support of the University of North Carolina system, the North Carolina General Assembly and the Greensboro/Triad community. The strengths of the two universities in the basic sciences make them ideal partners in this interdisciplinary program. The intent of the school is to become a world class educational and technical institution and also to become an engine for economic growth in the Triad and North Carolina as a whole. The global market for nanotechnology products and services is predicted to increase by 18-28% annually for the next several years (BCC Research, Inc.) and is expected to reach \$2.6 Trillion by 2014 (Lux Research), showing the potential for strong growth in this sector of the economy. Currently, JSNN is focused on four major tasks including the development of the curriculum, building the facility and equipment infrastructure needed for research, hiring the faculty and staff as well as beginning outreach and engagement activities to build relationships with companies, government agencies and other funding organizations.

JSNN will be one of the few degree granting schools in the world focused exclusively on Nanoscience and Nanoengineering and hopes to welcome its first class of graduate students in Fall of 2009. The availability of trained professionals in nanoscience will be a critical enabler for growth in this field and, with this mind, two degree programs have been created. A Professional Master of Science in Nanoscience degree and a Ph.D in Nanoscience degree are now in the review process. Students will be able to prepare to work in various nanoscience and nanoengineering fields such as nanomaterials, drug design and delivery, genetic screening, surface science and engineering, bioelectronics, nanoelectronic and nanoelectromechanical systems and nanoenvironmental science. The research conducted by faculty affiliated with the School will have high potential for technology transfer to pharmaceutical, biotechnology, and nanotechnology companies in North Carolina.

The JSNN will be housed in a state-of-the-art research facility on the South Joint Millennium Campus established as part of the Greensboro Center for Innovative Development, a collaborative initiative between the two Universities. HDR CUH2A, a division of HDR Architecture, Inc. has been selected to design the building because of their extensive experience in the design of advanced research facilities. The programming of the facility has been

completed several months ahead of schedule and it is our goal to complete the facility in the 2011 timeframe. The laboratory spaces will be built to enable flexibility so that they can be adapted for the research interests of the faculty and address new technology opportunities. The facility will contain Nanobiology, Nanochemistry, and Nanobiophysics laboratories as well as highly specialized facilities such as bioelectronic and nanoelectronic cleanrooms, a bio-safety level 3 (BSL3) facility, a nanofabrication facility, modeling capability and materials characterization laboratories featuring vibration controlled space for advanced microscopy and nuclear magnetic resonance tools for biomolecular structural analysis.

The recruiting process for world-class nanoscientists and nanoengineers has been initiated. JSNN is seeking entrepreneurial people who specialize in the development of fundamental scientific understanding that enhances the economy, the workforce, and society in general. JSNN's Outreach and Engagement plan includes the use of a "Co-location Model" where companies will be able to place a portion of their Research & Development staff in the JSNN building. The "Co-location Model" enables the partners and the Universities to gain financial and intellectual leverage by combining resources and the talents of their personnel. As a source of highly trained employees, a center of research expertise and a leading-edge tool set, JSNN is expected to help attract high technology businesses to the Triad area.

Nanotechnology has become a critical part our economy and is revolutionizing fields such as IT, electronics, medicine, defense, entertainment, transportation, and communication. JSNN plans to become a top educational and research institution in nanoscience and nanoengineering and will help build infrastructure and foster innovation through its partnerships. The JSNN model and infrastructure will continue to grow as new educational, technological and partnership opportunities arise.

David H. Perrin
Provost and Vice Chancellor for Academic Affairs