

Nanotechnology 101

AAC-4b

WHAT IS NANOTECHNOLOGY? Nanotechnology refers to research and technology development on the scale of approximately one to 100 nanometers. This is the smallest scale at which scientists can meaningfully study and manipulate matter.

WHY IS THIS IMPORTANT? By working at such small scales, researchers can build new and improved structures atom-by-atom, thus harnessing previously inaccessible properties of matter.

WHAT DOES THAT MEAN? This technology basically changes the structure and functions of existing materials. It can help engines produce cleaner emissions, extend the usage of mechanical parts and create therapeutics for cancer treatments.

HOW SMALL IS SMALL? “Nano” means one –billionth, Eight to 10 atoms span one nanometer, which is the size of a strand of DNA. By comparison, a human hair is approximately 70,000 to 80,000 nanometers thick

Times-News...(Burlington, NC) August 10, 2006



NCA&TSU/UNCG
Joint School of
Nanoscience and Nanoengineering (JSNN)

South Campus
Gateway University Research Park
January 2007

Description of Joint School of Nanoscience and Nanoengineering

- Programs
- Personnel
- Administrative Structure
- Academic Departments
- Physical Facilities

JSNN PROGRAMS

- ❖ Interdisciplinary Ph.D. in Nanoscience
- ❖ Professional Science Master's Degree (M.S.)
- ❖ Basic and Applied Research
- ❖ Economic Development
- ❖ Undergraduate Education
- ❖ K-12 Education

JSNN PERSONNEL

- ❖ Dean
- ❖ Tenured/Tenure Track Faculty
- ❖ Graduate Students (Doctoral and Masters)
- ❖ Staff
 - Administrative
 - Laboratory Technicians
 - Maintenance
 - Accountant
 - Economic Development Coordinator

JSNN ADMINISTRATIVE/GOVERNANCE STRUCTURE

Inter-university Coordinating Council

Chief Academic Officers (NCA&TSU/UNCG)

Chief Research Officers (NCA&TSU/UNCG)

Deans, Graduate School (NCA&TSU/UNCG)

Deans, College of Arts and Sciences (NCA&TSU/UNCG)

Dean, College of Engineering (NCA&TSU)

Dean

Dean

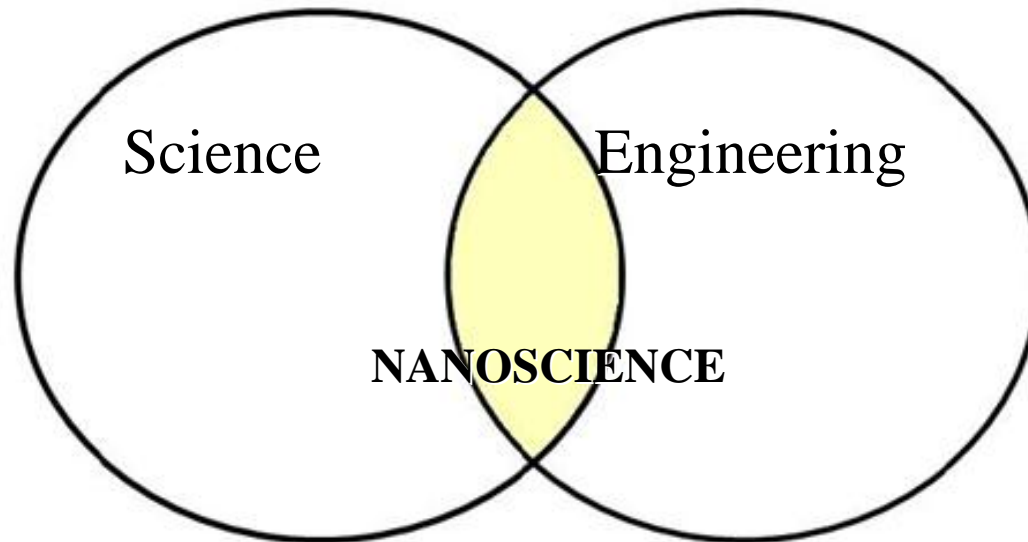
Academic
Department
Chairperson

Academic
Department
Chairperson

Academic
Department
Chairperson

ACADEMIC DEPARTMENTS

- Nanobioscience
- Nanobiotechnology
- Environmental Nanoscience



JSNN PHYSICAL FACILITIES

- ❖ Nanoscience Building
(\$50 Million) Spring/Fall 2011
- ❖ Core Laboratory Building
(\$10 Million) Spring/Fall 2009

JSNN BUDGET REQUEST

	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>Total</u>
Capital	\$5,018,900	\$7,528,350	\$37,641,750		\$50,189,000
Equipment NR		\$4,000,000	\$ 4,000,000		\$ 8,000,000
Program					
Support R	\$2,919,500	\$1,419,500	\$ 1,742,000	\$831,000	<u>\$ 6,912,000</u>
					\$65,101,000

NR: non-recurring

R: recurring

PLANNING COMMITTEE FOR THE JOINT SCHOOL FOR NANOSCIENCE AND NANOENGINEERING

- *Edward Uprichard, Provost and Vice Chancellor for Academic Affairs, UNCG
- *Janice Brewington, Interim Provost and Vice Chancellor for Academic Affairs, NCA&T
- *N. Radhakrishnan, Vice Chancellor for Research and Economic Development, NCA&T
- *Rosemary Wander, Associate Provost for Research & Public/Private Sector Partnerships, UNCG
- *James Petersen, Dean, Graduate School, UNCG
- *Dean, School of Graduate Studies, NCA&T
- *Michael Plater, Dean, College of Arts and Sciences, NCA&T
- *Timothy Johnston, Dean, College of Arts and Sciences, UNCG
- *Joseph Monroe, Dean, College of Engineering
- John Merrill, Executive Director, Gateway University Research Park

Faculty

Solomon Bililign	NCA&T
Goldie Byrd	NCA&T
Steve Danford	UNCG
Margaret Kanipes	NCA&T
Jagannathan Sankar	NCA&T
Debbie Kipp	UNCG
Debasish Kuila	NCA&T
John Lepri	UNCG
Patti Reggio	UNCG

* Will serve on the proposed Inter-university Coordinating Council