

# SENIC Overview



SENIC

Southeastern  
Nanotechnology  
Infrastructure  
Corridor



JSNN

Joint School of  
Nanoscience and Nanoengineering

UNCG



Georgia  
Tech  Institute for  
Electronics and  
Nanotechnology

# What is SENIC? <http://senic.gatech.edu>

Partnership of two major & modern nanotechnology centers in the southeastern US:

- **Institute for Electronics and Nanotechnology (IEN)**, an Interdisciplinary Research Institute & NNIN site at the Georgia Institute of Technology (GT)
- **Joint School of Nanoscience and Nanoengineering (JSNN)**, an academic collaboration between North Carolina A&T State University (NCA&T) and University of North Carolina, Greensboro (UNCG)



*GT-IEN Marcus Nanotechnology Building*



*JSNN Building @ Gateway Univ. Res. Park*



JSNN  
Joint School of  
Nanoscience and Nanoengineering



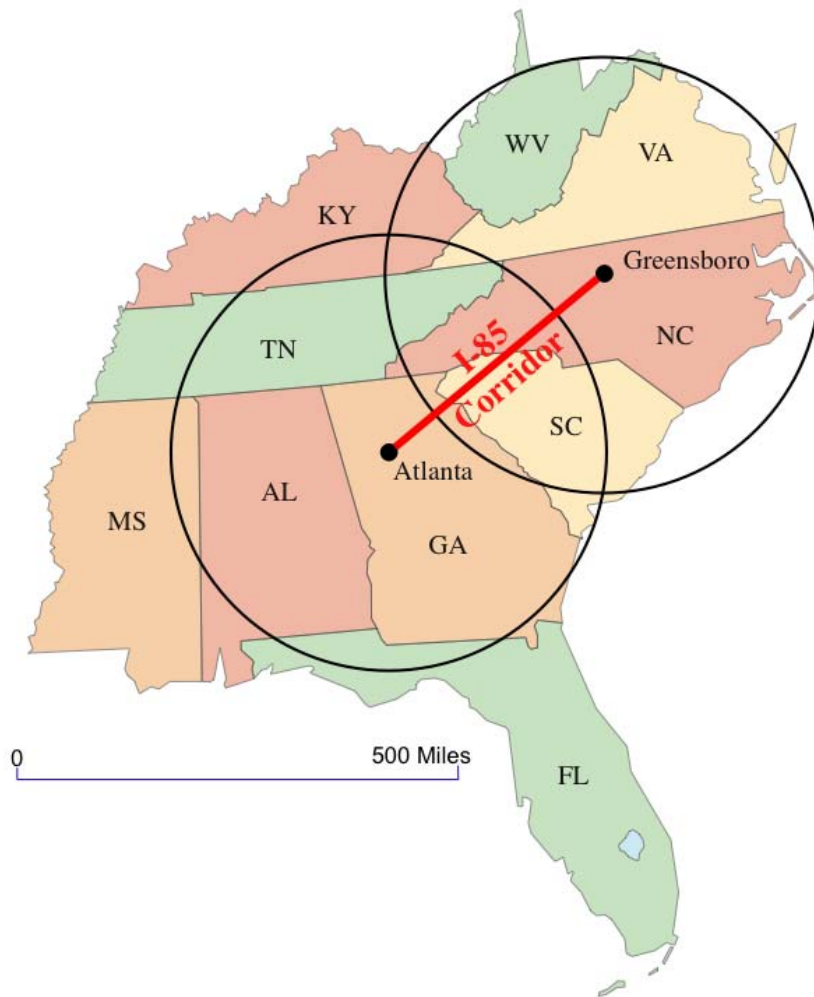
Georgia  
Tech Institute for  
Electronics and  
Nanotechnology

# SENIC Vision

- **Innovation:** Strengthen and accelerate discovery in nanoscience and nanoengineering across the southeastern US
- **Commercialization:** Allow nanotechnology-based innovations to reach the market quicker
- **Education/Outreach/SEI:** Provide education, outreach and SEI programs in nanotechnology with a focus on the southeastern US



# SENIC Partnership Benefits



## Extended Capabilities

- Broad access to top-down and bottom-up nanofabrication
- Up to 200mm wafer and 300mm panel substrate capabilities
- Extended characterization capabilities

## Geographical Coverage

- Extending SE coverage through Carolinas and Virginias

## Serving a Diverse Community

- Partnering top producers of minority and women engineers

## Range of Industries Served

- Traditional SE industries (textile, agriculture, paper)
- New SE high-tech industries (energy, biotech, automotive, aerospace)

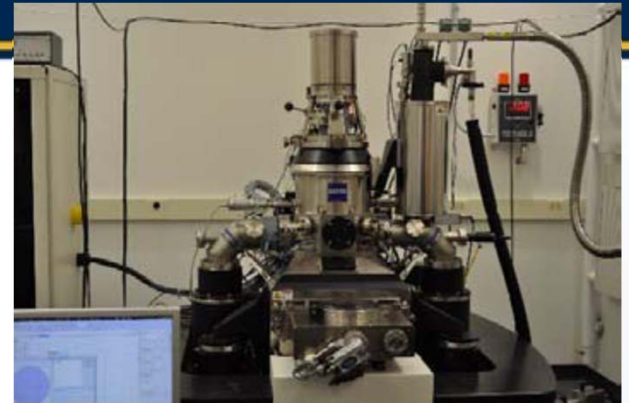
# SENIC Resources – 300+ Tools

- Top-down and bottom-up micro/nano-fabrication
- Advanced microscopy and surface analysis
- Analytical chemistry
- Materials testing
- Nanobiology
- Computational/modeling resources

**+ Staff Expertise**



Inkjet Printing



Helium Ion Microscope



200 mm  
fab tools



EBL

# SENIC User Base

## Where are we after Year 1?

	<b>SENIC (10/2015-09/2016) 12 months</b>
# Total User	1,067
# Av. Monthly Users	447
# Total External Users	164
# External Academic	55
# External Industry	109
# New Users Trained	313
# Facility Hours	≈ 80,000



# Non-Traditional Users



## Techturized Inc. (now Myavana)

- Founded in 2012 by 4 African-American female Georgia Tech engineers
- Product: Microscopic hair analysis

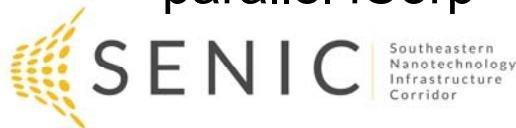
## Kepley Biosystems

- Founded in 2013 by engineers/scientists from JSNN
- Product: OrganoBait for crustacean (carb, shrimp, lobster, etc.) fishing



# SENIC Year 1 Accomplishments

- Facilities
  - **Installed 13 new tools**
  - Served 1000+ incl. 160+ external users, representing 50+ companies and 20+ colleges/universities
  - Established reciprocal billing capabilities
  - **Contracted with 50+ new external entities**
  - Established joint staff meetings (executive committee & technical)
  - First users that used partner facilities
- Education, Outreach & SEI
  - **Connected with 10,000+ individuals at 100+ events**
  - Established SENIC REU programs
  - Broadcast seminar series: Nano@Tech, JSNN Seminar
  - Developed modules on commercialization & societal implications to parallel iCorp





# Education & Outreach Activities

- School visits & science festivals
- REU program
- Internships & training for community college students
- Graduate student training
- Seminars & short courses



A photograph of a modern, multi-story building with a glass and steel facade. The building is the Marcus Nanotechnology Building. The text "Thank You!" is overlaid on the top left of the image. A list of four URLs is overlaid on the bottom right of the image.

# Thank You!

<http://www.nnci.net>

<http://senic.gatech.edu>

<http://www.iem.gatech.edu>

<http://jsnn.ncat.uncg.edu>