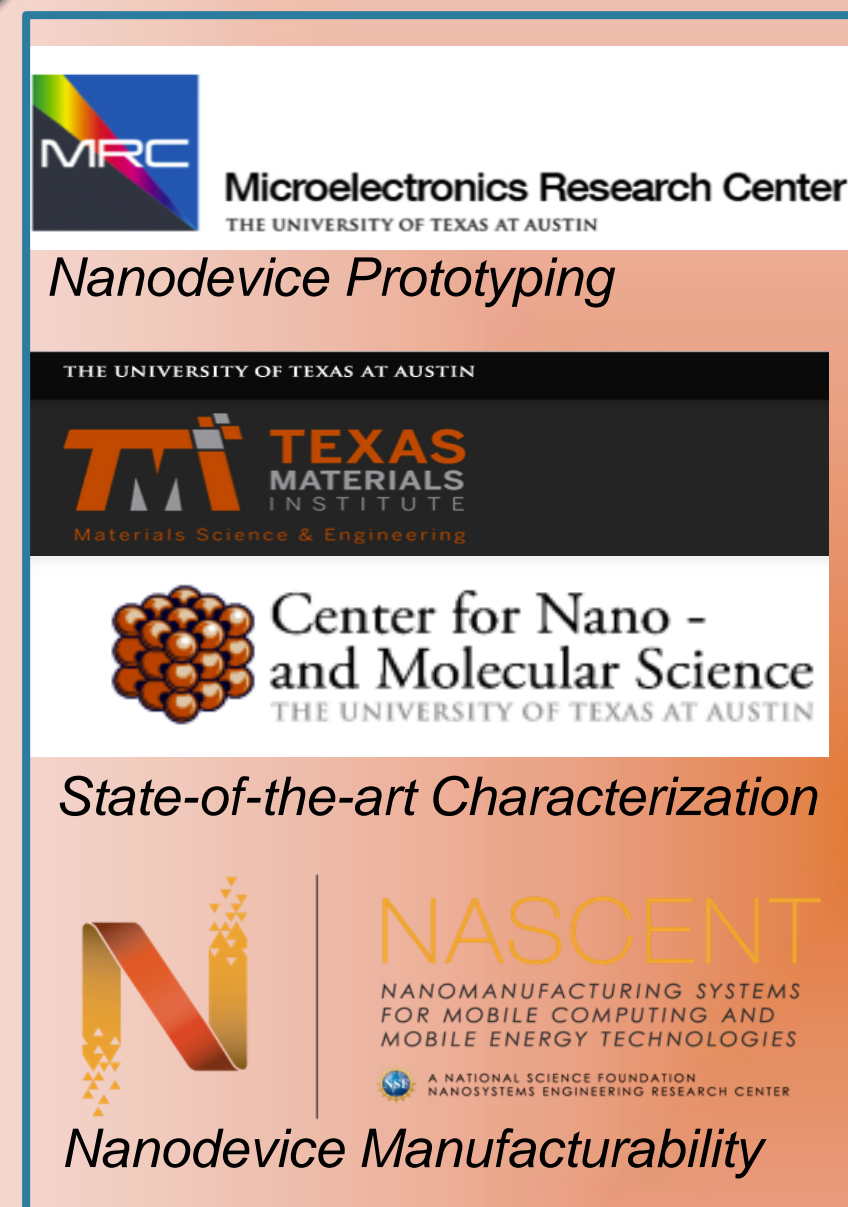
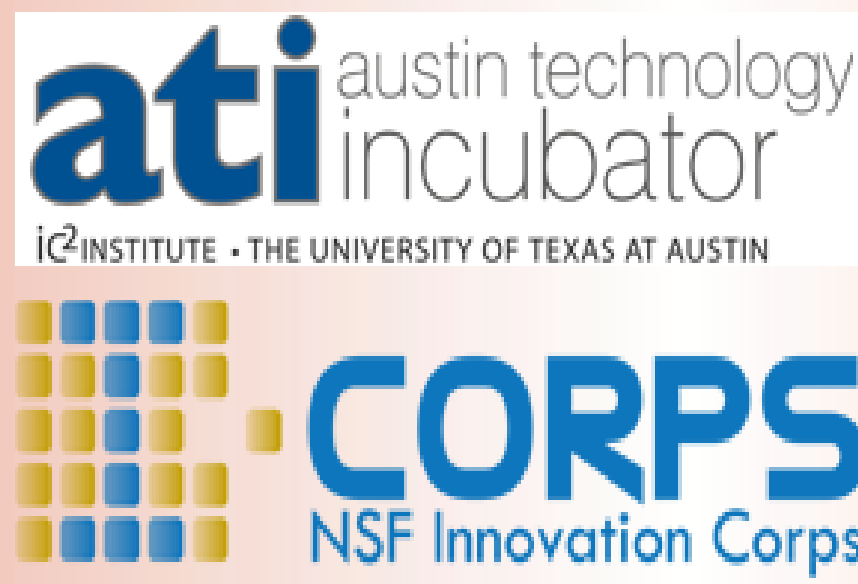


The NNCI Texas Nanofabrication Facility (TNF) comprises four existing UT centers across two departments (Cockrell School of Engineering and College of Natural Sciences). TNF vision is to enable and foster breakthrough nano-innovation in electronics, healthcare and energy while engaging with underrepresented minorities (URMs) through education and contribution to the normalization of Social and Ethical Implications (SEI) as a necessary part of nanoscience.

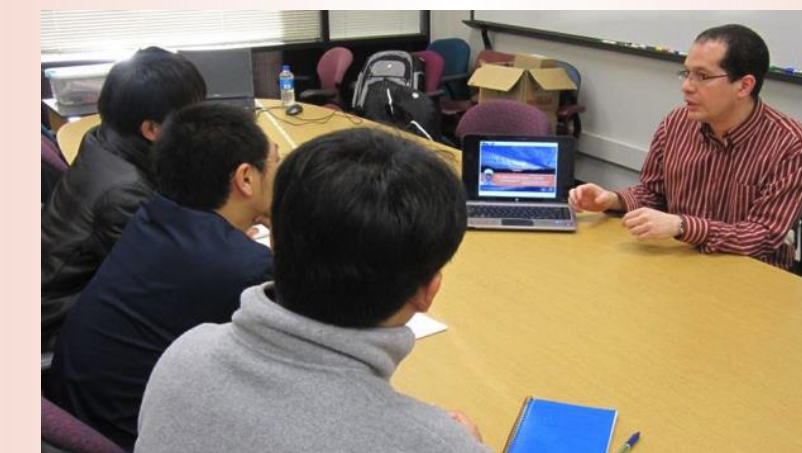
Innovation Ecosystem: TNF seeks to promote entrepreneurship and new company formation by teams of undergraduates and graduate students in relevant areas of nanotechnology.



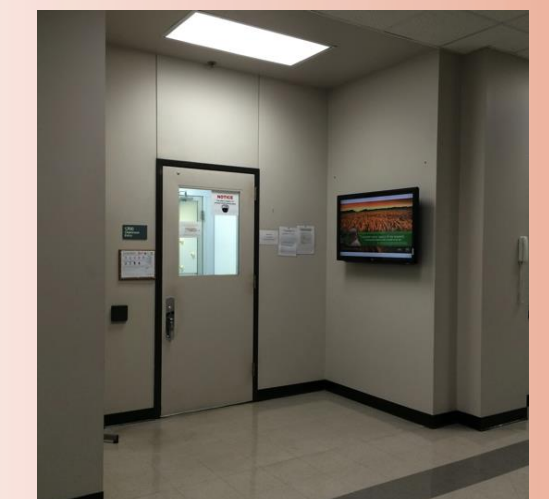
**Unified Structure
under TNF with
enhanced
visibility for
industry**

Normalizing the Integration of Social and Ethical Implications (SEI)
Prof. Lee Ann Kahlor, SEI Director

- Phase 1: Exploring the barriers and benefits of integrating SEI in the nanoscience by interviews and surveys.
- Phase 2: Develop messages to normalize SEI as part of nanoscience.
- Phase 3: Track exposure and recall of SEI messaging by follow up surveys

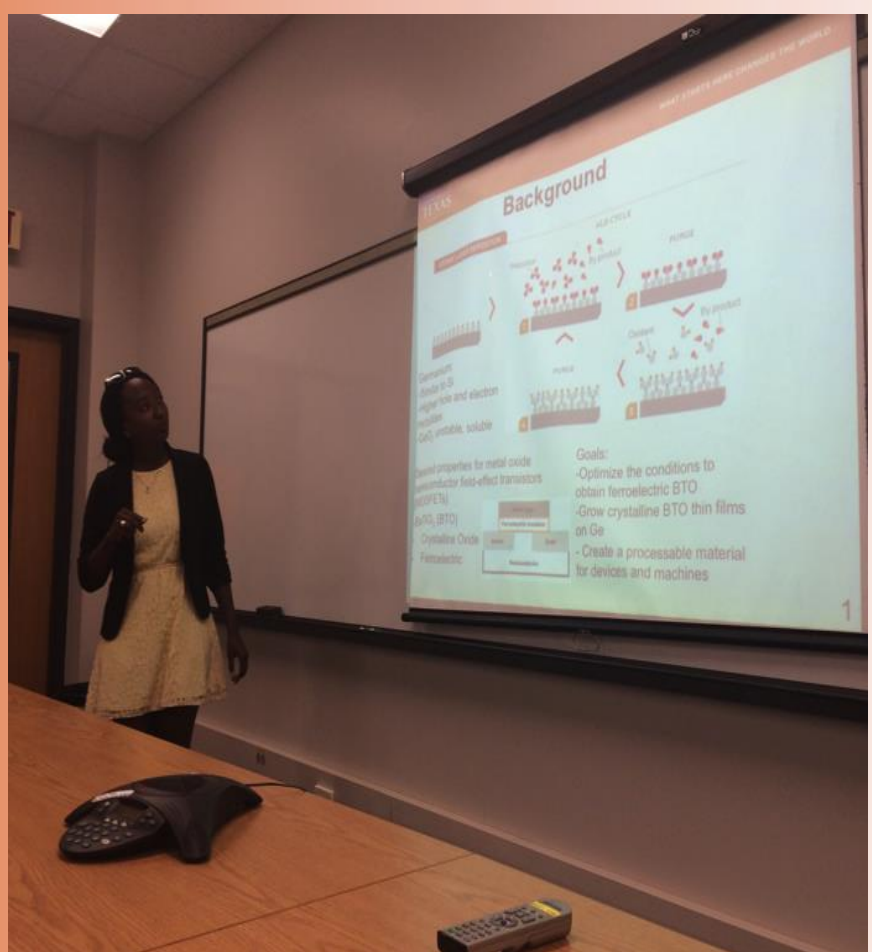


SEI talk embedded in MRC Orientation Safety Training



Responsible Research in Action from the SEI Cornell initiative posted at the MRC cleanroom entrance

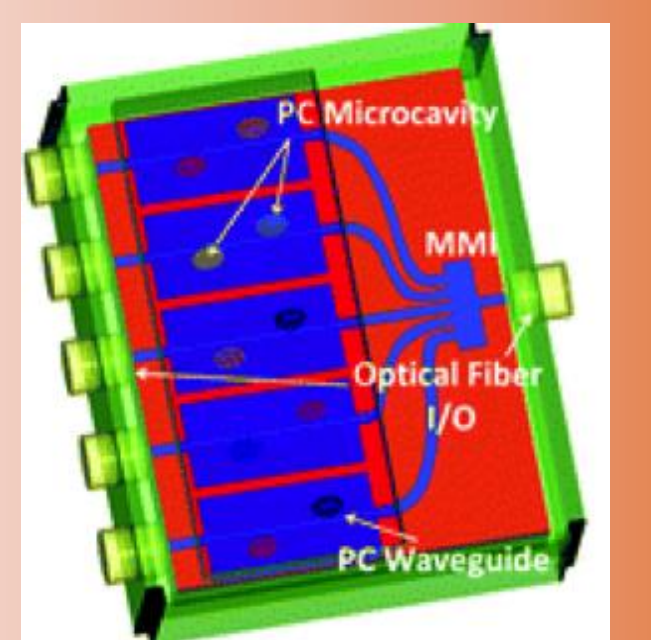
TNF will engage with URMs and women undergrads through REU programs.



Thank you for everything you did for us REUs this summer. I was really bad at presentations before you helped! Also, the way you came to most of the events, sharing your own experiences, and gave advice made an impact on me, and all of the REUs. It was a great summer.
Sincerely, Susana Ankamah, NASCENT REU 2014

Leveraging the Dell Medical School (DMS).

1. DMS Vice Dean of Strategy and Partnership joined the TNF advisory board
2. Partnership of CSE, CNS and DMS launched a \$300k pilot funding program: "Texas Health Catalyst" with the potential of accelerating the translation of research to health products
3. MRC Users: Omega Optics (R. Chen), Silicon Audio (N. Hall), Nanohmics (S. Savoy), Nanomedical Systems (R. Goodall), Methodist Hospital System (M. Ferrari), will benefit from the DMS interaction by gaining access to clinical collaboration with the goal of commercializing health products



Schematic of the test system on chip with integrated 1 x xMMI and PC microcavities coupled to PC waveguides. On each of the x output arms of the MMI, multiple PC microcavities are arrayed. Each microcavity is coated with a different target receptor biomolecule, each responsive to its specific conjugate, as indicated by a different color. Omega Optics (R. Chen).

TNF Capabilities

- 22,000 ft² cleanroom class 1000 and better
- 20,000 ft² labs
- ~ 130 shared nano-microfabrication tools, materials, electrical and surface characterization tools, nanomanufacturing systems.

Technical Expertise access "Solutions Based" for Testbed system*

- Imprint Lithography, R2R LithoFlex 100*, Jet and Flash Imprint Lithography IMPRIO 1100*
- Crystal growth by CVD*, MBE*
- Exfoliated Semiconductor
- 2D materials* (graphene, phosphorene, h-Boron Nitride, Transition Metal Dichalcogenides)

"Tool Based" training for established process equipment and heavy users.

