

NNCI Education and Outreach

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Coordinated Infrastructure

NNCI E&O





NNCI Education and Outreach Mission

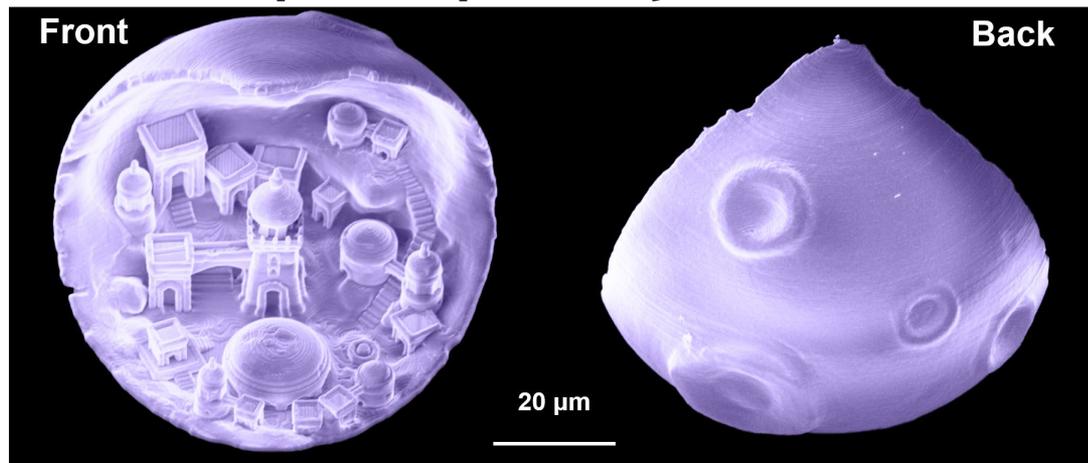
- Offer education and training to address the growing need for a skilled workforce and informed public
- Provide resources, programs, and materials to enhance knowledge of nanotechnology and its application to real-world issues
- Support the US economy by enabling a STEM-literate workforce ready to meet the technological challenges of a nano-enabled economy as well as an informed citizenry that supports continued and safe growth of nanotechnologies

NNCI E&O

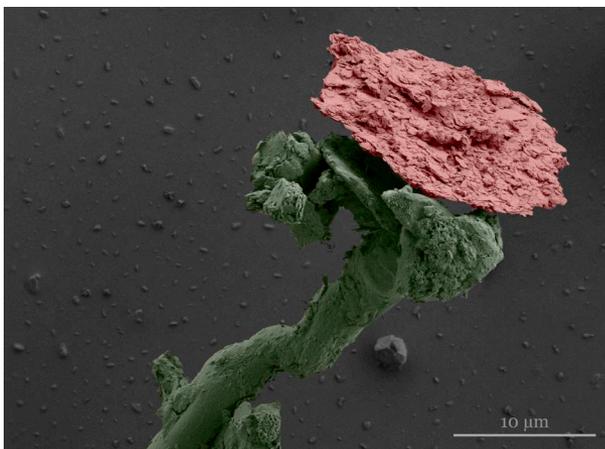
Most Stunning - SENIC



Most Unique Capability - KY Multiscale



Most Whimsical - RTNN and MANTH



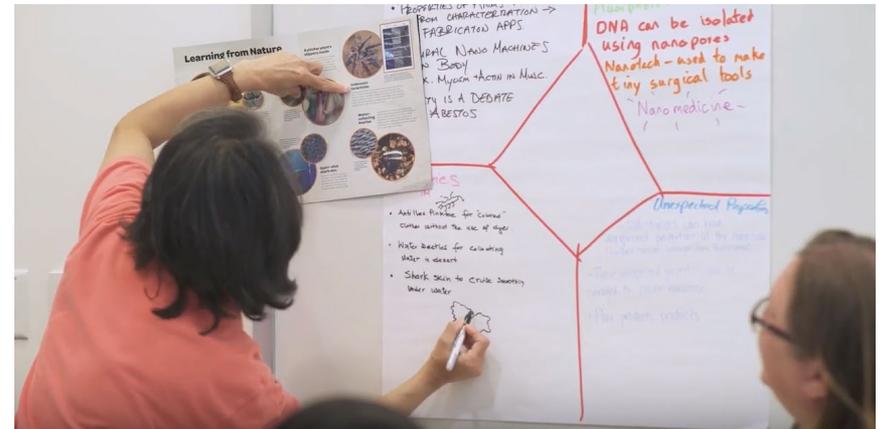
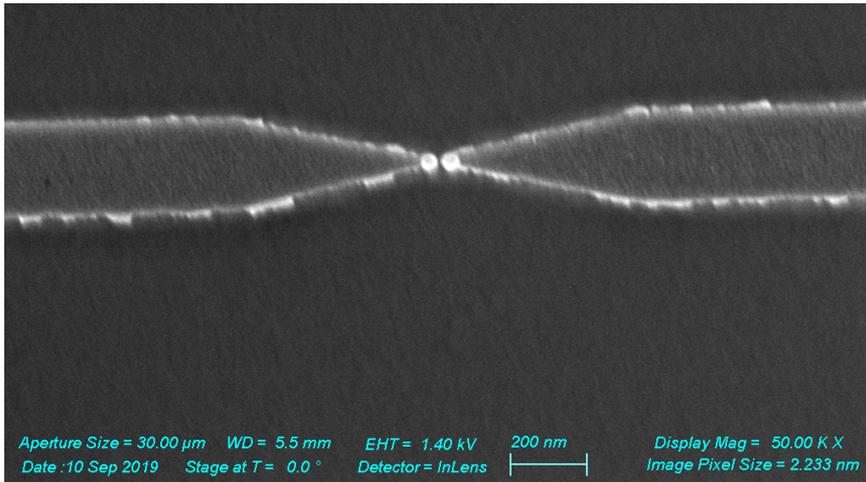
Professionals



**Where Nano
Leads to Big Things!**
Certificate & Degree in Nanotechnology



Educators

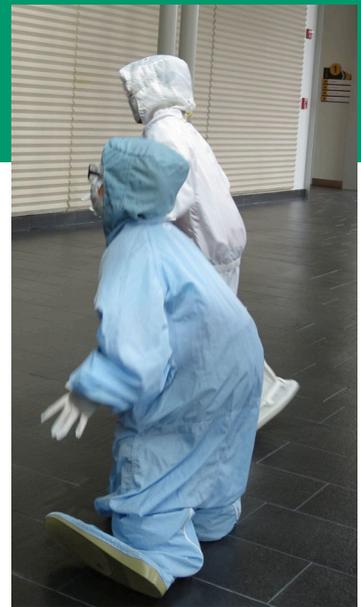


youtube.com/watch?v=7CXsReFAw-8

K-12 Students



General Public



K-12 Teachers/RET & Students, and Community Outreach WG

- **Working on the joint RET proposal:** NNF (University of Nebraska-Lincoln), MINIC (University of Minnesota), and NNI (University of Washington, later withdrew) all participated in brainstorming ideas for proposal. The joint proposal was submitted in September.
- **Working to develop the NNCI web site Education Pages:** discussed several ways to develop and expand the education content of the NNCI site; explored ways to easily aggregate and add new nanotech educational content to the site; and have looked at methods employed by other educational archive sites. WG decided that placing NNCI and NNIN-created education content on the NNCI site supports our “brand.” The WG is compiling a list of recommendations for the NNCI Education Portal.
- **Planning for Nanotechnology Day 2019.** The WG brainstormed several ideas for Nano Day for October 2019 that might help to tie together the NNCI network. Additionally, individual sites pursued a variety of events, including hands-on programming for visiting school groups, big public events at local science museums, and social media campaigns.

Workforce Development & CC Engagement WG

Held preliminary discussions with SEMI about potential collaborations in their workforce development efforts for the electronics industry:

- Virtual meeting on 3/19/19, joined by Lisa Friedersdorf (NNCO) and Bob Ehrmann (NACK)
- In follow-up call (4/24/19), SEMI indicated possible alignment with education standards and personnel certificates co-developed by NACK and ASTM but further considerations needed
- SEMI visited NC State on 5/17/19; potential use of RTNN cleanrooms discussed

WG call on 9/9/19 to review SEMI interactions and discuss potential next steps

Sites also had individual engagements with CCs – teacher training, cleanroom tours, hands-on labs, etc.

Current member sites:

MANTH, NNI, nano@Stanford,
NanoEarth, MONT, NNF,
NCI-SW (Lead), RTNN

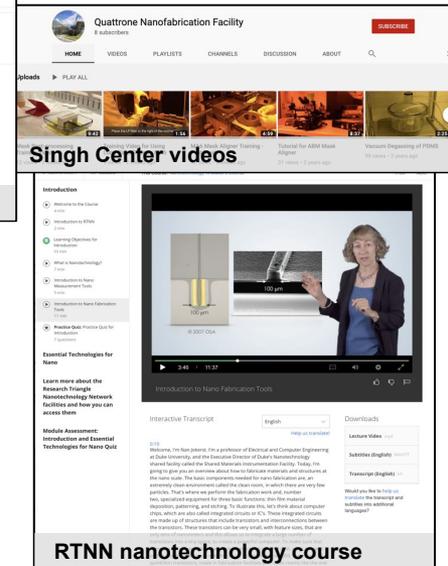
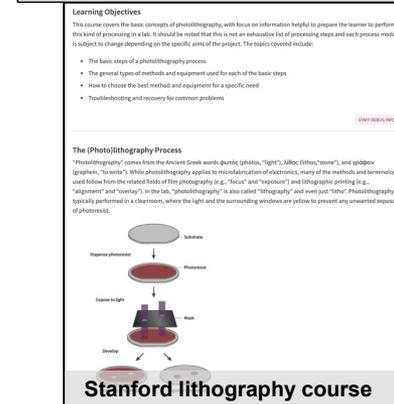
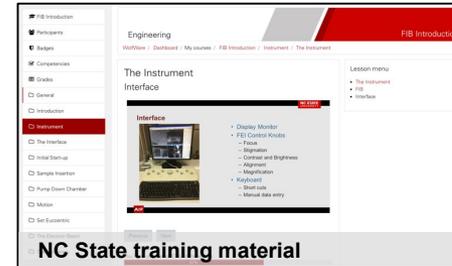
REU WG



Online Technical Learning WG

Goal: develop & share educational materials to support existing users, potential users, & non-traditional users to lower barriers to access our facilities & bridge knowledge gaps.

- RTNN's [nanotechnology](#) course is very successful (over 13,000 enrolled since Fall 2017).
- UPenn is developing [training videos](#), documenting lessons learned to improve video production
- Stanford is creating a universal lithography training module for the public & NNCI sites; continues to grow the [Lagunita course](#) with help of grad student fellowships



Future Work: 1) Create guides on video production, FAQ, best practices on managing digital content & handling copyrighted images; 2) Catalog existing training videos & background information; 3) Leverage the network w/ educational content & resources.



Evaluation and Assessment WG

In response to request from coordinators, common survey questions developed for K-12 students, teachers, and general public

Discussion on learning from survey results to improve our activities

Future Plans – with the Workforce Dev. WG, develop survey for student workers/interns and method to track; ask industry users about hiring student workers and how sites can best prepare students to support their workforce needs

Thank You!

Questions?