Collaborative Educational Opportunities

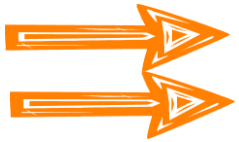
Jim Smith

University of Utah & Salt Lake Community College

Utah's Nanotech Workforce Training Pipeline

- Scholarships for Science Olympiad medalists
- 10 Nanofab-associated courses
- community-accessible short courses
- Community College collaborations (SEM tech)
- Engineering degree programs

Utah's Nanotech Workforce Training Pipeline



Curious elementary school kids (FIRST Lego League)
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Well-prepared high school kids (Utah Science Olympiad)

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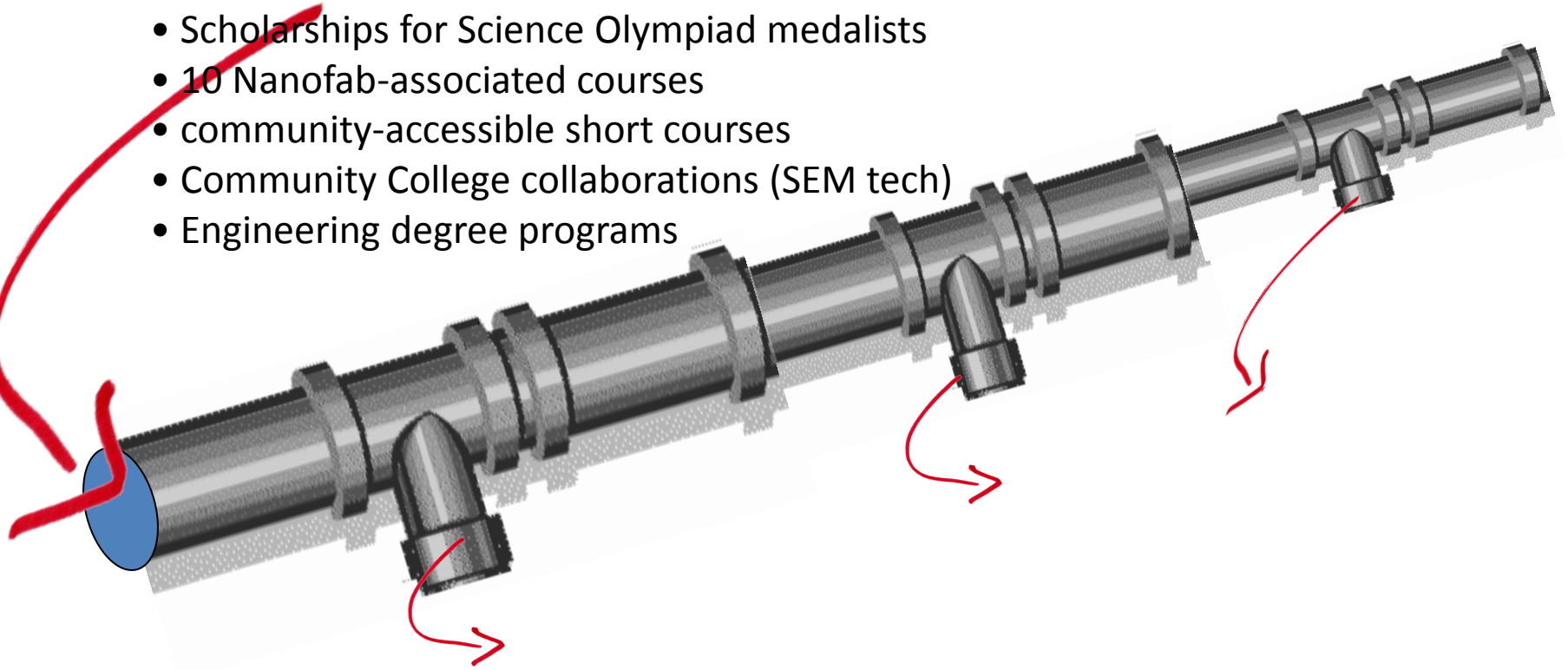

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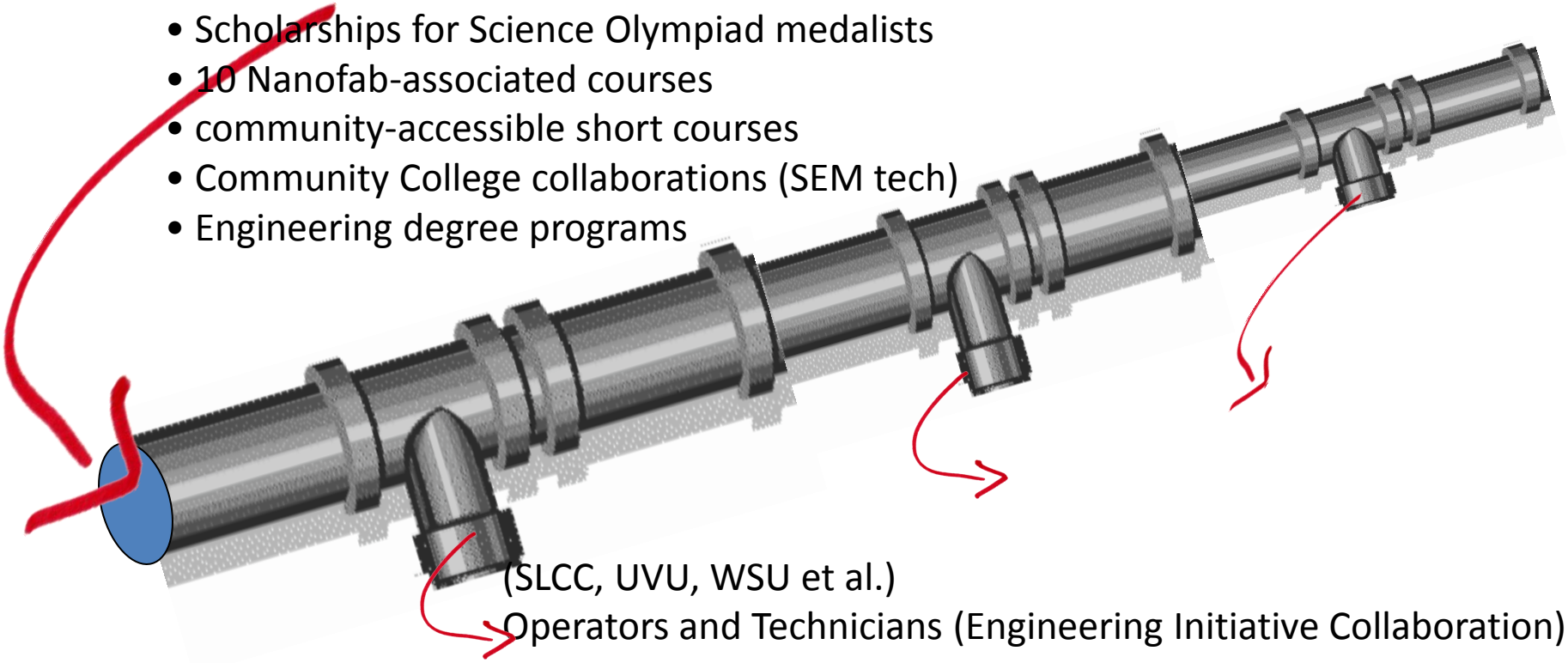

(SLCC, UVU, WSU et al.)
Operators and Technicians (Engineering Initiative Collaboration)

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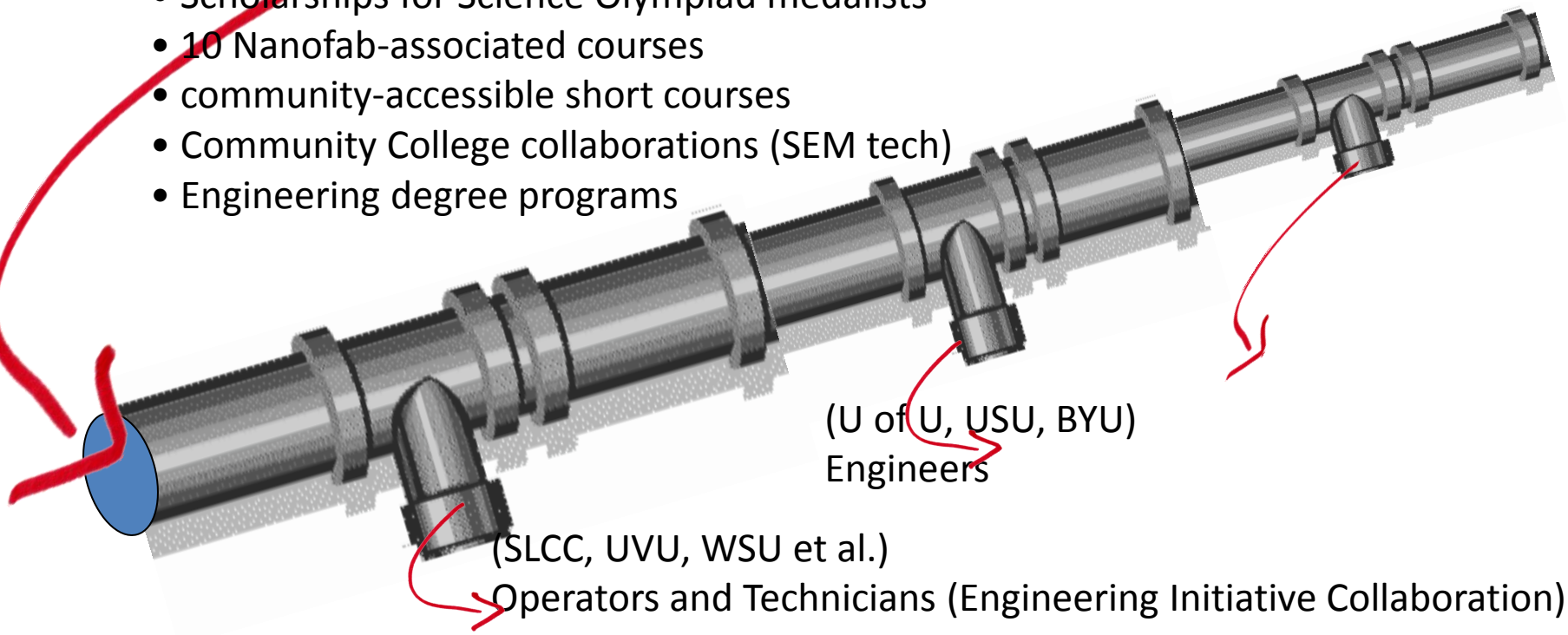

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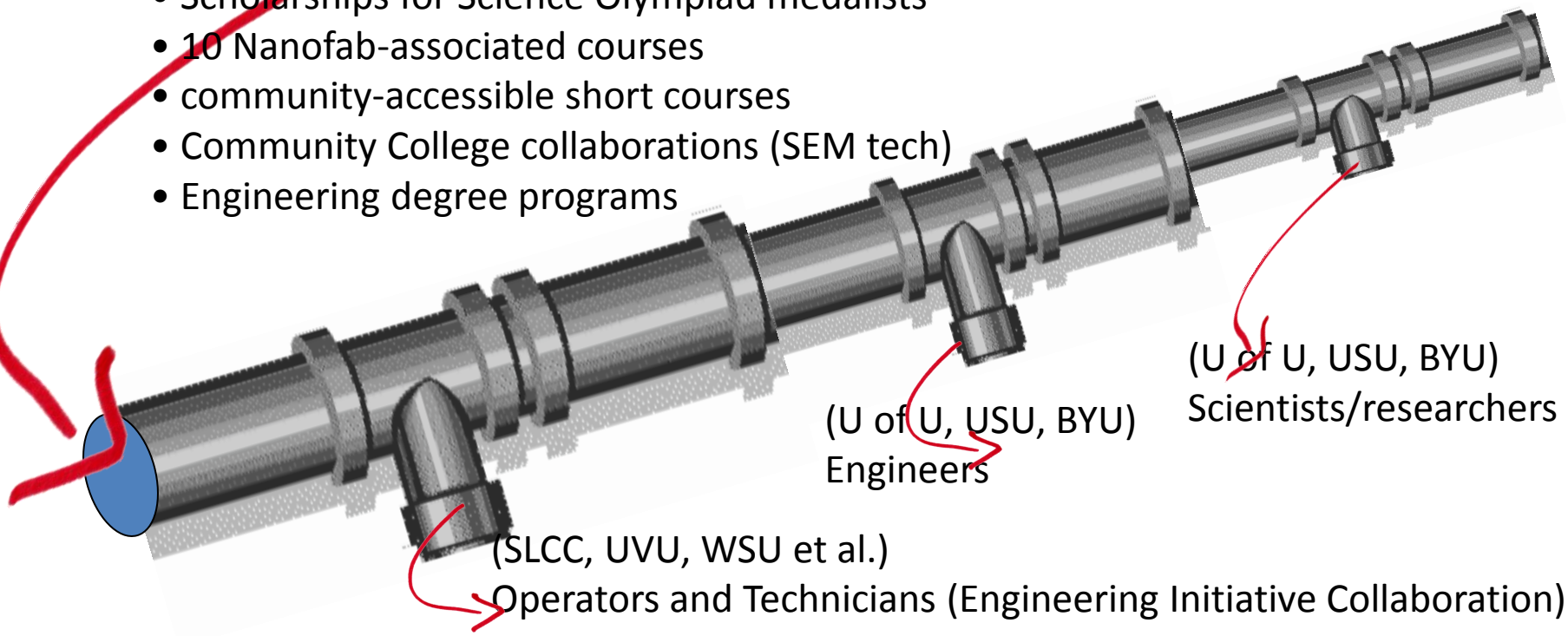

(U of U, USU, BYU)
Scientists/researchers

(U of U, USU, BYU)
Engineers

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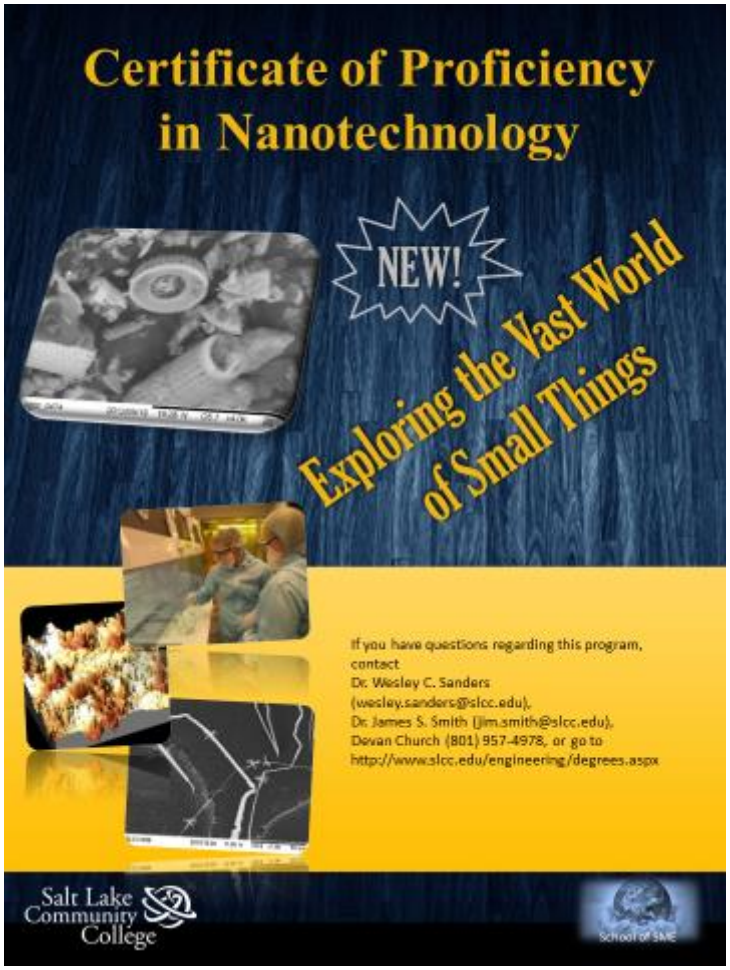
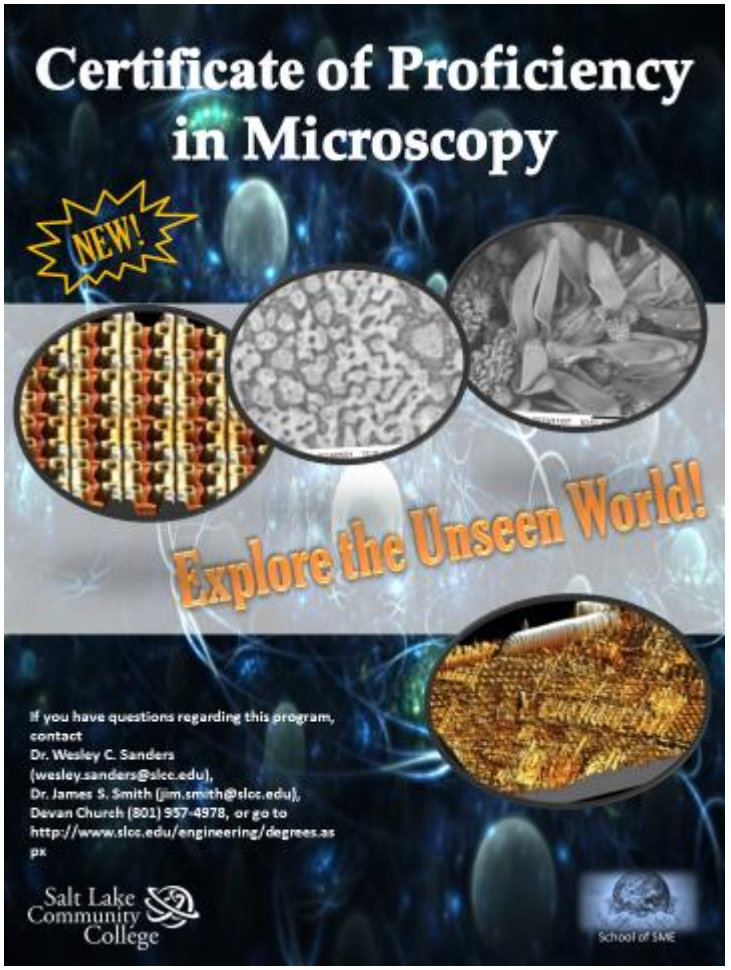
Operators and Technicians (Engineering Initiative Collaboration)

Nanotechnology and Microscopy Certificates of Proficiency





Public Short Courses

c3bc Community College Consortium for Bioscience Credentials #TC-23761-12-60-A-37

Salt Lake Community College

Medical Device Manufacturing/Engineering Summer Workshop

Sensor Nanofabrication Workshop

Many modern medical devices contain a nanotechnology element whether it is a sensor, transducer or processor. Nanoscale manufacturing processes involve controlling matter on the molecular and atomic level with some of the most stringent tolerances and controls. This workshop will center on the student manufacturing and characterization of two devices, a MEMS microheater and a MEMS pressure sensor similar to that utilized in current products.

Engineering faculty instructed 20-hrs of hands-on activities!

Session & Time: 6 students total per session

1. June 15-19, 8 am-12 pm or 1 pm-5 pm

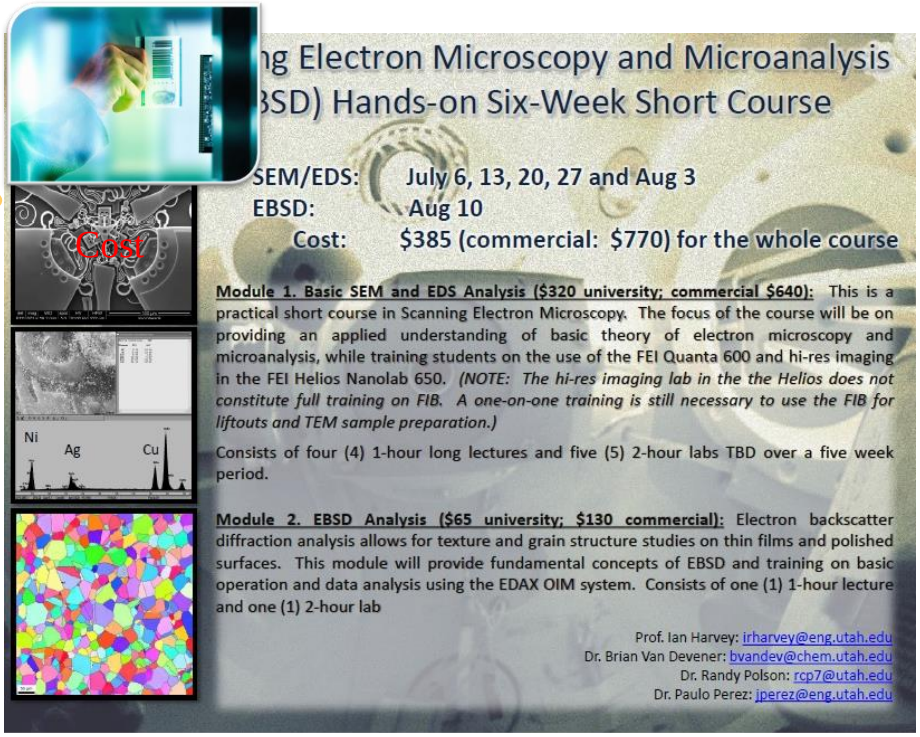
3. July 13-17, 8 am-12 pm or 1 pm-5 pm

Location: Nanofab Lab at University of Utah

Enroll Today!

RSVP:
http://tinyurl.com/MDSW2015

Contact:
Kasey Schuster
Kasey.schuster@slcc.edu



The Need for nano-Scale Curriculum

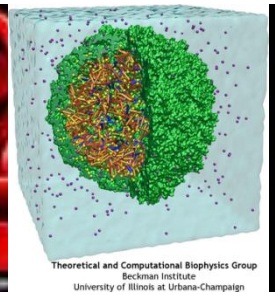
20th century engineering

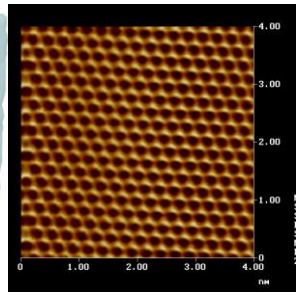
21st century engineering

Educational void







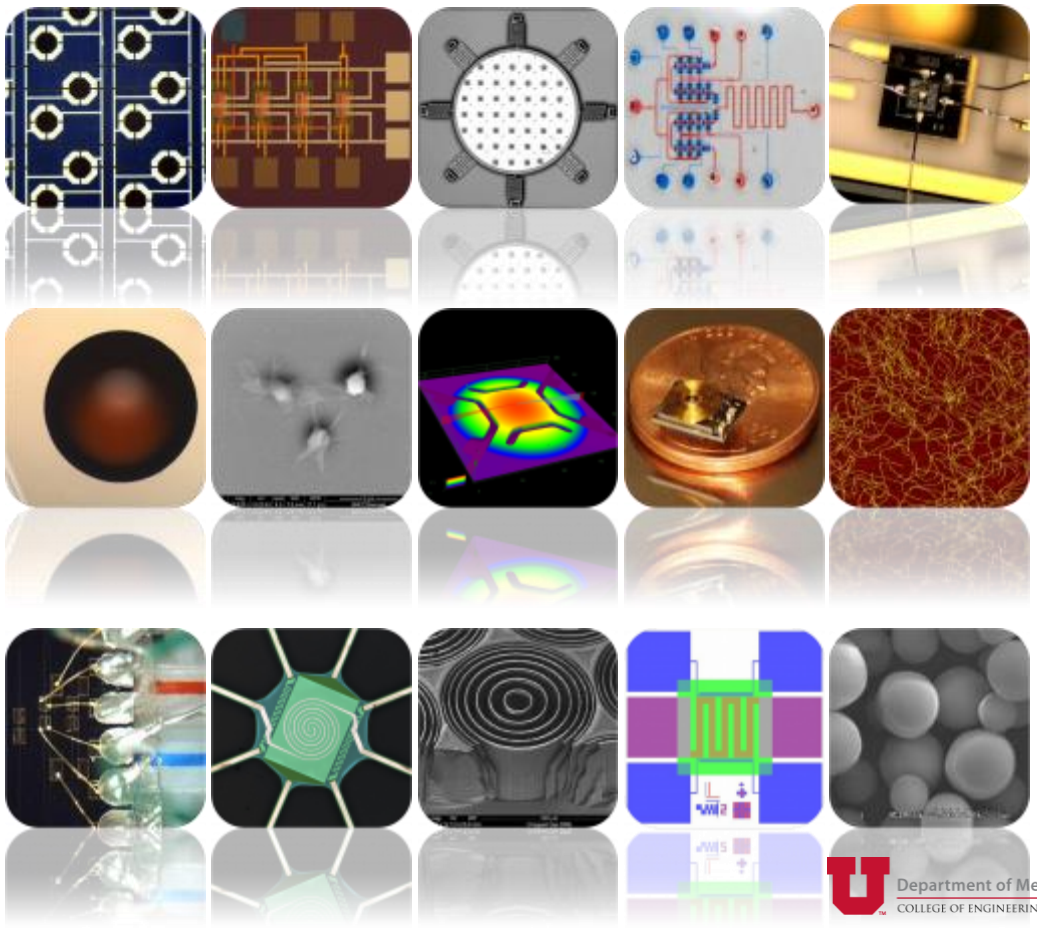


Length Scale

10^{3} m **10^{1} m** **10^{-1} m** **10^{-3} m** **10^{-5} m** **10^{-7} m** **10^{-9} m**

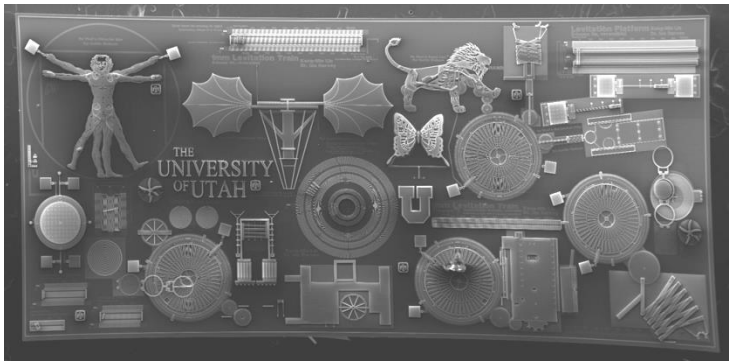
Engineering at the boundaries of disciplines

- micro/nanoscale Science & Engineering is inherently multidisciplinary
  - ECE
  - MSE
  - ChemE
  - MechE
  - BioE
  - Physics
  - Chemistry
  - Biology



Possible Collaborations

- Internships
- Workshops
- Curriculum Direction
- Workforce Development



UTAH NANOFAB

SCME
Southwest Center for
Microsystems Education

Salt Lake
Community
College

W.M. KECK
FOUNDATION

Sandia
National
Laboratories