



**Debbie Senesky**  
Professor of Aeronautics and  
Astronautics

# Major Goals

Provide **access** to world-leading facilities and expertise in nanoscale science and engineering for internal users and for external users from academic, industrial, and government labs.

Develop and propagate a national model for **educational practices** that will help students and visitors become knowledgeable and proficient users of the facilities.



# Impact: Summary (Year 6, partial)



Served researchers:  
482 internal  
128 industry  
23 other academic  
98 government & non-profit



335 publications  
99% of users said they would recommend nano@stanford to a colleague



91 external organizations



\$2.7M revenue from user fees

2,000 public participants in E&O programs



Produced 72 videos; registered 40,000 views  
3,500 learners enrolled in EdX courses

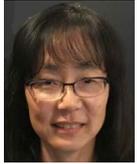
Trained 14 teachers, impacting 360 students



# List of Participants



**PI:**  
**Debbie Senesky**, Associate Professor of Aeronautics and Astronautics



## Co-PIs:

- **Yuri Suzuki**, Professor of Applied Physics, Director of Stanford Nano Shared Facilities (SNSF)
- **Kate Maher**, Associate Professor of Earth System Science
- **Roger Howe**, William E. Ayer Professor of Engineering, Acting Director of Stanford Nanofabrication Facility (SNF)



## Finance Manager:

- **Ai Tan**, Finance & Administration Manager of Stanford Nanofabrication Facility (SNF)



## Key Participants:

- **Marcin Walkiewicz**, Senior R&D Engineer at Stanford Nano Shared Facilities (SNSF)



- **Tobi Beetz**, Associate Director of Stanford Nano Shared Facilities (SNSF)



- **Mary Tang**, Associate Director of Stanford Nanofabrication Facility (SNF)

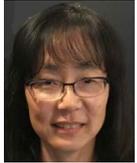


- **Michelle Rincon**, Senior R&D Engineer at Stanford Nanofabrication Facility (SNF) and SEI Coordinator

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- **Mary Tang**, Associate Director of Stanford Nanofabrication Facility (SNF)



- **Daniella Duran**, Director of Education & Outreach Programs (NNCI)



- **Michelle Rincon**, Senior R&D Engineer at Stanford Nanofabrication Facility (SNF) and SEI Coordinator

# Hired new Education & Outreach Program Manager



## Daniella Duran



- Nanoscience and Chemistry High School Teacher - 24 years experience



- B.S. in Psychobiology (UCLA)



- M.S. in Education (Stanford)



- Teacher facilitator at CNSI in UCLA and UCSB

- Hands-on experience with AFM, SEM, and RIE



# SENIC & Stanford Joint Virtual NanoSIMST - June 2021

A 5 day virtual nanoscience workshop

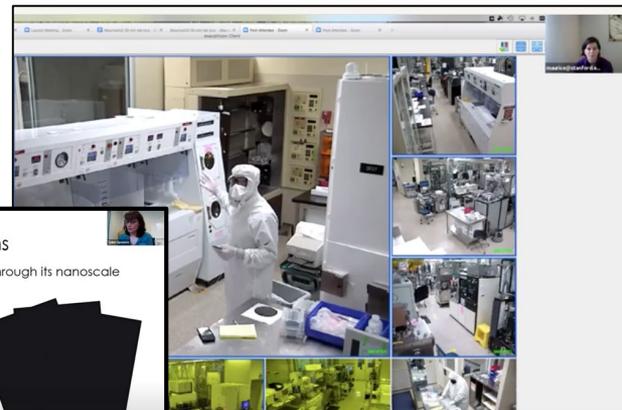
- 30 teachers total- 15 per site
-  **100%** surveyed would recommend this to a colleague
- Utilizing NNCI resources - RAIN network, Nanooze, SDNI



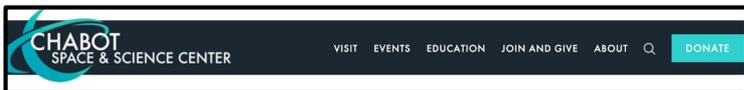
Activity: Thin Films

Goal: Learn how thin films can be iridescent through its nanoscale properties

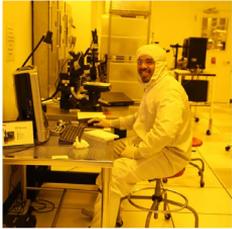
You'll need:



# E&O - Ongoing Activities and Future Directions



- In 2019 nano@stanford helped SENIC implement NanoSIMST - now they helped us!
- Outreach partnerships with Chabot and Oakland Promise
- 4 new College Interns recruited from Mission College and West Valley



**PAID INTERNSHIPS**  
AT STANFORD NANOFACILITIES

Learn how things are made and seen at the micro- and nanoscale! The nanofacilities are used for cutting edge research, in areas including electronics, MEMS, optics, physics, biology/biotechnology, medicine, materials science, and chemistry.

The poster is for "OAKLAND PROMISE KINDERGARTEN TO COLLEGE: 2021 VIRTUAL COLLEGE AND CAREER WEEK". It features a light blue background with yellow and blue decorative shapes. The text describes the event as a fun and interactive way for Oakland elementary school students to learn about post-secondary options. It highlights that 220 students and families attended the week in April 2021, and 25+ students and families attended the Stanford Tool Demo, which was the most attended workshop during the week. The poster includes icons of a green square, a blue triangle, and a group of diverse people.

- Planning to expand NanoSIMST to 2 branches:
  - In-person (at Stanford)
  - Virtual (reach distant low resource communities)
- Adding Certificate option to EdX nano@stanford technical education course

# Thank you!