

NNCI I&E Core Program Elements – 2024 Update

- Research and **ENTREPRENEURSHIP** Experience for Undergraduates (REEU)
- I&E Seminar Series
- NanoTechnology Entrepreneurship Challenge (NTEC)
 - NTEC Diversity Award
 - NTEC Accelerator Program
- Entrepreneurs-in-Residence (EiR)
- *Stretch Goal: NNCI Innovator's Academy*

NNCI AD Update
10:45-11:45 AM
Speed Art Museum
29 October 2024

Matthew Hull, PhD
NNCI AD, Innovation &
Entrepreneurship
Contact: mahull@vt.edu

I&E Working Group – 14 Sites Represented



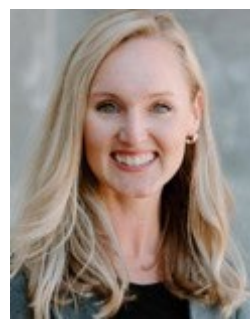
Kevin Walsh
KY Multiscale



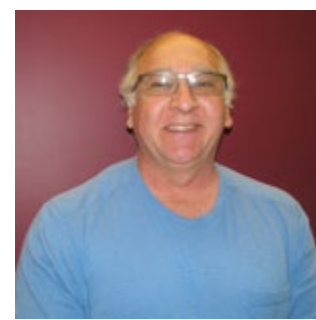
Andy Ligley
MONT



Sara Ostrowski, Daniella Duran
nano@stanford



Jenna Huttenmaier, Steve Wignall
NNF



Kristin Field, Gerald Lopez, Pat Watson
MANTH



Karl F. Böhringer
NNI



Yves Theriault
SDNI



Ying Jia
SHyNE



Ron Olson
CNF



Sherine Obare
SENIC



Paul Joseph
GT



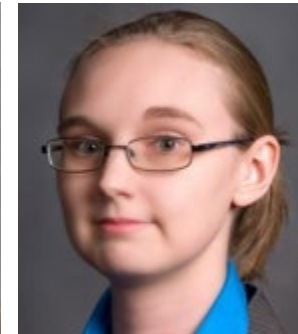
Jessica Hauer
NCI-SW



Mughees Khan
CNS



Phillip Strader
RTNN



Tonya Pruitt
NanoEarth

Want to be involved in the I&E WG?
Contact mahull@vt.edu.



M. Hull, Chair
NanoEarth



Stanford | nano@stanford

National Nanotechnology Coordinated Infrastructure

NNCI Innovation and Entrepreneurship Webinar

March 11, 2024 | 4:00 p.m. - 5:00 p.m. ET

National Nanotechnology Coordinated Infrastructure

NNCI Innovation and Entrepreneurship Webinar

September 17, 2024 | 11:30 a.m. - 12:30 p.m. ET

How to Engage with Diverse Student Populations in Entrepreneurship

Jacques Chirazi: Director of Student Entrepreneurship and The Basement Blackstone Launchpad Campus Director, UC San Diego
Christine Liou: Assistant Director of The Basement, UC San Diego
Yves Theriault: Program Manager for Education and Outreach at the Qualcomm Institute, UC San Diego and SDNI Executive Director of Education and Outreach

From Lab to Launch: Stanford's Entrepreneurial Ecosystem

Panelists:
Yossi Feinberg | Adams Distinguished Professor of Management and Professor of Economics, Stanford University
Jennifer Dionne | Professor of Materials Science and, by courtesy, of Radiology, Stanford University, Chan Zuckerberg Investigator, Co-founder of Pumpkinseed
Keegan Cooke | Director, Stanford Ecopreneurship, Stanford University

Moderator:
Matt Hull, Research Professor/Director, NCFL, Virginia Tech ICTAS and Associate Director of the NNCI for Innovation and Entrepreneurship



- 6 seminars 2021-2024
- Sites host (NNI, MONT, SENIC, UCSD, nano@stanford)

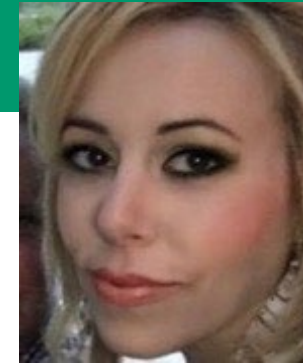
I&E Panel Discussion

Objective: Discuss innovation & entrepreneurship successes, challenges and resources through the KY Multiscale innovation ecosystem



Ana S. Galiano

Kevin Walsh



Panel Co-Organizers



William Metcalf
Univ. of Louisville



Thad Druffel
Bert Thin Films, LLC



Ian McClure
Univ. of Kentucky



Cameron Lippert
Electramet

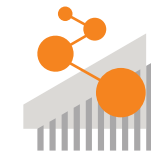


2021-2024 REEU Participation



KY MULTISCALE

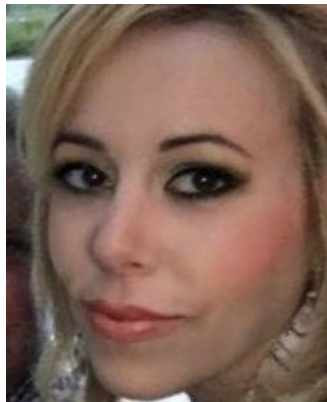
Mid-Atlantic Nanotechnology Hub (MANTH)



SINGH
Center for Nanotechnology



Yves Theriault
SDNI



Ana S. Galiano
KY Multiscale



Kristin Field
MANTH



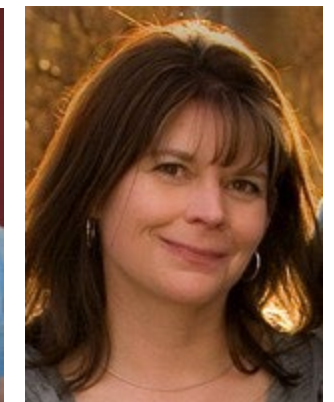
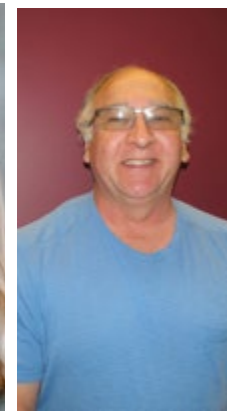
Jessica Hauer
NCI-SW



Leslie O'Neill
SENIC



Jenna Huttenmaier, Steve Wignall
NNF



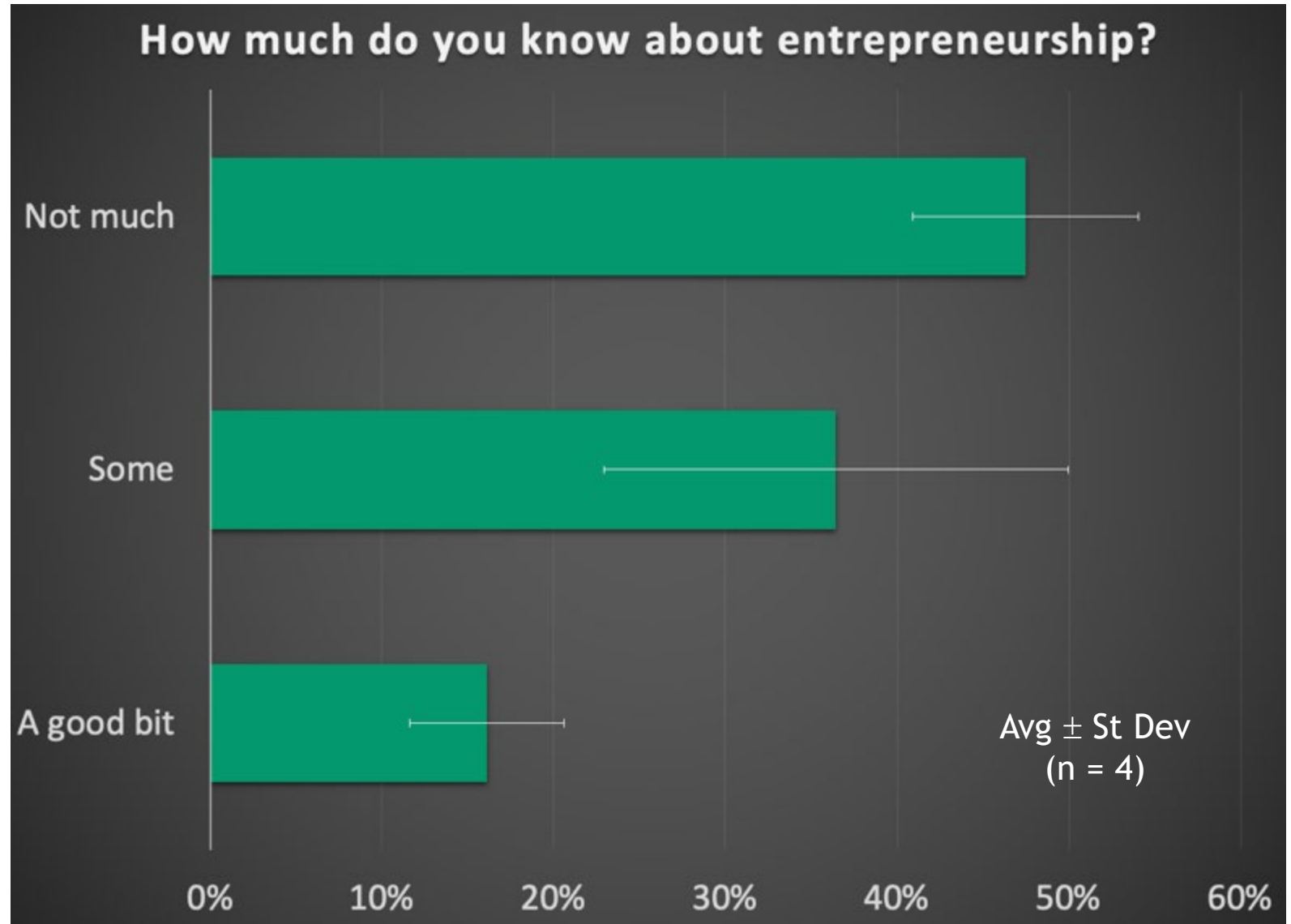
Heather Rauser
MONT



120 REU students at 8 sites engaged 2021-2024

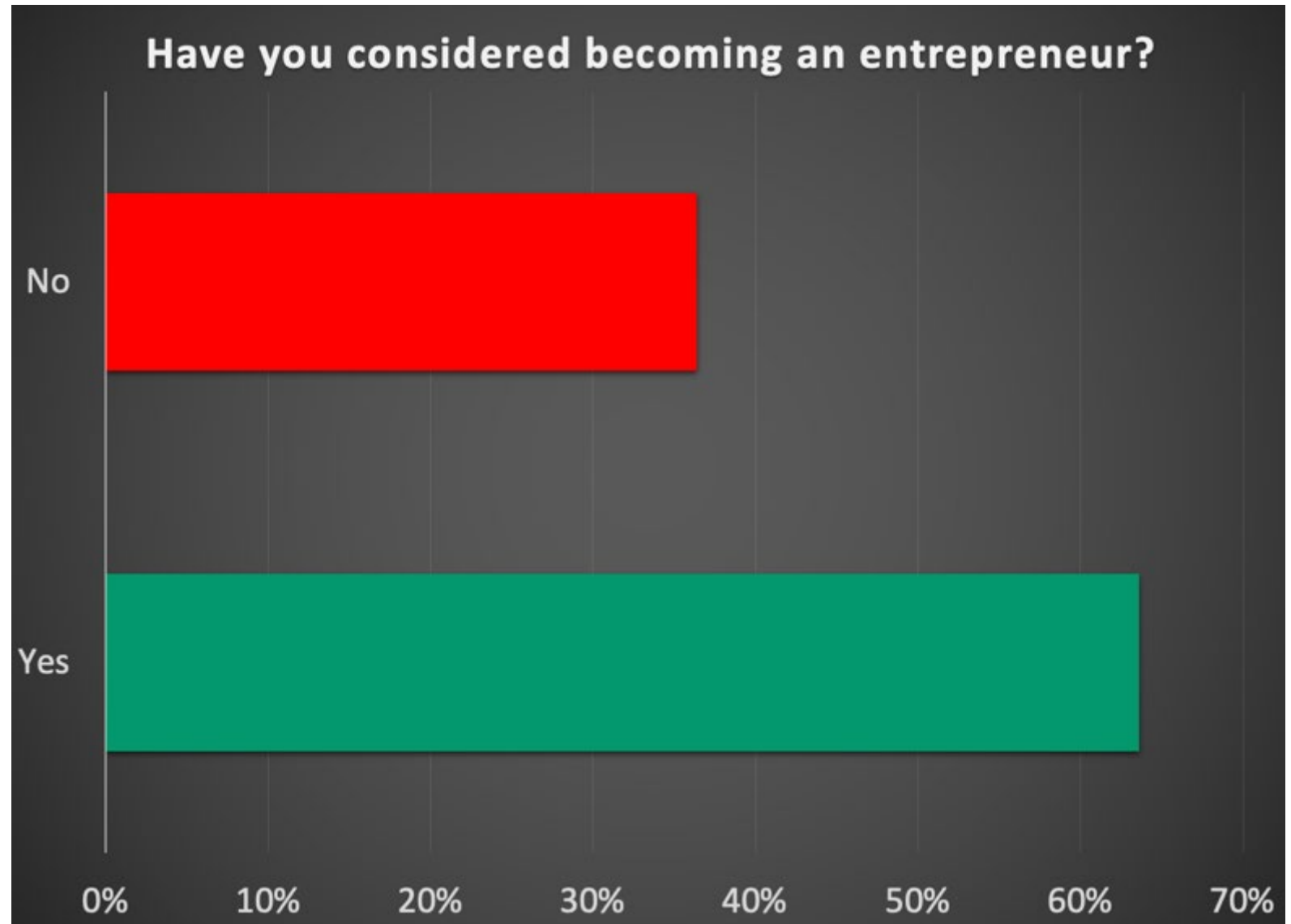
REEU Participant Feedback (2021-2024 Avg)

Half do not know much about entrepreneurship...



REEU Participant Feedback (2024)

...but two thirds have considered becoming an entrepreneur.



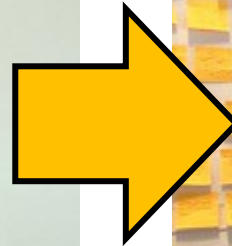
SEI meets I&E (2023-2024)

“Pain to Pitch 180” at ASU Winter School



Activity: Teams go from “pain” to “pitch” within 180 minutes.
Goals: Understand value of customer dialogue, differentiate market pull vs technology push, pitch solutions

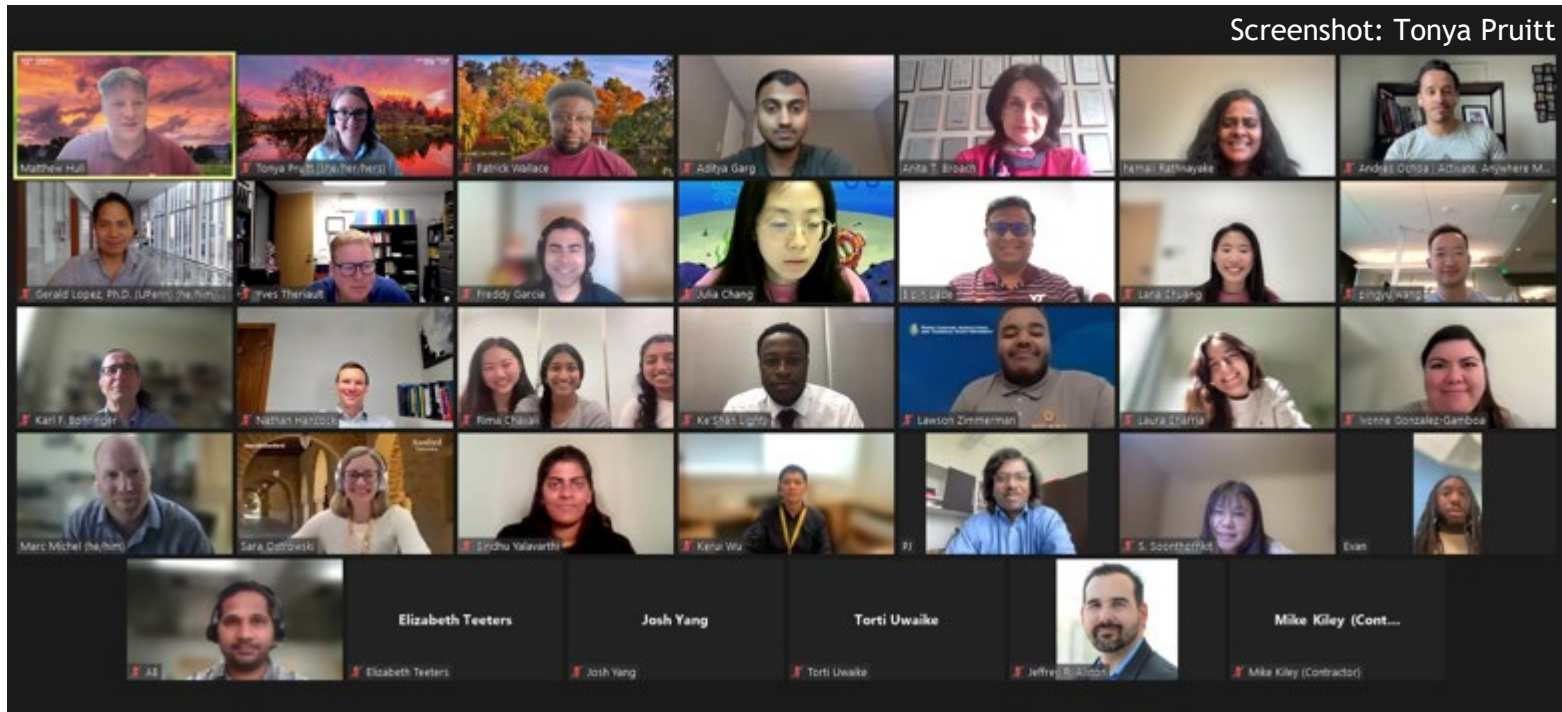
Discover Customer Pain Points



Pitch a Business Concept



Congratulations to our 2024 NNCI NTEC Awardees!



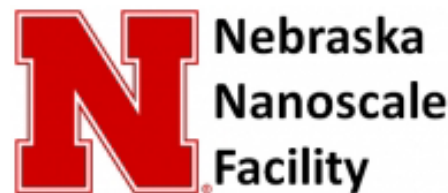
- 9 sites
- 93 students
- 59 teams
- Diverse leadership



NNCI NORTHWEST
NANOTECHNOLOGY
INFRASTRUCTURE



Stanford | nano@stanford



Top NTEC Teams – 2024

Stanford | nano@stanford



SENIC | Southeastern
Nanotechnology
Infrastructure
Corridor



Chip-scale Ti:Sapphire Lasers and Amplifiers



Nanofiller-Reinforced Environmentally Friendly Epoxy/Bio-binder System for Lighter and Stronger Composite Materials

Portable High Resolution Ultrasound Device for Point-of-Care Brain Stroke Diagnosis and Intervention


2024 NTEC Showcase Top Team Overall and Diversity Award




☰

Ultrasound-Acoustic Metamaterial Diagnostic Device

A Portable, Accessible Tool for
Rapid Stroke Diagnosis



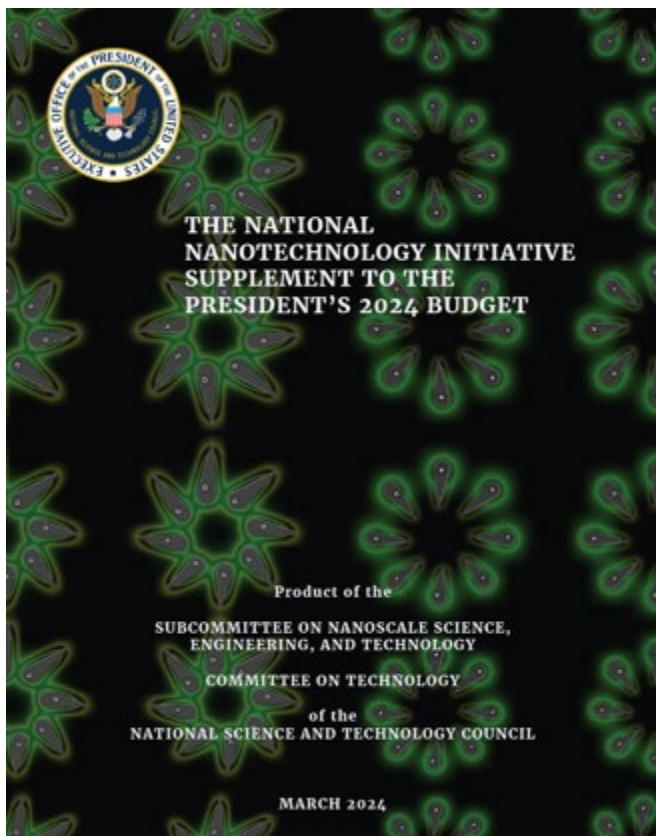
Freddy Garcia, Beeta Zamani, Laura Charria



UC San Diego



NTEC in the NNI Supplement to the President's 2024 Budget



<https://www.nano.gov/2024BudgetSupplement>

NATIONAL NANOTECHNOLOGY INITIATIVE SUPPLEMENT TO THE PRESIDENT'S 2024 BUDGET

Using nanotechnology to inspire the next generation of entrepreneurs

In an effort to increase entrepreneurial training, and inspire nanotechnology-enabled solutions to global problems, the NSF-funded NNCI created the Nanotechnology Entrepreneurship Challenge (NTEC). In 2023, as part of the Nano4EARTH community-led efforts, the NTEC call highlighted the need for nanotechnology solutions for topics related to climate change. The seven-week NTEC program is designed to provide entrepreneurship education and experience to teams of undergraduate, graduate, and post-doctoral scholars. The program serves as a foundation/introduction to the NSF I-Corps program. Students are introduced to concepts such as customer discovery, NNI resources available to create a minimum viable product, and "pitch" training. The NTEC program culminates with a pitch competition where teams share their developed ideas. This year the winner of the pitch event won the opportunity to present her project at the Nano4EARTH "big idea" session at a professional conference. The winner developed a business plan

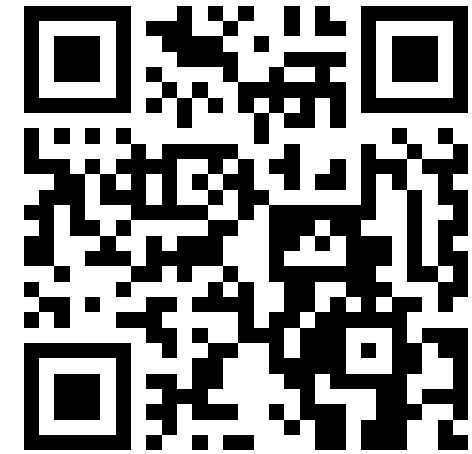


to commercialize findings developed through a NIFA-funded project that explored the use of protein-based nanoparticles as bioengineered platforms for pesticide delivery. The Nano4EARTH big idea session was a space for researchers and entrepreneurs to present their nanotechnology-enabled climate solution ideas to panel of commercialization experts. The commercialization experts provided feedback and advice, and discussed various federal resources available for entrepreneurs.

NTEC pitch competition winner, Ivonne Gonzalez-Gamboa, presents her nanotechnology-enabled solution to widespread use of pesticides and agrochemicals to a panel of commercialization experts at the Nano4EARTH big idea session at a professional conference. Image credit: M. Fernanda-Campa, NNCO.

2025 NTEC

- Translation support for student, post-doc led teams
 - \$1,000 per award (participant support costs)
 - **New:** Open to other networks (e.g., NSRC interns, fellows)
- Accelerator (virtual)
 - Weeks of March 3 – April 14
 - **New:** Weekly I&E “fireside chat” with NNCI sites
- Showcase (virtual)
 - Week of April 21st (before exams!)
 - **New:** Top teams advance to in-person pitch
- **New:** Symposium & Pitch Challenge (in person)
 - TechConnect, June 9-11, Austin, TX
 - Team awards
 - Larger student program (posters, CHIPS Workforce)



Happy to speak with
students, groups, mentors



JUNE 9-11, 2025 | AUSTIN, TX

I&E WG Projects: 2024 Update

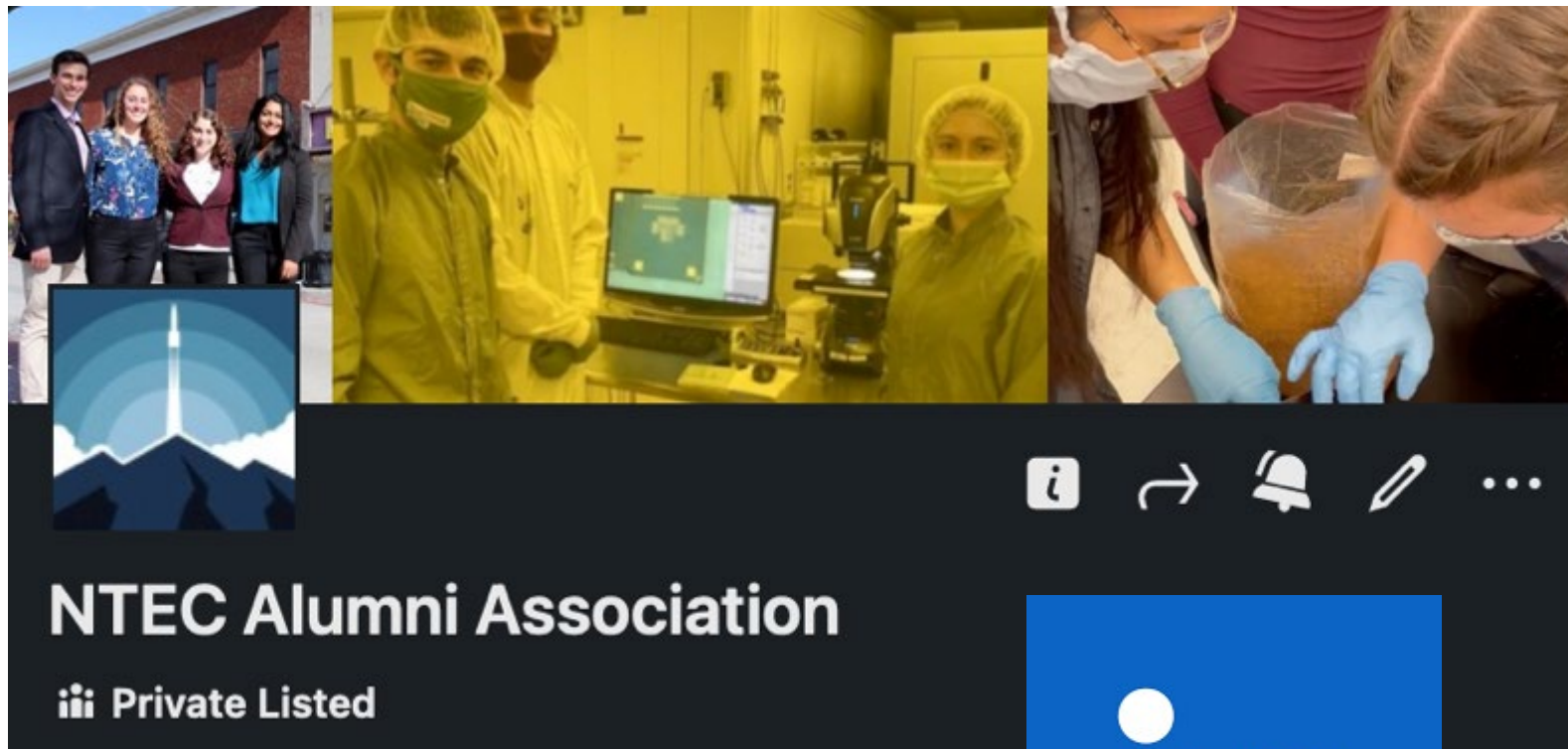


Image credit:

<https://www.ntaskmanager.com/blog/project-design-in-project-management/>

- ✓ **Project #1. NNCI Economic Impact Survey – 10 years after NNIN:** The group agreed that an updated economic impact survey based on the original NNIN survey (with modifications as appropriate) was a worthwhile effort to undertake.
- **Project #2. NNCI “Commercialization Scraper”:** Investigating a pilot web-scraper for relevant technologies publicly available for license through NNCI sites. (in progress)
- **Project #3. “Where are they now” Survey and NTEC LinkedIn Community:** Catch-up with former NTEC participants and establish community (in progress)

Connect on LinkedIn → Grow our NTEC Community



Join our LinkedIn group
Invite others to join

