



Upcoming Webinars

Human Augmentation via Dexterity



Explore the future of human and robotic dexterity with NSF ERC EARTH's September webinar featuring **J. Edward Colgate**, Walter P. Murphy Professor of Mechanical Engineering at Northwestern University and Director of the NSF Engineering Research Center for Human Augmentation via Dexterity (HAND). Colgate will discuss advances in robotics, haptics, artificial intelligence, and human-machine interaction, including novel actuation technologies, human-in-the-loop training, and dexterous telemanipulation. Join us **in person at KU or virtually on September 1 at 11:00 a.m. CT** for this presentation and live Q&A.

[Register Here](#)



Join us on **September 22 at 10:45 a.m. ET** for a hybrid seminar featuring **Nathan D. Schley**, Associate Professor of Chemistry and Department Vice Chair at Vanderbilt University. Schley's research explores organometallic chemistry and catalyst development, with a focus on activating C-H bonds and enabling new oxidative transformations through innovative approaches grounded in transition metal chemistry. Attend in person at **Lehigh University** or virtually. *Additional details to come.*

Can't attend live? Our [webinars](#) are recorded and available on demand.

Pre-Prints



Transient Liquid Phase Bonding of NiTi Using Cu- and Nb-base Interlayers

arXiv

Zhaoxi Cao, Samuel Price, Alessandra Crippa, John P. Reidy, Gianna M. Valentino, and Ian McCue

[Read Article](#)

Member Achievements

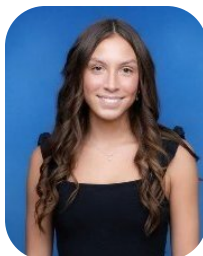


On July 21, **Dr. Het Mevada**, a Ph.D. student in **Professor Yunho Hwang's research group at the University of Maryland**, successfully defended his dissertation, *"Performance Enhancement of Elastocaloric Cooling Through System Optimization, Novel Material Architectures, and Scalable Design."* Het will remain at UMD through August 21 before beginning the next chapter of his career as an **Advanced R&D Engineer/Scientist at Solstice Advanced Materials**. We congratulate Dr. Mevada on this outstanding achievement and wish him continued success in his future endeavors!



Dr. Yoonjung Ahn, Assistant Professor of Geography at the University of Kansas, has been selected as a [2026–27 Big 12 Faculty Fellow](#).

Through this prestigious fellowship, she will visit Arizona State University to establish new research partnerships in hazard and resilience studies and explore collaborations related to climate-related disasters, spatial data creation, and hazard resilience. The fellowship recognizes Dr. Ahn's leadership in developing and applying innovative spatial datasets to better understand disparities in climate and hazard resilience, while expanding opportunities for future joint research, publications, and grant proposals.



Congratulations to **Marina Johnson**, an undergraduate researcher at the **University of Kansas** working in **Professor Mark Shiflett's lab**, on receiving the [International Institute of All-Natural Refrigeration \(IAR\) Founders Scholarship](#). The scholarship recognizes outstanding engineering students with an interest in advancing sustainable refrigeration technologies and careers in the refrigeration industry. We are proud of Marina's accomplishment and excited to see her continued impact in refrigeration research and innovation.



Congratulations to **Dr. Yamil Colón** on being named the **[John K. and Regina C. Gschwind Collegiate Professor in Chemical Engineering](#)** at the University of Notre Dame. This distinguished honor recognizes his outstanding contributions to research, teaching, and service. Dr. Colón's pioneering work combines **molecular modeling and artificial intelligence** to accelerate the discovery and design of advanced porous materials for applications in **energy storage, gas separation, water harvesting, and environmental sustainability**, helping address some of society's most pressing energy and environmental challenges.

Funding Opportunities Snapshot

- **NSF Pathways to Enable Secure Open-Source Ecosystems ([PESOSE](#))**: Supports secure, sustainable open-source software, hardware, AI, and data platforms. A strong fit for researchers developing shared tools, repositories, and cyberinfrastructure resources. Funding ranges from \$300K planning awards to \$1.5M implementation awards. **Deadline: Sept. 1, 2026.**
 - **NSF Mathematical Foundations of Artificial Intelligence ([MFAI](#))**: Funds interdisciplinary research on the mathematical and theoretical foundations of AI, including trustworthy, explainable, and reliable AI systems. Awards range from \$500K to \$1.5M over three years. **Deadline: Oct. 9, 2026.**
 - **NSF Unlocking Dataset Value for AI-Enabled Scientific Discovery ([AI Datasets](#))**: Supports enhancing existing scientific datasets for AI-driven discovery through improved metadata, integration, governance, and AI-ready data pipelines. Awards range from \$200K planning grants to \$5M flagship awards. **Deadline: Nov. 4, 2026.**
 - **NSF Training-based Workforce Development for Advanced Cyberinfrastructure ([CyberTraining](#))**: Supports training, curriculum development, and workforce programs that expand the use of advanced computing, data science, and cyberinfrastructure. Awards range from \$300K to \$1M. **Deadline: Jan. 21, 2027.**
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Education and Workforce Development

Building the Next Generation of the Workforce

NSF ERC EARTH wrapped up a busy summer of workforce development with the FROST Research Experiences for Undergraduates (REU) and HEART Research Experiences for Teachers (RET) programs. Students gained hands-on research experience alongside EARTH researchers, while educators translated their research experiences into classroom and community connections, extending EARTH's impact from university laboratories into the future STEM and HVACR workforce.

Partner Spotlight



Congratulations to NSF ERC EARTH partner **Pennsylvania College of Technology**, whose associate and bachelor's degree HVAC programs have become the **[first in the nation to](#)**

earn accreditation from the American Council for Construction Education. Both programs received the maximum seven-year accreditation term following a clean review with no deficiencies, weaknesses, or concerns, highlighting Penn College's commitment to high-quality, industry-aligned HVAC education and workforce development. This achievement establishes a new benchmark for preparing the next generation of HVAC professionals.

New NSF ERC EARTH Online Course



**Professor
Jennifer
Schaefer,**
University of
Notre Dame



**Professor
Christopher
Depcik,**
University of
Kansas

The NSF ERC EARTH three-credit-hour online course offered through the University of Notre Dame, CBE 40426/60426: **Advanced Cooling, Heating, and Energy Systems**, begins on Thursday, August 27. The course is taught by Dr. Jennifer Schaefer (University of Notre Dame) and Dr. Christopher Depcik (University of Kansas). This course explores the science and engineering of current and emerging thermal and environmental management technologies, including topics such as cycle thermodynamics, refrigerant chemistry, solid-state cooling, passive thermal management strategies, and life cycle analysis. Students enrolled in the course will meet online on Thursdays from 3:00 to 4:15 p.m. ET.

The Adventures of EARTH Man



Follow EARTH Man as he navigates real-world safety and refrigeration challenges in a monthly comic series.

Read the latest issue and catch up on past [comics](#)!

Innovation Ecosystem

I-Corps: New Perspectives on Your Research

With fall regional cohorts approaching, researchers across all NSF ERC EARTH partner institutions are encouraged to explore National Science Foundation Innovation Corps (NSF I-Corps) opportunities. I-Corps can provide substantial value even for participants who are not currently interested in entrepreneurial activity.

Through a structured framework, teams develop evidence that helps them understand potential applications, user and stakeholder needs, adoption barriers, and the conditions required for their research to create value beyond the laboratory. The objective is to support better-informed decisions about the most appropriate path forward, which may include sponsored development, strategic partnerships, additional research, or a reasoned go/no-go decision.

EARTH itself was shaped in part by insights generated through more than 100 I-Corps interviews, which helped inform the Center's broader research strategy. In my work with many I-Corps teams, participants have consistently reported substantial value from the experience, both in evaluating specific translation pathways and in developing a broader perspective and more effective ways to communicate the relevance of their research. These capabilities are increasingly important for researchers at all career stages in today's funding environment.

Anyone interested in participating is encouraged to contact me, [Tony von Sadowsky](#), EARTH's Innovation Officer, with questions or for assistance identifying and connecting with the appropriate I-Corps contact at their institution.

Impact and Belonging

Creating Connections Through Mentoring

NSF ERC EARTH is launching the internal ENRICH Early-Career Mentoring Program this fall, connecting early-career faculty and researchers with experienced mentors across the EARTH community. The program will support career development, research, leadership, networking, and professional growth while strengthening connections across EARTH's consortium institutions.

Announcements and Reminders

Please use the following statement in your publication acknowledgements:

"This research is based upon work supported by the National Science Foundation under award number **EEC-2330175** for the Engineering Research Center EARTH."

Did you know that an NSF ERC EARTH Convergent Research (CR) Meeting Calendar is maintained in the shared Google folder? View the [2026 calendar](#).

Upcoming Meetings

August 13: Thrust 1 (3:00 p.m. ET); Crosscut 2 (4:30 p.m. ET)

August 20: Thrust 2 (3:00 p.m. ET)

August 27: Thrust 3 (3:00 p.m. ET)

September 10: Convergent Research Leadership (3:00 p.m. ET)

September 17: Thrust 1 (3:00 p.m. ET); Crosscut 2 (4:30 p.m. ET)

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The NSF ERC Environmentally Applied Refrigerant Technology Hub (EARTH) is working to create sustainable, accessible refrigeration and air conditioning innovations that will improve the quality of life for all Americans and secure U.S. leadership in workforce development and manufacturing.

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