



Register for the Upcoming NSF Site Visit



Registration is now open for the **2026 ERC EARTH Industry Day & NSF Site Visit**, taking place **October 19–20** at the **University of Maryland**. Join industry leaders, researchers, and innovators for *Cooling the Future: Next-Gen Data Center Industry Day*, featuring keynote speakers, expert panels, laboratory tours, networking opportunities, and discussions on the technologies shaping the future of sustainable cooling.

[Register Here](#)

Featured Upcoming Webinar

Synthesis and Applications of Main-Group Organometallics: C-H Borylation in the Synthesis of Alkylboronate Esters



Join EARTH on **September 22 at 10:45 am ET** for a hybrid seminar featuring **Dr. Nathan Schley**, Associate Professor of Chemistry and Chemistry Department Vice Chair at **Vanderbilt University**. Dr. Schley will discuss the development of advanced iridium catalysts for direct C-H borylation of alkanes, highlighting new opportunities in organometallic chemistry, catalysis, and sustainable synthesis. This research enables the efficient conversion of simple hydrocarbons into valuable chemical building blocks used in pharmaceuticals, advanced materials, and other high-impact applications. Attend in person at **Lehigh University (Neville Building, Room 3)** or virtually via Zoom, and bring your questions for the live Q&A session.

[Register Here](#)

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

Upcoming Sessions at a Glance

- **October 30: Varinia Bernales**, University of Toronto
 - **November 3: Steve Kujak**, Trane Technologies
 - **December 9: Chandra Karki**, University of Chicago
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Publications



Flash Communication: Challenges in the Characterization of a Bisphosphine Nickel Fluoride Complex

Organometallics

Josie B. Rojo, Aurora F. Wilson, and David A. Vicic

[Read Article](#)

Member Achievements



Congratulations to **Dr. Fathya Salih** of the **University of Notre Dame** and the **Yamil Colón Research Group** on the successful defense of her Ph.D. dissertation, *Tools & Methods to Enable Sigma Profile-Based ML for Molecular Design*. Fathya advanced the development of sigma profile-based machine learning tools and applied these approaches to expand the search for next-generation refrigerants, helping accelerate the discovery of more sustainable cooling solutions. We are proud of her accomplishments and excited to see what the future holds for Dr. Salih!



Congratulations to **Elaina Sutley**, Associate Dean for Impact and Belonging, Thomas and Eileen Washburn Scholar, Associate Professor of Structural Engineering, and Director of the SELF Engineering Leadership Fellows Program at the **University of Kansas**, for being selected as **President-Elect of the Structural Engineering Institute (SEI)**. As the largest technical institute within ASCE, SEI serves more than 30,000 structural engineers and allied professionals worldwide. This recognition highlights Sutley's leadership and contributions to advancing the structural engineering profession.



University of Maryland Mechanical Engineering Associate Professor and Clark Faculty Fellow **Damena Agonafer** was named to [Technical.ly's RealLIST Innovators 2026](#) and was recently elevated to [Fellow of the American Society of Mechanical Engineers \(ASME\)](#), one of the field's highest distinctions awarded to a select group of engineering leaders. Together, these honors recognize his contributions to sustainable digital infrastructure, thermal management, and energy-efficient technologies, as well as his growing impact on the engineering profession. These achievements reflect both the excellence of his work and the collaborative efforts of the students, researchers, and partners who help drive these innovations.



Congratulations to **Alexander Dowling**, the Tony and Sarah Earley Collegiate Professor of Energy and the Environment and Associate Professor of Chemical and Biomolecular Engineering at the [University of Notre Dame](#), for being selected as one of 74 early-career researchers for the National Academy of Engineering's **Grainger Foundation Frontiers of Engineering** program. This prestigious program brings together emerging engineering leaders from academia, industry, and government to explore pioneering technical advances and build interdisciplinary collaborations that address future engineering challenges.



Congratulations to **Dr. Mark Shiflett**, Director of NSF ERC EARTH and Foundation Distinguished Professor at the University of Kansas, on being named a recipient of the **Bellows Scholar Award for Outstanding Contributions to Engineering Education**. This prestigious honor recognizes his exceptional commitment to student success, mentorship, and excellence in engineering education.



Congratulations to **Dr. Jessica Tami**, Research Project Manager for ERC EARTH, on receiving the **University of Kansas School of Engineering Staff Award for Outstanding Service to Research**. This well-deserved recognition honors her exceptional contributions to advancing research excellence, supporting interdisciplinary collaboration, and fostering the success of the ERC EARTH community.

Funding Opportunities

- The [Department of Defense National Defense Science and Engineering Graduate \(NDSEG\) Fellowship](#) is now accepting applications for its FY2027 cohort. The highly competitive fellowship supports U.S. citizen, U.S. national, and U.S. dual citizen doctoral students pursuing STEM research aligned with Department of Defense priorities, providing

three years of funding that includes full tuition and required fees, a **\$43,200 annual stipend**, and health insurance support. Applications require a research proposal, personal essays, CV, and recommendation letters, with research aligned to current DoD strategy documents and research areas. **Applications are due October 30, 2026, at 5:00 pm ET.**

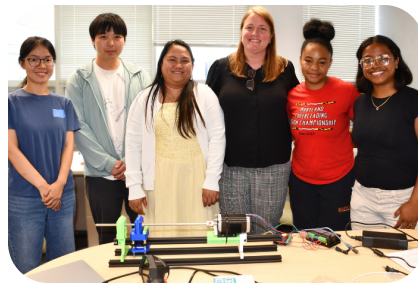
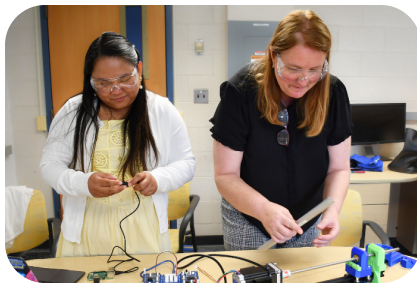
- Students interested in sustainable cooling technologies and HVACR are encouraged to apply for the [NRF Founders' Engineering Scholarship](#). The program supports undergraduate engineering students entering their junior or senior year who have completed at least 45 credit hours and have a minimum 3.0 GPA. In addition to tuition support, recipients gain valuable professional development opportunities, including participation in the IIAR Annual Natural Refrigeration Conference & Expo. Applications for the 2027-2028 academic year are due **January 31, 2027**.
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- The U.S. Department of Energy (DOE) has released the [Accelerating Scale-up and Pre-piloting of Emerging Chemical Technologies \(ASPECT\)](#) funding opportunity (**DE-FOA-0003647**), providing up to **\$58 million** to advance innovative chemical technologies that utilize alternative and waste feedstocks. The program supports projects ranging from early-stage bench-scale research to the design, construction, and operation of pre-pilot facilities through two topic areas and four subtopic areas. A **required concept paper** is due **October 9, 2026**, and **full applications** are due **December 1, 2026**. *Researchers working on chemical manufacturing, recycling, waste valorization, renewable feedstocks, and related scale-up technologies are encouraged to explore this opportunity.*
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Education and Workforce Development

Research Experience for Teachers

Six educators participated in NSF ERC EARTH's five-week Harnessing Educators for Advancing Refrigerant Technologies (HEART) Research Experience for Teachers (RET) program at the **University of Kansas**, the **University of Maryland**, and the **University of South Dakota**. At the University of Maryland, **Jennifer Wade** researched elastocaloric cooling and dehumidification systems using shape-memory alloys, while **Lovely Rose Fantilanan** explored energy-efficient data center cooling strategies. At the University of Kansas, **Lucas Hachmeister** investigated refrigerant flammability characterization and **Cecil Davis** worked on advanced membrane technologies for refrigerant separation and recycling. At the University of South Dakota, **Jolene Kayser** and **Libby Sykes** contributed to advanced materials research involving metal-organic supercontainers and synthesis methods with applications in sustainable refrigerant technologies. Through research, industry engagement, and professional development, participants developed classroom-ready resources that connect emerging HVACR technologies and sustainability challenges to student learning.





[Read KU Article](#)

[Read UMD Article](#)

Impact & Belonging

Scholar Leadership Council (SLC)

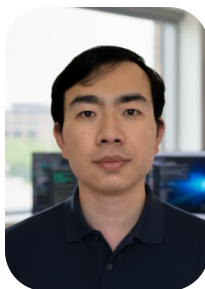


EARTH had a strong presence at the American Chemical Society Fall 2026 Meeting in Chicago, leading the symposium *Advancing the Chemistry of the Circular Refrigerant Economy*. Organized through the ACS Division of Fluorine Chemistry (FLUO), Division of Inorganic Chemistry (INOR), and Division of Polymeric Materials: Science and Engineering (PMSE), the event featured **four half-day symposia, a poster session, and 26 oral presentations from academia, industry, and national laboratories**. EARTH researchers contributed 12 oral presentations and presented 3 of the 4 posters featured at the event. Congratulations to all who participated, and thank you to organizers for their leadership in making this event possible.

Our Organizers



William (Bill) Phillip, University of Notre Dame



Rui Sun, Iowa State University



Jessica Tami, University of Kansas



David Vicic, Lehigh University



Bess Vlasisavljevic, University of Iowa



Zhenqiang (Rick) Wang, University of South Dakota

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](#)!

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

Note: Thrust meetings have been moved to 4:15 pm ET this semester due to the EARTH Course schedule.

September 14: Crosscut 1 Meeting (3:00 pm ET)

September 17: Crosscut 2 Meeting (3:15 pm ET), Thrust 1 Meeting (4:15 pm ET)

September 24: Thrust 2 Meeting (4:15 pm ET)

September 28: Crosscut 3 Meeting (3:00 pm ET)

October 1: **Practice Session for NSF Site Visit** (4:15 pm ET)

October 8: **Practice Session for NSF Site Visit** (4:15 pm 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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