



# WELCOME TO EARTH



## Environmentally Applied Refrigerant Technology Hub

stay *fresh* on upcoming events, surveys, publications, and more!

### Our Pillars



Convergent  
Research



Innovation  
Ecosystem



Engineering  
Workforce  
Development



Impact and  
Belonging

### Our Directors



**Mark B. Shiflett**  
Center Director  
U. Kansas



**Jennifer L. Schaefer**  
Deputy Director  
U. Notre Dame

### The News, Distilled

**Member  
Achievements**

**New  
Publications**

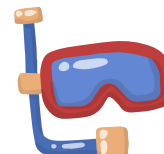
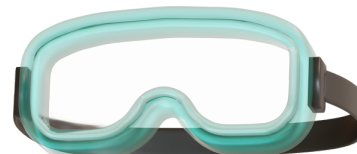
**Upcoming  
Webinars**

**Funding  
Opportunities**

**EARTH Man  
Comic**



**Read More!**



We will impact the engineering and scientific communities, the HVACR industry, and society!



# You've Got EARTH Mail: A Message from Our Directors

EARTH met with NSF on June 4 to hold a virtual site visit. The reviewers stated EARTH is making strong progress in building a collaborative and cohesive team that is aligned with its vision and goals. This progress is evidenced by strategic partnerships with academic institutions, industry leaders, community colleges, technical trade schools, end-users, and other stakeholders. EARTH's structure and planning have been thoughtfully designed for adaptability and continuous improvement over the long term. With a commitment to regular evaluation, data-informed decision-making, and stakeholder feedback loops, EARTH is well-equipped to evolve in response to emerging opportunities and changing needs. We are delighted with the positive feedback by the NSF reviewers, and we are busily working on our annual report and next site visit in October. Thank you for your continued commitment to the EARTH team, vision, and goals! – Mark & Jen

Keep up the good work!

Nice job, folks!



## New Publication Alert!



**Probing the freezing chemistry of singly levitated aqueous trifluoroacetic acid droplets in a cryogenically cooled simulation chamber relevant to Earth's upper troposphere**

Koushik Mondal, Souvick Biswas, Nils Melbourne, Rui Sun,\* and Ralf I. Kaiser\*

*Chem. Sci.*, **2025**, 16, 11039-11048.

DOI: [10.1039/d5sc01698c](https://doi.org/10.1039/d5sc01698c)



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# Member Achievements



**Professor Damena Agonafer** was awarded Maryland's Invention of the Year for his cutting-edge microchannel cooling technology designed for high-powered electronics.

**Professor Yunho Hwang** is being awarded a University of Maryland 2025 Provost's Excellence Award for Professional Track Faculty.



Graduate student **Het Mevada** received the Dr. Reinhard Radermacher Distinguished Graduate Endowed Fellowship for Energy Innovation for 2024-25.

**Professor Ichiro Takeuchi** has been appointed the new chair of the UMD Department of Materials Science & Engineering.



**Professor Chris Depcik** received the Henry E. Gould Award for distinguished service to undergraduate engineering education.

# Member Achievements



**Professor Rui Sun** has been promoted to Associate Professor.

**Professor Lisa Fredin** was promoted to Associate Professor.



**PhD candidate Julia Espinoza** passed her comprehensive exams.

WELL DONE!

👋 Meet Our New Staff Member 👋



**Sally O'Dowd** is an integrated marketing communications professional, content producer, and writer. She earned her Master's of Science in Journalism from Northwestern University and her Bachelor of Arts from Saint Mary's College. She is now working at the University of Notre Dame. **Welcome, Sally!**



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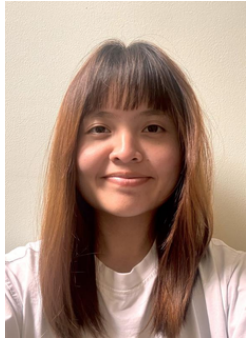
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# Welcome, FROST REU Students!

## FROST: Fostering Research Opportunities in Sustainable Technologies

Our EARTH research experience for undergraduates (REU) program began on May 27 at the U. of Kansas. We look forward to learning more about their research this summer!



**Khue Do**  
U. Georgia



**Stephanie Dücker**  
Washington & Lee U.



**Kirshaun McGhee**  
Delaware State U.



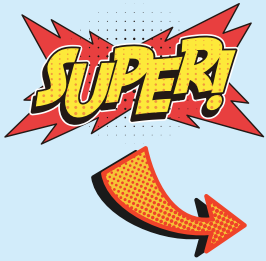
**Alborz Nasseri**  
Northern Illinois U.



**Nicholas Romano**  
Texas A&M U.



**Adam Smith**  
Arizona State U.



Thank you to our fantastic artist, [Chamisa Kellogg](#)!

# Funding Opportunities

## ERC EARTH Faculty Seed Funding

The EARTH NSF Engineering Research Center invites seed grant proposals for research relevant to creating a circular refrigerant economy. Our intention for these grants is to boost collaboration and innovation within our Center. These awards provide faculty with seed-project support to develop initial data for externally funded proposals. Seed funds will provide up to 12 months of research support and projects are required to start in Year 2. EARTH anticipates soliciting seed-funding requests on an annual basis, which will provide a competitive mechanism for funded projects to receive additional support. The number of funded awards will be determined by the quality and number of proposals received. We anticipate granting a minimum of two awards. The total available funding is \$250K. **Proposals are due to our Research Project Manager, Jessica Tami (jltami@ku.edu), by 11:59 pm Central Time on July 18<sup>th</sup>.**

## Sony Research Award Program

Sony is offering two possible awards: Faculty Innovation (up to \$100K) and Focused Research (up to \$150K) that have periods of one year with a possible extension. **Proposal submission is open from July 15<sup>th</sup> to September 15<sup>th</sup>.**

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## Stay Safe in the Summer Heat!

It is officially summer! While you are enjoying your time off and the weather outside, please remember to take precautions for your health and safety.

Make a plan to stay cool

Stay hydrated

Take cool showers

Avoid direct sunlight

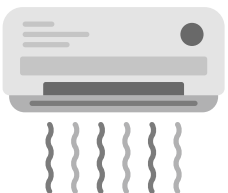
Sign up for weather alerts

Consider pet safety

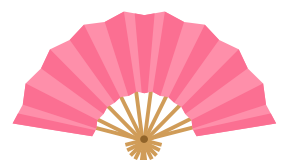
Dress in lightweight clothing

Wear sunscreen

Stay informed!



Summer





## ERC EARTH PRESENTS The 2025 Webinar Series



# Bill Slonaker

**Ivy Tech Community College of Indiana**  
Assistant Professor of Heating Ventilation  
and Air Conditioning and Building  
Construction, Department Chair



## Ivy Tech Community College HVAC Program Highlights

**Abstract:** The presentation covers aspects of the Ivy Tech HVAC program. Ivy Tech offers a comprehensive HVAC Program with both certificates and diplomas. Our students are typically working in field by their second semester if this is their choice of profession. Curriculum committee structure includes representatives from all regions who meet to ascertain and implement program educational materials and adjust curriculum based on industry and college policy. We use HVAC Excellence as third party validation, to give oversight to the continued relevance to the program.




Tuesday,  
July 1



2 pm CT /  
3 pm ET



Virtually on Zoom   
*Passcode: 420493*



SCAN ME



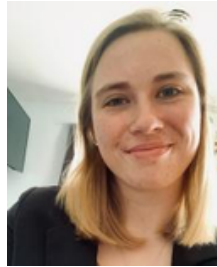
# Student Leadership Council Spotlight

The new EARTH SLC Leadership was elected in May and their terms will begin on July 1. Please join us in welcoming the new board!

Keep your eyes peeled for more information on the First SLC Cohort Trip which will take place in Washington D.C. in mid-October. *More details to follow.*



Montana Carlozo  
**President**



Lydia (Yorks) Emswiler  
**Vice President**



Fathya Salih  
**Secretary**



Julia Espinoza  
**Treasurer**



Nils  
Melbourne



Emmanuel  
Ababio



Luc  
Mauro



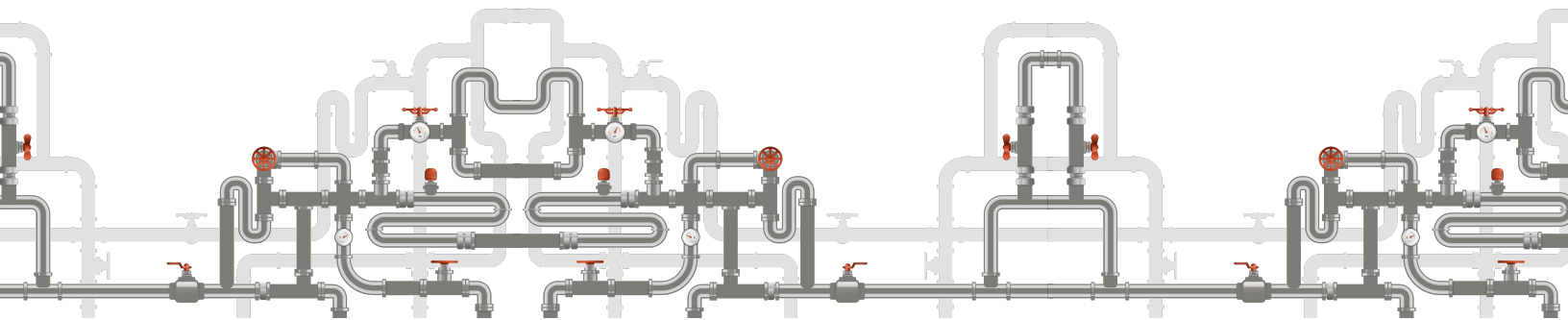
Maximilian  
Ziesel



Blessing  
Ishola



Mariah  
Randriambololona



Please use the following statement in your publication acknowledgements if your research was funded by EARTH.

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



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