

# COLLEGE HAPPENINGS

June 25, 2024

## FROM THE INTERIM DEAN

### Exciting NSF Funding Opportunities

Last week I attended the NSF Engineering EPSCoR Engagement Convocation in Alexandria, VA, along with Chad Ulven, Simone Ludwig, and Achintya Bezbaruah. The purpose of this workshop, organized by UIDP (University-Industry Demonstration Partnership), was to increase professional connections between academic institutions in EPSCoR jurisdictions and NSF Engineering program officers, share information about existing funding opportunities, and learn more about the NSF Engineering program engagement process. The ultimate goal is to help EPSCoR institutions increase competitiveness in obtaining funding from NSF and strengthen research capacity.

North Dakota is one of 28 EPSCoR jurisdictions (states and territories) in the United States. Jurisdictions become eligible to participate in the EPSCoR program if their most recent 3-year funding level of NSF research support is less than 0.75% of the total NSF research budget. NSF would like to increase the total amount of funding directed to the EPSCoR jurisdictions, but the number of proposals submitted to NSF from these jurisdictions has decreased in recent years. This presents NDSU with a great opportunity to increase our funding from NSF in the near future, by improving our submission rate of proposals to the various programs in the Engineering Directorate.

There are numerous funding opportunities within the five divisions that make up the Engineering Directorate at NSF, as well as other directorates that span cross-disciplinary research thrusts. If you would like to learn more about the various programs, please don't hesitate to reach out to any of us who attended the workshop. One new initiative that was recently introduced is the Engineering Research Visioning Alliance, whose mission is to identify and develop bold and transformative new engineering research directions and to catalyze the engineering community's pursuit of innovative, high-impact research that benefits society. If you would like to learn more about future priorities in engineering research, or submit your own ideas for future visioning events, you can learn more [here](#).

**Alan R. Kallmeyer, Ph.D.**

**Interim Dean | College of Engineering**

## IN THE NEWS

[NDSU team developing new treatment process to remove PFAS from landfill leachate](#)

[North Dakota State's Iskander Inspires Future Environmental Engineers](#)

## CONGRATULATIONS

The NDSU **Bison Pullers** won 1<sup>st</sup> place in Maneuverability at the **2024 ASABE International 1/4 Scale Tractor Competition** in Peoria, IL.

Please let [College Happenings](#) know about honors, awards, new grants and other announcements so we can share them with other faculty and staff.

## UPCOMING EVENTS

Thursday, June 27, **North Dakota Governor's School Presentation of Scholar Research.** You're invited to interact with scholars who have spent the last month conducting research alongside NDSU faculty and graduate assistants. 1:00 – 3:00 p.m. in AG Hill 326.

Monday, July 15, **STEM Kids Camp Week 1.** Students in grades K-8 will be on campus and around the College of Engineering for a variety of summer kids camps focused on topics in STEM.

Monday, July 22, **STEM Kids Camp Week 2.** Students in grades K-8 will be on campus and around the College of Engineering for a variety of summer kids camps focused on topics in STEM.

Monday, July 29, **Explore Engineering High School Camp.** This week-long camp introduces students to the different disciplines of engineering. Mornings will be spent on campus working with NDSU faculty in the labs and in the afternoons students will be going out on engineering industry visits.

## SAFE ZONE TRAININGS

The Office of the Provost will be offering the Safe Zone Training series. Safe Zone is a program designed to:

- Educate people about sexual orientation and gender identity/expression issues.
- Create a visible network of Allies to provide support to the NDSU lesbian, gay, bisexual, transgender, queer, and questioning (LGBTQ+) community.
- Provide accurate information about sexual orientation and gender identity/expression diversity, issues, and resources within the community

Dates offered:

- Level 1 “Becoming an Ally”, Tuesday, July 16, from 10:00 am- Noon via zoom (zoom link will be sent out to those registered a couple days prior)
- Level 2 “Gender Identity and Expression” Tuesday, July 23, from 10:00 am - noon via zoom (zoom link will be sent out to those registered a couple days prior)
- Level 3 “Upstander”, Tuesday, July 30 from 10:00 am - noon via zoom (zoom link will be sent out to those registered a couple days prior)

To Register please go to the following link: [https://www.ndsu.edu/facultyaffairs/inclusion/trainings/safe\\_zone/](https://www.ndsu.edu/facultyaffairs/inclusion/trainings/safe_zone/)

## FUNDING OPPORTUNITIES

### Seed Research Proposal for AI SUSTEIN Program

The AI SUSTEIN program funded by NSF Track-2 EPSCoR is calling for seed research proposal for 2024-2025 year. More details of the proposal call please refer to the attached proposal call including eligibility, expectation, application packages, and review criteria. Some brief information of the proposal is listed below for your reference:

Funding Information:

1. \$15,000 (net/not subjected to F&A) for one year.
2. Number of awards: at least one.
3. Award period: August 16, 2024 to August 15, 2025. Co-PI and no-cost extension are not expected.

## Application Submission:

Please e-mail a single pdf copy of the application package to Kirstin Saulsbury at [kirstin.saulsbury@ndsu.edu](mailto:kirstin.saulsbury@ndsu.edu) by 5:00 PM on July 8, 2024 (Email Subject: 2024 AI SUSTEIN seed grant application). Incomplete or late applications will be returned without review. The applicants will be notified of the application outcome via e-mail on August 8th, 2024. A brief review will be provided along with the notification.

## NDSU Foundation 2024 Impact Fund Grant Program

The Impact Fund Grant Program provides funding for projects that make a significant impact on excellence and the educational experience for students at North Dakota State University. This program is supported by annual contributions from alumni and friends of the University.

Applications are accepted from faculty, staff, and recognized student groups. The Impact Fund Grant Program offers grants of \$20,000 to \$75,000. Find more information on the [NDSU Foundation website](#).

The application deadline is Wednesday, July 24, 2024, by 4:30 p.m.

Questions? Email Janna Swanson, Grants Committee Staff Liaison, at [janna.swanson@ndsufoundation.com](mailto:janna.swanson@ndsufoundation.com).

## RECENTLY AWARDED GRANTS

- Syeed Md Iskander (Principal Investigator). PFAS in landfill leachate. \$1,000 from the NDSU Foundation. 5/7/2024 - 10/31/2025.
- Shuvashis Dey (Principal Investigator). Microwave Rectenna and Cellulose Nano Fiber (CNF) Thin Film Based Wireless Drug Delivery System for Therapeutic Treatment. \$5,000 from the NDSU Foundation. 5/7/2024 - 10/31/2025.
- Shuvashis Dey (Principal Investigator). Towards an Inexpensive, Ubiquitous Wireless Soil Salinity and Nutrient Sensing System for Precision Agriculture. \$19,800 from the NDSU Foundation. 5/7/2024 - 10/31/2025.
- Xin Sun (Principal Investigator). NDSU Uncrewed Autonomous Systems (UAS) Student Scholarship. \$5,000 from the NDSU Foundation. 5/7/2024 - 10/31/2025.

## RECENTLY SUBMITTED PROPOSALS

- Chad A Ulven (Principal Investigator), Robert Allan Sailer (Technician), Fardad Azarmi (2490). Micro Cold Spray for Printed Hybrid Electronics (PHE) Applications. \$100,000 from Raytheon. 5/1/2024 - 4/30/2025.
- Kalpana Katti (Principal Investigator), Dinesh R Katti (Co-PI), Jiha Kim (Co-PI). Discovery of novel molecular signatures to develop clinically relevant biomarkers of prostate cancer metastasis using a bone mimetic 3D-nanoclay testbed. \$3,014,950 from the National Institutes of Health. 2/1/2025 - 1/31/2026.
- Xinhua Jia (Principal Investigator), Harlene Hatterman-Valenti (Co-PI), Chiwon William Lee (Co-PI), Xiaoyu Feng (Co-PI), Sulaymon Eshkabilov (Co-PI), Long Jiang (Co-PI), Kelsey Griesheim (Co-PI), Erik Drevlow Hanson (Co-PI), Julie Ann Garden-Robinson (Co-PI), Yeong S Rhee (Co-PI), Donald J Kinzler (Co-PI), Suzette Magdalene A Baldwin (Co-PI), Michael H Ostlie (Co-PI). Sustainable Agricultural Systems for Food Deserts in Northern Growing Regions. \$9,687,864 from the National Institute of Food & Agriculture. 1/1/2025 - 12/31/2029.
- Ying Huang (Principal Investigator), Long Jiang (Co-PI), Zhibin Lin (Co-PI), Jun Kong (Co-PI), Xingyu Wang (Co-PI). Development of Rapid Curing High-performance Cured-In-Place Liners for Pipeline Repair and Rehabilitation. \$1,195,559 from the Department of Transportation. 10/1/2024 - 9/30/2027.
- Clairmont Clementson (Principal Investigator), Ademola Monsur Hammed (Co-PI), Niloy Chandra Sarker (Co-PI). Valorization of DDGS. \$245,961 from the ND Industrial Commission. 9/1/2024 - 8/31/2026.

- Clairmont Clementson (Principal Investigator). A Wholistic Approach to Cowpea Distribution Through Genomics, Climate Resilience and Post Harvest Management and Distribution Strategies. \$72,000 from the U.S. Agency for Intl Development. 10/1/2024 - 9/30/2027.
- Zhibin Lin (Principal Investigator), Hong Pan (Co-PI). Repurposing-GPT: Novel generative-AI-based live safety platform for predictive threat assessment and proactive preventive/mitigative measures in conversion or repurposing pipeline systems. \$1,000,000 from the Department of Transportation. 10/1/2024 - 9/30/2027.
- Zhibin Lin (Principal Investigator), Hong Pan (Co-PI). How Safe is Safe Enough: Harnessing AI, Simulation, and Field Testing for Risk-Informed Potential Impact Radius of H2, H2-Natural Gas Blend, and Natural Gas Releases. \$1,300,000 from the Department of Transportation. 10/1/2024 - 9/30/2027.

## RECENT PUBLICATIONS

For 2024, 68 publications by authors with the College of Engineering affiliation have appeared in various journals, according to the ISI Web of Science and submissions from faculty. Here are some of the most recent publications:

- Gupta, Anunay, Arup Dey, Chiwon W. Lee, and Nita Yodo. "Evaluation of Quality Performance in Paper Pulp vs. Polyethylene Nursery Pots for Green Sustainability." *SUSTAINABILITY* 16, no. 11 (June 2024): 4800. <https://doi.org/10.3390/su16114800>.
- Karuth, Anas, Stephen Szwiec, Gerardo M. Casanola-Martin, Achiya Khanam, Maryam Safaripour, David Boucher, Wenjie Xia, Dean C. Webster, and Bakhtiyor Rasulev. "Integrated Machine Learning, Computational, and Experimental Investigation of Compatibility in Oil-Modified Silicone Elastomer Coatings." *PROGRESS IN ORGANIC COATINGS* 193 (August 2024): 108526. <https://doi.org/10.1016/j.porgcoat.2024.108526>.
- Kazim, Muhammad, Harun Pirim, Shuomang Shi, and Di Wu. "Multilayer Analysis of Energy Networks." *SUSTAINABLE ENERGY GRIDS & NETWORKS* 39 (September 2024): 101407. <https://doi.org/10.1016/j.segan.2024.101407>.
- Safarishaal, Masoud, Rasul Hemmati, Reza Saeed Kandezy, John N. Jiang, Chenxi Lin, and Di Wu. "Nonlinear Impact of Topological Configuration of Coupled Inverter-Based Resources on Interaction Harmonics Levels of Power Flow." *ENERGIES* 17, no. 11 (June 2024): 2512. <https://doi.org/10.3390/en17112512>.

See your name on this list? Help us get the word out about your amazing work by submitting it as a **Breakthrough Alert**. [This online form](#) is an easy, step-by-step guide for summarizing published research for the general public.

*College Happenings* is distributed to the NDSU College of Engineering staff and faculty every other Tuesday.

Read past issues of *College Happenings* [here](#).

Deadline for submissions to *College Happenings* is 12:00 p.m. Fridays.

Contact [kyle.bosch@ndsu.edu](mailto:kyle.bosch@ndsu.edu) to submit items for *College Happenings*.

Follow the College of Engineering on social media.

