

COLLEGE HAPPENINGS

December 12, 2023

FROM THE INTERIM DEAN

A Message of Thanks

I want to take a moment to express my heartfelt gratitude to each and every one of you for your dedication, hard work, and resilience throughout the fall semester. Your commitment to our shared mission of education and the well-being of our students has not gone unnoticed, and I am truly grateful for the exceptional efforts you've put forth. Your passion for teaching, research, and service has not only enriched the lives of our students but has also strengthened the fabric of our institution.

Now, as we approach the holiday season, I encourage each of you to take a well-deserved break, to spend quality time with loved ones, and to recharge both physically and mentally. It's essential that you prioritize self-care and relaxation to return in the new year with renewed energy and enthusiasm.

May this holiday season bring joy, peace, and moments of reflection. Cherish the time with your family and friends, and take the opportunity to engage in activities that bring you personal fulfillment and happiness.

Thank you once again for your exceptional contributions to the College of Engineering. Your dedication is the foundation of our success, and I am confident that the coming year will bring even more achievements, innovations and collaborations.

Wishing you a joyful holiday season and a well-deserved break.

Alan R. Kallmeyer, Ph.D.

Interim Dean | College of Engineering

IN THE NEWS

[Commencement speaker: 'Follow the things that excite you'](#)

[Students reflect on NDSU experience](#)

[Senior Design Expo showcases student projects](#)

[November Innovation in Teaching Award recipients announced](#)

[NDSU graduate student develops cancer detection technology](#)

[Giving Day raises record \\$2,182,550](#)

[NDSU engineering students building toys for the holidays](#)

[NDSU students spreading holiday cheer by adapting toys for children with disabilities](#)

[NDSU students give thanks](#)

CONGRATULATIONS

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, December 14, **Ring and Pin Ceremony**. The biannual Ring and Pin Ceremony is a blending of two significant and celebratory events, the [Order of the Engineer](#) and the [Pledge of the Computing Professional](#). The ceremony begins at 5:30 PM in the Memorial Union – Anishinaabe Theater.

Friday, December 15, **2023 Winter Commencement**. You are encouraged to participate in the 2023 Winter Commencement ceremonies which will be held on Friday, December 15th in the SHAC at 5:00 p.m. [Register Here](#).

Thursday, December 21, **Guide to Programmatic Requests**. This webinar will provide an overview of programmatic requests, including the process for submissions, working with Lewis-Burke Associates, and expectations and alignment with NDSU strategic goals. 10:00 – 11:00 a.m. on [Zoom](#).

GIVING DAY RECORD

NDSU Giving Day 2023 was a huge success for the College of Engineering. The College of Engineering raised a record amount, \$614,145, and helped NDSU set a new Giving Day record of more than \$2.18 million raised. Thank you to everyone who made a donation, your contribution will have a lasting impact on the success of our students and the advancement of our programs.

We were able to surpass our faculty and staff giving goal with 51% of you choosing to make a donation. Thank you so much for your generosity to the college and the university. We also drew our 3 winners of the \$100 gift cards to the NDSU Meat Lab. Congratulations to Kambiz Farahmand, Pratap Kotala, and Carmen Biddle.

GREAT PLAINS I-CORPS HUB WINTER COHORT

Looking for an opportunity to better align your research with potential customers or end users? This 5-week experiential training provides for teams to work with NSF-trained instructors to test their projects for future investment and gain a stronger understanding of the market for their technology.

Teams may qualify for up to \$1,000 to be used towards customer discovery. Additionally, teams that successfully complete the regional training qualify to apply for the National I-Corps training. In the national program, teams can receive up to \$50,000 to be used towards customer discovery.

Application deadline is December 22, 2023. Winter Cohort dates run from January 17 through February 21.

[Learn more and apply >>](#)

NDSU DAY OF HONOR

NDSU Day of Honor commemorates the lives of NDSU students, faculty, and staff who have passed away during the 2023 calendar year. The annual ceremony, first held in 2013, offers attendees closure, reverence, and a sense of community in remembering those no longer with us.

The NDSU Day of Honor memorial service will be held on Tuesday, February 13, 2024, at 2:00 p.m. in the Oceti Sakowin Ballroom. The service will be streamed via Zoom for those who wish to join virtually. All NDSU students and employees, as well as family and friends of the honorees, are invited.

If you know of a member of our campus community who passed away in 2023, please visit the [NDSU Day of Honor webpage](#) to complete a submission form. Submission forms will be accepted through Friday, January 26th.

FUNDING OPPORTUNITIES

Overview of DOE Opportunities

NDSU's federal relations firm, Lewis-Burke Associates, has prepared an overview of current and planned Department of Energy (DOE) funding opportunities over the next two months, including:

- Office of Science programs and topic areas
- Industrial decarbonization
- Building technologies
- Hydrogen and fuel cells
- Grid technologies
- Marine energy
- Critical materials
- STEM Education and Energy workforce Request for Information

[Read the full report here \(requires NDSU login\) >>](#)

DOE: ARPA- E Spurring Projects to Advance Energy Research and Knowledge Swiftly (SPARKS)

This Funding Opportunity (FO) [[DE-FOA-0003164](#)] provides a continuing opportunity for the rapid support of early-stage applied research to explore innovative new concepts with the potential for transformational and disruptive changes in energy technology. Spurring Projects to Advance Energy Research and Knowledge Swiftly (SPARKS) awards are intended to be flexible and may take the form of analyses or exploratory research that provides the agency with useful information for the subsequent development of focused technology programs. SPARKS awards may also support proof-of-concept research to develop a unique technology concept, either in an area not currently supported by the agency or as a potential enhancement to an ongoing focused technology program.

Technical Categories:

- Grid
- Transportation
- Buildings & Construction
- Electricity Generation and Storage
- Carbon Capture, Sequestration, and Utilization
- Industrial Efficiency & Decarbonization
- Other Energy Technologies

Deadline: Open continuously until otherwise amended

DOT: Accelerating Advanced Digital Construction Management Systems (ADCMS) Program

The Federal Transit Administration (FTA) announces the [opportunity to apply for funding](#) for a program lead to administer ADCMS demonstration projects and deliver other program requirements. FTA is exploring the use of ADCMS to promote field-tested advanced digital platforms to reduce costs and improve the project delivery timeframe for investments in public transit capital construction projects. The Bipartisan Infrastructure Law highlights the potential of accelerating advanced digital construction management systems to improve how transit agencies deliver capital construction projects by providing a digital platform that tracks all phases of the construction lifecycle. In response, FTA is funding at least two demonstrations of commercially available ADCMS in real-world settings. These projects will create living laboratories for demonstration and study of technical issues, user acceptance, costs, integration, workforce training and transition, and institutional issues, and will further assess the needs for policy and standards development.

Deadline: February 12, 2024

NSF: Mid-Career Advancement (MCA)

The MCA program [[NSF 22-603](#)] offers an opportunity for scientists and engineers at the mid-career stage (see restrictions under Additional Eligibility Information) to substantively enhance and advance their research program and career trajectory. Mid-career scientists are at a critical career transition stage where they need to advance their research programs to ensure long-term productivity and creativity but are often constrained by service, teaching, or other activities that limit the amount of time devoted to research. MCA support is expected to help lift these constraints to reduce workload inequities and enable a more diverse scientific workforce (more women, persons with disabilities, and individuals from groups that have been underrepresented) at high academic ranks.

Who may serve as PI?

PIs must be a) at the Associate Professor rank and b) at that rank for at least 3 years by the proposal submission date. PIs must have current or proposed research that falls within the purview of a participating disciplinary program.

Deadline: March 1, 2024

RECENTLY AWARDED GRANTS

- Sandro Steinbach (Principal Investigator), Cheryl Joy Wachenheim (Co-PI), Anne Denton (Co-PI), Kerianne Rubenstein (Co-PI), Simone Ludwig (Co-PI), Ruilin Tian (Co-PI), Mingao Yuan (Co-PI). Empowering Women Leaders and Transforming Agribusiness Education through an Experiential MS Program in Agribusiness and Data Analytics. \$262,500 from the National Institute of Food & Agriculture. 11/15/2023 - 11/14/2028.

RECENTLY SUBMITTED PROPOSALS

- Clairmont Clementson (Principal Investigator), Kenneth Hellevang (Co-PI), Ewumbua Monono (Co-PI). Optimal drying temperature for drying soybeans. \$23,524 from the MN Soybean Research & Promotion Council. 7/1/2024 - 6/30/2025.

RECENT PUBLICATIONS

For 2023, 224 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:

- Hevus, Ivan, Prakash Kannaboina, Yiqiu Qian, Jingbo Wu, Melody Johnson, Luke R. Gibbon, John J. La Scala, Chad Ulven, Mukund P. Sibi, and Dean C. Webster. 2023. "Furanic (Meth)Acrylate Monomers as Sustainable Reactive Diluents for Stereolithography." *ACS APPLIED POLYMER MATERIALS* 5 (11): 9659–70.
<https://doi.org/10.1021/acsapm.3c02207>.

- Khanaum, Mosammat Mustari, Tiansong Qi, Kyle D. Boutin, Marinus L. Otte, Zhulu Lin, and Xuefeng Chu. 2023. “Assessing the Impacts of Wetlands on Discharge and Nutrient Loading: Insights from Restoring Past Wetlands with GIS-Based Analysis and Modeling.” *WETLANDS* 43 (8): 103. <https://doi.org/10.1007/s13157-023-01752-w>.
- Liu, Xiaohang, Zhao Zhang, C. Igathinathane, Flores Paulo, Man Zhang, Han Li, Xiongzhe Han, Tuan Ha, Ampatzidis Yiannis, and Kim Hak-Jin. 2024. “Infield Corn Kernel Detection Using Image Processing, Machine Learning, and Deep Learning Methodologies under Natural Lighting.” *EXPERT SYSTEMS WITH APPLICATIONS* 238 (March): 122278. <https://doi.org/10.1016/j.eswa.2023.122278>.
- Orhan, Yunus Emre, Harun Pirim, and Yusuf Akbulut. 2023. “Building Political Hashtag Communities: A Multiplex Network Analysis of U.S. Senators on Twitter during the 2022 Midterm Elections.” *Computation* 11 (12): 238. <https://doi.org/10.3390/computation11120238>.
- Pius, Pius, and Majura Selekwa. 2023. “The Equivalence of Boltzmann-Hamel and Gibbs-Appell Equations in Modeling Constrained Systems.” *INTERNATIONAL JOURNAL OF DYNAMICS AND CONTROL* 11 (5): 2101–11. <https://doi.org/10.1007/s40435-023-01119-3>.
- Rai, Nitin, Maria Villamil Mahecha, Annika Christensen, Jamison Quanbeck, Yu Zhang, Kirk Howatt, Michael Ostlie, and Xin Sun. 2023. “Multi-Format Open-Source Weed Image Dataset for Real-Time Weed Identification in Precision Agriculture.” *DATA IN BRIEF* 51 (December): 109691. <https://doi.org/10.1016/j.dib.2023.109691>.
- Wang, Xingyu, and Zhibin Lin. 2023. “A Novel High-Performance Coating with Hybrid Nanofiller Reinforcement for Superior Self-Cleaning, Anti-Icing, and Corrosion Resistance Properties.” *JOURNAL OF BUILDING ENGINEERING* 80 (December): 107993. <https://doi.org/10.1016/j.jobbe.2023.107993>.
- Yang, Xinyi, Xingyu Wang, Joseph Podolsky, Ying Huang, and Pan Lu. 2023. “Assessing Vehicle Wandering Effects on the Accuracy of Weigh-in-Motion Measurement Based on In-Pavement Fiber Bragg Sensors through a Hybrid Sensor-Camera System.” *SENSORS* 23 (21): 8707. <https://doi.org/10.3390/s23218707>.

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 to submit items for *College Happenings*.

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