NDSU | COLLEGE OF ENGINEERING

COLLEGE HAPPENINGS

November 23, 2021

FROM THE DEAN

Thanksgiving

This week marks the fourth Thursday in November, when we celebrate the quintessentially American holiday of Thanksgiving. It provides a brief respite from the whirlwind of work and a chance to spend some time with family and friends. One of the traditions in my family at Thanksgiving, as we gather around a table of turkey, stuffing, cranberry sauce, and green bean casserole, is for each member of the family to list a few things for which they are thankful.

Here in the College of Engineering, there is a lot to be thankful for. We have fantastic staff who work hard to support our educational and research missions. We have seen significant increases in new research grants and awards by our creative faculty. We have the opportunity to prepare and mentor outstanding students who will be drivers and leaders of technical innovation in the 21st century.

As we enjoy a few days of relaxation and consider all of the things that we are thankful for, please consider ways to give back. One way to do that is to participate in NDSU Giving Day, which is coming up a week from today, Tuesday, November 30. The size of our gifts matters less than that we participate in making a gift back to our university. The participation of our faculty and staff sends a strong message of support to our students, alumni, and community that we take pride in our university and, on top of the time each of us invests here, we are willing to contribute financially to impact the lives of NDSU students. In addition, I encourage you to spread the word with your social networks about NDSU Giving Day and share our official hashtag: #Give2NDSU.

Please have a great Thanksgiving, everyone, and thank you for all you do in your role to support our mission of preparing innovative problem solvers and creating new knowledge to improve lives in North Dakota and beyond.

IN THE NEWS

Third annual Toy Adaptathon to be held at NDSU

Interim department chair awarded distinguished professorship

Football student-athletes earn Academic All-District honors

CONGRATULATIONS

Danielle Peltier, **Hannah Patenaude**, **Kjersten Winkelman**, and **Rachel Kawleski**, all seniors in the **Department of Civil, Construction and Environmental Engineering**, won the Environmental Challenge Design Completion organized by Air and Waste Management Association-Upper Midwest Section and Central States Water Environment Association-Minnesota Section.

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

Tuesday, November 30, **NDSU Giving Day 2021**. Join fellow alumni and friends of the College of Engineering in supporting our mission to prepare innovative problem solvers and create new knowledge to improve lives around the world. Learn more about this year's matches and challenges that unlock thousands of dollars: https://www.ndsugivingday.com/amb/coe

Wednesday, December 8, **Senior Design Expo**. The joint Mechanical and Electrical and Computer Engineering Senior Design Expo will showcase the innovative projects designed and built by students during their capstone course. 11:00 a.m. – 2:00 p.m. in the Memorial Unions Oceti Sakowin Ballroom.

Thursday, December 16, **College of Engineering Ring and Pin Ceremony**. This ceremony is a blending of two significant and celebratory events, the Order of the Engineer and the Pledge of the Computing Professional. 5:30 p.m. AG Hill 112. Get more information here.

Friday, December 17, **2021 Winter Commencement**. 2:00 p.m. in the SHAC. Faculty and staff who wish to participate in the academic processional along with our graduation class can sign up here: https://www.ndsu.edu/commencement/facstaff/

BLACKBOARD UPDATE

As a part of the upgrade to the new homepage navigation in Blackboard (called Ultra Base Navigation), all students and faculty using Blackboard mobile apps should uninstall and reinstall their apps. Failing to do so will cause a black screen with no way to navigate after the upgrade is complete. During the re-install process, users should select North Dakota University System when prompted for their school/workspace name. This can be done any time before January 1, 2022.

See more details at: https://kb.ndsu.edu/114928

Blackboard Navigation Change Info Sessions

Learn more about the changes to the homepage navigation in Blackboard.

- Ultra Base Navigation (UBN) – A Better Way to Navigate Blackboard: https://kb.ndsu.edu/114488
- LAIC will have several UBN Demo sessions. Please visit https://kb.ndsu.edu/97982 for the schedule.

STUDENT RESEARCH DAY

NDSU Student Research Day is a new event involving a collaboration between NDSU EXPLORE, Gamma Sigma Delta, and the Graduate Student Council. We are excited to bring together what once was three separate events into one day of celebrating undergraduate and graduate student research and creative projects.

Student Research Day is scheduled for April 19, 2022. Watch for more information on registration and event details in early 2022.

RCA PROPOSAL RESUBMISSION PROGRAM

In order to better support NDSU researchers, an RCA Pilot Proposal Resubmission program is being launched to provide proposal consultations to investigators for improving an already highly-rated proposal for resubmission. The program is for reviews received within the past 6 months.

This is a pilot project, subject to demand and measured impact of the investments. We encourage individuals with highly rated but unfunded proposals of all sizes and in all disciplines to apply. The awards will be for up to 5 hours of consultation time with an experienced grant writer and proposal support from research development staff.

To apply, the following information is needed:

- PI and key investigator(s) – name and contact information.
- Timeline for planned resubmission.
- List of limitations in original application identified by reviewers.
- Funding agency and program to which the PI plans to resubmit.
- Copies of the proposal and reviews (must be attached to application).

Contact ndsu.researchdev@ndsu.edu with questions. Apply here.

FUNDING OPPORTUNITIES

ND EPSCoR: STEM Equipment / Equipment Repair

The ND EPSCoR State Office's mission is to support efforts of participating institutions of higher education across the state that result in increased STEM faculty capacity and competitiveness; a stronger STEM pathway that produces our next-generation workforce, educators, and researchers; and an informed citizenry that values the STEM ecosystem and economy. Thus, the ND EPSCoR State Office is now accepting proposals for equipment and equipment repair at EPSCoR participating institutions, including NDSU. For more information, please see the Request for Proposals.

Deadline: December 9, 2021; Noon

NIST: Metals-based Additive Manufacturing Grant Program

The NIST Metals-based Additive Manufacturing Grant Program [2022-NIST-MBAMGP-01] is seeking applications to support significant measurement science research in addressing current and future barriers to wide-spread adoption of metals-based additive manufacturing, such as feedstock, machine, and process characterization; real-time process monitoring and control; increasing process optimization and throughput; rapid qualification methodologies for processes and parts via characterization of surface quality, part accuracy, material properties as well as model-based approaches; and computational requirements for systems integration in advanced additive manufacturing systems including multi-material and multi-laser systems.

Deadline: January 11, 2022

Cisco Research Center Funding Opportunities

Cisco Research Center funds research projects related to improving the Internet, adjacent technologies, and networking. Current requests for proposals include:

- Augmented and Virtual Reality;
- Natural Language Professing;
- Cybersecurity in Emerging Tech Areas;

- Contactless Supply Chain;
- Tech for Healthcare; and
- Ethics in AI.

View the full list of open opportunities >>

RECENTLY SUBMITTED PROPOSALS

- Trung Quoc Le (PI), Ivan T Lima Jr (Collaborator). Collaborative Research: SCH: Next Generation of Smart Wearable Obstructive Sleep Apnea Multisensory System for Diagnosis and Prediction. $528,907 from the National Science Foundation. 8/1/2022 - 7/31/2026.
- Danling Wang (PI), Qifeng Zhang (CPI). Collaborative Research: 1D/2D MWO-MXene nanocomposites for tailored design of high-performance artificial olfactory sensors. $325,605 from the National Science Foundation. 3/1/2022 - 2/28/2025.
- Danling Wang (PI), Juan Li (CPI). Collaborative Research: SCH: AI-Empowered Artificial Olfactory Wearable Device for Diabetes Care. $598,628 from the National Science Foundation. 6/1/2022 - 5/31/2026.
- Yan Zhang (PI) Collaborative Research: Fluid-Structure Interaction of the Aortic Valve. $141,330 from the National Science Foundation. 8/15/2022 - 8/14/2025.
- Ewumbua Monono (PI), Niloy Chandra Sarker (CPI). Production, Characterization, and Optimization of Biobased Resins Derived from Corn Oil. $96,644 from the ND Corn Utilization Council. 7/1/2022 - 6/30/2024.
- Ewumbua Monono (PI), Ademola Ayodeji Ajayi-Banji (CPI). Developing a 50-L Anaerobic Digester using Corn and Corn Stover for Biogas Production. $68,670 from the ND Corn Utilization Council. 7/1/2022 - 6/30/2024.
- Trung Bao Le (PI). Biomechanical Modeling of Left ventricular Thrombogenicity under Altered Contractility. $75,000 from the U.S.- Israel Binational Science Foundation. 10/24/2022 - 10/24/2024.
- David Grewell (PI), Nita Yodo (CPI). Multi-functional biodegradable mulch for specialty crop production Round Robin Testing. $31,164 from the ND Corn Utilization Council. 7/1/2022 - 6/30/2023.
- Wenjie Xia (CPI). Understanding the Principles of Solid Shedding Surfaces - Phase II. $4,726,763 from the U.S. Navy. 12/1/2021 - 11/30/2024.
- Dean D Steele (CPI). Performance of drought-tolerant corn hybrids under varying irrigation strategies. $26,110 from the ND Corn Utilization Council. 7/1/2022 - 6/30/2023.
- Ademola Monsur Hammed (PI), Ewumbua Monono (CPI), Niloy Chandra Sarker (CPI), Ademola Ayodeji Ajayi-Banji (CPI). Waxing of corn starch to produced waterproof film for bale-net wrap. $36,848 from the ND Corn Utilization Council. 7/1/2022 - 6/30/2023.
- Xin Sun (PI), Cengiz Koparan (CPI). UAV See-Spray Subsystem Development for Weed Control in Corn Field. $48,516 from the ND Corn Utilization Council. 7/1/2022 - 6/30/2023.
- Di Wu (PI). Impact Study of Uncertain Weather Conditions on Power Grid Reliability. $15,000 from the National Aeronautics and Space Administration. 1/3/2022 - 5/2/2023.
- Shuvashis Dey (PI). Towards a Low-cost, Pervasive Wireless Soil Salinity and Nutrient Sensing System for Precision Agriculture. $14,999 from the National Aeronautics and Space Administration. 1/1/2022 - 5/5/2022.
- Ravi Kiran Yellavajjala (PI) Improving the Freeze Thaw Performance of Concrete. $50,000 from the ND Corn Utilization Council. 7/1/2022 - 6/30/2024.

RECENT PUBLICATIONS

For 2021, 194 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:

- Bajwa, Dilpreet, Martin Eichers, Jamileh Shojaeiarani, and Alan Kallmeyer. 2021. "Influence of Biobased Plasticizers on 3D Printed Polylactic Acid Composites Filled with Sustainable Biofiller." *Industrial Crops and Products* 173 (December): 114132. https://doi.org/10.1016/j.indcrop.2021.114132.

- Straub, Jeremy. n.d. "Assessment of the Comparative Efficiency of Software-Based Boolean, Electronic, Software-Based Fractional Value and Simplified Quantum Principal Expert Systems." *Expert Systems*, e12880. https://doi.org/10.1111/exsy.12880.

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*.

Follow the College of Engineering on social media.