

# COLLEGE HAPPENINGS

October 29, 2024

## FROM THE INTERIM DEAN

### ABET Accreditation

This week, a team from the Engineering Accreditation Commission (EAC) of ABET is on campus to evaluate nine of our engineering programs for new or continuing accreditation. ABET accreditation is very important to our college, as it provides assurance that our engineering programs meet the quality standards of the profession for which those programs prepare graduates. The accreditation review is very thorough, involving an in-depth evaluation based on several criteria including student performance and progress, program educational objectives and student outcomes, continuous improvement through assessment, curriculum, faculty qualifications, facilities and institutional support, as well as program specific criteria. Our accreditation must be reevaluated every six years to ensure we remain in compliance.

Leading up to the site visit, our department chairs and assessment coordinators have been very busy collecting and analyzing information required by the program evaluators. This process included the submission of a comprehensive self-study report over the summer for each program, which provided in-depth documentation detailing how we meet each of the criteria listed above. Of course, program assessment is an ongoing process and a team effort, requiring the participation of many of our faculty and staff. For all of your efforts over the past few years to maintain our accreditation requirements, I wish to express my sincere gratitude. A special thanks goes to Dr. Scott Pryor, our Associate Dean for Undergraduate Programs, for leading our assessment and accreditation efforts in the college.

While we will receive preliminary results from the accreditation team this week, the final decision on accreditation won't come until next summer when the Engineering Accreditation Commission meets in July. We will receive our Final Statement no later than August 31, 2025. It is not uncommon for the visiting team to identify certain shortcomings during their review of programs. However, we are confident that any such shortcomings identified in this review will be easily resolvable by next summer, and we will receive a full accreditation of all of our programs.

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

**Interim Dean | College of Engineering**

## IN THE NEWS

[NDSU student veteran selected for prestigious fellowship](#)

[NDSU program offers students a direct path into North Dakota's energy sector](#)

[North Dakota Today - NDSU Bison to the Bakken](#)

['Bison to the Bakken' program to give NDSU students opportunity to learn about Bakken](#)

## 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

Wednesday, November 13, **Academic Programs Fair**. Designed to introduce staff to the easiest path to professional development. Visit with departments about their offerings and learn about the student supports that are in place for staff who take classes. 2:00 p.m. in the Memorial Union Ballroom.

Tuesday, December 10, **Winter Senior Design Expo**. The Winter Senior Design Expo will showcase capstone projects from the Department of Electrical and Computer Engineering and the Department of Mechanical Engineering. 11:00 a.m. – 3:00 p.m. in the Oceti Sakowin Ballroom.

Thursday, December 19, **Ring and Pin Ceremony**. The biannual 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](#). The ceremony begins at 5:30 p.m. in the Anishinaabe Theater.

Friday, December 20, **Winter Commencement**. All colleges will take part in a single commencement ceremony at 2 p.m. at the Sanford Health Athletic Complex. Please complete and submit the [Faculty/Staff Commencement Participation Form](#) by Friday, December 6th at 5:00 p.m. if you plan to participate in the Commencement procession.

## EMPLOYEE ENGAGEMENT INITIATIVE

The President's Council for Campus Well-being is working with Gallup, a nationally recognized workplace survey and action firm, to help unit leaders understand and improve engagement by surveying NDSU staff, faculty and administration.

This brief 17-question survey opened on October 14 and is completely confidential, with no individual data being shared with NDSU personnel or leadership. Survey results will inform conversations and action planning across units on ways to strengthen employee engagement for our campus well-being.

Learn more about the Employee Engagement Initiative [here](#).

## INTELLECTUAL PROPERTY BASICS FOR ACADEMIC RESEARCHERS AND ENTREPRENEURS

John Hanish, J.D., Ph.D., is an IP attorney and NDSU Research Foundation board member. He will present a short session on managing intellectual property and be available for Q&A on November 4 from 12:00 - 1:00 p.m. in the Memorial Union Sahnish Room or on Zoom.

Questions can range from "Where do I start?" to specific questions about disclosures, provisional and utility patents, trademarks, copyrights, and trade secrets.

Hanish (NDSU '86 B.S. Chemistry, History) 25 years of patent experience in law firm practice in New York. He represents clients in patent litigation in federal trial and appellate courts, arbitration and the ITC and advises clients with respect to patent and trade secret licensing and obtaining patents, particularly in the life sciences. As a graduate student and post-doctoral fellow, Hanish participated in the human genome mapping project and authored papers about mammalian telomeres. [Register Here](#)

## STUFFED ANIMALS FOR STUDENTS

Last Spring the IT Division and NDSU Libraries provided stuffed animals students could “adopt” at no charge as they prepared for their final exams, and the program proved to be extremely popular.

If you have stuffed animals of any kind that your family has outgrown, and you’re willing to make them available to our students, simply bring your donations to QBB 206 (the IT Service Center) or NDSU Libraries by Monday, Dec. 2 – there are drop-off boxes in these locations.

The animals will be washed and set on tables in the Library and the QBB second floor lobby the week before finals.

## FUNDING OPPORTUNITIES

The NDSU Office of Research and Creative Activity has several internal funding opportunities available for researchers in 2024-25.

### **RCA BIG IDEAS RESEARCH SEED PROJECTS – STEM FIELDS**

***Application Deadline: Monday, November 4, 2024***

These seed projects will provide up to \$100,000 to support ideas that pursue innovative, ambitious solutions to impactful research questions that fit within NDSU’s [strategic priorities](#) and/or the [ND Science and Technology Plan](#). The purpose of the program is to support activities such as pilot studies or gathering preliminary data that will allow teams to advance ideas for the development of competitive proposals in pursuit of significant external funding, including NSF EPSCoR and EPSCoR-like programs (e.g. NIH COBRE). For this call, proposals must be for projects within science, technology, engineering, and mathematics (STEM) fields as defined by the National Science Foundation and/or the National Institutes of Health. This includes the social, behavioral, economic and science of STEM education fields. PIs must be at the Associate Professor rank or above and have a prior funding track record as a PI from the agency where submission is intended. [Learn more and apply >>](#)

### **EDRF INFRASTRUCTURE PROGRAM**

***Application Deadline: Monday, November 4, 2024***

The Infrastructure Program will provide up to \$50,000 for improvement of infrastructure in support of research and economic development goals that fit within NDSU’s [strategic priorities](#) or align with prior and/or existing research investments at NDSU. This program can be used for acquisition of research instrumentation, equipment, and related installation services. Full-time faculty and research staff at NDSU are eligible to apply. [Learn more and apply >>](#)

### **NASA EPSCOR PILOT GRANTS**

***Application Deadline: Monday, November 4, 2024***

NASA Established Program to Stimulate Competitive Research (EPSCoR) establishes partnerships with government, higher education, and industry that are designed to effect lasting improvements in a state or region’s research infrastructure, research and development capacity, and its national research and development competitiveness. This grant program awards up to \$58,000 to develop pilot projects that are in line with NASA’s overall mission. Each proposed NASA EPSCoR pilot project shall perform scientific and/or technical research in areas that support NASA’s strategic research and technology development priorities with the goal of ensuring a competitive submission to a NASA funding opportunity. All proposals should emphasize and clearly articulate how the pilot project develops capabilities to compete for funds from NASA. [Learn more and apply >>](#)

## RECENTLY AWARDED GRANTS

- Benjamin Davis Braaten (Principal Investigator). Design remote microgrids with enhanced resilience: analysis, prototyping, and modularization. \$1,449,472 from the Department of Energy. 10/1/2024 - 9/30/2026.

- Jayme Alan Steig (Principal Investigator), Elizabeth Theresa Skoy (Faculty), Lisa Kay Nagel (Other Professional), Jeremy A Straub (Co-PI). Feasibility of Electronic Screening to Identify Risk of Opioid Misuse and Overdose. \$177,523 from the National Institutes of Health. 9/15/2024 - 8/31/2025.
- Siew Hoon Lim (Principal Investigator), Sandro Steinbach (Co-PI), Veeshan Rayamajhee (Co-PI), Zhulu Lin (Co-PI). PARTNERSHIP: U.S. Soybean and Corn Supply Chain Resilience: Impacts of Extreme Droughts on Production, Shipping, Trade, and Global Food Security. \$800,000 from the National Institute of Food & Agriculture. 5/15/2024 - 5/14/2028.

## RECENTLY SUBMITTED PROPOSALS

- Xinhua Jia (Principal Investigator), Harlene Hatterman-Valenti (Co-PI). Optimizing irrigation for sustainable high tunnel production in soil-based and soilless systems. \$650,000 from the National Institute of Food & Agriculture. 10/1/2025 - 9/30/2029.
- Youjin Jang (Principal Investigator), Inbae Jeong (Co-PI). Impact of Safety Alarm Modalities on Workers' Attention, Behavioral Responses and Trust in Construction. \$383,500 from the Centers for Disease Control. 5/1/2025 - 4/30/2027.
- Xiaoyu Feng (Principal Investigator), Kelsey Griesheim (Co-PI), Brady James Goettl (Co-PI). PARTNERSHIP: An Optimization-Based Decision Support System for Precision Nitrogen Management in Cold-Region Corn Production. \$800,000 from the National Institute of Food & Agriculture. 4/1/2025 - 3/31/2028.
- Md Mukhlesur Rahman (Principal Investigator), Joao Paulo Cassol Flores (Co-PI). Breeding Oilseed Flax (*Linum Usitatissimum* L.) Through An Integrated Approach Of Genetics, Genomics, And Phenomics For Varietal Development. \$648,885 from the National Institute of Food & Agriculture. 7/1/2025 - 6/30/2029.
- Shuvashis Dey (Principal Investigator), Benjamin Davis Braaten (Co-PI), Sulaymon Eshkabilov (Co-PI). Towards a Low-cost Integrated Microwave Radiometer and Wireless, Machine Learning Enabled Soil Moisture Sensing system for Precision Agriculture. \$650,000 from the National Institute of Food & Agriculture. 5/1/2025 - 4/30/2028.
- Sulaymon Eshkabilov (Principal Investigator), Joao Paulo Cassol Flores (Co-PI), Rob Proulx (Co-PI), Ahmed Mohamed Harb Rabia (Co-PI). Sustainable Farming through the Integration of AI-based UGV and UAS Technologies. \$650,000 from the National Institute of Food & Agriculture. 6/1/2025 - 5/31/2028.
- Xin Sun (Principal Investigator), Carlos A Bonini Pires (Co-PI). Mars Robot on Earth: Soil Health Assessment with Autonomous Unmanned Ground Vehicle System Based on Sensor and Edge-AI Technologies. \$650,000 from the National Institute of Food & Agriculture. 7/1/2025 - 6/30/2028.
- Ewumbua Monono (Principal Investigator), Mijia Yang (Co-PI), Niloy Chandra Sarker (Co-PI). Improve the Physical Properties of CoRncrete and its Application as a Preform. \$14,875 from the ND Corn Utilization Council. 7/1/2025 - 6/30/2026.
- Jeremy A Straub (Principal Investigator). ASTRA-V: Advanced Security Technology for Remediation Automation of Vulnerabilities. \$9,975,750 from the Department of Health and Human Services. 4/1/2025 - 3/31/2028.

## RECENT PUBLICATIONS

For 2024, 120 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:

- Chowdhury, Prantik Roy, and Adam C. Gladen. "Design of Flow Fields for High-Temperature PEM Fuel Cells Using Computational Fluid Dynamics." *ENERGIES* 17, no. 19 (October 2024): 4898. <https://doi.org/10.3390/en17194898>.
- Chowdhury, Sowmik, Xinnan Wang, Md Atikur Rahman, and Chad A. Ulven. "Nanomechanical Characterization of Hemp Fiber with Atomic Force Microscopy." *JOURNAL OF COMPOSITE MATERIALS*, October 10, 2024. <https://doi.org/10.1177/00219983241292776>.

- Huda, Md Sanaul, and Ewumbua Monono. “Optimizing the Chemical Refining Process Parameters on the Removal of Free Fatty Acid in Distillers Corn Oil.” *JOURNAL OF THE AMERICAN OIL CHEMISTS SOCIETY*, October 9, 2024. <https://doi.org/10.1002/aocs.12901>.
- Melbye, Julie, and Yechun Wang. “Low-Reynolds-Number Droplet Motion in Shear Flow Micro-Confined by a Rough Substrate.” *PHYSICS OF FLUIDS* 36, no. 10 (October 2024): 102021. <https://doi.org/10.1063/5.0226777>.

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.

