

# COLLEGE HAPPENINGS

October 31, 2023

## FROM THE INTERIM DEAN

### Phase 1: A Special Announcement about the Future of NDSU's College of Engineering

Thank you to everyone who was able to attend last Friday's special event celebrating a major fundraising milestone for the Center for Engineering and Computational Sciences at NDSU.

For those of you who were not able to be there I wanted to provide a short update on the exciting announcement. As a reminder, the North Dakota Legislature and Governor Doug Burgum approved \$59 million in public money for a new NDSU Engineering building on the condition that NDSU secure at least \$25 million in private funding for the project.

I am happy to announce that thanks to \$5 million lead gifts from Mortenson and Bobcat we have now raised \$14.5 million in support of our groundbreaking and game-changing project. This really is an amazing accomplishment considering it's been less than 6 months since we were authorized to start fundraising and a testament to the hard work of everyone at the NDSU Foundation who have made this project their top priority.

The Center for Engineering and Computational Sciences is designed to be a state-of-the-art facility that will be an epicenter of innovation, a hub for learning, and a place where students and researchers can push the boundaries of what's possible. I am confident that with continued hard work and dedication we will meet our goal and make the dream of a new facility for the College of Engineering a reality.

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

**Interim Dean | College of Engineering**

## IN THE NEWS

[NDSU students excel at annual construction competition](#)

[Ben Franklin Middle School 7th graders get a head start in STEM careers](#)

['You belong here'](#)

## CONGRATULATIONS

Student teams from the **Department of Civil, Construction and Environmental Engineering** won awards at the North Central Region of the Associated Schools of Construction student competition held in Nebraska City, NE Oct. 23-25. The **Commercial-General Contractor** team were awarded 2nd place. The **Commercial – CM at Risk** team took home 3rd place. And the **Skills Summit** team was awarded 3rd place.

**Krishna Kundu**, who earned his Ph. D. from the **Department of Civil, Construction and Environmental Engineering**, was awarded an Acta Student Award for his paper [\*Initial upsurge of BMPs enhances long-term osteogenesis in in-vitro bone regeneration.\*](#)

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 1, **CoE Fall Staff Meeting**. All CoE staff are invited to join College leadership for lunch, an update on the College and the opportunity to provide feedback. 11:00 a.m. – 1:00 p.m. in the Memorial Union Nueta Room.

Tuesday, November 28, **NDSU Giving Day 2023**. NDSU Giving Day is a chance to give back to the areas of the college and campus you are most passionate about. Watch for more information about the College of Engineering's exciting plans for NDSU Giving Day 2023.

Wednesday, December 6, **Fall Senior Design Expo**. 11:00 a.m. – 2:00 p.m. in the Memorial Union Océfi Śakowiń Ballroom.

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](#).

## NORTH DAKOTA WATER RESOURCE RESEARCH INSTITUTE FACULTY FELLOWS

The Office of Research and Creative Activity (RCA) is currently accepting applications for two Faculty Fellows to work within the North Dakota Water Resource Research Institute (NDWRRI). The program seeks to appoint one or two Faculty Fellows for a term of up to two years. These Faculty Fellows will be expected to dedicate approximately four hours per week to crafting and executing a plan aimed at achieving specific outcomes.

While applicants from any discipline at NDSU are welcome, a demonstrated interest in some aspect of water research, such as science, technology, applications, water quality, modeling, policy, or related areas, is essential. While prior direct experience is not mandatory, candidates with limited background in this field should elucidate in their cover letters how they plan to rapidly acquire the necessary knowledge. Candidates of any rank level (assistant/associate/full professor) are encouraged to apply. RCA will provide a \$10,000 supplement over a one-year term.

The application deadline is November 8, 2023 by 5:00 pm. Selections will be finalized by December 1, 2023, with the Faculty Fellow assuming duties on January 1, 2024. Learn more and apply on the [NDWRRI Faculty Fellows page >>](#)

## FALL 2023 NSF VIRTUAL GRANTS CONFERENCE

Join the National Science Foundation (NSF) for the Fall 2023 NSF Virtual Grants Conference, to be held during the week of December 4–7, 2023. Registration will be free of charge and opens on Wednesday, November 8 at 12 pm ET.

Check [nspolicyoutreach.com](https://nspolicyoutreach.com) for the most up-to-date information and view [recordings](#) of sessions from previous conferences. You may also view the Spring 2023 Virtual Grants Conference recordings on NSF's [YouTube page](#). For those who cannot attend the live conference, all recorded conference sessions will be available on-demand shortly after the event and posted on our [website](#) and our [YouTube](#) page.

Any logistical questions about this virtual conference should be directed to [grants\\_conference@nsf.gov](mailto:grants_conference@nsf.gov)

## FUNDING OPPORTUNITIES

### NSF: Division of Materials Research: Topical Materials Research Programs (DMR-TMRP)

Research supported by the Division of Materials Research (DMR) [[NSF 23-612](#)] focuses on advancing the fundamental understanding of materials, materials discovery, design, synthesis, characterization, properties, and materials-related phenomena. DMR awards enable understanding of the electronic, atomic, and molecular structures, mechanisms, and processes that govern nanoscale to macroscale morphology and properties; manipulation and control of these properties; discovery of emerging phenomena of matter and materials; and creation of novel design, synthesis, and processing strategies that lead to new materials with unique characteristics. These discoveries and advancements transcend traditional scientific and engineering disciplines. Projects supported by DMR are not only essential for the development of future technologies and industries that address societal needs, but also for the preparation of the next generation of materials researchers.

*Deadline: Proposals accepted ANYTIME*

### NSF: Communications, Circuits, and Sensing-Systems (CCSS)

The Communications, Circuits, and Sensing-Systems (CCSS) Program [[PD 18-7564](#)] supports innovative research in circuit and system hardware and signal processing techniques. CCSS also supports system and network architectures for communications and sensing to enable the next-generation cyber-physical systems (CPS) that leverage computation, communication, and sensing integrated with physical domains. CCSS invests in micro- and nano-electromechanical systems (MEMS/NEMS), physical, chemical, and biological sensing systems, neurotechnologies, and communication & sensing circuits and systems. The goal is to create new complex and hybrid systems ranging from nano- to macro-scale with innovative engineering principles and solutions for a variety of applications including but not limited to healthcare, medicine, environmental and biological monitoring, communications, disaster mitigation, homeland security, intelligent transportation, manufacturing, energy, and smart buildings. CCSS encourages research proposals based on emerging technologies and applications for communications and sensing such as high-speed communications of terabits per second and beyond, sensing and imaging covering microwave to terahertz frequencies, personalized health monitoring and assistance, secured wireless connectivity and sensing for the Internet of Things, and dynamic-data-enabled autonomous systems through real-time sensing and learning.

*Deadline: Proposals accepted ANYTIME*

## RECENTLY AWARDED GRANTS

- Shuvashis Dey (Principal Investigator), Sanku Mallik (Co-PI), Mohiuddin Abdul Quadir (Co-PI), Benjamin Davis Braaten (Co-PI), Mijia Yang (Co-PI). MRI: Track 1 Acquisition of Multi-Material 3D Printer for Additively Manufactured Electronics to Enable Interdisciplinary Research and Education. \$770,100 from the National Science Foundation. 9/1/2023 - 8/31/2026.

## RECENTLY SUBMITTED PROPOSALS

- Xin Sun (Principal Investigator), Sulaymon Eshkabilov (Co-PI). 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. 7/1/2024 - 6/30/2027.
- Di Wu (Principal Investigator). Design remote microgrids with enhanced resilience: analysis, prototyping, and modularization. \$299,990 from the Department of Energy. 6/1/2024 - 5/31/2026.
- Yan Zhang (Principal Investigator). The pulmonary visceral pleura (PVP) aortic valve. \$484,721 from the National Institutes of Health. 7/1/2024 - 6/30/2028.

- Xinhua Jia (Principal Investigator), Harlene Hatterman-Valenti (Co-PI). PARTNERSHIP: Precision irrigation for protected environment specialty crops in the Upper Midwest. \$800,000 from the National Institute of Food & Agriculture. 10/1/2024 - 12/31/2027.
- Xiaoyu Feng (Principal Investigator), Kelsey Griesheim (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. 4/1/2024 - 3/31/2027.
- Nonoy B Bandillo (Principal Investigator), Joao Paulo Cassol Flores (Co-PI). Increasing Genetic Gain for Climate Resilience in Pulse Crops Using Genomic Selection and High Throughput Phenotyping. \$650,000 from the National Institute of Food & Agriculture. 10/1/2024 - 9/30/2027.
- Sandro Steinbach (Principal Investigator), Siew Hoon Lim (Co-PI), Zhulu Lin (Co-PI). Assessing the Vulnerability and Enhancing the Adaptive Capacity of U.S. Soybean Production to Extreme Weather Events. \$450,000 from the North Central Soybean Research Program. 1/1/2024 - 9/30/2026.
- Ademola Monsur Hammed (Principal Investigator), Ewumbua Monono (Co-PI), Niloy Chandra Sarker (Co-PI). Metagenomic Unraveling of Microbial Diversity and Dynamics During Sugar Beet Storage. \$26,540 from the Sugarbeet Res. & Edu. Board of MN & ND. 4/1/2024 - 3/31/2025.
- Clairmont Clementson (Principal Investigator), Dr. Kenneth Hellevang (Co-PI), Ewumbua Monono (Co-PI). Optimal drying temperature for drying soybeans. \$28,072 from the North Central Soybean Research Program. 1/1/2024 - 9/30/2024.

## RECENT PUBLICATIONS

For 2023, 202 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:

- Asha, Labiba Noshin, Ying Huang, Nita Yodo, and Haitao Liao. 2023. "A Quantitative Approach of Measuring Sustainability Risk in Pipeline Infrastructure Systems." *SUSTAINABILITY* 15 (19): 14229. <https://doi.org/10.3390/su151914229>.
- Azarmi, Fardad, and Xiangqing W. Tangpong. 2023. "Microstructural and Tribological Characteristics of Composites Obtained by Detonation Spraying of Iron-Based Alloy-Carbide Powder Mixtures." *MATERIALS* 16 (19): 6422. <https://doi.org/10.3390/ma16196422>.
- Le, Chau, and H. David Jeong. 2023. "Determining Highway Project Contract Time from Project Duration Estimates." *JOURNAL OF LEGAL AFFAIRS AND DISPUTE RESOLUTION IN ENGINEERING AND CONSTRUCTION* 15 (3): 04523019. <https://doi.org/10.1061/JLADAH.LADR-957>.
- Zhu, Jing, Zijian Qu, Ying Huang, Lizhuo Song, Shaotong Liu, Hao Min, and Zhiming Li. 2023. "Investigating Mechanical Properties of Alkali-Activated Slag Cementitious Material for Load-Bearing Layer of Sandwich Panels." *MATERIALS* 16 (19): 6398. <https://doi.org/10.3390/ma16196398>.

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.

