

# COLLEGE HAPPENINGS

October 3, 2023

## IN THE NEWS

[NDSU's Engineers Without Borders is Making a Lasting Difference](#)

[3 R1 universities at the forefront of research innovation](#)

[College of Engineering faculty honored](#)

[College of Engineering recognizes researchers](#)

[College of Engineering honors staff members](#)

[NDSU team wins Cyber Cup](#)

[Computer science doctoral student interviewed by Cybernews](#)

## 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

Tuesday, October 10, **AI and the Humanities**. Anne Denton, NDSU professor of computer science, is slated to present "Artist or Geek: What is Artificial Intelligence and How Will It Impact Us?" The presentation will highlight the social implications of new AI development. Noon to 1:30 p.m. in the Memorial Union Hidatsa room.

Wednesday, October 18, **Conference on Computational Science**. The conference is the first of its kind, bringing together researchers from various research fields and aiming to showcase and promote computational-related research at NDSU and foster interdisciplinary collaboration. Please [register here](#) by October 4.

Wednesday, October 25, **Faculty Luncheon: Best Practices of Undergraduate Research for Recruitment and Retention**. 11:30 a.m. – 1:00 p.m. in the Prairie Rose room in the Memorial Union. [REGISTER HERE](#)

Thursday, October 26, **KFI Engineers Professor of Energy Stewardship Ceremony**. Please join us for a ceremony honoring Dr. Adam Gladden. 3:00 p.m. in the NDSU McGovern Alumni Center.

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

## SPRING 2024 COMPUTER LAB SOFTWARE REQUESTS

Deadline for Spring 2024 computer labs software requests is October 15<sup>th</sup> 2023. *All software requested for fall 2023 will remain in the computer labs.* Requests are needed for new/additional software only.

Please follow the notes listed here:

- Submissions made via the form at <https://kb.ndsu.edu/104071>
- Media and licensing agreements, (EULA) are needed within 30 days of the request to guarantee installation on time for Spring semester.
- Software media should be provided via Secure File Transfer to <https://filetransfer.ndsu.edu/filedrop/ndsu.lab.software@ndsu.edu>

If you have questions, please email [ndsu.lab.software@ndsu.edu](mailto:ndsu.lab.software@ndsu.edu)

## BRAINSTEM VOLUNTEERS

Science, Technology, Engineering, and Math (STEM) occupations face a general lack of available workers to fill open positions, but also lack diversity.

Concordia, NDSU, and MSUM are collaborating to host the 6th annual BrainSTEM event for 7th graders this year. The event focuses on promoting diversity in STEM and reducing prejudice & bias by having workshop leaders from underrepresented groups in STEM. We are looking for your help to kick off the school year by inspiring students to explore STEM.

**What:** **Interactive** STEM Workshops (three 50-minute sessions)

*If you need ideas or supplies, we can help!*

**Students:** 7<sup>th</sup> Grade (from select schools)

**Leaders:** Professors, college students & industry professionals who are underrepresented in STEM fields

**Where:** Concordia College

**When:** Wednesday, October 25<sup>th</sup>, 2023

*Tentative Schedule: 9:00AM – 1:30PM*

[Please sign up with your workshop](#) & contact info by **Friday, October 6<sup>th</sup>**

Students will be choosing which sessions to attend, so try to make your session name & short description appealing.

## FUNDING OPPORTUNITIES

### 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*

## **Research Development Travel and Conference Support Awards**

RCA Research Development Travel and Conference Support Awards help defray expenses for faculty presenting at national conferences, either virtually or in-person. Tenured and tenure-track faculty, as well as professors of practice who have research as part of their appointments, are eligible to apply. The application requires confirmation of acceptance to present at the conference. [Learn more and apply >>](#)

## **RECENTLY AWARDED GRANTS**

- Long Jiang (Principal Investigator), Mohiuddin Abdul Quadir (Co-PI). SSBRI Using Nanotechnology to Enhance Fungicide Efficacy and Duration for Sugarbeet Disease Control. \$72,995 from the Agricultural Research Service. 9/1/2023 - 12/30/2024.
- Ewumbua Monono (Principal Investigator), Dean C Webster (Co-PI), Bingcan Chen (Co-PI), David J Boehm (Co-PI). Acquisition of an Armfield FT66-D to Complete a refinery for Crude Vegetable Oils/Novel Specialty Oil Varieties. \$204,270 from the National Institute of Food & Agriculture. 9/1/2023 - 8/31/2027.
- Xin Sun (Principal Investigator). Quantifying freezing damage in Brassica oilseed crops. \$20,860 from the Agricultural Research Service. 5/1/2023 - 3/30/2025.
- Xin Sun (Principal Investigator). Developing systems to expedite phenotyping of biotic and abiotic stress tolerance in Brassica oilseed and small grain cereal crops. \$125,000 from the Agricultural Research Service. 9/1/2023 - 8/30/2024.
- Xin Sun (Principal Investigator), Thomas Joseph Peters (Co-PI), Mohamed F R Khan (Co-PI). SSBRI Intelligence On-farm Sugarbeet Weed Management Solution Based on Edge AI and Unmanned Automation Systems (UAV and UGV). \$100,000 from the Agricultural Research Service. 9/1/2023 - 12/30/2024.
- Jiale Xu (Principal Investigator). Low-Cost and Efficient Control of Onsite Pesticide Contamination by Far-UVC Light to Protect Farmer Health and Ecosystems 10.902 COTA. \$30,000 from the Natural Resources Conservation Service. 9/13/2023 - 8/31/2026.
- Jiale Xu (Principal Investigator). Low-Cost and Efficient Control of Onsite Pesticide Contamination by Far-UVC Light to Protect Farmer Health and Ecosystems 10.912 EQP. \$17,500 from the Natural Resources Conservation Service. 9/13/2023 - 8/31/2026.
- Jiale Xu (Principal Investigator). Low-Cost and Efficient Control of Onsite Pesticide Contamination by Far-UVC Light to Protect Farmer Health and Ecosystems 10.924 CST. \$15,000 from the Natural Resources Conservation Service. 9/13/2023 - 8/31/2026.
- Jiale Xu (Principal Investigator). Low-Cost and Efficient Control of Onsite Pesticide Contamination by Far-UVC Light to Protect Farmer Health and Ecosystems 10.069 CRP. \$74,067 from the Natural Resources Conservation Service. 9/13/2023 - 8/31/2026.
- Ying Huang (Principal Investigator), Pan Lu (Co-PI), Xingyu Wang (Co-PI). All-In-One Data Collection Station for Real-time Traffic and Pavement Bottom-up Cracking Monitoring. \$100,000 from the Federal Highway Administration. 9/11/2023 - 9/11/2025.

## **RECENTLY SUBMITTED PROPOSALS**

- Syeed Md Iskander (Principal Investigator), Thomas M DeSutter (Co-PI), Jiale Xu (Co-PI). PFAS movement in agricultural soil: influences of soil chemistry, tillage, and freeze-thaw cycles. \$300,000 from the National Institute of Food & Agriculture. 1/15/2024 - 1/14/2026.

- Jiale Xu (Principal Investigator), Syeed Md Iskander (Co-PI). Enhanced Control of Antimicrobial Resistance by Innovative Krypton Chloride Excimer Lamps in Fish Processing Chain. \$300,000 from the National Institute of Food & Agriculture. 3/1/2024 - 2/28/2026.
- Joao Paulo Cassol Flores (Principal Investigator), Andrew J Green (Co-PI). Expediting FHB phenotyping using hyperspectral imaging of plants and grain. \$31,085 from the Agricultural Research Service. 6/1/2024 - 5/31/2026.

## RECENT PUBLICATIONS

For 2023, 193 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:

- Duan, Jilin, Yanpeng Liu, Lixin Zhu, Shengming Ma, Qiuli Gong, Alla Dolgoplova, and Simone A. Ludwig. 2023. “Delineation of Integrated Anomaly with Generative Adversarial Networks and Deep Neural Networks in the Zhaojikou Pb-Zn Ore District, Southeast China.” *ACTA GEOLOGICA SINICA-ENGLISH EDITION* 97 (4): 1252–67. <https://doi.org/10.1111/1755-6724.15053>.
- Elma, Maliha, Madhava Sarma Vemuri, and Umamaheswara Rao Tida. 2023. “Design, Analysis and Optimization of Magnetic-Core Solenoid Inductor for On-Chip Multi-Phase Buck Converter.” *IEEE ACCESS* 11: 90563–74. <https://doi.org/10.1109/ACCESS.2023.3281359>.
- Golui, Debasis, Md Basit Raza, Arkaprava Roy, Jajati Mandal, Ankit Kumar Sahu, Prasenjit Ray, Siba Prasad Datta, Mohammad Mahmudur Rahman, and Achintya Bezbaruah. 2023. “Arsenic in the Soil-Plant-Human Continuum in Regions of Asia: Exposure and Risk Assessment.” *CURRENT POLLUTION REPORTS*, August. <https://doi.org/10.1007/s40726-023-00279-2>.
- Pandey, Ramsharan, Oveis Hassanijalilian, Seyed Ali Esmaeili, Scott W. Pryor, and Ghasideh Pourhashem. 2023. “Supply Chain Model to Compare the Biorefinery Economics and Environmental Performance of Baled and Pelleted Biomass System.” *BIOENERGY RESEARCH*, August. <https://doi.org/10.1007/s12155-023-10656>.

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*.

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