

COLLEGE HAPPENINGS

September 3, 2024

IN THE NEWS

['I have contributed to solutions'](#)

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

Monday, September 9, **Creating a New Circular Carbon Economy via Carbon Capture, Utilization and Storage**. This distinguished lecture event features Dr. Ah-Hyung “Alissa” Park, professor of chemical and biomolecular engineering and the Ronald and Valerie Sugar Dean of the UCLA Samueli School of Engineering. 2:00 – 3:00 p.m. in the Memorial Union Anishinaabe Theater.

Thursday, September 19, **College of Engineering Scholarship and Awards Reception**. Join the College of Engineering as we acknowledge our scholarship recipients and donors, and recognize the accomplishments of outstanding faculty and staff. 3:00 - 4:30 p.m. in the Memorial Union Očefi Šakōwiŋ Ballroom.

Friday, September 20, **Richard Offerdahl '65 Engineering Complex Groundbreaking**. Join us for a transformational day for NDSU and the College of Engineering! The ceremony is set to start at 2:00 p.m.

Wednesday, September 25, **Fall Career Expo**. The Fall Career Expo is a great opportunity to connect with employers both locally and from around the country. Whether you are looking for an internship, full-time employment, or want to learn from leaders in your industry, the Expo has opportunities for you. 11:00 a.m. – 3:00 p.m. at the Fargodome.

EMPLOYEE ENGAGEMENT INITIATIVE

Investing in the well-being of the people across the NDSU community continues to be one of President Cook's five strategic priorities. One way to improve well-being is by identifying and addressing barriers to employee engagement. When employees are engaged, they feel positive about their work, connected to colleagues, and valued for their contributions.

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 will open 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](#) and look for an email about this effort in October.

NDSU LOST AND FOUND

To help alleviate the frustration of losing personal items, [a new website has been created](#) to direct students, staff, and faculty on how to report a lost or found item on campus.

Please utilize this email account ndsulostandfound@ndsu.edu if you need guidance on reporting or would like to provide feedback on the system.

HOMECOMING 2024

We are just one month away from celebrating [NDSU Homecoming 2024!](#) NDSU Homecoming is our opportunity to join together as students, staff, faculty, alumni and friends to celebrate and showcase NDSU's academics and athletics in a great community.

You're invited to participate in the activities planned for the week of Sept. 16 – 21. The full list and volunteer opportunities available on the [Homecoming webpage](#).

2024 BIOSCIENCE SUMMIT

You are invited to attend the BioScience Summit at the Avalon Events Center in Fargo on September 17 and 18. The event is a chance to meet some of the nation's leading bioscience and medical device innovators, explore opportunities for collaboration, and find partnerships that will help to build out one of the nation's fastest growing bioscience ecosystems.

NDSU's Office of Research and Creative Activity is a sponsor of the 2024 BioScience Summit and will be hosting a panel called *Leveraging Higher Education Relationships*:

- (Moderator) Cindy Graffeo, Innovation and Economic Development Director, NDSU
- Teresa Connor, Dean of Health and Human Services, NDSU
- John McEvoy, Professor and Head of Microbiological Sciences, NDSU
- Alan Kallmeyer, Professor and Interim Dean of the College of Engineering, NDSU

The event is organized and co-hosted by the Greater Fargo Moorhead Economic Development Corporation (GFMEDC), Bioscience Association of North Dakota (BioND), North Dakota Department of Agriculture, and the North Dakota Department of Commerce.

[Get the full agenda and register for the Summit >>](#)

FUNDING OPPORTUNITIES

[Developing and Demonstrating Nanosensor Technology to Detect, Monitor, and Degrade Pollutants \(U.S. Environmental Protection Agency\)](#)

Continued exposure to certain PFAS, even at low levels, can cause harmful health effects. Rural and underserved communities specifically face barriers to frequent and rapid PFAS monitoring.

- This funding opportunity is soliciting research to develop and demonstrate nanosensor technology with functionalized catalysts that have the potential to degrade selected contaminants in addition to detecting and monitoring pollutants.

- Specifically, EPA is seeking proposals that use nanotechnology to detect, monitor, and degrade PFAS in groundwater or surface water that may be used as drinking water sources.

Award and Eligibility Information:

- \$1,500,000
- Public, private, nonprofits/institutions/organizations, public and private institutions of higher education.

Application deadline: Wednesday, November 13, 2024 (11:59:59 pm ET)

NSF Computer and Information Science and Engineering (CISE): Core Programs

The NSF CISE Directorate supports research and education projects that develop new knowledge in all aspects of computing, communications, and information science and engineering, as well as advanced cyberinfrastructure, through the following core programs:

- Division of Computing and Communication Foundations (CCF)
- Division of Computer and Network Systems (CNS)
- Division of Information and Intelligent Systems (IIS)
- Office of Advanced Cyberinfrastructure (OAC)

Proposers are invited to submit proposals in several project classes, which are defined as follows:

- Small Projects -- up to \$600,000 total budget with durations up to three years: projects in this class may be submitted to CCF, CNS, and IIS only;
- Medium Projects -- \$600,001 to \$1,200,000 total budget with durations up to four years: projects in this class may be submitted to CCF, CNS, and IIS only; and
- OAC Core Projects -- up to \$600,000 total budget with durations up to three years: projects in this class may be submitted to OAC only.

Deadlines: Small projects: July 18-Sept. 30, 2024; Medium/OAC Core projects: Oct 1 - Oct 23, 2024

RECENTLY AWARDED GRANTS

- Ewumbua Monono (Principal Investigator), Niloy Chandra Sarker (Co-PI), Ademola Monsur Hammed (Co-PI). Design and testing of a pilot scale sugarbeet diffuser and press to evaluate optimum microbial control mechanisms. \$176,200 from the Agricultural Research Service. 6/1/2024 - 12/30/2025.
- Pinjing Zhao (Principal Investigator), Changhui Yan (Co-PI). Rational Design of Nickel Catalysts for Directing Group-Assisted Alkyne Hydrofunctionalization. \$431,400 from the National Institutes of Health. 9/1/2024 - 8/31/2027.
- Jiale Xu (Principal Investigator). Novel Carbon Quantum Dots (CQD) for Efficient and Low-cost Remediation of Brine Spills to Protect Soil and Water Qualities. \$142,746 from the Natural Resources Conservation Service. 9/1/2024 - 8/31/2027.

RECENTLY SUBMITTED PROPOSALS

- Fardad Azarmi (Principal Investigator). Additively Manufactured High Temperature Friction Stir Tooling through Thermal Spray Techniques Phase II. \$657,849.50 from the National Center for Manufacturing Science. 10/1/2024 - 9/30/2027.
- Sumitha George (Principal Investigator), Sudarshan Kumar Srinivasan (Co-PI), Qifeng Zhang (Co-PI), Umamaheswara Rao Tida (Co-PI). MASH Digital Twins Institute collaboration. \$544,925 from the National Institute of Standards and Tech. 6/1/2025 - 5/31/2030.

- Mijia Yang (Principal Investigator). Research Experiences for Undergraduates on Optimization of Geopolymer Mix Design for 3D Printing. \$426,366 from the National Science Foundation. 1/1/2025 - 12/31/2027.
- Ying Huang (Principal Investigator), Xingyu Wang (Co-PI). TRACE-Methane: Transparent Real-time Accessible Comprehensive Emissions Monitoring of Methane. \$800,000 from the Department of Energy. 1/1/2025 - 8/31/2028.
- Zhikai Liang (Principal Investigator), Andrew J Green (Co-PI), Changhui Yan (Co-PI). Leveraging Microstructural Insights with Multiscale Strategies to Enhance Stem Strength in Spring Wheat Across Water Conditions. \$649,142 from the National Institute of Food & Agriculture. 3/1/2025 - 2/28/2029.
- Sumitha George (Principal Investigator), Sudarshan Kumar Srinivasan (Co-PI), Qifeng Zhang (Co-PI), Umamaheswara Rao Tida (Co-PI). MASH Digital Twins Institute collaboration. \$499,913 from the National Institute of Standards and Tech. 6/1/2025 - 5/31/2030.
- Sulaymon Eshkabilov (Principal Investigator), Julia Hadfield Bowsher (Co-PI), Benjamin A Geaumont (Co-PI). Wireless Sensor Based IoT System for Honey Bee Health Monitoring. \$750,000 from the National Institute of Food & Agriculture. 6/1/2025 - 5/31/2030.
- Syeed Md Iskander (Principal Investigator). RELEASE OF MICRO-NANOPLASTICS IN FOOD FROM PLASTIC PACKAGING. \$650,000 from the National Institute of Food & Agriculture. 1/1/2025 - 12/31/2028.

RECENT PUBLICATIONS

For 2024, 94 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:

- Ateeq, Wajiha, and Omid Beik. "Operations and Development of Practical Control Approaches for the Borrego Springs Microgrid." *IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS* 60, no. 2 (April 2024): 2653–63. <https://doi.org/10.1109/TIA.2023.3344422>.
- Lakshan, K. a. S., and D. Nawarathna. "Engineering the Apparent Quantum Yield and Emission Rate of Fluorophore Molecules by Coupling Fluorophore Dipoles with Plasmon Modes of Gold Using Low Frequency Electric Fields." *JOURNAL OF PHYSICS D-APPLIED PHYSICS* 57, no. 45 (November 15, 2024): 455401. <https://doi.org/10.1088/1361-6463/ad687b>.
- Li, Zhaofan, Sara A. Tolba, Yang Wang, Amirhadi Alesadi, and Wenjie Xia. "Modeling-Driven Materials by Design for Conjugated Polymers: Insights into Optoelectronic, Conformational, and Thermomechanical Properties." *CHEMICAL COMMUNICATIONS*, August 19, 2024. <https://doi.org/10.1039/d4cc03217a>.
- Miah, Md Ochiuddin, and Jun Kong. "Augmented Reality and Cross-Device Interaction for Seamless Integration of Physical and Digital Scientific Papers." *INTERNATIONAL JOURNAL OF HUMAN-COMPUTER INTERACTION*, August 20, 2024. <https://doi.org/10.1080/10447318.2024.2388372>.
- Ouyang, Tao, Xu Chen, Shanshan Chen, Yanqiang Li, Xiaoying Shang, Zhiyong Bai, Ningtao Jiang, Zhishuo Yan, Junhua Luo, and Sangen Zhao. "A Nonlinear Optical Crystal with Deep-Ultraviolet Transparency and Appropriate Birefringence Achieved Using π -Conjugated Confined $[B_3O_3F_4(OH)]^{2-}$." *NEW JOURNAL OF CHEMISTRY*, August 22, 2024. <https://doi.org/10.1039/d4nj02834a>.
- Ram, Billy G., Peter Oduor, C. Igathinathane, Kirk Howatt, and Xin Sun. "A Systematic Review of Hyperspectral Imaging in Precision Agriculture: Analysis of Its Current State and Future Prospects." *COMPUTERS AND ELECTRONICS IN AGRICULTURE* 222 (July 2024): 109037. <https://doi.org/10.1016/j.compag.2024.109037>.

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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