FROM THE INTERIM DEAN

Welcome to 2024

Happy New Year! I hope you all had a chance to relax and recharge with family and friends over the winter break. Whether you stayed close to home or traveled afar, spending some time away from the office is important for our well-being. As we begin a new semester, I want to extend my appreciation to all of you for your commitment and dedication to providing the best possible educational experience for our students.

This semester, I am particularly excited about a new mentorship program that we are piloting, called Industry Connections. The goal of this program is to help improve retention among first- and second-year students by pairing them with an industry mentor in their field of interest. We know that effective mentorship from practitioners is an important factor that contributes to the success of our graduates once they enter the workforce. By introducing that mentorship experience earlier in their academic career, we aim to help students understand and appreciate the contributions they can make to society through their chosen profession.

During this pilot study, we will have approximately 25 pairs of industry mentors and student mentees representing all departments in our college. The program has been very well received among our industry partners, and they have responded enthusiastically by providing numerous mentors who are willing to volunteer their time to help support our students. These mentors will meet several times throughout the semester with their mentees, offering them academic advice, career guidance, and recommendations on personal and professional goals. We plan to expand the program in future years to include all students who may be interested in this unique mentorship opportunity.

Working together with our industry partners, we will achieve even greater success in meeting the workforce needs of our state and region. I appreciate your support in helping our students achieve their full potential...and I wish you all the best in 2024!

Alan R. Kallmeyer, Ph.D.
Interim Dean | College of Engineering

IN THE NEWS

NDSU graduate school receives national recognition

NDSU sets record for annual research expenditures

Students reflect on NDSU experience

Fargo Monthly: College for Kids
CONGRATULATIONS

Please let College Happenings know about honors, awards, new grants and other announcements so we can share them with other faculty and staff.

NEW HIRES

Lauren Viker – Academic and Student Services Coordinator in the Department of Civil, Construction and Environmental Engineering.

Anna Adkins – Academic and Administrative Assistant for the College of Engineering and the Department of Industrial and Management Engineering.

Grant Klevgaard – Academic Advisor for the Cybersecurity and Software Engineering Programs.

Armstrong Aboah – will start February 1 as the new Transportation Engineering faculty member in the Department of Civil, Construction and Environmental Engineering.

UPCOMING EVENTS

Thursday, January 11, Spring 2024 NIH Grant Bootcamp Info Session. Learn more about the upcoming NIH Grant Bootcamp that will run from January to May with the intention of supporting grant submissions with June and September deadlines. 11:30 a.m. – 1:00 p.m. Memorial Union Nueta Room.

Wednesday, January 17, Post Tenure Review Committee Town Hall. This meeting will provide information to all faculty and staff on the SBHE Ad Hoc Post Tenure Review Committee. The meeting will address the SBHE committee’s charge, what NDSU’s responses have been to date, and what the committee expects. 9:00 – 10:00 a.m. in the Memorial Union Prairie Rose room.

Wednesday, February 7, Spring Career Expo. The Spring Career Expo provides a great opportunity for students to meet a wide variety of employers. Employers who attend are actively looking for student talent to fill both full-time positions and internships/co-ops. 11:00 a.m. – 3:00 p.m. at the Fargodome.

SPRING 2024 RESEARCH WORKSHOPS

Students (undergraduate and graduate) and mentees/postdocs are encouraged to attend the Spring 2024 Research Workshops. Make sure to let them know lunch is included!

Leadership and Entrepreneurship Workshop

- Thursday, January 25
- 11:00 a.m. to 12:30 p.m.
- Location: Memorial Union – Prairie Rose Room

Topic: Leadership and entrepreneurship discussion with Zane Gernhart, Executive Director for the NDSU Research Foundation (NDSURF), and Cindy Graffeo, Innovation and Economic Development Director for NDSU Office and Creative Activity.

Register >> here by Friday, January 19

Poster Preparation and Abstract Writing Workshop

- Thursday, February 29
- 11:00 a.m. to 12:30 p.m.
- Location: Memorial Union – Hidatsa Room

Topic: How to write an abstract and prepare a poster. This workshop is presented by the Center for Writers.

Register >> here by Friday, February 23

NDU DAY OF HONOR

NDU Day of Honor commemorates the lives of NDU students, faculty, and staff who have passed away during the 2023 calendar year. The annual ceremony, first held in 2013, offers attendees closure, reverence, and a sense of community in remembering those no longer with us.

The NDU Day of Honor memorial service will be held on Tuesday, February 13, 2024, at 2:00 p.m. in the Oceti Sakowin Ballroom. The service will be streamed via Zoom for those who wish to join virtually. All NDU students and employees, as well as family and friends of the honorees, are invited.

If you know of a member of our campus community who passed away in 2023, please visit the NDU Day of Honor webpage to complete a submission form. Submission forms will be accepted through Friday, January 26th.

APPLICATIONS FOR AI SUSTEIN SUMMER REU NOW OPEN

The AI SUSTEIN Program (“Artificial Intelligence on Sustainable Energy Infrastructure Network”) is led by North Dakota State University in collaboration with the University of Arkansas, UNLV, and Nueta Hidatsa Sahnish College, to establish collaborative research, workforce development, and education to investigate the potential of Artificial Intelligence (AI) as a driving force for bringing about changes to infrastructures and industries.

This program will feature a 2024 summer research experience in STEM fields including manufacturing engineering, civil & environmental engineering, electrical engineering, computer engineering & science at UNLV. The program is open to undergraduate students currently pursuing a degree at a college or university with an expected graduation date after December 2024.

Applications are due by February 4, 2024.

Learn More >> https://etap.nsf.gov/award/177/opportunity/5648

SUMMER UNDERGRADUATE BIOMEDICAL RESEARCH PROGRAM

The NDU Office of Research and Creative Activity is seeking faculty mentors and research projects for a summer undergraduate biomedical research program. The program’s participants will be undergraduate students attending colleges and universities in North Dakota. Funded by the North Dakota IDeA Network of Biomedical Research Excellence, the program’s goal is to expose the state’s undergraduate STEM major students to careers in the biomedical sciences.

The 10-week program will run from May 28, 2024 to August 2, 2024. Participating students are expected to conduct research independently for 40 hours per week, participate in weekly mentoring by faculty and project leaders, and attend workshops, trainings, and other activities organized by the RCA office. Through the funds received from the grant, the RCA office will cover the following costs for each undergraduate researcher:

- Summer positions will pay $15/hour. It is expected that students will work 40 hours per week. Overtime is not allowed.
- Funds up to $500 will be available to purchase consumable research materials and for the use of NDU core facilities.
• Student on-campus housing will be provided for non-NDSU students who would need to relocate to Fargo for the program.

One-page project proposals should include:

• A project title and contact information for the faculty mentors. Collaborative faculty mentor teams are encouraged.
• An abstract describing the project and the expected outcomes from the undergraduate research experiences which will also be available to student applicants. Remember that interested applicants may not have past research experience so please keep technical descriptions at a level easy for undergraduate students to understand.
• A short description of the relation of the proposed project to biomedical research.

This summer undergraduate research program will fund one student per project. Proposals Due: January 20, 2024 at 11:59 p.m.

FUNDING OPPORTUNITIES

NSF: Emerging Frontiers in Research and Innovation (EFRI-2024/25) Biocomputing through EnGINeering Organoid Intelligence (BEGIN OI)

The EFRI Biocomputing through EnGINeering Organoid Intelligence (BEGIN OI) [NSF 24-508] solicitation supports foundational and transformative research to advance the design, engineering, and fabrication of organoid systems that are capable of processing information dynamically while interfacing with non-living systems. EFRI BEGIN OI supports a broad interpretation of in vitro biological “intelligent systems” to include capture of real-world input, autonomous processing in an engineered biological construct, and generating an output that drives an engineered system. The EFRI BEGIN OI solicitation asks investigators to define the bounds of “intelligence” and “learning” needed to achieve responsive and adaptive biological computing and control in engineered systems.

Upcoming Deadlines:

• Letter of Intent (required): January 17, 2024; Proposal Deadline: February 22, 2024
• Letter of Intent (required): September 12, 2024; Proposal Deadline: December 12, 2024

NSF: Formal Methods in the Field (FMitF)

FMitF [NSF 24-509] encourages close collaboration between two groups of researchers. The first group consists of researchers in the area of formal methods, which, for the purposes of this solicitation, is broadly defined as principled approaches based on logic and mathematics to specification, modeling, design, analysis, implementation, abstraction, verification, synthesis, and optimization of systems, networks and applications. The second group consists of researchers in the "field," which, for the purposes of this solicitation, is defined as any area within computer and information science and engineering that would benefit from developing and applying formal methods in their research.

There are Three Tracks:

• Track I – Research Proposals
• Track II – Transition to Practice (TTP) proposals
• Track III – Education Proposals

Deadline: February 20, 2024
RECENTLY SUBMITTED PROPOSALS

- Harun Pirim (Principal Investigator), Ajay Kumar Jha (Co-PI). A-SYSRV: SYSTEMS BIOLOGY REVERSE VACCINOLOGY, AN INTEGRATED VACCINE PREDICTION TOOL FOR AQUACULTURE PATHOGENS. $650,000 from the National Institute of Food & Agriculture. 7/1/2024 - 6/30/2027.
- Sulaymon Eshkabilov (Principal Investigator). Using machine learning algorithms for optimizing lettuce production, ensuring food safety, and mitigating environmental impact. $1,000,000 from the Agricultural Marketing Service. 9/30/2024 - 9/30/2025.
- Zhihao Liang (Principal Investigator), Joao Paulo Cassol Flores (Co-PI). Collaborative Research: Improving the Transferability of Sorghum Heat Tolerance Across Growth Platforms using Temporally and Spatially Robust Genomic Grammar. $1,050,193 from the National Science Foundation. 8/1/2024 - 7/31/2027.
- Sudarshan Kumar Srinivasan (Principal Investigator), Laura Elizabeth Thomas (Co-PI). CHARM: Cognitive High Assurance Representations for Mixed-reality. $472,959 from the Office of the Secretary of Defense. 7/1/2024 - 6/30/2027.
- Achintya Nayan Bezbaruah (Principal Investigator), Mohiuddin Abdul Quadir (Co-PI). Understanding PFAS Release and Uptake at the Plant-Soil Interface to Develop Sustainable Agronomic Practices for Food Safety. $1,599,469 from the Environmental Protection Agency. 8/1/2024 - 7/31/2025.
- Chau Le (Principal Investigator). Develop Methods to Reduce Crashes and Increase Driver Compliance in Work Zones. $14,000 from the SD Department of Transportation. 3/1/2024 - 3/15/2024.
- Yan Zhang (Principal Investigator), Yechun Wang (Co-PI). Multiscale Modeling of Fiber Woven Composite through Fusion of NASMAT and Peridynamics. $100,000 from the National Aeronautics and Space Administration. 6/1/2024 - 5/31/2025.

RECENT PUBLICATIONS

For 2024, 13 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:


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.