NDSU | COLLEGE OF ENGINEERING

COLLEGE HAPPENINGS

December 13, 2022

IN THE NEWS

[NDSU engineering students adapt toys for local kids with disabilities](#)

[NDT – NDSU Engineering Students Adapt Toys for Local Kids with Disabilities](#)

[Computer science faculty member presents at judicial conference](#)

[NDSU students design STEM games for kids](#)

[NDSU mechanical engineering students wrap up the semester in a creative way](#)

[NDSU students design games to get children involved in STEM](#)

[Student wins Dr Pepper Tuition Toss](#)

[Computer Science transfer student wins $100,000 scholarship in Dr Pepper football toss](#)

[NDSU commencement speaker: 'Believe in yourself'](#)

[Winter commencement: 'Become the person you want to be'](#)

CONGRATULATIONS

Achintya Bezbaruah, professor and interim chair of the **Department of Civil, Construction and Environmental Engineering**, was elected **President of the Sustainable Nanotechnology Organization**. SNO is a worldwide professional society comprised of individuals and institutions engaged in research and development, implications, advances, education, and applications of nanotechnology for sustainability.

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

Thursday, December 15, **College of Engineering 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 pm. All Winter 2022 graduating seniors are invited to participate.

Friday, December 16, **2022 Winter Commencement**. The ceremony for the College of Engineering will be held at 2:00 p.m. at the SHAC.

Wednesday, February 8, **Spring Career Expo**. The Spring Career Expo will feature more than 250 employers allows students to connect with different industries, explore careers, and apply for full-time positions, part-time positions, and internships/co-ops. 11 a.m. – 3 p.m. at the FargoDome.

Wednesday, February 15, **How to Pursue Funding from Mission Agencies**. This virtual workshop will provide insights for researchers on how to approach mission agencies, analyze funding opportunities, and develop white papers, quad charts, and proposals to these agencies. Learn more>>

ROBOTICS EVENT VOLUNTEERS

The College of Engineering is hosting 2 robotics competitions for the regional FIRST community and we need your help. **On Saturday, January 14,** we will host **FIRST Tech Challenge (FTC)** teams for the North Dakota State Qualifier. Then, **on Saturday, January 21,** we will host **FIRST LEGO League Challenge (FLL)** teams for their State Qualifier. Both qualifiers will be held at the Bentson Bunker Fieldhouse and **typically go from 9AM-4PM.**

These events are great opportunities to get kids excited about STEM and interact with potential students and their families, but we need volunteers to make these competitions a success. To learn more and to sign up please contact College of Engineering Outreach Coordinator Angela Gross (angela.gross@ndsu.edu). Thank you!

FUNDING OPPORTUNITIES

NSF: Computer and Information Science and Engineering – Core Programs, Large Projects

The NSF CISE Directorate supports research and education projects that develop new knowledge in all aspects of computing, communications, and information science and engineering through core programs. This solicitation [NSF 23-524] invites proposals on bold new ideas tackling ambitious fundamental research problems within scope of one or more of the participating CISE divisions core programs listed below, and that are well suited to a large-scale integrated collaborative effort.

- Division of Computing and Communication Foundations (CCF):
    - Algorithmic Foundations (AF) program ;
    - Communications and Information Foundations (CIF) program;
    - Foundations of Emerging Technologies (FET) program; and
    - Software and Hardware Foundations (SHF) program;
- Division of Computer and Network Systems (CNS):
    - Computer and Network Systems (CSR) program;
    - Networking Technology and Systems (NeTS) program;
- Division of Information and Intelligent Systems (IIS):
    - Human-Centered Computing (HCC) program;
    - Information Integration and Informatics (III) program; and
    - Robust Intelligence (RI) program.

Teams should consist of two or more investigators (PI, co-PI(s), or other Senior Personnel) with complementary expertise. Investigators are strongly encouraged to come together within or across disciplines and / or institutions and combine their creative talents to identify compelling, transformative research agendas where the impact of the results will exceed that of the sum of each of their individual contributions. Investigators are especially encouraged to seek out partnerships in a wide class of institutions that together produce innovative approaches to the proposed research.

Proposals that are focused on research infrastructure are not appropriate for this solicitation.

Proposers are invited to submit proposals with total budgets from $3,000,000 to $5,000,000 and durations up to five

years.

Deadline: February 28, 2023

RECENTLY SUBMITTED PROPOSALS

- Ewumbua Monono (PI), Kenneth Hellevang (CPI). Evaluating the Quality of Soybeans Killed at Green and Semi-green Maturities after Field Dry-down Under Different Weather Conditions. $19,635 from the MN Soybean Research & Promotion Council. 5/1/2023 - 4/30/2024.
- Jiale Xu (PI). Collaborative Research: Enhanced Photolysis and Advanced Oxidation Processes by Novel KrCl* (222 nm) Irradiation. $200,000 from the National Science Foundation. 5/1/2023 - 4/30/2026.
- Ajay Kumar Jha (PI). Diagnosing Android app availability issues on Google Play. $60,000 from Google Inc. 5/1/2023 - 4/30/2024.

RECENT PUBLICATIONS

For 2022, 136 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:

- Elelu, Kehinde, Tuyen Le, and Chau Le. 2023. "Collision Hazard Detection for Construction Worker Safety Using Audio Surveillance." *Journal of Construction Engineering and Management* 149 (1): 04022159. https://doi.org/10.1061/JCEMD4.COENG-12561.
- Hasan, Ahmad, Muazzam A. Khan, Balawal Shabir, Arslan Munir, Asad Waqar Malik, Zahid Anwar, and Jawad Ahmad. 2022. "Forensic Analysis of Blackhole Attack in Wireless Sensor Networks/Internet of Things." *Applied Sciences-Basel* 12 (22): 11442. https://doi.org/10.3390/app122211442.
- Matetich, Christopher, and Jessica Vold. 2023. "Regolith-Based Polymer Matrix Composites for In Situ Material Creation for Long-Term Extraterrestrial Missions." *Journal of Aerospace Engineering* 36 (1): 04022103. https://doi.org/10.1061/(ASCE)AS.1943-5525.0001507.
- Raju, Vomsheendhur, and Majura F. Selekwa. 2021. "On the Mapping Problem in Slam Approaches for Autonomous Robot Navigation." In *Proceedings of ASME 2021 International Mechanical Engineering Congress and Exposition (Imece2021), Vol 7b*, VO7BTO7A020. New York: Amer Soc Mechanical Engineers. https://www.webofscience.com/wos/woscc/full-record/WOS:000883344800020.
- Zohra, Fatema Tuz, Omar Salim, Hossein Masoumi, Nemai C. Karmakar, and Shuvashis Dey. 2022. "Health Monitoring of Conveyor Belt Using UHF RFID and Multi-Class Neural Networks." *Electronics* 11 (22): 3737. https://doi.org/10.3390/electronics11223737.

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.