NDSU | COLLEGE OF ENGINEERING

COLLEGE HAPPENINGS

July 26, 2022

IN THE NEWS

Professor featured in WalletHub article

CONGRATULATIONS

Sumitha George, assistant professor in the **Department of Electrical and Computer Engineering**, and ECE graduate students **Sanjay Das** and **Arun G** won best paper award at the **IEEE Computer Society Annual Symposium on VLSI 2022** for their paper "Adaptable Multi-Level Voltage to Binary Converter Using Ferroelectric FETs".

A team of NDSU engineering students finished 2nd in Robotics Student Design Competition at the **2022 American Society of Agricultural and Biosystems Engineers Annual International Meeting**.

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, July 28, **Green Dot training program**. The Green Dot program is focused on giving bystanders the tools to safely intervene when they see warning signs of power based personal violence. 10:00 – 11:30 a.m. in the Memorial Union Nueta room. Register Here.

Friday, August 5. **Summer Undergraduate Research Programs Poster Session**. 10:00 a.m. – 12:00 p.m. at the A. Glenn Hill Center.

Wednesday, August 10, **Academic Leaders Orientation and Retreat for Department Chairs/Heads and Deans**.

Friday, August 12, **AI SUSTEIN Program Annual Meeting**. CoE faculty are invited to the closing luncheon to meet faculty from other universities involved in this collaboration with Nueta Hidatsa Sahnish College, University of Arkansas, and University of Nevada, Las Vegas. 12:30 – 2:00 p.m. in the NDSU Memorial Union. Register Here.

Tuesday, August 16, **New Faculty Orientation**. The New Faculty Orientation is intended for faculty that have started at NDSU since last year's conferences. Register here.

Wednesday, August 17, **Annual Faculty/Academic Staff Conference**. Register here.

RESEARCH SPACE TOURS

Sharing what you're doing in your research space is a good first step in initiating collaborations outside of your home unit. You are invited to host a lab tour for your NDSU colleagues and Vice President Fitzgerald. Complete this short questionnaire to begin the process.

FUNDING OPPORTUNITIES

ND EPSCoR: Seed Grants

ND EPSCoR seeks to provide emerging areas seed awards of up to $25,000 in direct costs to researchers from the National Science Foundation (NSF) Established Program to Stimulate Competitive Research (EPSCoR) RII Track-1 New Discoveries in the Advanced Interface of Computation, Engineering, and Science (ND-ACES) participating institutions in areas of emerging high impact and transformative research related to the Center for Cellular Biointerfaces in Science and Engineering (CCBSE). More information can be found on the CCBSE webpage on the ND EPSCoR website.

Applications must be made by a researcher **who is not currently associated with the 2020-2025 ND-ACES cooperative agreement or who did not receive a 2021 or 2022 ND-ACES emerging seed award**. Members of traditionally underrepresented populations in STEM disciplines are especially encouraged to apply. See the Request For Applications for details.

Deadline: Noon on September 1, 2022

NDSU Foundation Impact Fund

The NDSU Foundation Grants Committee is accepting applications for the 2022 Impact Fund Grant Program. The application deadline is Tuesday, August 2, 2022, by 4:30 p.m.

The NDSU Impact Fund Grant Program provides funding for projects that make a significant impact on excellence and the educational experience for students at North Dakota State University. This program is supported by annual contributions from alumni and friends of the University. Applications are accepted from faculty, staff, and recognized student groups. The Impact Fund Grant Program offers grants of $20,000 to $75,000.

The application form, and additional information about the NDSU Impact Fund Grant Program, can be found at the NDSU Foundation website: https://www.ndsufoundation.com/impact-fund

For any further questions, please email Janna Swanson, Grants Committee Liaison, at janna.swanson@ndsufoundation.com.

NSF: Computational and Data-Enabled Science and Engineering in Mathematical and Statistical Sciences (CDS&E-MSS)

The CDS&E-MSS program [PD 22-8069] accepts proposals that engage with the mathematical and statistical challenges presented by (1) the ever-expanding role of computational experimentation, modeling, and simulation on the one hand, and (2) the explosion in production and analysis of digital data from experimental and observational sources on the other. The goal of the program is to promote the creation and development of the next generation of mathematical and statistical software tools, and the theory underpinning those tools, that will be essential for addressing these challenges.

The research supported by the CDS&E-MSS program will aim to advance mathematics or statistics in a significant way and will address computational or big-data challenges. Proposals of interest to the program must include a Principal Investigator or co-Principal Investigator who is a researcher in an area supported by the Division of Mathematical Sciences. The program welcomes submission of proposals that include multidisciplinary collaborations or provide opportunities for training through research involvement of junior mathematicians or statisticians. This program is part of

the wider NSF Computational and Data-enabled Science and Engineering (CDS&E) enterprise.

Full proposals accepted anytime.

RECENTLY FUNDED GRANTS

- Mijia Yang (PI), Yao Yu (CPI), Qifeng Zhang (CPI). Harness of Sunlight through Solar Snow Fence: Implementation. $187,201 from the MN Department of Transportation. 6/30/2022 - 6/30/2024.
- Danling Wang (PI), Qifeng Zhang (CPI). EAGER: Novel MXene nanocomposites based 3D printed flexible sensors for breath analysis. $83,590 from the National Science Foundation. 7/15/2022 - 6/30/2023.

RECENTLY SUBMITTED PROPOSALS

- Yao Yu (PI), Qifeng Zhang (CPI), Zhibin Lin (CPI), Zhili Gao (CPI), Kenneth Hellevang (CPI). Impact of Indoor Environment Quality on School Children: Long-term Monitoring and Assessment in a Smart and Connected Community. $150,000 from the National Science Foundation. 1/1/2023 - 12/31/2023.
- Mijia Yang (PI). Impact Simulation to Support the Development of an Artificial Bird Material for Aircraft Certification. $45,000 from the National Aeronautics and Space Administration. 8/16/2022 - 8/15/2023.
- Omid Beik (PI). Study of Multiphase Magnetics and Controls for MW-Scale Generator An Extension from: Multiphase MW Generator for Improved Power Density and Increased Reliability by Reduced DC Capacitive Filtering. $37,584 from the National Aeronautics and Space Administration. 8/16/2022 - 8/15/2023.
- Shuvashis Dey (PI). Towards a Low-cost, Pervasive Wireless Soil Salinity and Nutrient (N-P-K) Sensing System for Precision Agriculture. $44,995 from the National Aeronautics and Space Administration. 8/16/2022 - 8/15/2023.

RECENT PUBLICATIONS

For 2022, 76 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:

- Ahmadi, Mostafa, Farhad Panahi, Naeimeh Bahri-Laleh, Mohammad Sabzi, Gerard Pareras, Bruno N. Falcone, and Albert Poater. n.d. “PH-Responsive Gelation in Metallo-Supramolecular Polymers Based on the Protic Pyridinedicarboxamide Ligand.” *Chemistry of Materials*. Accessed July 7, 2022. https://doi.org/10.1021/acs.chemmater.2c01346.
- DeNio, Joshua Aaron, and Simone A. Ludwig. 2021. “Improving Transaction Speed and Scalability in Blockchain Systems.” In *2021 IEEE International Conference on Big Data (Big Data)*, edited by Y. Chen, H. Ludwig, Y. Tu, U. Fayyad, X. Zhu, X. Hu, S. Byna, et al., 3619–28. New York: IEEE. https://doi.org/10.1109/BigData52589.2021.9671648.
- Nitta, Yusaku, Mitchell Borders, and Simone A. Ludwig. 2021. “Analysis of Gene Expression Cancer Data Set: Classification of TCGA Pan-Cancer HiSeq Data.” In *2021 IEEE International Conference on Big Data (Big Data)*, edited by Y. Chen, H. Ludwig, Y. Tu, U. Fayyad, X. Zhu, X. Hu, S. Byna, et al., 4745–52. New York: IEEE. https://doi.org/10.1109/BigData52589.2021.9671793.
- Rosch-Grace, Dominic, and Jeremy Straub. 2022. “Analysis of the Likelihood of Quantum Computing Proliferation.” *Technology in Society* 68 (February): 101880. https://doi.org/10.1016/j.techsoc.2022.101880.
- Sunil, G., Yu Zhang, Cengiz Koparan, Mohammed Raju Ahmed, Kirk Howatt, and Xin Sun. 2022. “Weed and Crop Species Classification Using Computer Vision and Deep Learning Technologies in Greenhouse Conditions.” *Journal of Agriculture and Food Research* 9 (September): 100325. https://doi.org/10.1016/j.jafr.2022.100325.

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.