

COLLEGE HAPPENINGS

October 26, 2021

FROM THE DEAN

In one of my [previous “From the Dean” messages](#), I talked about the importance of defining and measuring appropriate metrics to evaluate our overall health as a college and to track progress on our strategic initiatives. Management guru Peter Drucker summarized the importance of metrics when he said, “If you cannot measure it, you cannot improve it.” As part of the implementation of our [2020-2025 strategic plan](#), the College Leadership Team developed a scorecard to track our progress on our various strategic initiatives and the overall health of our college. To most easily view and track these metrics, we’ve created an interactive dashboard at the following URL.

https://www.ndsu.edu/coe/strategic_plan_scorecard/

The first page of the dashboard shows metrics related to our overall organizational health. This page includes overall enrollment, research expenditures, diversity measures, retention rates, student to faculty ratio, and graduate job placement data. The next four pages of the dashboard track our progress on our four strategic initiatives:

1. Cultivate a culture of collaborative excellence.
2. Integrate industry with research and education.
3. Build leadership and innovation skills of students.
4. Increase philanthropy through engagement with donors, alumni, and other stakeholders.

This dashboard is still a work in progress. For example, some data still needs to be collected, and we still need to add data on the fifth page of the dashboard to track our progress on our initiative to increase philanthropy through engagement with stakeholders.

Of course, just measuring something is not enough. As one of the members on the college’s advisory and advancement board reminded me, “you don’t make hog fat by weighing it.” But it is the first step in tracking progress.



IN THE NEWS

[Graduate student receives American Fellowship](#)

[NDSU to field largest ever National Cyber League team](#)

[Campus tours are ‘super friendly’](#)

[Transportation institute awards scholarships](#)

[Water Resources Research Institute seeks graduate fellowship applications](#)

CONGRATULATIONS

Ryan Anderson, Kira Elisaon, Biraj Saha and Himani Yadav, four students from **Syed Iskander's** group in the **Department of Civil, Construction and Environmental Engineering**, won awards for their poster presentations at the annual North Dakota Water and Pollution Control Conference.

Keerthi Nawarathna, associate professor in the **Department of Electrical and Computer Engineering**, has accepted the position of Faculty Fellow for Honors and Scholarships in the Office of the Provost. Nawarathna's appointment will include supporting current Honors students' progress and the Honors Council, coordinating the schedule of Honors Program offerings and assisting nominees with University-level scholarship applications.

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, November 9, **Faculty Council meeting**. 12:30 – 1:30 p.m. FLC 122 or Zoom.

Monday, November 15, **Donuts with the Deans (Staff)**. 9:00 a.m. – 10:00 a.m. Engineering Administration room 106.

Friday, December 17, **2021 Winter Commencement**. 2:00 p.m. in the SHAC. Faculty and staff who wish to participate in the academic processional along with our graduation class can sign up here:

<https://www.ndsu.edu/commencement/facstaff/>

ANTI-RACISM COALITION

You are invited to join the [Anti-Racism Coalition \(ARC\)](#), a grassroots group of NDSU employees who affirm the value of our BIPOC (Black, Indigenous, People of Color) students and colleagues.

The ARC recognizes the ways in which predominantly white institutions, such as our own, often perpetuate systemic racism and the injustices that are tied to it. The group is open to any like-minded NDSU employee. [Read more about the group here](#). Please [fill out this form](#) if you would like to join the group.

CODED BIAS SCREENING AND LIVE VIRTUAL DISCUSSION

The ADVANCE Partnership Project '[Joining Forces](#)' an NSF-funded collaboration between NDSU, Iowa State University, Michigan Technological University and Western Michigan University, is hosting a screening of [Coded Bias](#) and a live virtual discussion to highlight gender inequities, especially in STEM, and suggest institutional strategies to counter these inequities.

Coded Bias explores the discovery that facial recognition does not see dark-skinned faces and women accurately, and the first-ever legislation in the U.S. to govern against bias in the algorithms that impact us all.

The event takes place **Tuesday, November 16 at 6:00 p.m.** You can RSVP [here](#). After you RSVP you will receive an invitation to screen the film prior to the live discussion.

FUNDING OPPORTUNITIES

DoD: Army Research Laboratory Broad Agency Announcement (BAA) for Basic and Applied Scientific Research

This BAA [[W911NF-17-S-0003](#)] sets forth basic and applied scientific research areas of interest of the Army Research Laboratory, including:

- Computational Sciences,
- Materials Research,
- Sciences for Maneuver,
- Information Sciences,
- Human Sciences,
- Analysis and Assessment, and
- Artificial Intelligence.

This BAA is open through March 31, 2022

ND NASA EPSCoR Research and Travel RFP

[North Dakota NASA EPSCoR](#) (the Established Program to Simulate Competitive Research) is soliciting research proposals from faculty at [affiliate institutions](#) for Research Seed Grant funding and Travel Grant Funding. Funding must contribute to the completion of NASA-relevant research designed to promote and expand particular NASA research subdisciplines in North Dakota.

More information, including NASA priorities, the full Request for Proposals (RFP), online submission form, and budget sheet can be found in the [RFP announcement on the ND NASA EPSCoR website](#).

Deadline: November 9, 2021

RECENTLY FUNDED GRANTS

- Shuvashis Day (PI). Towards Artificial Intelligence (AI) Equipped Smart Antenna system for Satellite-Based Internet of Things (IoT). \$15,000 from ND EPSCoR. 10/20/2021 – 05/31/2022.
- Sumitha George (PI). NDSU EPSCoR STEM Research and Education Seed Award. \$14,360 from ND EPSCoR. 10/14/2021 – 06/30/2022.
- Jun Kong (PI). NDSU EPSCoR STEM Research and Education Online/Virtual modules Award. \$5,847 from ND EPSCoR. 10/14/2021 – 05/31/2022.
- Yao Yu (PI). NDSU EPSCoR STEM Research and Education Instructional Equipment Award. \$7,000 from ND EPSCoR. 10/14/2021 – 05/31/2022.
- Syeed Md. Iskander (PI). NDSU EPSCoR STEM Research and Education Instructional Equipment Award. \$35,000 from ND EPSCoR. 10/14/2021 – 05/31/2022.
- Jeremy Straub (PI). NDSU EPSCoR STEM Research and Education Seed Award. \$5,768 from ND EPSCoR. 10/14/2021 – 05/31/2022.
- Wenjie Xia (PI). NDSU EPSCoR STEM Research and Education Seed Award. \$15,000 from ND EPSCoR. 10/14/2021 – 05/31/2022.
- Inbae Jeong (PI). NDSU EPSCoR STEM Research and Education Seed Award. \$15,000 from ND EPSCoR. 10/14/2021 – 05/31/2022.
- Jessica Vold (PI). NDSU EPSCoR STEM Research and Education Seed Award. \$15,000 from ND EPSCoR. 10/14/2021 – 05/31/2022.
- Di Wu (PI). NDSU EPSCoR STEM Research and Education Seed Award. \$15,000 from ND EPSCoR. 10/16/2021 – 05/31/2022.

RECENTLY SUBMITTED PROPOSALS

- Trung Quoc Le (PI). Characterizing and benchmarking of wearable activity track devices in active, resting and sleep conditions. \$134,807 from Plume. 11/01/2021.
- Danling Wang (PI). Novel AI-Empowered Smart Olfactory Sensor for Type 1 Diabetes Rapid Diagnosis and Continuous Monitoring. \$109,841.60 from the Juvenile Diabetes Research Foundation. 03/15/2022 – 03/14/2023.

RECENT PUBLICATIONS

For 2021, 183 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:

- Ajmera, Beena, Kamal Raj Upadhaya, and Aaron Lee M. Daigh. 2021. "Slope Failures in North Dakota: Influence of Geology, Topography, and Salt Concentration in Pore Fluid." In *IFCEE 2021: From Traditional to Emerging Geotechnics*, edited by C. Elmohtar, S. Kulesza, T. Baser, and M. D. Venezia, 197–205. New York: Amer Soc Civil Engineers. <https://www.webofscience.com/wos/woscc/full-record/WOS:000698605300021?AlertId=6be422b2-ea2e-40c5-8e21-3756db20c6af&SID=7D9V2t1tSjgEP1mYnOz>.
- Das, Hritom, Ali Ahmad Haidous, Scott C. Smith, and Na Gong. 2021. "Flexible Low-Cost Power-Efficient Video Memory With ECC-Adaptation." *IEEE Transactions on Very Large Scale Integration (VLSI) Systems* 29 (10): 1693–1706. <https://doi.org/10.1109/TVLSI.2021.3098533>.
- Dong, Jing, Qing Li, Wenjie Xia, Bihong Lv, Guohua Jing, Huazhen Shen, and Chung-shin Yuan. 2021. "Improvement of Water Resistance by Fe₂O₃/TiO₂ Photoelectrocatalysts for Formaldehyde Removal: Experimental and Theoretical Investigation." *Environmental Science and Pollution Research*, October. <https://doi.org/10.1007/s11356-021-16459-w>.
- Gudagunti, F. Dackson, S. G. Gundlakunta, D. Nawarathna, and I. T. Lima. 2021. "Characterization of the Binding Affinity of a Cancer Biomarker and Its Antibody Using Dielectrophoresis." In *2021 IEEE Research and Applications of Photonics in Defense Conference (Rapid)*. New York: Ieee. <https://doi.org/10.1109/RAPID51799.2021.9521431>.
- Gudagunti, F. Dackson, P. Mulinti, S. G. Gundlakunta, D. Nawarathna, A. E. Brooks, and I. T. Lima. 2020. "Dielectrophoresis Based Sensor for Heparin Detection." In *2020 IEEE Research and Applications of Photonics in Defense Conference (Rapid)*. New York: Ieee. <https://www.webofscience.com/wos/woscc/full-record/WOS:000701372000025?AlertId=6be422b2-ea2e-40c5-8e21-3756db20c6af&SID=8FFofNeBGGJ1ryoflZG>.
- Jayasooriya, Vidura, Logeeshan Velmanickam, Christopher Kotarsky, Nathaniel Johnson, Sean Mahoney, Sherri Stastny, Kyle Hackney, and Dharmakeerthi Nawarathna. 2020. "MiRNA Testing to Identify Candidates for Individualized Weight Loss." In *2020 IEEE Research and Applications of Photonics in Defense Conference (Rapid)*. New York: Ieee. <https://www.webofscience.com/wos/woscc/full-record/WOS:000701372000035>.
- Naik, Dayakar L., and Ravi Kiran. 2021. "A Novel Sensitivity-Based Method for Feature Selection." *Journal of Big Data* 8 (1): 128. <https://doi.org/10.1186/s40537-021-00515-w>.
- Sunoj, S., Ademola Hammed, C. Igathinathane, Sulaymon Eshkabilov, and Halis Simsek. 2021. "Identification, Quantification, and Growth Profiling of Eight Different Microalgae Species Using Image Analysis." *Algal Research-Biomass Biofuels and Bioproducts* 60 (December): 102487. <https://doi.org/10.1016/j.algal.2021.102487>.
- Velmanickam, Logeeshan, David H. Chang, Ganepola Ap Ganepola, and Dharmakeerthi Nawarathna. 2021. "Low-Cost and Rapid Micro-RNA Assay for Identification of Pancreatic Cancer." In *2021 IEEE Research and Applications of Photonics in Defense Conference (Rapid)*. New York: Ieee. <https://doi.org/10.1109/RAPID51799.2021.9521412>.
- Velmanickam, Logeeshan, Vidura Jayasooriya, Madhava Sarma Vemuri, Umamaheswara Rao Tida, and Dharmakeerthi Nawarathna. 2020. "Universal Biosensor for Multiple Biomarker Detection for Medical

Applications.” In *2020 IEEE Research and Applications of Photonics in Defense Conference (Rapid)*. New York: Ieee. <https://www.webofscience.com/wos/woscc/full-record/WOS:000701372000049?AlertId=6be422b2-ea2e-40c5-8e21-3756db20c6af&SID=8FFofNeBGGJ1ryoflZG>.

- Velmanickam, Logeeshan, Ivan T. Lima, and Dharmakeerthi Nawarathna. 2020. “Achieving over Million-Fold Fluorescence Enhancement for Biosensing Applications.” In *2020 IEEE Research and Applications of Photonics in Defense Conference (Rapid)*. New York: Ieee. <https://www.webofscience.com/wos/woscc/full-record/WOS:000701372000054?AlertId=6be422b2-ea2e-40c5-8e21-3756db20c6af&SID=8FFofNeBGGJ1ryoflZG>.

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.

