

# COLLEGE HAPPENINGS

September 3, 2019

## FROM THE DEAN

### A Conversation with Thundar

This weekend I travelled to Minneapolis where I joined about 35,000 other NDSU Bison fans as we cheered on the football team to a great win at Target Field. After the game, as I got to my car in the parking garage, who did I run into but our NDSU Bison mascot, Thundar. Our conversation went something like this.

**Thundar:** Good evening, Dean Kessler (scanning the area to make sure no one was within earshot). Did you enjoy the football game?

**Mike:** Hello, Thundar. Yes, it was a great atmosphere in Target Field for the game. But, I didn't think you were able to speak. What's up with that?

**Thundar:** Well, I'm not supposed to, but I get so starved for conversation. Plus, I wanted to hear about some of the things happening in the College of Engineering. You won't tell anyone about me breaking my vow of silence, will you?

**Mike:** Well, we'll see...

**Thundar:** I follow you on Twitter, so I know that you were busy last week welcoming a new cohort of students to campus.

**Mike:** Yes, that's right. We started by welcoming our engineering LAUNCH students to NDSU two days before the rest of campus. These new students are part of our Engineering Leadership Learning Community, a community of engineering majors that live together in Sevrinson Hall and experience an advanced extracurricular leadership program throughout the year. The two day LAUNCH program was packed full of sessions and events to LAUNCH these new students in the right direction through team building activities and connecting with faculty and staff in the College of Engineering. Then, at the beginning of last week, we welcomed all of the new College of Engineering students in the Bentson Bunker Fieldhouse. At that welcome event, students heard from the college leadership team, including advice from Associate Dean Scott Pryor, a recent graduate out in the workforce and our Engineering Ambassadors.

**Thundar:** Wow, well what are some other activities that you have planned in the College of Engineering this semester?

**Mike:** Well, one is the Scholarship and Awards Reception on Friday, Sept. 6, at 3:00 in the Memorial Union Great Plains Room. At that event we'll be celebrating the more than \$350,000 worth of College of Engineering scholarships awarded this year to our students, and also recognizing our faculty and staff with outstanding teaching, research, and staff awards. We also have several activities planned during homecoming week. For example, on Thursday, October 10 at 4:15 p.m., the whole university is invited to the public launch of *In Our Hands: The Campaign for North Dakota State University* in the Sanford Health Athletic Complex. Then, on Friday, October 11 we'll again host the Engineering Homecoming Showcase luncheon, where alumni and students will join faculty and staff as we highlight some of the exciting activities going on in the College of Engineering. We'll also have our monthly faculty council meetings throughout

the school year (with the first scheduled for Friday, September 20 at 3:00), and our Order of the Engineer induction ceremony at the end of each semester.

**Thundar:** Do you expect a good turnout by your faculty and staff at these events?

**Mike:** Yes, I certainly hope so. These interactions with our alumni are an essential part of our college outreach and development efforts, and help to cultivate a climate of collaborative excellence, which is a priority for the college. It's so important that our faculty and staff make it a priority to attend these events.

**Thundar:** And what is new with the curriculum? Are you considering any new programs in the College of Engineering?

**Mike:** Well, yes, thanks for asking. We are currently in the process of seeking final approvals for a new BS degree in environmental engineering and a new minor in robotics. Assuming these new programs are approved, we hope to begin offering them starting in fall 2020.

**Thundar:** That's great. Do you have any new faculty searches in the college?

**Mike:** Yes. We have already identified four finalists for the Chair of the Construction Management and Engineering Department, and we will be bringing in the finalists for on campus interviews soon. We also have active searches for an assistant professor in computer engineering; an assistant/associate professor in mechanical engineering in the area of automation, controls, and robotics; and a lecturer in computer science. I also have requested approval to move forward on several other searches for positions where we have open. However, due to a decrease in university enrollments, and subsequent impact on the university budget, we may have to wait before approvals are given to move forward with some of those additional searches. We also have several new faculty that have joined us this summer, including Dr. Abdul-Aziz Ali Banawi in the Department of Construction Management and Engineering, Dr. Umaamaheswara Rao Tida in the Department of Electrical and Computer Engineering, and Dr. Lokesh Narayanan in the Department of Industrial and Manufacturing Engineering. We are expecting our new engineering entrepreneurship faculty member, Dr. Arnab Chanda, to join as a new faculty member in the Department of Mechanical Engineering at the end of the month. Finally, I was pleased to welcome Lisa Otterson as the new director of development for the College of Engineering. In fact, Lisa was here at the Bison football game with me, where she had a chance to experience Bison Nation firsthand.

**Thundar:** I have always loved being a Bison, and the people are our best asset.

**Mike:** I agree, which is why one of the Strategic Pillars for the College of Engineering is being *People Driven*. We're committed to investing in our people and build teams to drive transformative research, teaching and student experience.

**Thundar:** Well said! It has been nice talking with you. But, now I need to go find the Gold Star Marching Band and get ready for the game against UND next week. See ya later!

**Mike:** It was my pleasure...and Go Bison!



## IN THE NEWS

[STEM Fields Need Male Allies to Advocate for Greater Gender Equity](#)

[NDSU Extension to offer educational activities at Big Iron](#)

## 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

Friday, September 6, **College of Engineering Scholarship and Awards Reception**. Celebrate our scholarship recipients and donors and to recognize the accomplishments of outstanding faculty, staff and students. 3:00 – 4:00 p.m. in the Memorial Union Great Plains Room. [RSVP Here](#)

Wednesday, September 25, **Engineering and Tech Expo**. 10:00 a.m. – 3:00 p.m. at the Fargodome.

Monday, September 30, **3<sup>rd</sup> Annual North Dakota Biomedical Engineering Symposium**. Registration is free and can be [completed here by September 22](#). Please encourage your graduate students to register and participate in poster presentations to showcase their biomedical related research.

Thursday, October 10, **In Our Hands: The Campaign for North Dakota State University**. Join the campus community for the public launch of the largest capital campaign in the history of NDSU. 4:15 p.m. at the Sanford Health Athletic Complex.

Friday, October 11, **College of Engineering Homecoming Showcase**. Mark your calendars now and stay tuned for details and registration information.

Thursday and Friday, October 17 and 18, **Discover NDSU**. The largest event of the year for high school juniors and seniors.

## BREAKTHROUGH ALERTS

We're introducing a new tool to help get the word out about the amazing research and innovation happening in the College of Engineering. Breakthrough Alerts are a short and concise summary of research that has been published in a journal and linked online.

Breakthrough Alerts are written by faculty with help from the communications department. They will be sent to targeted local, state, national, and international media, posted to NDSU and College of Engineering news websites and shared on social media. [An online form is available](#) to easily guide faculty when summarizing the published research and making it understandable to the general public.

Have questions or want more information? Contact [Kyle Bosch](#), Director of Communication and Marketing for the College of Engineering.

## PROPOSAL DEVELOPMENT PROGRAM

The Office of Research and Creative Activity has launched a Proposal Development Program is to provide a professional development opportunity for NDSU faculty new to proposal writing or those seeking a refresher to hone proposal writing skills and knowledge in funding agency opportunities.

The Proposal Development Program will cover topics ranging from finding funding opportunities to developing ideas and a well-aligned and structured proposal. Budgeting, evaluation planning, and peer review sessions will also be part of the programming.

An experienced grant consultant, faculty, and research support staff will lead the sessions. [Register soon to reserve your spot!](#)

## FUNDING OPPORTUNITIES

### NIH: Centers of Biomedical Research Excellence (P20) - Limited Submission Program

Limited submission grant programs are those that indicate a limit on the number of proposals that may be submitted by an institution for a particular deadline. A selection process becomes necessary if more applicants express interest in applying than NDSU is allowed to submit to the grant program. **Notify RCA by 9/30/2019, 5:00 p.m. if you intend to apply.**

The National Institutes of Health Centers of Biomedical Research Excellence (COBRE) [PAR-19-313] are thematic, multidisciplinary centers that augment and strengthen institutional biomedical research capacity. This is accomplished by expanding and developing biomedical faculty research capability and enhancing research infrastructure, including the establishment of core facilities needed to carry out the objectives of a multidisciplinary, collaborative program. Only institutions in IDeA (EPSCoR) states are eligible to apply. An application in response to this funding opportunity announcement (FOA) must have a thematic scientific focus in a specific area in basic, clinical, or translational research including community engagement and outreach research as appropriate. **Applications addressing health challenges of rural populations in IDeA states are encouraged.**

The PD(s)/PI(s) must be an established biomedical or behavioral research scientist, who leads, as the principal investigator, at least one peer-reviewed research grant from NIH, NSF or other Federal or non-Federal sources that is closely related to the scientific theme of the proposed Center and has mentoring and administrative experience to lead the COBRE program to meet its goals.

*Letter of Intent due: December 28, 2019 (30 days prior to deadline);*

*Final application deadline: January 28, 2020.*

## RECENTLY FUNDED GRANTS

- Benjamin Davis Braaten (PI). Electronically Tunable Materials and Devices Using Subwavelength Particles. \$110,000 from the U.S. Air Force. 09/01/2019 – 08/31/2020.

## RECENTLY SUBMITTED PROPOSALS

- Alan R Kallmeyer (PI), Chad A Ulven (CPI). Design and Development of Durable Adhesive Joints. \$149,544 from PPG Industries. 09/01/2019 – 09/30/2020.
- Mijia Yang (PI), Jun Kong (CPI). Assessing Pavement Markings for Automated Vehicle Readiness. \$154,188 from the National Science Foundation. 07/01/2020 – 06/30/2022.
- Mijia Yang (PI). Identify the Economic Benefits of Truck Weight and Safety Enforcement Improvements. \$145,322 from the MN Department of Transportation. 07/01/2020 – 06/30/2022.
- David Grewell (PI). Collaborative Research: REU Site Center for Bioplastics and Biocomposites. \$324,000 from the National Science Foundation. 05/01/2020 – 05/01/2022.
- Ying Huang (PI). SSC-PG: Emergency Evacuation in Smart Cities with Autonomous Vehicles in Mixed Driver Environments. \$150,000 from the National Science Foundation. 07/01/2020 – 07/01/2021.
- Wenjie Xia (PI). Collaborative Research: Multiscale Mechanics of Adsorption-Deformation Coupling in Microporous Solids. \$165,736 from the National Science Foundation. 03/01/2020 – 02/28/2023.
- Zhibin Lin (PI). REU Site: Bringing artificial intelligence and machine learning in structural health monitoring. \$339,792 from the National Science Foundation. 09/01/2020 – 08/31/2023.
- Huojun Yang (PI). Analyzing the effects of curriculum-based competition tutoring within undergraduate education. \$600,000 from the National Science Foundation. 03/16/2020 – 03/15/2023.

- Om Prakash Yadav (PI). International Research Experience for Students (IRES) in Big Data Applications in Energy and Related Infrastructure. \$128,075 from the National Institutes of Health. 02/01/2020 – 12/31/2022.
- Benjamin Delbert Brooks (PI). Epitope modeling and high throughput SPR characterization of antibody: antigen binding. \$1,450,000 from the National Institutes of Health. 09/01/2020 – 08/30/2022.
- Benjamin Delbert Brooks (PI). High-Throughput Vaccine Characterization of Infectious Disease. \$1,450,000 from the National Institutes of Health. 09/01/2020 – 08/30/2022.

## RECENT PUBLICATIONS

For 2019, 86 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, Thomas Brandon, and Binod Tiwari. 2019. "Characterization of the Reduction in Undrained Shear Strength in Fine-Grained Soils Due to Cyclic Loading." *Journal of Geotechnical and Geoenvironmental Engineering* 145 (5): 04019017. [https://doi.org/10.1061/\(ASCE\)GT.1943-5606.0002041](https://doi.org/10.1061/(ASCE)GT.1943-5606.0002041).
- Can, Qi, Xiaojun Li, Zhibin Lin, and Zhimin Wu. 2019. "Compression Behavior of Expansive Concrete-Encased-Steel Filled Square CFRP Tubes." *Composite Structures* 225 (October): UNSP 111106. <https://doi.org/10.1016/j.compstruct.2019.111106>.
- Croll, Andrew B., Nasibeh Hosseini, and Michael D. Bartlett. 2019. "Switchable Adhesives for Multifunctional Interfaces." *Advanced Materials Technologies* 4 (8): 1900193. <https://doi.org/10.1002/admt.201900193>.
- Naik, Dayakar L., Hizb Ullah Sajid, and Ravi Kiran. 2019. "Texture-Based Metallurgical Phase Identification in Structural Steels: A Supervised Machine Learning Approach." *Metals* 9 (5): 546. <https://doi.org/10.3390/met9050546>.
- Pan, Hong, Zhibin Lin, and Guoqing Gui. 2019. "Enabling Damage Identification of Structures Using Time Series-Based Feature Extraction Algorithms." *Journal of Aerospace Engineering* 32 (3): 04019014. [https://doi.org/10.1061/\(ASCE\)AS.1943-5525.0000978](https://doi.org/10.1061/(ASCE)AS.1943-5525.0000978).
- Sun, Zhaohua, Xiang Fu, and Xuefeng Chu. n.d. "Assessing the Impacts of Reservoir Operation on Downstream Water Diversions Using a Simplified Flow Model." *Hydrological Sciences Journal-Journal Des Sciences Hydrologiques*. <https://doi.org/10.1080/02626667.2019.1649410>.

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](mailto:kyle.bosch@ndsu.edu) to submit items for *College Happenings*.

Follow the College of Engineering on social media.



