

# COLLEGE HAPPENINGS

August 20, 2019

## FROM THE ASSOCIATE DEAN

### Getting ready for a great year

Welcome back! I hope everyone had a good mix of rejuvenation and productivity this summer and that you are feeling ready for a new academic year. I had a few notes I wanted to share in preparation for the new semester:

#### Syllabi

1. Engineering courses should have updated their syllabi with the new ABET Student Learning Outcomes. The outcomes we had been using (a-k) are no longer relevant and all syllabi should be updated to map with the new set of outcomes (1-7; <https://www.abet.org/accreditation/accreditation-criteria/criteria-for-accrediting-engineering-programs-2019-2020/#GC3>). If you haven't discussed this change with your program ABET coordinator or department chair, I encourage you to do that.
2. While you are updating your syllabi, please give them a quick review against the required syllabus components (<https://www.ndsu.edu/facultysenate/acadaffairs/syllabi/>). A syllabus should be an important document for students to reference – if we don't pay attention to them, neither will our students.
3. We used to reference the College of Engineering Honor Code in our syllabi – the Honor Code was actually a mechanism for students to report academic honesty violations and have a student jury recommend consequences. Although our expectations for honesty and integrity have not changed, College leadership noted that the student-initiated Honor Code had not had a functioning system for required annual renewal or handling violations for many years. Syllabi should still include NDSU's required academic honesty statement, but specific reference to a CoE Honor Code can be removed.

#### Advising

1. I hope everyone will make additional effort to use the Navigate tool for advising. Navigate can make our jobs easier and allow us to be more effective. Andrea Hein (Advising Resource Center Director) will be offering a few Navigate trainings or refreshers in the coming months – look out for those.
2. Scheduling: Advising is not limited to 1 or 2 weeks in the semester. I keep my calendar "open" for advising appointments in Navigate from 9-12 and 1-4:30 throughout the year and make sure that I block out times on my Outlook calendar for travel and other tasks. I've never been overrun with advisees and students cannot schedule anything more than 24 hours in advance. I appreciate cutting out all of the back-and-forth scheduling emails. This is also how new students are told to schedule an advising appointment, and I have talked to several who were confused that they couldn't "see" their adviser on the system. I encourage everyone to use that system, but if you aren't going to – please make sure your advisees know how they should contact you and schedule appointments. What seems obvious to you may be seen as a confusing barrier to a struggling student.

3. Advising: This is what Navigate is actually most useful for. The risk levels (green, yellow, red) associated with each student are much more accurate than most of us realize. A recent analysis at NDSU showed that 55% of undergraduates who were identified as high risk leave NDSU (not counting graduation) within 1 year! Those percentages are 24% and 4% for medium and low risk students, respectively. We may not be able to change that for all high-risk students, but we can for some. Students at higher risk will benefit from seeing that their adviser knows them, cares about them, and is willing to help them. Advising matters – thank you for showing that our students matter also!

I wish everyone a great start to a great new year!

Scott W. Pryor, Ph.D.

Associate Dean for Undergraduate Programs

## IN THE NEWS

[NDSU hosts STEM Kids Camp](#)

[NDSU students attend DefCon cybersecurity conference](#)

## 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

Please join us in welcoming **Monica Haugen** and **Jill Walkinshaw** to the College of Engineering. Monica is the new Administrative Assistant in the **Department of Computer Science** and Jill is the new Academic Assistant in the **Department of Computer Science**.

## UPCOMING EVENTS

Friday, August 23, **Annual Faculty Conference**. A day of presentations by NDSU faculty and staff, demonstrating best practices for research, teaching, advising, climate, leadership, and classroom technologies. 8:30 a.m. to 3:00 p.m.

[REGISTER HERE](#)

Monday, August 26, **New Student Welcome**. 10:00 a.m. Bentson-Bunker Fieldhouse. Join us as we welcome the newest class of College of Engineering students to campus!

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.

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.

## CHALLEY INSTITUTE FOR GLOBAL INNOVATION & GROWTH FACULTY FELLOWS PROGRAM

The Challey Institute is a new institute at NDSU that has a mission of advancing understanding in the areas of innovation, trade, and institutions to identify policies and solutions that enhance economic growth and opportunity.

Faculty Fellows will contribute to the Challey Institute's mission by generating policy-relevant research, educating and training students, and engaging in public outreach. The Fellows Program is open to faculty in any discipline and will provide an annual stipend of \$8,000 for up to 20 NDSU faculty members. The deadline for applying is September 15th.

## NSF GRADUATE RESEARCH FELLOWSHIP APPLICATIONS

Seniors or 1<sup>st</sup>/2<sup>nd</sup>-year graduate students who are capable researchers should consider applying for the prestigious NSF Graduate Research Fellowship Program, which provides an annual \$34,000 stipend and \$12,000 to the institution for three years of graduate school.

Some guidelines for GRFP applicants:

- Must be a senior or early graduate student in STEM/STEM Ed
- Must be a US citizen, national, or permanent resident
- Must be able to propose independent, innovative research
- Must have potential for "significant achievements" in a STEM/STEM Ed. research career
- Applications are due at the end of October

The NDSU Center for Writers offers an 8-week, 1 cr. class, UNIV 440/640, to help students to plan and write their applications.

- More information about the GRFP can be found **[HERE](#)**
- More information about the class can be found **[HERE](#)**

## FUNDING OPPORTUNITIES

### NSF/Intel Partnership on Machine Learning for Wireless Networking Systems

The National Science Foundation (NSF) has partnered with Intel on the Machine Learning for Wireless Networking Systems program (**[NSF 19-591](#)**). This program seeks to accelerate fundamental, broad-based research on wireless-specific

machine learning (ML) techniques, towards a new wireless system and architecture design, which can dynamically access shared spectrum, efficiently operate with limited radio and network resources, and scale to address the diverse and stringent quality-of-service requirements of future wireless applications. In parallel, this program also targets research on reliable distributed ML by addressing the challenge of computation over wireless edge networks to enable ML for wireless and future applications. Model-based approaches for designing the wireless network stack have proven quite efficient in delivering the networks in wide use today; research enabled by this program is expected to identify realistic problems that can be best solved by ML and to address fundamental questions about expected improvements from using ML over model-based methods.

Proposals may address one or more Research Vectors (RVs): ML for Wireless Networks; ML for Spectrum Management; and Distributed ML over Wireless Edge Networks. It is anticipated that 10 to 15 awards will be made, with an award size of \$300,000-\$1,500,000, for periods of up to 3 years.

*Proposal deadline: October 29, 2019*

### **NSF Major Research Instrumentation (MRI) – 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.

**NSF MRI: Notify RCA by 9/5/2019, 5:00 p.m. if you intend to apply.**

The National Science Foundation Major Research Instrumentation (MRI) Program [[NSF 18-513](#)] serves to increase access to multi-user scientific and engineering instrumentation for research and research training in our Nation's institutions of higher education and not-for-profit scientific/engineering research organizations. An MRI award supports the acquisition or development of a multi-user research instrument that is, in general, too costly and/or not appropriate for support through other NSF programs. **Cost sharing of precisely 30% of the total project cost is required.**

An MRI proposal may request support for either the acquisition or development of a research instrument.

- Track 1: Track 1 MRI proposals are those that request funds from NSF greater than or equal to \$100,000 and less than \$1,000,000. Two proposal submissions are allowed per organization.
- Track 2: Track 2 MRI proposals are those that request funds from NSF greater than or equal to \$1,000,000 up to and including \$4,000,000. One proposal submission is allowed per organization.

**LIMITED SUBMISSION:** The MRI program requires that an MRI-eligible organization may, as a performing organization, submit or be included as a significantly funded subawardee in *no more than three MRI proposals*. Each performing organization is limited to a maximum of three proposals in the “Tracks” as defined above, with no more than two submissions in Track 1 and no more than one submission in Track 2.

### **RECENTLY FUNDED GRANTS**

- Xin Sun (PI). Computer Vision System Development for Online Pork Loin Quality Evaluation. \$70,000 from the National Pork Board. 08/01/2019 – 07/31/2021.
- Halis Simsek (PI). Effects of Different Water Table Depth on Plant Water Consumption, Yield, Quality Parameters and Antioxidant Enzyme Activities in Wheat Plant: A Lysimeter Study. \$45,392 from the ND Wheat Commission. 07/01/2019 – 06/30/2021.

- Wenjie Xia (PI), Ying Huang (CPI). Multilayer Thin Film Coating for Sensor Platform in Extreme Environments. \$90,249 from the University of North Dakota. 09/16/2019 – 09/15/2020.
- Robert Allan Sailer (PI). Ruggedization of production equipment and alternative ingredient identification for Dakota Sweet Crude. \$12,789 from Doodlebug Beverages. 07/01/2019 – 06/30/2020.
- Robert Allan Sailer (PI). Design, development and transition of manufacturing of Innovative cooling devices using CO<sub>2</sub> as coolant. \$166,238 from Frostime LLC. 07/01/2019 – 06/30/2021.
- Adam Curtis Gladen (PI). Using Solar-powered Cooling to Increase Trout Habitat and Refugia in Response to Warming Water Temperatures. \$81,804 from the SD Department of Game, Fish and Parks. 07/01/2019 – 07/01/2021.

## RECENTLY SUBMITTED PROPOSALS

- Changhui Yan (PI). ICBR:A GPU-Powered Cloud for Biological Research. \$646,845 from the National Science Foundation. 01/01/2020 – 12/31/2022.
- Zhaohui Liu (PI). CRII:III: Understanding Genome Organization by Incorporating Domain Knowledge into A Network Embedding Algorithm. \$175,000 from the National Science Foundation. 04/01/2020 – 03/31/2022.
- Lu Liu (PI). CRII:III: Understanding Genome Organization by Incorporating Domain Knowledge into A Network Embedding Algorithm. \$175,000 from the National Science Foundation. 04/01/2020 – 03/31/2022.
- Ravi Kiran Yellavajjala (PI). Acquisition of Global Navigation Satellite System to Prepare NDSU Students for Surveying Jobs. \$33,574 from the NDSU Foundation and Alumni Association. 11/01/2019 – 01/01/2020.
- Ravi Kiran Yellavajjala (PI). Polyol soy-protein based coating for protection against chloride-ion attack. \$32,000 from the MN Soybean Research and Promotion Council. 01/01/2020 – 12/31/2020.
- Beena D Ajmera (PI). Shear Strength Equipment for Geotechnical Engineering Laboratory. \$75,000 from the NDSU Foundation and Alumni Association. 12/01/2019 – 12/31/2020.
- Yao Yu (PI). STEM: Where the Green meets Gold. \$66,790 from the NDSU Foundation and Alumni Association. 11/01/2019 – 10/31/2020.
- Qifeng Zhang (PI), Danling Wang (CPI). An electronic system for assignment submission, grading, and returning. \$77,628 from the NDSU Foundation and Alumni Association. 01/01/2020 – 06/30/2021.

## RECENT PUBLICATIONS

*For 2019, 80 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:*

- Abbas, Tauqeer, Tanush Wadhawan, Asad Khan, John McEvoy, and Eakalak Khan. 2019. "Iron Turning Waste Media for Treating Endosulfan and Heptachlor Contaminated Water." *Science of the Total Environment* 685 (October): 124–33. <https://doi.org/10.1016/j.scitotenv.2019.05.424>.
- Al-Sawwa, Jamil, and Simone A. Ludwig. n.d. "Parallel Particle Swarm Optimization Classification Algorithm Variant Implemented with Apache Spark." *Concurrency and Computation-Practice & Experience*, e5451. <https://doi.org/10.1002/cpe.5451>.
- Radkar, Swarda S., Ali Amiri, and Chad A. Ulven. 2019. "Tensile Behavior and Diffusion of Moisture through Flax Fibers by Desorption Method." *Sustainability* 11 (13): 3558. <https://doi.org/10.3390/su11133558>.
- Wang, Guanzhong, Huanhai Xin, Di Wu, and Ping Ju. 2019. "Data-Driven Probabilistic Small Signal Stability Analysis for Grid-Connected PV Systems." *International Journal of Electrical Power & Energy Systems* 113 (December): 824–31. <https://doi.org/10.1016/j.ijepes.2019.06.004>.

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.

