

COLLEGE HAPPENINGS

March 17, 2020

FROM THE DEAN

Keep Calm and Carry On

What a week it has been for our campus and community!

As a result of the coronavirus pandemic, just six days ago, on Wednesday of last week, we announced that NDSU was cancelling all university-related international travel. Last Thursday, NDSU's administration made the decision that all students leaving campus for spring break should plan to not return until at least April 6, and that classes would be moving to an on-line format. We also learned that the NCAA tournament was cancelled, ending NDSU's men's basketball season prematurely. Yesterday, to promote social distancing, we declared that all NDSU employees who are able to work remotely should plan to do so by no later than tomorrow.

In the community, local basketball state tournaments and other events were cancelled last week. On Sunday night, Governor Burgum mandated the closure of all North Dakota K-12 schools, and cancelled all high school sports and activities indefinitely. Across the river in Moorhead, and throughout Minnesota, all bars and restaurants will be closed for dine-in service starting at 5 p.m. this evening, as well as gyms and coffee shops.

In the days and weeks ahead, we can expect more disruptions as our community becomes more aggressive in preventing the spread of the coronavirus. You have doubtlessly been inundated with email and news about the coronavirus, and doing your part to promote social distancing to "flatten the curve" of the epidemic. I also want to express my appreciation to our faculty and staff who have been working hard preparing to transition to online teaching and remote work. Thank you for your outstanding flexibility during this significant disruption to our operations. Also, I want to remind you about three web resources that may be helpful for teaching remotely, working remotely, and learning remotely.

- Teaching Remotely: https://www.ndsu.edu/its/lai_homepage/teaching_remotely/
- Working Remotely: https://www.ndsu.edu/its/lai_homepage/working_remotely/
- Learning Remotely: https://www.ndsu.edu/its/lai_homepage/learning_remotely/

In light of the inevitable uncertainty and worry in the face of the global pandemic and our response to it, I am reminded of the iconic image from the WWII poster commissioned by the British government in the build up to war with Germany. This poster was meant to offer reassurance to the dark days that lay ahead – "Keep calm and carry on." The poster, which was the last of a series of three posters, was held in reserve intended for use only in times of crisis or invasion. In the end, the poster was never officially issued, and it remained unseen by the public until a copy turned up more than 50 years later



in a second hand book store in NE England. Since that time, the poster has been reproduced and parodied, and become an iconic image of the 21st century. It is interesting to contemplate why the poster has such appeal and resonance now, in the 21st century. Most likely, it is the words on the poster, which, like a voice out of history, offer a very simple, warm hearted message to inspire confidence in others in difficult times.

I believe that sentiment in the iconic poster is almost right in terms of the proper mindset for coping with fear in face of the COVID-19 pandemic. However, we also shouldn't carry on with business as usual when dealing with infectious disease. Rather, we should follow the recommendations of experts to abide by social distancing and proper hygiene practices. Perhaps the slogan for our situation should be "Keep calm, wash your hands, social distance, ... and carry on."

There's a website where you can create your own "Keep calm and carry on" posters:
<https://www.keepcalmandcarryon.com/creator/>. Here are some alternative designs.



Stay safe and healthy,



IN THE NEWS

[NDSU cybersecurity programs, students win honors](#)

[Shadow a Student Challenge: Tim Peterson](#)

CONGRATULATIONS

Mohammad Hadi Bazrkar, a doctoral student in the **Department of Civil and Environmental Engineering**, was inducted into NDSU's **Tapestry of Inclusion**. The Tapestry of Inclusion is a pictorial mosaic that recognizes students, faculty, staff, and alumni for the contributions to diversity they bring to NDSU.

Please let [College Happenings](#) know about honors, awards, new grants and other announcements so we can share them with other faculty and staff.

UPCOMING REMOTE TEACHING TRAINING

Wednesday, March 18th

1:00pm – 2:00pm

How to use YuJa

[Please register here](#)

Thursday, March 19th

10:00am – 11:00am

Blackboard Basics (For instructors who have never used Blackboard)

[Please register here](#)

2:00pm – 4:00pm

Open Lab (Ask any question)

[Please register here](#)

Friday, March 20th

10:00am – 12:00pm

Open Lab (ask any question)

[Please register here](#)

2:00pm – 3:00pm

Blackboard Assignments and Tests

[Please register here](#)

COURSE MATERIAL UPDATE

With our transition to online learning, some students will lose access to course materials that they previously shared with classmates or instructors, or accessed via the library. To support these students, we've partnered with our digital course materials provider, VitalSource, and leading publishers, to launch VitalSource Helps, a program that provides **access to ebooks to all NDSU students through May 25th. Students may begin accessing these materials today at bookshelf.vitalsource.com.**

Further information, including answers to frequently asked questions for students and faculty can be found [here](#).

FUNDING OPPORTUNITIES

NSF DCL: Announcing Creation of the Foundational Research in Robotics Program

With this [Dear Colleague Letter](#) (DCL), the National Science Foundation (NSF) announces the creation of the Foundational Research in Robotics (Robotics) program as a program jointly managed by the Directorates for Engineering (ENG) and Computer and Information Science and Engineering (CISE).

The goal of the Robotics program is to erase artificial disciplinary boundaries and provide a single home for foundational research in robotics. Robotics is a deeply interdisciplinary field, and proposals are encouraged across the full range of fundamental engineering and computer science research challenges arising in robotics. All proposals should convincingly explain how a successful outcome will enable transformative new robot functionality or substantially enhance existing robot functionality.

The Robotics program will accept CAREER proposals, subject to the [CAREER Solicitation](#) deadlines and other requirements (www.nsf.gov/career), starting in July 2020.

Starting August 1, 2020, the Robotics program will accept unsolicited proposals at any time. Prospective investigators are encouraged to discuss topic suitability and project scope with one of the Program Officers prior to proposal preparation.

Equipment Repair Fund

The Research and Creative Activity Office has a limited pool of funds available for equipment repair requests. In the request, please include details of the equipment to be repaired, its use (departmental, college, institution-wide), and an estimate/quote of the repair cost. For departmental/unit requests, priority will be given to equipment that is used by multiple researchers and that has a match of at least 33%. For Service/Recharge Centers and Core Facilities, priority will be given to requests that have at least a 50% match. Funds must be spent no later than June 15, 2020.

Requests that are for preventive maintenance and calibration, capability upgrades, or new equipment purchases are not eligible.

Please submit your request to Becky Hellman Tangen (becky.hellman@ndsu.edu).

RECENTLY FUNDED GRANTS

- Beena D Ajmera (PI). Seed Funding: Quantifying Strength Degradation in Overconsolidated Soils. \$6,000 from the National Science Foundation. 02/01/2020 – 05/31/2020.

RECENTLY SUBMITTED PROPOSALS

- Majura Fortunatus Selekwia (PI). Reconfigurable Air-Ground Robotic Vehicle. \$1,021,003 from the National Science Foundation. 08/01/2020 – 07/31/2024.
- Yao Yu (PI), Huojun Yang (CPI). Building energy analysis and audit of A. Glenn Hill Center at North Dakota State University. \$43,201 from the ND Department of Commerce. 07/01/2020 – 06/30/2021.
- Achintya Bezbaruah (PI). Supplemental Support for U.S. -Africa Research Collaborations: Plant-Engineered Nanomaterials Interactions: Induced Physiological Reprogramming of Innate Immunity and Proliferative Growth in Plants. \$29,945 from the National Science Foundation. 05/16/2020 – 05/15/2021.
- Wenjie Xia (PI). A Bioinspired Design Strategy for Multifunctional Performance of Nanocellulose. \$1,000 from the NDSU Foundation and Alumni Association. 08/16/2020 – 12/31/2020.
- Dali Sun (PI). A Novel Exosome Driven Treatment for Pancreatic Cancer. \$40,000 from the National Institute of Health. 03/01/2020 – 08/31/2021.
- Mijia Yang (PI), Ravi Kiran Yellavajjala (CPI), Yiwen Xu (CPI). AI based bridge network monitoring and maintenance through coupled dynamics among bridge, vehicle, and traffic flow. \$476,109 from the Federal Highway Administration. 01/01/2021 – 12/31/2023.
- Danling Wang (PI), Wenjie Xia (CPI), Qifeng Zhang (CPI). Miniature Non-Invasive Sensor Based on a Novel Ferroelectric Nanomaterial for Application in Diabetes Diagnosis and Care. \$398,997 from the National Science Foundation. 08/01/2020 – 07/31/2023.
- Juan Li (PI). Developing an Artificial Intelligence (AI)- based Virtual Assistant to Provide Tailored Information for Caregivers of Persons with Alzheimer's Disease and Related Dementias. \$832,987 from the National Institutes of Health. 11/01/2020 – 10/31/2025.
- Om Prakash Yadav (PI). CORME ICP Membership Fee. \$15,000 from Horton Inc. 01/01/2020 – 12/31/2020.
- Om Prakash Yadav (PI). CORME ICP Membership Fee. \$15,000 from Bobcat Manufacturing Company. 01/01/2020 – 12/31/2020.
- Kalpana Katti (PI), Dinesh R Katti (CPI). Mechanobiological Markers for Cancer Metastasis to Bone. \$387,682 from the National Science Foundation. 08/01/2020 – 07/31/2023.
- Xinhua Jia (PI), Thomas Scherer (CPI). Vegetable production with best water management in the Farm Dell. \$29,728 from the Agriculture Marketing Service, 11/02/2020 – 04/28/2023.

RECENT PUBLICATIONS

For 2020, 37 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:

- Asa, Eric, Monisha Shrestha, Edmund Baffoe-Twum, and Bright Awuku. n.d. "Development of Sustainable Construction Material from Fly Ash Class C." *Journal of Engineering Design and Technology*. <https://doi.org/10.1108/JEDT-06-2019-0156>.
- Aslam, Mughees, Zhili Gao, and Gary Smith. n.d. "Framework for Selection of Lean Construction Tools Based on Lean Objectives and Functionalities." *International Journal of Construction Management*. <https://doi.org/10.1080/15623599.2020.1729933>.
- Darabi, Amir, and Fardad Azarmi. 2020. "Investigation on Relationship Between Microstructural Characteristics and Mechanical Properties of Wire-Arc-Sprayed Zn-Al Coating." *Journal of Thermal Spray Technology* 29 (1–2): 297–307. <https://doi.org/10.1007/s11666-019-00919-4>.
- Gudagunti, Fleming Dackson, Logeeshan Velmanickam, Dharmakeerthi Nawarathna, and Ivan T. Lima. 2020. "Nucleotide Identification in DNA Using Dielectrophoresis Spectroscopy." *Micromachines* 11 (1): 39. <https://doi.org/10.3390/mi11010039>.
- Rashid, Umma S., Bernhardt Saini-Eidukat, and Achintya N. Bezbaruah. 2020. "Modeling Arsenic Removal by Nanoscale Zero-Valent Iron." *Environmental Monitoring and Assessment* 192 (2): 110. <https://doi.org/10.1007/s10661-020-8075-y>.
- Shahraki, Ameneh Forouzandeh, Om Prakash Yadav, and Chrysafis Vogiatzis. 2020. "Selective Maintenance Optimization for Multi-State Systems Considering Stochastically Dependent Components and Stochastic Imperfect Maintenance Actions." *Reliability Engineering & System Safety* 196 (April): 106738. <https://doi.org/10.1016/j.res.2019.106738>.
- Shi, Yinyan, Yang Zhu, Xiaochan Wang, Xin Sun, Yangfen Ding, Wexing Cao, and Zhichao Hu. 2020. "Progress and Development on Biological Information of Crop Phenotype Research Applied to Real-Time Variable-Rate Fertilization." *Plant Methods* 16 (1): 11. <https://doi.org/10.1186/s13007-020-0559-9>.
- Zeng, Aaron, Hodde Ho, and Yao Yu. 2020. "Prediction of Building Electricity Usage Using Gaussian Process Regression." *Journal of Building Engineering* 28 (March): 101054. <https://doi.org/10.1016/j.jobbe.2019.101054>.
- Zhang, Qian, Jianguo Cai, Wenjie Xia, and Jian Feng. 2020. "Snap-Through of Shallow Circular Arches with Variable Horizontal Supports under Unilateral Displacement Control." *Journal of Engineering Mechanics* 146 (4): 04020013. [https://doi.org/10.1061/\(ASCE\)EM.1943-7889.0001747](https://doi.org/10.1061/(ASCE)EM.1943-7889.0001747).

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.



