

COLLEGE HAPPENINGS

March 31, 2020

FROM THE DEAN

Responses to Student Survey for Feedback Related to COVID-19

Last Friday, following our first week of on-line teaching, we sent a survey out to all of our engineering students about their experiences with distance learning and other disruptions resulting from the COVID-19 pandemic. Specifically, we asked for the students to (1) share any concerns, problems, or needs they are having with the transition to distance learning within the College of Engineering; (2) offer suggestions they have for improving distance learning in the College; (3) tell us about any problems they are having with academic advising; (4) identify any information about current or future operations they need to hear more about; and (5) tell us about any other support they need from their department, the College of Engineering, or NDSU.

Over the weekend, we heard from 85 students. While we asked primarily about problems students were having, we did receive comments expressing gratitude for the effort our faculty were making in moving to online advising and/or teaching. Example comments include:

- “All professors have done an excellent job using the online resources that we have to complete the lectures.”
- “Even in this hardship, I appreciate every single teacher and professor and the effort they are putting in; it is really and greatly appreciated”
- “I think NDSU has gone above and beyond in their support for students going through a weird and difficult time. Thank you all for your hard work, I'm sure there have been many difficult decisions made and we appreciate it.”

More common themes that we found in the student's responses include (1) a need for enhanced empathy and flexibility, (2) a desire for increased communication, and (3) comments and concerns about the format for online courses. A summary of these themes which emerged from the student responses are elaborated below.

Empathy and Flexibility – Although many students are doing fine, some are certainly struggling with the new on-line delivery. Just as faculty are learning new tools for how to teach online, students are having to learn how to learn online, sometimes with 5 different formats (Zoom, Blackboard Collaborate, Yuja, or simply copies of notes) and different sets of expectations for the new normal. Some faculty have synchronous classes; some do not. Some record lectures; some do not. The understandable lack of consistency leads to an level of confusion with some students. These challenges are compounded by peripheral issues related to technology, poor internet service, home personal dynamics, space issues, changed work schedules to make ends meet, and accompanying financial anxiety. If faculty can communicate empathy and flexibility, that can go a long way to reduce anxiety.

Communication – Students want to hear more from their professors, and it is difficult to communicate too much. Blackboard announcements are good, but faculty should send those announcements as an email also (an option in Blackboard). Students have anxiety about deadlines and expectations so continue to get that information out and try to do so more than normal given the fact that students are figuring these things out for multiple classes. Some students have

heard little or nothing from some instructors (not necessarily CoE faculty but it adds to anxiety and frustration) or have not heard back from advisors after emailing them.

Format – There were many calls for more recorded lectures, even if lectures were given live. Technology can cause problems and the fact that students are working from home can lead to other disruptions in their schedule. Students like recorded lectures and real-time zoom discussion. Some students are surprised at the increased workload with online courses and it feels to them as if some faculty are simply substituting class time with increased and harder homework. Some faculty (not necessarily in CoE) are just posting notes or slides without any instruction – that is not going over well. Increased online office hours was also brought up a few times as something that would be appreciated.

We will continue to monitor the comments that we receive from the students. Some of the comments (positive and negative) that identified specific instructors or courses are being communicated specifically with appropriate department chairs.

Finally, I would like to extend my heartfelt gratitude to all of our faculty and staff as you deal with the enormous impacts of COVID-19. I have been humbled by the ways in which our faculty and staff in the College of Engineering and across NDSU have come together to keep our educational enterprise moving forward. We are still in the early days of the impact of this disease, and health experts tell us this will get worse before it gets better. But, together, we will continue working through this unprecedented situation with your can-do attitude that continues to inspire me.

I ask that you take care of yourself and that you take care of your family and friends. Thanks for all you do for NDSU.



IN THE NEWS

[Computer science education online graduate courses offered summer 2020](#)

[NDSU team chosen for VentureWell E-Team grant](#)

[Civil engineering professor awarded Faculty Lectureship](#)

[NDSU Men's Track & Field Leads Summit League with 8 Academic All-League Honorees](#)

CONGRATULATIONS

Dinesh Katti, Jordan A. Engberg Presidential Professor and professor of civil engineering, has been selected to give the **59th Faculty Lectureship**, one of NDSU's oldest and most prestigious awards. The honor recognizes sustained professional excellence in teaching, scholarly achievement and service. His lecture, "Materials Engineered Byte by Byte," will be scheduled at a later date due to the coronavirus pandemic.

Wenjie Xia, assistant professor of civil and environmental engineering, has his research featured on the cover of the new issue of **Macromolecular Theory and Simulations**, one of the top journals publishing original research in polymer science.

Kalpana Katti, University Distinguished Professor and professor of civil and environmental engineering, won **First Place for Oral Presentations** at the 149th annual TMS conference.

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

NDSU Information Technology Services continues to offer remote and recorded training opportunities. You can find the latest offerings and [more details here](#).

COLLEGE AWARD NOMINATIONS

Nomination deadlines have been set for the College of Engineering's Teaching, Research and Staff awards.

- Teacher of the Year – Friday, April 3, 2020
- Researcher of the Year – Friday, April 3, 2020
- Outstanding Staff Award – Wednesday, July 15, 2020

You can find more information about the awards, nomination documents and submission information at the [College Awards page](#).

GRANT REMINDERS FROM RCA

All grant allocations remain the same, following standard NDSU policy and grant terms/conditions. In order for a cost to be allocated to the grant it **must be allowable, allocable, reasonable and necessary**.

Salaries

- If the employee is not working on the project goals/objectives salaries shouldn't be charged to the grant - you'll need alternate non-grant funding. Proper effort reporting is still required during this time.

Travel

- Refunds – the credits should be posted to the same funding source the registration was originally paid from
- Airline tickets for later use – should be moved to a non-grant source and later allocated to the applicable funding source at the time the ticket is used
- Were you working out of state/country and needed an airline ticket back to NDSU? Please contact GCA (ann.young@ndsu.edu) so we can walk through the situation and advise you if you need to do anything additional

Other Operating

- Are there costs you need to incur on the grant that is only happening because of COVID19 procedures? If so, please contact GCA (ann.young@ndsu.edu) to review the cost for allowability on the grant

More COVID-19 Guidance for researchers from the Sponsored Programs Administration (SPA), the Institutional Review Board (IRB), and the Institutional Animal Care and Use Committee (IACUC) is available on the [RCA Website](#).

FUNDING OPPORTUNITIES

DoD: Engineer Research and Development Center

The U.S. Army Engineer Research and Development Center (ERDC) has issued a [Broad Agency Announcement \(BAA\)](#) for various research and development topic areas. The ERDC consists of the Coastal and Hydraulics Lab (CHL), the Geotechnical and Structures Lab (GSL), the Reachback Operations Center (UROC), the Environmental Lab (EL) and the Information Technology Lab (ITL) in Vicksburg, Mississippi, the Cold Regions Research and Engineering Lab (CRREL) in Hanover, New Hampshire, the Construction Engineering Research Lab (CERL) in Champaign, Illinois, and the Geospatial Research Laboratory (GRL) in Alexandria, Virginia. The ERDC is responsible for conducting research in the broad fields of hydraulics, dredging, coastal engineering, instrumentation, oceanography, remote sensing, geotechnical engineering,

earthquake engineering, soil effects, vehicle mobility, self-contained munitions, military engineering, geophysics, pavements, protective structures, aquatic plants, water quality, dredged material, treatment of hazardous waste, wetlands, physical/mechanical/ chemical properties of snow and other frozen precipitation, infrastructure and environmental issues for installations, computer science, telecommunications management, energy, facilities maintenance, materials and structures, engineering processes, environmental processes, land and heritage conservation, and ecological processes.

DOE: Plastics Recycling Research and Development

The [Bioenergy Technologies Office](#) (BETO) and [Advanced Manufacturing Office](#) (AMO) within the U.S. Department of Energy's (DOE's) Office of Energy Efficiency and Renewable Energy have issued a joint Funding Opportunity Announcement (FOA) titled “**BOTTLE: Bio-Optimized Technologies to keep Thermoplastics out of Landfills and the Environment.**” This FOA supports the DOE's [Plastics Innovation Challenge](#), a comprehensive program to accelerate innovations in energy-efficient plastics recycling technologies. The FOA will support high-impact research and development for plastics by developing new plastics that are capable of efficient recyclability and by improving recycling strategies that can break existing plastics into chemical building blocks that can be used to make higher-value products. In addition, the FOA will seek partners for the newly launched National Laboratory-led [BOTTLE consortium](#), focused on designing new plastics and recycling strategies in collaboration with industry and academia.

FOA Topic Areas include:

- Highly Recyclable or Biodegradable Plastics
- Novel Methods for Deconstructing and Upcycling Existing Plastics
- BOTTLE Consortium Collaborations to Tackle Challenges in Plastic Waste

Learn more about the full FOA on [EERE Exchange](#) and [Grants.gov](#), as well as through the [BETO Funding Opportunity Page](#) and the [DOE press release](#).

NSF DCL: Provisioning Advanced Cyberinfrastructure to Further Research on COVID-19

Through this [Dear Colleague Letter \(DCL\)](#), the Office of Advanced Cyberinfrastructure (OAC) within the Directorate for Computer and Information Science and Engineering is inviting RAPID proposals and supplemental funding requests to existing awards that address COVID-19 challenges through data and/or software infrastructure development activities. Such activities would be funded by the [Computational and Data-Enabled Science and Engineering \(CDS&E\) program](#) or the [Cyberinfrastructure for Sustained Scientific Innovation \(CSSI\) program](#).

Proposals in response to this DCL and the NSF DCL on COVID-19 ([NSF 20-052](#)) may also request the use of NSF-funded advanced computing resources such as [Frontera](#), [Stampede2](#), [Bridges](#), [Comet](#), and [JetStream](#). To ensure availability of these computing resources, investigators must contact OAC prior to submission of the proposal.

RECENTLY SUBMITTED PROPOSALS

- Mijia Yang (PI). Self-healing Concrete through Bacteria. \$5,000 from the NDSU Foundation and Alumni Association. 05/01/2020 – 05/31/2021.
- Mijia Yang (PI). Cost-benefit Analysis of Structural Snow Fences in North Dakota. \$1,000 from the NDSU Foundation and Alumni Association. 05/01/2020 – 05/31/2021.
- Wenjie Xia (PI). Machine Learning Assisted Predictive Modeling of Conjugated Polymers Towards Understanding Their Thermomechanical Behaviors. \$110,000 from the American Chemical Society. 01/01/2021 – 08/31/2023.
- Danling Wang (PI), Qifeng Zhang (CPI). An innovative sensing technological based on a 2D nanomaterial for application in lung cancer therapy. \$39,840 from the National Institutes of Health. 09/01/2020 – 08/31/2021.
- Ivan T Lima Jr. (PI), Dharmakeerthi Nawarathna (CPI). Sensor for Single Nucleotide Polymorphism Detection based on Dielectrophoresis Spectroscopy. \$398,750 from the National Institutes of Health. 09/01/2020 – 08/31/2022.

- Trung Bao Le (PI). Inundation map and potential hydraulic damages during extreme floodings in Fargo, North Dakota. \$5,000 from the NDSU Foundation and Alumni Association. 06/01/2020 – 12/31/2021.
- Kalpana Katti (PI), Dinesh R Katti (CPI). Development of health targeted high value crops in North Dakota for prevention, treatment and management of breast and prostate cancer metastasis. \$55,540 from the ND Department of Commerce. 06/01/2020 – 05/31/2021.
- Trung Quoc Le (PI). Smart IoT system for Obstructive Sleep Apnea Monitoring and Forecasting in Cancer Patients under Treatment. \$75,000 from the University of North Dakota. 09/01/2020 – 08/31/2021.
- Wenjie Xia (CPI). Guided Energy Absorption in Crumpled Polymer Sheets. \$306,605 from the U.S. Army. 08/21/2020 – 08/20/2023.
- Anne Denton (PI). Assessing habitat quality and cost effectiveness of enhancement strategies to support pollinator habitat: a coupled remote sensing and economics approach. \$182,254 from the National Institute of Food and Agriculture. 01/01/2021 – 12/31/2024.
- Kambiz Farahmand (PI). Rapid Covid-19. \$169,370 from the National Science Foundation. 03/20/2020 – 03/19/2021.
- Jordi Estevadeordal (PI), Yildirim B Suzen (CPI). Advanced Diagnostics and Smart Morphing Flow Control for Unsteady Aerodynamics. \$397,622 from the U.S. Navy. 09/01/2020 – 08/31/2023.
- Zhibin Lin (PI), Juan Li (CPI). A new holistic computation framework for AI-enabled digital twin toward next-generation intelligent autonomous highway systems. \$599,998 from the Federal Highway Administration. 09/01/2020 – 08/31/2023.
- Ying Huang (PI), Achintya Bezbaruah (CPI). Biobased Nano-Compatibilizer for Waste Plastic Modified Asphalt Binder with Enhances Compatibility, Mechanical and Environmental Properties. \$300,000 from the Department of Transportation. 09/15/2020 – 09/15/2023.
- Ravi Kiran Yellavajjala (PI). Determining the Failure Probability and Vulnerabilities in Weathered Plastic Pipeline Networks. \$249,996 from Pipeline and Hazardous Materials Safety. 10/01/2020 – 09/30/2023.

RECENT PUBLICATIONS

For 2020, 41 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:

- Ajayi-Banji, A. A., S. Rahman, S. Sunoj, and C. Igathinathane. n.d. "Impact of Corn Stover Particle Size and C/N Ratio on Reactor Performance in Solid-State Anaerobic Co-Digestion with Dairy Manure." *Journal of the Air & Waste Management Association*. <https://doi.org/10.1080/10962247.2020.1729277>.
- Aslam, Mughees, Zhili Gao, and Gary Smith. n.d. "Development of Innovative Integrated Last Planner System (ILPS)." *International Journal of Civil Engineering*. <https://doi.org/10.1007/s40999-020-00504-9>.
- Wang, Ke, Qian Ma, Yuan-Ming Zhang, Guang-Ting Han, Cai-Xin Qu, and Shu-Dong Wang. 2020. "Preparation of Bacterial Cellulose/Silk Fibroin Double-Network Hydrogel with High Mechanical Strength and Biocompatibility for Artificial Cartilage." *Cellulose* 27 (4): 1845–52. <https://doi.org/10.1007/s10570-019-02869-0>.
- Yang, Mijia, Shree Raj Paudel, and Eric Asa. 2020. "Comparison of Pore Structure in Alkali Activated Fly Ash Geopolymer and Ordinary Concrete Due to Alkali-Silica Reaction Using Micro-Computed Tomography." *Construction and Building Materials* 236 (March): UNSP 117524. <https://doi.org/10.1016/j.conbuildmat.2019.117524>.

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*.

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