COLLEGE HAPPENINGS

July 21, 2020

FROM THE DEAN

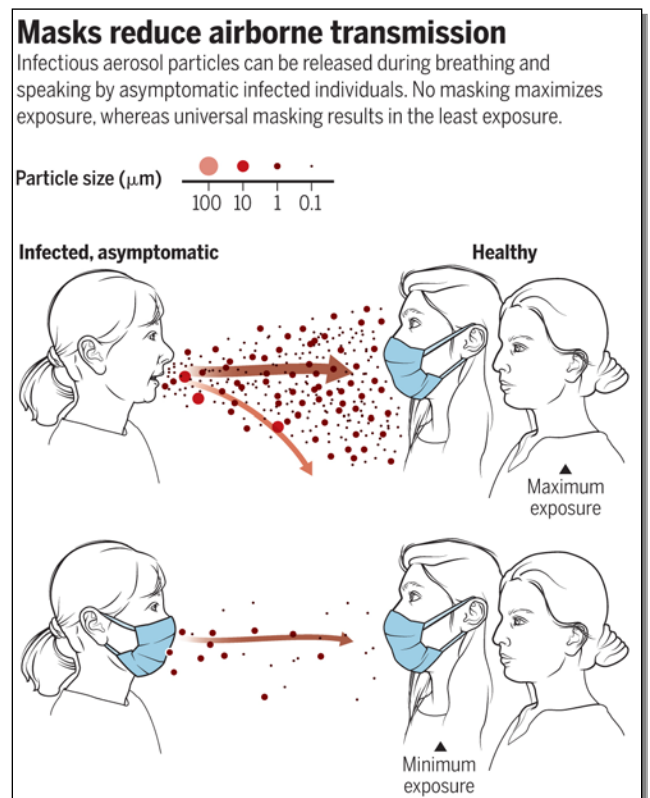**Setting the Example in Wearing Masks**

There have been numerous scientific studies in the past few months about the effectiveness of wearing masks to reduce airborne transmission of coronavirus, particularly in enclosed spaces (1,2). As illustrated in the diagram here, adopted from Ref. (1), exposure of virus-containing droplets and aerosols from coughing, sneezing, speaking, or even breathing by asymptomatic infected individuals, is minimized if all parties wear a mask.

Masks reduce airborne transmission
Infectious aerosol particles can be released during breathing and speaking by asymptomatic infected individuals. No masking maximizes exposure, whereas universal masking results in the least exposure.

Earlier this month NDSU announced that masks are required in classrooms and in other indoor space where 6-foot distance cannot be maintained. Once classes begin, it will be nearly impossible to maintain 6-foot separation in our hallways and gathering ways in the engineering complex. That is why, before student arrive back on campus next month, we will be placing signs throughout the engineering buildings with the simple message: *Face Covering Required.*

My expectation is that all faculty, staff, and students in the College of Engineering will wear a mask when in the hallways, bathrooms, or any other shared spaces in the engineering buildings. Faculty and staff will have an important responsibility to model this behavior to our students, and to help create the positive peer pressure needed for this measure to be successful. Attempts to enforce the mask requirement will be significantly thwarted if students see unmasked faculty and staff in the hallways and shared spaces.

A policy of requiring masks leaves open the question of what happens if students don't comply? This is a question we need to grapple with over the next few weeks. NDSU has a code of student conduct (Policy 601) that all students are expected to follow. Students who fail to comply with NDSU policy that face coverings are required in our classrooms or wherever 6-foot distance cannot be maintained may be considered to have failed to comply with an NDSU directive (See Policy 601, section 3.20), and such students, after given the opportunity to comply with the policy could be reported to the dean of students to process the infraction as a student conduct violation.

So how should a faculty member plan to handle a situation where students show up to class without a mask? While different faculty may have different approaches to classroom management, I ask that you hold the line with this requirement, and bar students from the classroom if they refuse to wear a mask. This is similar to the requirement that we

have in many of our laboratory classes that students wear safety glasses in the lab. One way to make this more palatable would be to have some disposable masks on hand for first time offenders that simply forgot their mask.

Here are some face covering tips to consider: (1) keep a clean mask by the door of your office, (2) keep an extra in your bag, and (3) make it a habit of putting one on when entering the building, even now before the students return. While wearing face coverings is a hassle, I hope we all can see it as a small price to pay to enable on-campus operations this fall.

Phil Kessen

References for mask wearing effectiveness:

1. Leung N. H. L., et al., Nature, 2020, https://doi.org/10.1038/s41591-020-0843-2

2. Prather, K. A, et al., Science, 2020, https://doi.org/10.1126/science.abc6197

IN THE NEWS

NDSU robotic platform to teach ag producers of the future

Eight Inductees Selected to 49th Class of Bison Athletic Hall of Fame

Jeremy Straub on Intellectual Property Theft

CONGRATULATIONS

Beena Ajmera from the **Department of Civil and Environmental Engineering** has been awarded the 2020 Thomas A. Middlebrooks Award from the American Society of Civil Engineers' Geo-Institute. The award recognizes meritorious contributions to the field of geotechnical engineering in the form of a paper published by ASCE.

Please let _College Happenings_ know about honors, awards, new grants and other announcements so we can share them with other faculty and staff.

ANNUAL FACULTY AND STAFF CONFERENCE AND NEW FACULTY ORIENTATION

Due to the work underway for preparing NDSU spaces for the new academic year and recommended precautions because of COVID-19**,** this year the Office of the Provost/Faculty Affairs is planning a virtual **New Faculty Orientation on Tuesday August 18** and a virtual **Faculty and Academic Staff Conference on Wednesday August 19.** Please register for these events and indicate topics you are interested in HERE.

PROMOTION AND TENURE

The 2020-21 PTE Materials are now available to download from the Promotion and Tenure website. This website contains the NDSU PTE **Timeline**, **Guidelines** for Promotion and Tenure Portfolio Preparation, **Probationary Period Extension Form** (per NDSU Policy 352, 3.6), Policy and Procedure **Checklist**, the Portfolio **Cover Sheet**, and Information on **University-Wide** PTE **Advisory Committee**.

Portfolios are due to the Office of the Provost/Faculty Affairs no later than December 31, 2020. If you have any questions regarding PTE, please contact Canan Bilen-Green (canan.bilen.green@ndsu.edu, 1-7040).

Information Sessions for Fall 2020 PTE Candidates

Thursday July 23, 10:00 - 11:00 a.m. (Zoom Meeting)
Join Zoom Meeting: https://ndsu.zoom.us/j/97865048722?pwd=ZG5ySTJJejBiYjl3dkRYUjF4MTErZz09
Meeting ID: 978 6504 8722
Password: 717014

Wednesday September 2, 1:00-2:00 pm, Arikara
Thursday September 3, 3:00-4:00 pm, Rose

ONLINE TEACHING WORKSHOP

The NDSU Office of Teaching and Learning is presenting a free workshop on how to design and run an effective and equitable online course.

Tuesday, July 28, 2020
1:00 - 2:30 p.m.
Online Via Zoom

Donald Gillian-Daniel (he/him/his), National Change Team Co-lead, Aspire Alliance, University of Wisconsin – Madison will walk you through the process of designing an online course that is effective, equitable and inclusive. It will focus on designing content and choosing pedagogy for both synchronous and asynchronous formats. The course will address the basics of online and inclusive pedagogy.

This presentation is FREE and open to all faculty, instructors, and administrators at NDSU.

Register Today >>

HYFLEX OPEN FORUMS, RECORDINGS, COLLABORATION

The NDSU IT Division is ready to answer your questions about HyFlex approaches to instruction in the fall semester. They will host weekly open forums for all faculty and staff to attend to answer questions and share resources related to fall instruction. Registration not required—join us when you're able.

https://ndsu.zoom.us/j/96644216953?pwd=YkxPZlRKRkZYNjV2THNLdHdFK0R2Zz09, Meeting ID: 966 4421 6953, Password: 963181

- Tuesday, July 28, 10:00 a.m.
- Thursday, August 6, 1:00 p.m.
- Tuesday, August 11, 10:00 a.m.
- Tuesday, August 18, 10:00 a.m.

Collaboration Document for Faculty and IT

Fall Instruction Open Forum – this document was used during the meetings this week to share resources, requested training, and FAQs for IT. All NDSU accounts have access to this document. Use your NDSU credentials to view it. This document is a working document, so content will be updated as we receive it.

Recordings
If you missed the two recent open forum meetings or wish to revisit the discussion, here are the recordings.

- Tuesday, July 14, 11:00 a.m. session - Password: 0y.1+5.%
- Wednesday, July 15, 9:00 a.m. session - Password: 1J&2Jg6+

FUNDING OPPORTUNITIES

ND NASA EPSCoR Research Seed Grants

North Dakota NASA EPSCoR (Established Program to Simulate Competitive Research) is soliciting research proposals from faculty at affiliate institutions for Research Seed Grant funding to conduct NASA relevant research designed to promote and expand particular NASA research sub disciplines in North Dakota. The purpose of the ND NASA EPSCoR Research Seed Grant program is to promote, develop, and expand NASA research in North Dakota aligned with NASA priorities and Mission Directorates.

Seed research proposals are due at noon on Aug. 17, 2020.

The full RFP, online submission form, and appropriate cover sheet can be found in the RFP announcement on the ND NASA EPSCoR website.

NSF: Research Traineeship (NRT)

The National Science Foundation (NSF) Research Traineeship (NRT) program [NSF 19-522] is designed to encourage the development and implementation of bold, new, and potentially transformative models for STEM graduate education training. The NRT program seeks proposals that explore ways for graduate students in research-based masters and doctoral degree programs to develop the skills, knowledge, and competencies needed to pursue a range of STEM careers. The program is dedicated to effective training of STEM graduate students in high priority interdisciplinary research areas, through the use of a comprehensive traineeship model that is innovative, evidence-based, and aligned with changing workforce and research needs. The NRT program addresses workforce development, emphasizing broad participation, and institutional capacity building needs in graduate education. Strategic collaborations with the private sector, non-governmental organizations (NGOs), government agencies, national laboratories, field stations, teaching and learning centers, informal science centers, and academic partners are encouraged.

NSF NRT is a limited submission grant program. Notify RCA by 9/15/2020, 5:00 p.m. if you are interested in submitting to this program.

RECENTLY FUNDED PROPOSALS

- Dali Sun (PI). Using the Secondary structure (beta-sheet) of exosomal proteins for noninvasive pancreatic cancer detection. $145,000 from the National Institutes of Health. 02/01/2020 – 01/31/2022.

RECENTLY SUBMITTED PROPOSALS

- Trung Bao Le (PI). Auto-reconstruction of Inundation map using Deep Learning: Benchmarking with UDAR data. $7,000 from the Earth Science Information Partners. 12/01/2020 – 05/15/2021.
- Trung Bao Le (PI). CAREER: Asymmetric flows in natural channels. $472,180 from the National Science Foundation. 06/01/2021 – 05/31/2026.
- Houjun Yang (PI). Mobile Home-based Labs for enhancing undergraduate education in building energy systems. $300,000 from the National Science Foundation. 01/18/2021 – 01/17/2024.
- Mijia Yang (PI). Impact of Macro-Scale Fractures on Seal Integrity. $149,760 from the Alpha Foundation. 01/01/2021 – 12/31/2022.
- Beena D Ajmera (PI). Upgrades to the Geotechnical Engineering Laboratory. $74,796 from the NDSU Foundation and Alumni Association. 10/15/2020 – 08/15/2021.
- Achintya Bezbaruah (PI), Xin Sun (CPI). New uncrewed autonomous vehicle routing paradigms for smart farming. $146,486 from the National Institute of Food and Agriculture. 01/01/2021 – 12/31/2023.
- Todd L Sirotiak (PI). Constructive Solutions Rising From the Ashes. $199,986 from the Department of Energy. 11/02/2020 – 11/01/2022.

RECENT PUBLICATIONS

For 2020, 102 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:

- Afrin, Tanzina, and Nita Yodo. 2020. "A Survey of Road Traffic Congestion Measures towards a Sustainable and Resilient Transportation System." *Sustainability* 12 (11): 4660. https://doi.org/10.3390/su12114660.
- Azarmi, Fardad, and X. W. Tangpong. n.d. "Evaluation of Microstructural Characteristics in Alumina Produced by Selective Laser Stereolithography and Detonation Gun Spraying." *Metallography Microstructure and Analysis.* https://doi.org/10.1007/s13632-020-00658-x.
- Banawi, Abdul-Aziz, Alia Besne, David Fonseca, and Jose Ferrandiz. 2020. "A Three Methods Proactive Improvement Model for Buildings Construction Processes." *Sustainability* 12 (10): 4335. https://doi.org/10.3390/su12104335.
- Hazra, Raj Shankar, Narendra Kale, Gourishankar Aland, Burhanuddin Qayyumi, Dipankar Mitra, Long Jiang, Dilpreet Bajwa, Jayant Khandare, Pankaj Chaturvedi, and Mohiuddin Quadir. 2020. "Cellulose Mediated Transferrin Nanocages for Enumeration of Circulating Tumor Cells for Head and Neck Cancer." *Scientific Reports* 10 (1). https://doi.org/10.1038/s41598-020-66625-2.
- Islam, Md Zahirul, and Chad A. Ulven. 2020. "A Thermographic and Energy Based Approach to Define High Cycle Fatigue Strength of Flax Fiber Reinforced Thermoset Composites." *Composites Science and Technology* 196 (August): 108233. https://doi.org/10.1016/j.compscitech.2020.108233.
- Parvej, M. Subbir, Xinnan Wang, and Long Jiang. n.d. "AFM Based Nanomechanical Characterization of Cellulose Nanofibril." *Journal of Composite Materials*, 0021998320933955. https://doi.org/10.1177/0021998320933955.
- Rana, Mohit Singh, Shashi Bhushan, D. Ruben Sudhakar, and Sanjeev Kumar Prajapati. 2020. "Effect of Iron Oxide Nanoparticles on Growth and Biofuel Potential of Chlorella Spp." *Algal Research-Biomass Biofuels and Bioproducts* 49 (August): 101942. https://doi.org/10.1016/j.algal.2020.101942.
- Zhao, Baoyun, Wei Huang, Mengmeng Han, and Yanbo Feng. n.d. "Experimental Investigation of Creep Behavior of Bayer Red Mud in Guizhou Aluminum Factory's Red Mud Disposal Field." *Geotechnical and Geological Engineering.* https://doi.org/10.1007/s10706-020-01415-1.

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.