

COLLEGE HAPPENINGS

October 13, 2020

FROM THE DEAN

Encouraging, Supporting, and Advancing a Diverse, Equitable, and Inclusive Community

One of the core values identified in our [2020-2025 Strategic Plan](#) is “We are inclusive – we are proactive about diversity, knowing that we are far better together.” This core value is consistent with those at many other engineering colleges across the country, which, like NDSU, are [signatories on the American Society for Engineering Education \(ASEE\) Deans Diversity Initiative](#). In order to accelerate the achievement of the ASEE Deans Diversity Pledge goals, our Diversity, Equity, and Inclusion Plan includes initiatives around (1) awareness and skill training for College of Engineering faculty, staff, and students; (2) K-12 outreach; (3) pipeline programs; (4) enhancement of the engineering leadership living/learning community, and (5) the addition of new academic programs (such as environmental engineering) that attract diverse students.

In addition, the college leadership team has agreed to formalize the addition of the following statement in the position description of each faculty in the College of Engineering:

All faculty are expected to contribute to a collegial and collaborative campus climate, and to actively encourage, support, and advance a diverse, equitable, and inclusive community.

The first part of that statement – “contribute to a collegial and collaborative campus climate” (C⁵) was the expectation that I shared in my last “From the Dean” message. The second part of the expectation – “actively encourage, support, and advance a diverse, equitable, and inclusive community” is language taken directly from the [ASEE Deans Diversity Initiative](#). By explicitly including this language in each position description, we strengthen our commitment to the core values of “We are collegial” and “We are inclusive” that we identified in our strategic plan.



IN THE NEWS

[NDSU faculty member writes book on computational modeling advances](#)

[Students win People's Choice Award at innovation competition](#)

[‘This course will help students stand out to employers’](#)

[Scientists gather wastewater samples near NDSU](#)

[Annual Innovation Challenge teaches students problem-solving skills](#)

CONGRATULATIONS

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

COVID-19 UPDATES

Classroom Technology

IT staff and contractors are still working to install the additional equipment in classrooms. As classrooms are finished with the new equipment, they are updated here: <https://kb.ndsu.edu/100854>

Software Issues Update

Recent Respondus LockDown Browser and YuJa Video Quiz issues have been resolved and/or there are workaround solutions available. More information and links to solution resources are available on the [LAIC Updates page](#). This page is updated frequently with new information as it becomes available.

Upcoming Trainings for HyFlex Instruction

Learning and Applied Innovation Center (LAIC) staff offer these remote learning sessions designed to help you teach in the HyFlex environment. All sessions are free and open to NDSU faculty, instructors, and staff members. **No pre-registration is required.** Sessions will be recorded and available for later playback. See full session descriptions and schedule at <https://kb.ndsu.edu/training>.

UPCOMING EVENTS

Wednesday, October 14, **Proposal Development Virtual Program.** This session will include an overview of the federal guidance on undue foreign influence, protocols for managing conflicts of interest, and other best practices for managing international relationships. Learn what you need to know to continue working successfully with international collaborators, institutions, and graduate students. 12:00 – 1:00 p.m. [Register Here](#).

Thursday, October 15, **Gunkelman Award Recognition Ceremony.** The recipient of the 2019-2020 award will be announced at the reception. 3:00 p.m. via Zoom: <https://ndsu.zoom.us/j/9325577781>

Thursday, October 29, **(dis)Credit: Erasure and Scrutiny of Women** with Dr. Donna M. Riley, Kamyar Haghghi Head of the School of Engineering Education, Purdue University. This virtual presentation will enhance awareness of gender bias and continued lack of diversity, especially in STEM fields is hosted by the ADVANCE Partnership Project [Joining Forces](#), an NSF-Funded collaboration between NDSU, Iowa State University, Michigan Technological University, and Western Michigan University. RSVP: <https://bit.ly/2GtNO>

CHALLEY INSTITUTE FACULTY FELLOWS PROGRAM

Applications are being accepted for the Sheila and Robert Challey Institute for Global Innovation & Growth Faculty Fellows Program. This program provides an annual stipend of \$8,000 for up to 20 NDSU faculty members.

Faculty Fellows 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.

If you are interested in becoming a Challey Institute Faculty Fellow, please submit an application with the following components:

- A letter of interest, describing your research and/or student programming interests and how they align with the core areas and mission of the Institute. Please highlight your plans for meeting the expectations of being a Challey Institute Faculty Fellow.
- A curriculum vitae.

Please submit applications by October 19th to:

John Bitzan, Menard Family Director
 Sheila and Robert Challey Institute for Global Innovation & Growth
 Barry Hall, 100A
 John.Bitzan@ndsu.edu

STUDENT SUCCESS SUMMIT

NDSU's **3rd Annual Student Success Summit** will be taking place virtually on **February 17, 8:30am-12pm**.

This event is for faculty and staff to come together and discuss the unique and diverse ideas in relation to helping NDSU students be successful!

The theme this year is *"Supporting Student Growth through Grit and Gratitude"*.

Organizers plan to have several breakout sessions and they want to hear from expertise on campus. **Proposals are due by December 1**. If you are interested in presenting, please fill out this [form](#) with information on your presentation. You will be notified in mid-December as to whether your proposal was approved.

If you have any questions, please contact Jessica.M.Bauer@ndsu.edu.

NATIONAL CONFERENCE ON UNDERGRADUATE RESEARCH

The Council on Undergraduate Research has announced that the 2021 National Conference on Undergraduate Research will be held VIRTUALLY April 12-14, 2021.

This is an exciting opportunity for thousands of undergraduate researchers from all disciplines to get together for a unique virtual conference experience. Participants will gain experience presenting their research to a broad audience, opportunities for professional development including a virtual graduate school fair, networking sessions with other students and faculty in their fields, and more!

The NDSU Office of Research and Creative Activity will fund the early registration fee for up to 20 students who have their abstracts accepted by NCUR.

Encourage your students to take advantage of this opportunity!

To be eligible for this conference grant, students need to:

- notify RCA of their interest (email ndsu.researchdev@ndsu.edu);
- submit their abstracts to NCUR by November 1, 2020; and
- register for NCUR by December 31, 2020 (if their abstract is accepted).

Conference grants will be awarded on a first-come, first served basis.

FUNDING OPPORTUNITIES

DARPA: Young Faculty Award

The Defense Advanced Research Projects Agency (DARPA) [Young Faculty Award \(YFA\) program](#) aims to identify and engage rising stars in junior faculty positions in academia and equivalent positions at non-profit research institutions and expose them to Department of Defense (DoD) and National Security challenges and needs. In particular, YFA will provide high-impact funding to elite researchers early in their careers to develop innovative new research directions in the context of enabling transformative DoD capabilities. The long-term goal of the program is to develop the next generation of scientists and engineers in the research community who will focus a significant portion of their future careers on DoD and National Security issues. DARPA is particularly interested in identifying outstanding researchers who have previously not been performers on DARPA programs, but the program is open to all qualified applicants with innovative research ideas.

Executive summary deadline: October 26, 2020; 3:00pm.

NSF: Environmental Convergence Opportunities in Chemical, Bioengineering, Environmental, and Transport Systems

The National Academies of Sciences, Engineering and Medicine (NASEM), in their report "[Environmental Engineering for the 21st Century: Addressing Grand Challenges](#)," identified five critical challenges we must address as a society:

- Sustainably supply food, water, and energy;
- Curb climate change and adapt to its impacts;
- Design a future without pollution and waste;
- Create efficient, healthy, and resilient cities; and
- Foster informed decisions and actions.

This solicitation [[NSF 20-517](#)] aims to address these grand challenges by supporting a collaborative research model that seamlessly integrates sustainability, environmental engineering, and process science and engineering.

Assuming sufficient funding is provided in the NSF budget, it is anticipated this competition will continue annually. Research topic priorities are subject to change in subsequent years. Awards are expected to range from \$1,500,000 to \$1,700,000 over four years.

Pre-proposal deadline: February 12, 2021

RECENTLY FUNDED GRANTS

- Kelly Ann Rusch (PI). Collaborative Research - NSF INCLUDES Alliance: Cultivating Indigenous Research Communities for Leadership and Education in STEM (CIRCLES). \$205,330 from the National Science Foundation. 08/01/2020 – 07/31/2021.

RECENTLY SUBMITTED PROPOSALS

- Beena D Ajmera (PI). Methods to Estimate Pore Pressure to Determine Strength Loss in Soils during Earthquakes. \$149,100 from Johnson and Johnson. 07/01/2021 – 06/30/2024.
- Yao Yu (PI). Excellence in Research: From Theory to action: MULTI-SCALE APPROACH FOR PARTICULATE FLUID FLOWS TURBULENT DIPHASIC ANISOTHERMAL FLOWS. \$103,965 from the National Science Foundation. 07/01/2021 – 06/30/2024.
- Abdulaziz Ali H Banawi (PI), Zhili Gao (CPI). Developing an Interactive model to Integrate human experience with Artificial Intelligence in the Construction Industry. \$573,321 from the National Science Foundation. 01/04/2021 – 01/03/2026.

RECENT PUBLICATIONS

For 2020, 145 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:

- Ahmadianfar, Iman, Omid Bozorg-Haddad, and Xuefeng Chu. 2020. "Gradient-Based Optimizer: A New Metaheuristic Optimization Algorithm." *Information Sciences* 540 (November): 131–59. <https://doi.org/10.1016/j.ins.2020.06.037>.
- Bai, Xin, Mijia Yang, and Beena Ajmera. 2020. "An Advanced Edge-Detection Method for Noncontact Structural Displacement Monitoring." *Sensors* 20 (17): 4941. <https://doi.org/10.3390/s20174941>.
- Chansoria, Parth, Lokesh Karthik Narayanan, Madison Wood, Claudia Alvarado, Annie Lin, and Rohan A. Shirwaiker. 2020. "Effects of Autoclaving, EtOH, and UV Sterilization on the Chemical, Mechanical, Printability, and Biocompatibility Characteristics of Alginate." *ACS Biomaterials Science & Engineering* 6 (9): 5191–5201. <https://doi.org/10.1021/acsbiomaterials.0c00806>.
- Xu, Wen-Sheng, Jack F. Douglas, Wenjie Xia, and Xiaolei Xu. 2020. "Understanding Activation Volume in Glass-Forming Polymer Melts via Generalized Entropy Theory." *Macromolecules* 53 (17): 7239–52. <https://doi.org/10.1021/acs.macromol.0c01269>.
- Zhang, Mingyi, Wei Zhang, Xianwen Zhu, Qing Sun, Changhui Yan, Steven S. Xu, Jason Fiedler, and Xiwen Cai. n.d. "Dissection and Physical Mapping of Wheat Chromosome 7B by Inducing Meiotic Recombination with Its Homoeologues InAegilops SpeltoidesandThinopyrum Elongatum." *Theoretical and Applied Genetics*. <https://doi.org/10.1007/s00122-020-03680-3>.

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.

