

COLLEGE HAPPENINGS

December 21, 2021

FROM THE DEAN

Happy Holidays, College of Engineering

Last week we learned that NDSU has been designated as R1 (doctoral/very high research) in the new Carnegie classifications. With the largest number of Ph.D. students of any college at NDSU, and with significant increases in research grants and contracts received over the past 4 years, NDSU College of Engineering faculty and staff played a big role in this achievement. This was indeed exciting news as we enter the holiday season.

Speaking of the holidays, today marks the winter solstice, when the Northern Hemisphere is tilted the farthest away from the sun and the days are the shortest of the year. The good news is that each day moving forward will be a little longer until summer. Today is also the last College Happenings of 2021. Among our many year-end traditions, we look back at the past year and look forward to the new one. Here are my thoughts about the past 12 months:

We graduated 617 students in 2021

- 530 baccalaureate degrees
- 62 MS degrees
- 25 PhD degrees

Our faculty, staff and students earned honors and awards

- Ravi Kiran Yellavajjala, assistant professor in the Department of Civil and Environmental Engineering was awarded an NSF CAREER grant and was the College of Engineering Early Career Researcher of the Year.
- Ying Huang, associate professor in the Department of Civil and Environmental Engineering, was named the 2020 NDSU College of Engineering Researcher of the Year and was selected as the recipient of the Walter F. and Verna Gehrts Endowed Presidential Professorship Award.
- Ibukunoluwa Ajayi-Banji, a doctoral student in the Department of Agricultural and Biosystems Engineering, received the American Society of Agricultural and Biological Engineers John C. Nye Graduate Fellowship and the American Association of University Women International Fellowship.
- Joseph Latimer, senior lecturer in the Department of Computer Science, was named the 2020 recipient of the CoE Excellence in Teaching Award.
- Danling Wang, assistant professor in the Department of Electrical and Computer Engineering, was awarded the CoE Early Career Excellence in Teaching Award.
- Lauren Singelmann, a graduate student in the Department of Electrical and Computer Engineering and the College of Engineering Outreach Coordinator, was named the 2020 Graduate Teaching Assistant of the Year.
- Dayakar Naik Lavadiya, a graduate student in the Department of Civil, Construction and Environmental Engineering, was named Graduate Student Researcher of the Year.
- Alissa Kuntz, the College of Engineering Business Manager, was named the Outstanding Staff Award recipient for a staff member at the professional level.

- Tanya Erickson, the Academic and Student Services Coordinator in the Department of Mechanical Engineering, was named the Outstanding Staff Award recipient for the paraprofessional or office support level.
- Ali Amiri, assistant professor of practice in the Department of Mechanical Engineering, won the Odney Excellence in Teaching Award.
- Adam Gladen, assistant professor in the Department of Mechanical Engineering, was named as the winner of the 2020-21 Pi Tau Sigma Excellence in Teaching Award.
- Fardad Azarmi, professor in the Department of Mechanical Engineering, was selected as the lead editor for the proceedings editorial board of the 2021 International Thermal Spray Conference and Exposition.
- Kalpana Katti, University Distinguished Professor of Civil and Environmental Engineering, was selected to give the 7th Annual Phi Kappa Phi Faculty Lecture.
- Babak Jahani, a Ph.D. student in the Department of Mechanical Engineering, won a National Science Foundation Student Grant for the PowderMet2021/AMPM2021/Tungsten2021 conferences.
- Xuefeng Chu, professor and interim chair of the Department of Civil, Construction and Environmental Engineering, was awarded a Walter B. Booth Distinguished Professorship.
- Tiffany Meeks, a student in the Department of Civil, Construction and Environmental Engineering, was named a Model of Student Leadership by the American Society of Civil Engineers Committee.
- Jessica Vold, assistant professor of engineering entrepreneurship and innovation in the Department of Mechanical Engineering, was named an Engineering Unleashed Fellow for her leadership in undergraduate engineering education.
- Kelly Rusch, professor in the Department of Civil, Construction and Environmental Engineering, was named as a member of the Visioning the Future of NSF EPSCoR Committee.
- Billy Graham Ram, Nitin Rai, Diego J. Gris, Harsh Pathak, and Bleck Tita, a team of graduate students in the Department of Agricultural and Biosystems Engineering, won the American Society of Agriculture and Biological Engineers' One-Minute Video Competition.
- Eric Asa, associate professor in the Department of Civil, Construction and Environmental Engineering, and Jeremy Straub, assistant professor in the Department of Computer Science, were selected as Challey Institute Faculty Fellows for 2021-22.
- Dharmakeerthi Nawarathna, associate professor in the Department of Electrical and Computer Engineering, accepted the position of Faculty Fellow for Honors and Scholarships in the Office of the Provost.
- Danielle Peltier, Hannah Patenaude, Kjersten Winkelman, and Rachel Kawleski, all seniors in the Department of Civil, Construction and Environmental Engineering, won the Environmental Challenge Design Completion organized by Air and Waste Management Association-Upper Midwest Section and Central States Water Environment Association-Minnesota Section.

We celebrated new initiatives

- In July we officially announced the creation of the Department of Civil, Construction and Environmental Engineering. The new department was formed with the merging of the Department of Civil and Environmental Engineering and the Department of Construction Management and Engineering.

Several faculty members earned promotions this year

- Achintya Bezbaruah, Saeed Salem and Sudarshan Srinivasan were promoted to Full Professor
- Joe Latimer was promoted to Senior Lecturer

We also made some outstanding new hires

- Ademola Ajayi-Banji and Niloy Sarker joined the staff of the Department of Agricultural and Biosystems Engineering as research specialists, Susan Finneseth joined ABEN as a grants coordinator, Tayler Johnston started in November as a new fabrication technician and maintenance mechanic, and Sulaymon Eshkabilov was hired as a new assistant professor.
- Chau Le was hired by the Department of Civil, Construction and Environmental Engineering as an assistant professor and Mikki Eken joined the CCEE as the Academic and Student Services Coordinator.

- Zahid Anwar joined the Department of Computer Science as an associate professor and Challey Scholar, Dave Froslic was hired by the CS Department as a lecturer leading the senior capstone course and Melissa Bethard joined the CS Department as an administrative assistant.
- Breanna Larson joined the Department of Electrical and Computer Engineering as the Business Coordinator, Omid Beik and Suvashis Dey were hired in ECE as assistant professors and Benaoumeur Senouci joined as an assistant professor of practice.
- Brittany (Britt) Ingersoll was hired by the NDSU Foundation as a Director of Development in the College of Engineering.

And we said goodbye to several colleagues

- John Nowatzki, Thomas Bon, Shafiqur Rahman, Halis Simsek, Zhao Zhang, Nurun Nahar and Melanie Ziegler left the Department of Agricultural and Biosystems Engineering.
- In the Department of Civil, Construction and Environmental Engineering Wei Lin retired after 24 years at NDSU, Beena Ajmera, Todd Sirotiak and Huojun Yang left the faculty, and Milka Singha, Jan Lofberg and Maureen Kent left their staff positions.
- Monica Haugen and Dan Kahn left the Department of Computer Science.
- Jan Lofberg, a former staff member in CCEE and Military Science, left NDSU
- Laura Dallmann, a former staff member in ECE and IME, left NDSU.
- Om Yadav and Yiwen Xu left the faculty in the Department of Industrial and Manufacturing Engineering.
- Robert Pieri retired from the Department of Mechanical Engineering after 25 years of service to NDSU.

Innovation is our status quo and our efforts to create new knowledge were awarded millions of dollars

Totals for FY 2021

- Awards Received – \$12 million
- Expenditures – \$6.6 million

Totals for FY 2022 (as of December 20)

- Awards Received – \$7 million
- Expenditures – \$2.56 million

We served our community through K-12 outreach programs

- The Department of Computer Science hosted several BisonCyber camps for high school students.
- Our popular STEM Kids Camp returned to campus this summer welcoming hundreds of K-12 students.
- The Department of Electrical and Computer Engineering, Eta Kappa Nu Honor Society and NDSU's Disability Services worked together to make the holiday season more enjoyable for children of all abilities through the 3rd Annual Toy Adaptathon.
- We hosted a FIRST LEGO League Regional Qualifier Tournament for children in grades 3-7 and a FIRST Tech Challenge Regional Tournament for students in grades 7-12.

In closing, looking forward, 2022 will be a year of transition for NDSU. We will have a new president, continued budgetary pressures from enrollment declines and associated state funding formula appropriations, and significant federal funding opportunities. I also want to acknowledge that many of us feel apprehension about 2022, and the continuing reports of COVID-19 variants disrupting our work and home lives. I very much appreciate the hard work and leadership that our faculty and staff have displayed in combatting the spread of COVID through vaccinations, boosters, and mask

wearing in the classrooms. These mitigation efforts have been, and will continue to be, important in protecting our NDSU community.

It was a pleasure to serve you as dean during 2021—and I am looking forward to an even better 2022. Now it is time to relax a little, reflect on the past year, and get ready to come back next year, ready to achieve even more. I wish you all the very happiest and healthiest holiday season. Merry Christmas!



IN THE NEWS

[NDSU alumnus puts degree to work](#)

[3D printing class first of its kind at NDSU](#)

[Winter commencement: 'Follow your heart'](#)

[Five Bison Named to MVFC All-Academic Team](#)

[Best online master's in software engineering 2021: Top picks](#)

[New chair to join agricultural and biosystems engineering](#)

CONGRATULATIONS

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

UPCOMING EVENTS

Tuesday, January 11, **CoE Faculty Council Meeting**. 12:30 – 1:30 p.m. in the CME Auditorium.

Wednesday, January 26, **Project Implicit**. The ADVANCE Partnership Project is hosting a virtual session on implicit bias presented by Sylvia Perry, Associate Professor of Psychology at Northwestern University from Project Implicit. 11 a.m. – 12:30 p.m. [Register Here](#).

PEER TEACHING PROGRAM

The Peer Teaching program is a personalized partnership between two faculty members and/or instructional staff with a shared vision of improving teaching and learning at NDSU. If you would like to work with a peer teaching partner for Spring Semester 2022, please complete the online form by **January 7, 2022**.

Track 1: Formal – Peer Teaching Review

With the Peer Teaching Review (PTR) option, participants will be matched with a senior faculty member trained in formal pedagogy review.

Track 2: Informal – Peer Teaching Partnership

The Peer Teaching Partnership (PTP) is similar to the program that has been offered by OTL in recent years, where you are partnered with other teaching faculty members and instructional staff at NDSU to evaluate each other's teaching.

[Learn More >>](#)

[Register Now >>](#)

NSF AND CAREER DEVELOPMENT PROGRAM

The Research and Creative Activity Office has created an ***NSF and CAREER Proposal Development Program*** to assist faculty in writing proposals to NSF.

All sessions will be held during spring semester 2022. There are two tracks:

Track A: First NSF Proposal or Proposal Re-submissions

This series of sessions are primarily for faculty who have not written an NSF proposal or have not had a successful NSF proposal submission. This track would also be useful for faculty applying to the NSF CAREER program in Summer 2023 or 2024.

Track B: NSF CAREER 2022

This series of sessions is for faculty that will be submitting an NSF CAREER proposal in Summer 2022.

Learn more, see the full schedule and apply [here](#).

FUNDING OPPORTUNITIES

RCA Small Grants Programs

Applications for the following funding programs are currently open:

Proposal Resubmission Pilot Program

In order to better support NDSU researchers, an RCA Pilot Proposal Resubmission program is being launched to provide proposal consultations to investigators for improving an already highly-rated proposal for resubmission. The program is for reviews received within the past 6 months. This is a pilot project, subject to demand and measured impact of the investments. We encourage individuals with highly rated but unfunded proposals of all sizes and in all disciplines to apply. The awards will be for up to 5 hours of consultation time with an experienced grant writer and proposal support from research development staff.

Research Development Travel and Conference Support Awards

These awards help defray expenses for faculty presenting at national conferences (virtual or on-site) or for supporting travel to visit archives or special collections for research. As this pool of funding is limited, please consider allowing individuals who do not have other sources of travel funding to apply for this opportunity.

Research Support Services Awards

These awards help defray the costs of support services required for research, creative, or scholarly activity. For example, funds may be used in one of the NDSU Core Facilities, another recharge / service center, or for transcription services.

More information and application instructions for these programs are posted on the [RCA website](#).

NSF: Addressing Systems Challenges through Engineering Teams

The Addressing Systems Challenges through Engineering Teams (ASCENT) program [[NSF 22-534](#)] encourages robust collaborations among the devices, circuits, algorithms, systems, and networks research communities to develop innovative projects. ASCENT seeks proposals that are bold and ground-breaking transcending the perspectives and approaches typical of disciplinary research efforts. ASCENT projects are expected to lead to disruptive technologies or nucleate entirely new research fields motivated by the most pressing societal challenges the global community faces.

Pre-proposal deadline: March 2, 2022

NSF: Mid-Career Advancement

The Mid-Career Advancement program [NSF 21-516] offers an opportunity for scientists and engineers at the Associate Professor rank (or equivalent) to substantively enhance and advance their research program through synergistic and mutually beneficial partnerships, typically at an institution other than their home institution. Projects that envision new insights on existing problems or identify new but related problems previously inaccessible without new methodology or expertise from other fields are encouraged.

Partners from outside the PI's own subdiscipline or discipline are encouraged, but not required, to enhance interdisciplinary networking and convergence across science and engineering fields.

Deadline: February 7, 2022

RECENTLY FUNDED GRANTS

- Adam Curtis Gladen (PI). Developing a novel, molten salt torrefaction process to enable solar or waste-heat driven torrefaction. \$69,696 from the National Institute of Food & Agriculture. 8/1/2021 - 7/31/2022.
- Xin Sun (CPI). A Novel Soybean Sorting Technology for Producing High-Quality Tofu Products. \$38,299 from the ND Department of Agriculture. 12/1/2021 - 11/30/2022.
- Jeremy A Straub (PI). Industry Collaboration for Autonomous Medication Misuse Prevention. \$55,000 from OpREMS LLC. 1/1/2022 - 12/31/2022.
- Ali Amiri (PI), Chad A Ulven (CPI). Reducing fogging emission of natural fiber-filled polymers. \$39,584 from the Center for Bioplastic and Biocomposites. 1/1/2022 - 12/31/2022.
- Kalpana Katti (PI), Dinesh R Katti (CPI). Next-Generation Bioactive ACL Repair Scaffolds. \$357,760 from Sanford Research North. 1/1/2022 - 12/31/2025.

RECENTLY SUBMITTED PROPOSALS

- Jeremy A Straub (PI). Industry Collaboration for Autonomous Medication Misuse Prevention. \$55,000 from OpREMS LLC. 1/1/2022 - 12/31/2022.
- Ali Amiri (PI), Chad A Ulven (CPI). Reducing fogging emission of natural fiber-filled polymers. \$39,584 from the Center for Bioplastic and Biocomposites. 1/1/2022 - 12/31/2022.
- Mijia Yang (PI), Yao Yu (CPI), Qifeng Zhang (CPI). Harness of Sunlight through Solar Snow Fence: Implementation. \$187,201 from the MN Department of Transportation. 7/1/2022 - 6/30/2024.
- Jeremy A Straub (PI). GenCyber Camp – 2023. \$127,459 from the National Security Agency. 4/1/2022 - 3/31/2024.
- Youjin Jang (PI), Inbae Jeong (CPI). A real-time Internet of Things (IoT) - based indoor environmental quality (IEQ) management framework for tall building. \$14,995 from the Council on Tall Buildings & Urban Habita. 2/10/2022 - 8/31/2023.

RECENT PUBLICATIONS

For 2021, 209 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:

- Aydin, Senay, Bulent Yagmur, E. Dilsat Yegenoglu, and Halis Simsek. 2021. "THE EFFECTS OF DIFFERENT LEVELS OF Fe-EDDHA APPLICATIONS IN A VINEYARD (*Vitis Vinifera* L.) IN THE SEMI-ARID ENVIRONMENT." *Fresenius Environmental Bulletin* 30 (11A): 12100–106.

- Bazrkar, Mohammad Hadi, and Xuefeng Chu. 2021. “Ensemble Stationary-Based Support Vector Regression for Drought Prediction under Changing Climate.” *Journal of Hydrology* 603 (December): 127059. <https://doi.org/10.1016/j.jhydrol.2021.127059>.
- Hill, Christopher B., Om P. Yadav, and Eakalak Khan. 2022. “Examining Hydraulic Fracturing Chemicals: A Temporal and Comparative Analysis.” *Water Research* 208 (January): 117878. <https://doi.org/10.1016/j.watres.2021.117878>.
- Karki, Ritesh, Joseph M. Krienert, Minki Hong, and David R. Steward. 2021. “Evaluating Baseflow Simulation in the National Water Model: A Case Study in the Northern High Plains Region, USA.” *JAWRA Journal of the American Water Resources Association* 57 (2): 267–80. <https://doi.org/10.1111/1752-1688.12911>.
- Richter, Bertram, Zachary Mace, Megan E. Hays, Santosh Adhikari, Huy Q. Pham, Robert J. Scلابassi, Benedict Kolber, et al. 2021. “Development and Characterization of Novel Conductive Sensing Fibers for In Vivo Nerve Stimulation.” *Sensors* 21 (22): 7581. <https://doi.org/10.3390/s21227581>.
- Suttle, Ryan, Scott Hogan, Rachel Aumaugher, Matthew Spradling, Zak Merrigan, and Jeremy Straub. 2021. “University Community Members’ Perceptions of Labels for Online Media.” *Future Internet* 13 (11): 281. <https://doi.org/10.3390/fi13110281>.
- Wolf, Henry, Dipankar Mitra, and Benjamin Braaten. 2021. “On the Effect of Varying the Number of Complementary Split-Ring Resonators (CSRRs) in the Ground Plane of a Microstrip Transmission Line.” In *2021 International Applied Computational Electromagnetics Society Symposium (Acés)*. New York: Ieee. <https://doi.org/10.1109/ACES53325.2021.00191>.
- Xu, Yiwen, Hritom Das, and Na Gong. 2021. “Application-Aware Quality-Energy Optimization: Mathematical Models Enabled Simultaneous Quality and Energy-Sensitive Optimal Memory Design.” *IEEE Transactions on Sustainable Computing* 6 (4): 559–71. <https://doi.org/10.1109/TSUSC.2020.2999882>.
- Zhou, Zhengping, Oksana Zholobko, Xiang-Fa Wu, Ted Aulich, Jivan Thakare, and John Hurley. 2020. “Polybenzimidazole-Based Polymer Electrolyte Membranes for High-Temperature Fuel Cells: Current Status and Prospects.” *Energies* 14 (1): 135. <https://doi.org/10.3390/en14010135>.

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.

