

COLLEGE HAPPENINGS

December 23, 2019

FROM THE DEAN

Happy Holidays and Year End Reflections

Commencement on Friday was a fitting way to celebrate the end of the decade, as the graduation of over 230 College of Engineering students individually marked the end of one journey and the beginning of another. It is deeply gratifying to share in this life-changing milestone with new graduates. When I speak with individuals back on campus for the festivities, or when I meet acquaintances while traveling around the state and the country, the question that I am most frequently asked is “How are things in the College of Engineering at NDSU?” As I reflect on the past year, here are some of the items in my current set of bragging points from 2019: a year in review.

We graduated a record number 643 students in 2019

- 540 baccalaureate degrees
- 77 MS degrees
- 26 PhD degrees

Our faculty, staff and students earned honors and awards

- The Bison Robotics VEX U advanced to the Robotics World Championship.
- A team of NDSU engineering students won first place overall and first place in design report at the 2019 GeoWall regional competition.
- NDSU was approved to join the U.S. Green Building Council’s Leadership in Energy and Environmental Design Lab program, giving students an innovative hands-on learning opportunity.
- The College of Engineering Ambassadors helped collect a record total of \$8,119.17 for a North Dakota teen fighting cancer during the ninth annual “Battle of the Cents-es” event.
- The NDSU Steel Bridge Team won its regional and competed at the AISC Student Steel Bridge Competition National Finals.
- NDSU was named the lead site for the Center for Bioplastics and Biocomposites. The center is part of NSF’s Industry–University Cooperative Research Centers program.
- A group of NDSU engineering students placed second overall and won several other honors at the 2019 NASA Robotic Mining Competition.
- A four-person team from NDSU placed 2nd in the National Cyber Cup student cybersecurity competition.
- Ken Hellevang, interim chair of the Department of Agricultural and Biosystems Engineering, received the American Society of Agricultural and Biological Engineers 2019 Sukup Global Food Security Award.
- Chad Ulven, associate chair and professor of mechanical engineering, was named the 2019 NDSU College of Engineering Researcher of the Year and was selected to present the 2019 Faculty Lectureship, one of the oldest and most prestigious of NDSU’s awards.
- Di Wu, assistant professor in the Department of Electrical and Computer Engineering, was named the College of Engineering Early Career Researcher of the Year.
- Yanchao Li, who earned his doctorate in electrical engineering in April, was named the Graduate Student Researcher of the Year.

- Long Jiang, associate professor of mechanical engineering, was named the 2019 recipient of the Excellence in Teaching Award.
- Ravi Yellavajjala, assistant professor of civil and environmental engineering, was awarded the Early Career Excellence in Teaching Award.
- Dayakar Lavadiya, a civil engineering doctoral student, was named the 2019 Graduate Teaching Assistant of the Year.
- Tiffany Neuharth was named the Outstanding Staff Award recipient for the paraprofessional or office support level.
- Nancy Rossland was named the Outstanding Staff Award recipient for a staff member at the professional level.
- Beth Dahl from the Department of Industrial and Manufacturing Engineering earned a 2019 NDSU Staff Recognition Award.
- A group of NDSU construction management students took home the title at the 2019 Upper Midwest Intercollegiate Construction Management Quiz Bowl
- A team of students from the NDSU Department of Civil and Environmental Engineering won the 2019 Environmental Challenge as part of the annual Conference on the Environment.
- David Grewell, chair and professor of industrial and manufacturing engineering has been named a fellow of the National Academy of Inventors.
- Jacob Glower, associate professor of electrical and computer engineering, was honored with the Peltier Award for Teaching Innovation.
- Val Marinov and Lokesh Narayanan from the Department of Industrial and Manufacturing Engineering and Chad Ulven and Robert Sailer from the Department of Mechanical Engineering were among 11 people named as the inaugural cohort of the new NDSU Chapter of the National Academy of Inventors.
- Samee Khan from the Department of Electrical and Computer Engineering was awarded the 2019 IEEE ComSoc Technical Committee on Big Data Best Journal Paper Award.
- Rajesh Kavasseri from the Department of Electrical and Computer Engineering has been named 2019-20 RCA Faculty Fellow by the Office of Research and Creative Activity.
- Jeremy Straub from the Department of Computer Science was named to the inaugural group of Challey Institute Faculty Fellows.
- Apryl Schroeder, Arup Dey, Jack Radtke, Megan Girard, Patrick Pochant, Grant Anderson, and Julie Bietz were all nominated for the annual Mary McCannel Gunkelman Recognition Award, which recognizes the person who creates an atmosphere of happiness and enjoyment for NDSU students.
- Mijia Yang from the Department of Civil and Environmental Engineering was selected by the editor of the Journal of Aerospace Engineering as an ASCE 2018 Outstanding Reviewer and named associate editor of the Journal of Materials in Civil Engineering.
- Beena Ajmera from the Department of Civil and Environmental Engineering was re-elected to a three-year term as a Councilor for the Engineering Division of the Council on Undergraduate Research (CUR).
- Ryan Carda, a student in the Department of Agricultural and Biosystems Engineering, received the American Society of Agricultural and Biological Engineers 2019 Roger R. & Laura M. Yoerger Preprofessional Engineer of the Year award.
- Mohsen Tahmasebi Nasab, a doctoral student in the Department of Civil and Environmental Engineering, was inducted into the Tapestry of Diverse Talents, a pictorial mosaic that recognizes students, faculty, staff, and alumni for the contributions to diversity they bring to NDSU.

We celebrated new initiatives

- After more than a year of hard work and with feedback from faculty, staff, students and alumni, the College's leadership team finalized the details of our 2020-25 Strategic Plan. We'll be rolling out the plan with department meetings and thematic fireside chats early next year.
- The College of Engineering will offer a new robotics minor starting in Fall 2020. The program is designed to meet the needs of industry and attract new students to NDSU by offering extensive hands-on learning activities that directly relate to real-life applications.
- We are currently working on a Diversity, Equity, and Inclusion Plan for the College of Engineering and have submitted an application for the bronze level of the ASEE Diversity Recognition Program.
- In March, in honor of Women's History Month, the College of Engineering launched a new Alumnae Spotlight webpage. It features interviews with more than a dozen distinguished female graduates.
- On July 1, we officially welcomed the Department of Computer Science to the College of Engineering.

And awarded a new faculty fellowship

- Lokesh Narayanan, assistant professor of industrial and manufacturing engineering, has been named the inaugural holder of the Vettel Family Fellowship. Alumnus Matt Vettel and his wife, Jenna, established the fellowship to support a faculty member in the Department of Industrial and Manufacturing Engineering.

Several faculty members earned promotions this year

- Fardad Azarmi, Benjamin Braaten, Jacob Glower, Xinhua Jia, Samee Khan, Juan (Jen) Li, and Changhui Yan were promoted to Full Professor.
- Zhibin Lin was approved for tenure and promoted to Associate Professor.

We also made some outstanding new hires

- Angela Thomasson joined the college as office coordinator and assistant to the dean.
- Paulo Flores joined the Department of Agricultural and Biosystems Engineering as an assistant professor.
- Yu (Heather) Zhang, Zhao Zhang and Ademola Hammed joined ABEN as research assistant professors.
- Kenton Jensen was hired by ABEN as a research specialist.
- Monica Haugen was hired by the Department of Computer Science as an administrative assistant.
- Jill Walkinshaw Isaak joined CS as an academic assistant.
- Abdulaziz Banawi was hired as an assistant professor in the Department of Construction Management and Engineering.
- Quinn Las, Blane Tschida and Casey Vukelich were hired as software engineers for the Department of Electrical and Computer Engineering.
- Uma Tida joined ECE as an assistant professor.
- Lokesh Narayanan was hired as an assistant professor in the Department of Industrial and Manufacturing Engineering.
- Joleen Gunderson joined the Department of Mechanical Engineering as an account technician.
- Oksana Zholobko was hired as a postdoctoral research assistant in ME.
- Jessica Vold joined ME as an assistant professor focused on engineering entrepreneurship and innovation.

And we said goodbye to several colleagues

- Shannon Viestenz died unexpectedly after a long career as the maintenance mechanic for the Department of Mechanical Engineering.
- Apryl Schroeder, Dilpreet Bajwa, Zhengping Zhou and Mariusz Ziejewski all left their positions in ME.
- ECE said goodbye to Dong Cao, Andrew Jacobson and Scott Smith.
- Former College of Engineering Dean Gary Smith retired from the Department of Construction Management and Engineering.
- Janet Fleming-Halmrast left the Department of Computer Science.
- ABEN said goodbye to Deb Baer, Sreekala Bajwa and Dennis Wiesenborn.

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

Totals for FY 2019

- Awards Received – \$6.15 million
- Expenditures – \$5.22 million

Totals so far for FY 2020 (From July 1, 2019 up to December 18, 2019)

- Awards Received – \$2.44 million
- Expenditures – \$2.29 million

We served our community through K-12 outreach programs

- We brought hundreds of 8th grade girls to campus for Introduce a Girl to Engineering Day.
- We hosted dozens of teams for FIRST Lego League Qualifying Tournaments.
- More than 300 kids spent hours learning about science, technology, engineering and math as part of our 2019 STEM Kids Camps.

It's been an incredible year in the NDSU College of Engineering, and I'm thankful to have you all as part of our college community, and for the opportunity I have to serve as dean here. Looking forward, while we will likely continue to have challenges in 2020 related to university budgets from recent enrollment declines, I also anticipate some exciting opportunities for growth in the college. 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 a season filled with family, friends and laughter. Merry Christmas.



IN THE NEWS

[Researchers use technology to enhance road safety](#)

[NDSU engineering students work together on projects](#) (KVRN)

[NDSU to host Toy Adaptathon for children with disabilities](#) (Forum)

[Toy Adaptathon to be held at NDSU](#)

[Engineer elves at NDSU are making toys easier for disabled kids to use](#) (Forum)

[NDSU students modifying toys for kids with disabilities](#) (Valley News Live)

[Doctoral student attends International Aeronautical Congress](#)

[NDSU commencement speaker: Take the first step to success](#)

[NDSU inventors group organized, inaugural members named](#)

[NDSU Winter Commencement – Olivia Gravel's campus inspiration](#)

[NDSU Winter Commencement – Mathew Justin's campus inspiration](#)

[NDSU Winter Commencement – Patrick Pochant's campus inspiration](#)

[Innovation Challenge winners announced](#)

[Entrepreneurship at NDSU is 'shaping where I want to go'](#)

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

Monday, January 13, Classes start at 4:00 p.m.

Tuesday, January 14, First full day of classes.

2020 NSF ENG CAREER PROPOSAL WORKSHOP

An [NSF CAREER Proposal Workshop](#) focused on engineering will be held March 31 – April 2, 2020 in Arlington, Virginia. The objective of the 2020 NSF ENG Directorate Workshop is to introduce junior faculty who are interested in submitting NSF CAREER proposals to the Directorate for Engineering. The workshop aims to provide individuals with proposal development insights and a forum in which they can interact with NSF program directors and recent NSF CAREER awardees.

Workshop participation will be by invitation, based on applications, and limited to 300 participants who will be selected from the pool of applicants based on:

- a) applicability of the proposed research to the Directorate for Engineering,
- b) timeliness and completeness of the application, and
- c) preference given to those who have not previously attended an NSF Engineering CAREER workshop.

Please review the [application page](#) for further information.

Application Deadline: January 6, 2020

REGISTRATION OPEN FOR SWE EVENTS

The NDSU chapter of the Society of Women Engineers will be holding several outreach events next semester including Dads and Daughters Do Science, Tech Teens and TechKids (co-sponsored by Tau Beta Pi). These events are a great way to get kids excited about engineering and science. For more information on dates, times and registration check out the links on the [College of Engineering Outreach Page](#).

FUNDING OPPORTUNITIES

NASA EPSCoR Research in North Dakota

In response to the [FY 2020 Cooperative Agreement Notice \(CAN\) solicitation](#), the North Dakota NASA Established Program to Stimulate Competitive Research (EPSCoR) is soliciting research proposals from faculty at [Affiliate Institutions](#) specifically designed to promote and expand NASA research in North Dakota. One proposal will be selected by ND NASA EPSCoR for full submission for the CAN. Following preliminary proposal selection by ND NASA EPSCoR, the selected PI must submit an NOI by *January 24, 2020* and a full proposal by *March 6, 2020*.

Details and guidance for pre-proposals can be found on the ND NASA EPSCoR website here:

<http://blogs.und.edu/jdosas/2019/12/nd-nasa-can-fy2020-announcement-rfp-2/>

Pre-proposals must be submitted to ND NASA EPSCoR by Noon, January 13, 2020.

NSF: Faculty Early Career Development Program (CAREER)

The National Science Foundation (NSF) has issued a new solicitation ([NSF 20-525](#)) for the Faculty Early Career Development (CAREER) Program. The CAREER program is a Foundation-wide activity that offers the NSF's most prestigious awards in support of early-career faculty who have the potential to serve as academic role models in research and education and to lead advances in the mission of their department or organization.

Integration of Research and Education - All CAREER proposals should describe an integrated path that will lead to a successful career as an outstanding researcher and educator. NSF recognizes that there is no single approach to an integrated research and education plan, but encourages all applicants to think creatively about the reciprocal relationship between the proposed research and education activities and how they may inform each other in their career development as both outstanding researchers and educators. These plans should reflect the proposer's own disciplinary and educational interests and goals, as well as the needs and context of his or her organization. Because there may be different

expectations within different disciplinary fields and/or different organizations, a wide range of research and education activities may be appropriate for the CAREER program. In addition, NSF recognizes that some investigators, given their individual disciplinary and career interests, may wish to pursue an additional activity such as entrepreneurship, industry partnerships, or policy that enhances their research and education plans. Proposers are encouraged to communicate with the [CAREER contact](#) or cognizant Program Officer in the Division closest to their area of research to discuss the expectations and approaches that are most appropriate for that area.

Application Deadline: July 27, 2020 for all Directorates

RECENTLY FUNDED GRANTS

- Trung Quoc Le (PI). Point-of-care Obstructive Sleep Apnea (OSA) Monitoring and Forecasting Platform for Cancer Patients. \$25,000 from the National Institutes of Health. 03/01/2019 – 08/31/2019.
- Ying Huang (PI). Distributed Fiber Optic Sensor Network for Real-time Monitoring of Pipeline Interactive Anomalies. \$40,000 from Pipeline and Hazardous Materials Safety. 09/30/2019 – 09/30/2022.
- Roger A Green (CPI). Collaborative Research: Joining forces: A midwestern partnership for research-intensive institutions for women STEM faculty success. \$232,039 from the National Science Foundation. 01/01/2020 – 01/01/2023.
- Jordi Esteveordal (PI). Experimental Investigation of Dynamic Stall by Effect of Sweep on a Pitching Finite-Aspect-Ratio Wing. \$47,080 from the U.S. Air Force. 11/01/2019 – 01/15/2020.

RECENTLY SUBMITTED PROPOSALS

- Marjura Fortunatus Selekwa (PI). Functional Coatings for Vehicle Autonomy - Phase II Development of a Robotic Vehicle for Testing PPG Coatings. \$142,142 from PPG Industries. 12/06/2019 – 12/06/2020.
- Jessica Lynne Lattimer Vold (PI). Thermal Stabilization of Regolith for Advanced Additive Manufacturing Materials. \$89,750 from the University of North Dakota. 03/01/2020 – 02/28/2021.
- Trung Bao Le (PI). Spring Flood under Extreme Events. \$89,750 from the National Aeronautics and Space Administration. 08/15/2020 – 07/31/2021.

RECENT PUBLICATIONS

For 2019, 138 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:

- Limon, Shah, Esmail Rezaei, and Om Prakash Yadav. n.d. "Designing an Accelerated Degradation Test Plan Considering the Gamma Degradation Process with Multi-Stress Factors and Interaction Effects." *Quality Technology and Quantitative Management*. <https://doi.org/10.1080/16843703.2019.1696010>.
- Parvej, M. Subbir, Xinnan Wang, Joseph Fehrenbach, and Chad A. Ulven. n.d. "Atomic Force Microscopy-Based Nanomechanical Characterization of Kenaf Fiber." *Journal of Composite Materials*, UNSP 0021998319892073. <https://doi.org/10.1177/0021998319892073>.
- Wu, Chao, Ruidong Wu, Wenjie Xia, and Lik-ho Tam. n.d. "Understanding Creep Behavior of Semicrystalline Polymer via Coarse-Grained Modeling." *Journal of Polymer Science Part B-Polymer Physics*. <https://doi.org/10.1002/polb.24912>.
- Yang, Hao, Xiehuai Luo, Kaizhi Shen, Yi Yuan, Qiang Fu, Xueqin Gao, and Long Jiang. 2019. "The Role of Mandrel Rotation Speed on Morphology and Mechanical Properties of Polyethylene Pipes Produced by Rotational Shear." *Polymer* 184 (December): UNSP 121915. <https://doi.org/10.1016/j.polymer.2019.121915>.
- Zhang, Zhiming, Chao Sun, and Ying Huang. 2020. "Sparse Signal Recovery for WIM Measurements from Undersampled Data through Compressed Sensing." *Measurement* 151 (February): 107181. <https://doi.org/10.1016/j.measurement.2019.107181>.

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.

