

COLLEGE HAPPENINGS

September 18, 2018

FROM THE DEAN

The Impact of Scholarships and a New Scholarship and Awards Reception

Scholarship support can play a significant role in the life of a student. For me, a scholarship from an electric cooperative in my home town and a presidential scholarship from my university, enabled me to pursue my undergraduate degree without taking on significant debt. It also allowed me to focus on my studies while in college, since I didn't need to work a part time job to make ends meet. I am very thankful for the generosity of donors that made those scholarships possible; they certainly had a tremendous impact on my life. Similar stories can be told by many of our alumni and students who have benefitted from College of Engineering scholarships, as well as university level and community scholarships.

Each year, committees of faculty and staff in the college select students for various scholarships. This year, we awarded more than \$300,000 to 166 students. These scholarships are provided by generous gifts from over 130 different donors.

Beginning this year, we are going to start celebrating those scholarships in a more public way. On Thursday, October 4, beginning at 3:00p in the NDSU Memorial Union Great Plains Room, we will be hosting a scholarship and awards reception for the College of Engineering. The purpose of this ceremony is to recognize both the students receiving these scholarships, and the generosity of the donors that made these awards possible. We will also be presenting faculty research and teaching awards. Please plan to attend this ceremony and reception to celebrate together the impact of these scholarships. To RSVP, visit www.ndsu.edu/coe and click on the event link.



IN THE NEWS

[Graduate student wins award for research poster](#)

[Bison BEST robotics competition set to begin](#)

[Faculty member honored with American Water Works award](#)

[Online master's degree program recognized for excellence](#)

[Turning waste into bioplastics, Mexico strikes green gold](#)

ABEN engineers live on Valley News Live for the Big Iron Farm Show: [Part 1](#), [Part 2](#)

[Interdisciplinary team awarded \\$2.9M NSF Research Traineeship grant to strengthen rural communities](#)

CONGRATULATIONS

Jamileh Shojaeiarani, a Ph. D. student in the **Department of Mechanical Engineering**, received an ND EPSCoR travel grant to present her work at the ASME's International Mechanical Engineering Conference in November.

Shree Paudel, a master's degree student in the **Department of Civil and Environmental Engineering**, was selected as one of three winners of the 2018 Institute of Transportation Engineers Midwestern District Student Poster Competition

Wei Lin, associate professor with the **Department of Civil and Environmental Engineering**, has been awarded the American Water Works Association 2018 George Warren Fuller Award. The award is presented annually to members who demonstrate distinguished service to the water supply field.

Abhishek Banerjee, a Ph. D. student in the **Department of Electrical and Computer Engineering**, was among three graduate students awarded prizes at the 2018 IEEE Power and Energy Society General Meeting Student Poster Contest.

Emily von Hagen, master's degree student in the **Department of Civil and Environmental Engineering**, was awarded the 2018 Larson Aquatic Research Support Scholarship from the American Water Works Association.

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

NEW HIRES

Xin "Rex" Sun has been hired as an assistant professor in the **Department of Agricultural and Biosystems Engineering** and will be focusing on teaching and research in the area of precision agriculture. Rex received his Ph.D. in Agricultural Engineering from Nanjing Agricultural University, and B.S. in Electronic Information Science and Technology from Yantai University, both in China. He has been working as a research scientist at the Department of Animal Sciences at NDSU since 2015. Prior to that he was a visiting scholar to NDSU.

Eileen "Anne" Campbell is the new academic secretary in the **Department of Electrical and Computer Engineering**.

UPCOMING EVENTS

Wednesday, September 19th, **Department of Civil and Environmental Engineering Seminar**. Beena Ajmera will be presenting her work on "Effect of Plasticity Characteristics and Mineralogical Composition on Dynamic Soil Properties." 1:00 – 1:50 p.m. CIE 207.

Wednesday, September 19th, **Community Respect Training**. 1:00 p.m. – 2:30 p.m. in the MU Room of Nations. The Community of Respect program offers seminars designed to improve inter-cultural competencies and provide hands-on strategies to assist participants in learning how to work more effectively with colleagues and students whose cultural backgrounds are different from their own.

Friday, September 21st, **Engineering Homecoming Showcase**. 11:00 a.m. – 1:00 p.m. at the NDSU Memorial Union Great Room.

Friday, September 21st, **ABEN Seminar Series**. Duane A. Lillehaug will be giving his presentation, "The Intersection of Engineering and Law." 2:30 p.m. ABEN 224.

Monday, September 24th, **Faculty Luncheon**. “The Past, Present, and Especially the Future of the American Research University” with Leonard Cassuto, Fordham University. 11:00 a.m. – 1:00 p.m. MU Plains Ballroom. [Register Here](#).

Thursday, October 4th, **College of Engineering Scholarship and Awards Reception**. 3:00 p.m. – 4:30 p.m. at the NDSU Memorial Union Great Plains Ballroom. This event will be a celebration of our student scholarship recipients and donors along with faculty and graduate student award recipients. [Register Here](#).

Monday, October 22nd, **Biomedical Engineering Symposium**, “Industry Meets Academia.” The event will be held on the UND campus. A detailed agenda and registration information will be released soon.

UPCOMING CONFERENCES

Microbiomes from Different Habitats: Soil, Water and Gut

October 16-17 in Lincoln, NE

Organized by Nebraska EPSCoR and part of the Nebraska Research and Innovation Conference annual series, this conference will feature a variety of experts, including Ed Yong of The Atlantic. It will also include an interactive workshop on how scientists can succeed in media interviews.

Registration, which is free, is open through Oct. 1. The deadline to make a hotel room reservation at the discounted group rate is Sept. 24. Participants can also present a relevant research topic in the event’s Oct. 16 poster session. Posters must be registered by Oct. 1. [Registration for the conference is available online](#).

FUNDING OPPORTUNITIES

NDSU EPSCoR Funding

The NDSU campus of [ND EPSCoR](#) has funds available to assist faculty with STEM research and/or outreach activities. Funds are available for the following activities:

- Equipment (\$40,000 maximum)
- Student travel to present at national conferences (\$2,000 maximum)
- Faculty travel for work on collaborative proposals (\$2,000 maximum)
- Seed awards for preliminary data collection (\$10,000 maximum)
- External review of large, interdisciplinary proposals (\$5,000 maximum)
- Seed awards for K12 STEM outreach activities (\$5,000 maximum)

The detailed RFP can be found at: <https://www.ndepscor.ndus.edu/funding-opportunities/resind/stem-rfp-2018/>.

DoD: Naval Engineering Education Consortium (NEEC) Broad Agency Announcement for FY18

The Naval Surface Warfare Center is seeking research of interest in support of the Naval Engineering Education Consortium (NEEC). Many research topics are outlined in the [Broad Agency Announcement](#) (BAA), including advanced materials, electronics, quantum computing, big data, artificial intelligence, cybersecurity, advance manufacturing, advanced computer vision and algorithms, automation/robotics, computational fluid dynamics, sensors, novel computing techniques, as well as other topics. Grant awards made from this BAA are planned to be approximately \$150,000. Work funded under a BAA may include basic research, applied research and some advanced technology development research. *Application deadline: October 31, 2018*

[Track this opportunity in Pivot >>](#)

FACULTY AWARD NOMINATIONS

Nominations are open for faculty awards processed through the Office of the Provost.

The deadline for nominations for the [Engberg, Hogoboom, Gehrts Professorships](#) is September 28, 2018.

Nominations may be submitted by faculty, staff, students, alumni, unit administrators or deans. For information on faculty awards please see the [awards page](#).

PROMOTION AND TENURE

The 2018-19 PTE Materials are now available to download from the [Promotion and Tenure website](#). This website contains the Guidelines for Promotion and Tenure Portfolio Preparation, Policy and Procedure Checklist, the Portfolio Cover Sheet, and the NDSU PTE Timeline.

There are also several PTE Information and Training Sessions scheduled:

PTE Training for Reviewers

- Wednesday September 19, 9:00-11:00 am, Rose, MU. [Register here](#).

New Faculty PTE Session

- Wednesday November 7, 3:00-4:00 pm, Rose, MU. [Register here](#).
- Thursday November 8, 3:30-4:30 pm, Mandan, MU. [Register here](#).

RECENTLY FUNDED GRANTS

- Rajesh G Kavasseri (PI). Student Support for the 50th North American Power Symposium. \$15,000 from IEEE. 09/01/2018 – 10/30/2018.
- Danling Wang (PI). Investigation on new functional semiconducting nanomaterial, K2W7O22 for application in chemiresistive gas sensors. \$24,493 from ND NASA EPSCoR. 08/16/2018 – 05/05/2019.
- Wenjie Xia (PI). NDSU EPSCoR Internal Funding – Seed Award. \$10,000 from ND EPSCoR. 09/07/2018 – 05/31/2019.
- Keerthi Nawarathna (PI). NDSU EPSCoR Internal Funding – Seed Award. \$10,000 from ND EPSCoR. 09/07/2018 – 05/31/2019.
- Yan Zhang (PI). NDSU EPSCoR Internal Funding – Seed Award. \$9,977 from ND EPSCoR. 09/07/2018 – 05/31/2019.
- Ivan Lima (PI). NDSU EPSCoR Internal Funding – Seed Award. \$9,630 from ND EPSCoR. 09/07/2018 – 05/31/2019.

RECENTLY SUBMITTED PROPOSALS

- Sreekala G. Bajwa (PI). Spirit Lake Remote Sensing of Harmful Algae Research Project. \$146,438 from NIFA. 03/01/2019 – 02/28/2022.
- Wenjie Xia (PI). Materials-by-design for Optimizing the Mechanical Performance of Biopolymeric Foams. \$20,000 from the American Society of Mechanical Engineers. 10/01/2018 – 10/01/2020.
- Dong Cao (PI). Development of a High Temperature and High Power Testbed for GaN HMET /SiC based Switching Power Converter for Long-Duration Venus Surface Operations. \$90,249 from the National Aeronautics and Space Administration. 01/16/2019 – 01/16/2020.
- Long Jiang (PI). Producing Carbon Fiber/Fabric Using End-of-life Cotton and Application Development. \$42,877 from Cotton Incorporated. 01/01/2019 – 12/31/2019.

- Mijia Yang (PI). Re-tightening the Large Anchor Bolts of Support Structures for Signs and Luminaires: Phase II. \$25,000 from the Minnesota Department of Transportation. 08/01/2019 – 08/31/2021.
- Mijia Yang (PI). Harnessing Solar Energy through Noise Barriers and Structural Snow Fencing. \$149,060 from the Minnesota Department of Transportation. 07/01/2019 – 06/30/2021.
- Ravi Kiran Yellavajjala (PI). Unified Damage Model for Predicting the Behavior of Steel Structures Subjected to Individual and Multiple Hazards. \$200,000 from the American Institute of Steel Construction. 05/15/2019 – 05/14/2024.
- Yan Zhang (PI). A Multiscale Computer Simulation of Human Cardiovascular Physiology in Microgravity. \$128,679 from the National Aeronautics and Space Administration. 09/01/2019 – 08/31/2020.
- Rajesh G Kavasseri (PI). A Random Walks Based Solution to Security-constrained Optimal Power Flow. \$60,494 from the Department of Energy. 12/01/2018 – 12/31/2019.
- Dinesh R Katti (PI). Rational Method to Evaluate Gravel Equivalent (GE) Factor for Geogrid Reinforced Road Section. \$191,781 from the Minnesota Department of Transportation. 07/01/2019 – 06/30/2021.
- Eric Asa (PI). Improve Annual Average Daily Traffic (AADT) on Routes with Functional Class of Local (Urban/Local) and Rural Minor Collectors. \$123,192 from the Minnesota Department of Transportation. 07/01/2019 – 06/30/2021.
- Eric Asa (PI). Construction Incentives - Are They Working? \$123,192 from the Minnesota Department of Transportation. 07/01/2019 – 06/30/2021.
- Eric Asa (PI). Hot Shots for Cold Climates - Evaluating Treatment of the Hardest Icy Sports. \$124,192 from the Minnesota Department of Transportation. 07/01/2019 – 06/30/2021.
- Amiy Varma (PI). Understanding Non-motorized Travel Behavior and Safety in Rural Tribal Communities. \$114,144 from the Minnesota Department of Transportation. 11/01/2019 – 10/31/2021.
- Amiy Varma (PI). New Frontiers in Geometric Design - Designing for the Driver's Encounter. \$103,920 from the Minnesota Department of Transportation. 07/01/2019 – 06/30/2021.
- Amiy Varma (PI). Pavement Marking Patterns and Widths - Human Factors Study. \$88,193 from the Minnesota Department of Transportation. 08/01/2019 – 07/31/2021.
- Amiy Varma (PI). The Impact of Deferred Maintenance in Minnesota. \$120,326 from the Minnesota Department of Transportation. 07/01/2019 – 06/30/2021.

RECENT PUBLICATIONS

For 2018, 86 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:

- Ahmed, Shabbir, Xinnan Wang, Kai Li, and Chad A. Ulven. 2018. "Investigation on the Surface Free Energy of a Single Flax Fiber through Adhesion Measurement by Atomic Force Microscopy." *Journal of Composite Materials* 52 (23): 3233–39. <https://doi.org/10.1177/0021998318763994>.
- Borhan, M. S., S. Rahman, and N. C. Sarker. 2018. "Characterizing Corn and Cattle Manure Derived Biochars Relevant to Their Use as Soil Additives." *Transactions of the ASABE* 61 (4): 1335–49. <https://doi.org/10.13031/trans.12753>.
- Hansoge, Nitin K., Tianyu Huang, Robert Sinko, Wenjie Xia, Wei Chen, and Sinan Keten. 2018. "Materials by Design for Stiff and Tough Hairy Nanoparticle Assemblies." *ACS Nano* 12 (8): 7946–58. <https://doi.org/10.1021/acsnano.8b02454>.
- Yodo, Nita, and Wang Pingfeng. 2018. "A Control-Guided Failure Restoration Framework for the Design of Resilient Engineering Systems." *Reliability Engineering & System Safety* 178 (October): 179–90. <https://doi.org/10.1016/j.res.2018.05.018>.
- Zhao, Baoyun, Dongyan Liu, and Wei Liu. 2018. "Mechanical Behavior of Sandstone under Uniaxial Constant Cyclical Compressive and Tensile Loading." *Arabian Journal of Geosciences* 11 (17): 490. <https://doi.org/10.1007/s12517-018-3845-3>.

- Zhu, Yazhi, Michael D. Engelhardt, and Ravi Kiran. 2018. "Combined Effects of Triaxiality, Lode Parameter and Shear Stress on Void Growth and Coalescence." *Engineering Fracture Mechanics* 199 (August): 410–37. <https://doi.org/10.1016/j.engfracmech.2018.06.008>.

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.

