

COLLEGE HAPPENINGS

November 24, 2020

FROM THE DEAN

Doubling the Number of Faculty Fellows in Professional Societies

One of the four strategic initiatives of our [2020-2025 Strategic Plan](#) is to cultivate a culture of collaborative excellence. As part of that initiative, we aim to increase recognition of faculty and staff. As a specific goal in this area, I would like to double the number of professional society Fellows by 2025. The “Fellow” distinction is bestowed by most professional societies (such as ASME, ASCE, IEEE, IISE, AIMBE, ACM, ASABE, AAAS, ASEE and AIAA) upon individuals who are recognized leaders in their field of research. In order to track our progress and to provide additional recognition to help realize that goal, the College of Engineering has created the [Academy of Faculty Fellows](#), which lists those faculty who have already been elected Fellows of various professional organizations. After the pandemic, my plan is to host periodic events with the members of this group to celebrate their success. And, my hope is that the size of the gathering will continue to grow as new faculty join the ranks of those recognized as Fellows.

In addition to those individuals listed in the College of Engineering’s Academy of Faculty Fellows, we have many additional faculty who would be competitive for this distinction in their disciplinary societies. However, being elected to Fellow of a professional society often takes planning. For example, some professional organizations require an individual to have a certain number of years of continuous membership in the professional society prior to being eligible to be nominated as a Fellow. In some cases, other Fellows are required to nominate new Fellow candidates, so having a network of willing nominators may be necessary. For those faculty who think they may qualify, I encourage you to look at the requirements for your professional societies, and talk with your department chair about your plans. Together, we can increase the external recognition of our faculty by increasing those elected to the rank of Fellow, and in the process, increase the recognition and stature of the whole college.



IN THE NEWS

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

[Challey Institute names Faculty Fellows](#)

[NDSU robotics: new program, new opportunities](#)

[Innovation Challenge winners announced](#)

[NDSU researchers included in rankings of world’s top cited scientists](#)

[Beena Ajmera Is a Rising Star in the Field of Soil and Rock Slope Stability](#)

[NDSU researchers use wastewater to track coronavirus](#)

[How tech opportunities are energizing towns across the US](#)

CONGRATULATIONS

Eric Asa, associate professor of construction management and engineering, **Achintya Bezbaruah**, associate professor of civil and environmental engineering, and **Jeremy Straub**, assistant professor of computer science, have been named to the 2020-21 class of **Challey Institute Faculty Fellows**.

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

Upcoming Spring Instruction Open Forums

Faculty, staff and other instructors can join the weekly open forums with IT to discuss spring instruction. Please plan to attend if you have any issues with technology in the classrooms.

- Wednesday, December 2, 1:00 p.m. – Student panel on Fall semester experience, <https://ndsu.zoom.us/j/92952846331?pwd=b0wwd25QZ0J5eDQxVmF3dWsrWkplZz09>
- Wednesday, December 16, 9:00 a.m. – Dr. Beena Ajmera will discuss HyFlex Experience, <https://ndsu.zoom.us/j/98480751985?pwd=QTIJSUlteFpIcjlGNHgrWGIZWjBxZz09>

UPCOMING EVENTS

Tuesday, December 1, **NDSU Giving Day**. Giving Day is 24 hours of online, grassroots fundraising to support NDSU. [Learn more](#).

Wednesday, December 2, Proposal Development Virtual Program. **Writing a Good First Page and Project Summary** presented by Christine Strohm. Noon via Zoom. [Register here](#).

Wednesday, December 2, **Learning the Language of Diversity and Meaningful Inclusion**. May Ling Halim will present *The Development of Prejudice and Stereotyping from a Psychological Perspective: Challenges and Potential Solutions*. Noon via Zoom.

Thursday, December 3, **Menard Family Distinguished Speaker Series**. All NDSU faculty, staff and students are invited to a free virtual presentation by Harvard economist Dr. Edward Glaese. [Register today](#).

Thursday December 17, **College of Engineering Ring and Pin Ceremony**. This ceremony is a blending of two significant and celebratory events, the Order of the Engineer and the Pledge of the Computing Professional. This semester's ceremony will be held at 5:30 p.m. on Zoom.

NDSU GIVING DAY

NDSU's fifth annual Giving Day is Tuesday, Dec. 1, 2020

Giving Day is an online, grassroots fundraising campaign to support NDSU and its students. Each year, benefactors commit hundreds of thousands of dollars in matches and challenges to inspire others to give. You can preview those

matches and challenges at www.NDSUGivingDay.com. Your gift on Giving Day helps inspire tomorrow's leaders and supports many programs in the College of Engineering.

Please consider making a donation to a program or fund that means the most to you on Giving Day or through a [Giving Day payroll deduction](#).

NIH GRANTWRITING BOOTCAMP

Through NDSU's subscription to NIH grantwriting resources from Meg Bouvier Medical Writing, NDSU faculty, staff, and students have access to a FREE half-day virtual grantwriting bootcamp for NIH R01 proposals.

Virtual R01 Grantwriting Bootcamp

Friday, December 11, 2021

11:00am-3:30pm

[Register to Participate >>](#)

NDSU also continues to offer free registration to resources for writing NIH R-series grant proposals - you can learn more [here](#).

FUNDING OPPORTUNITIES

Early Career / New Investigator Opportunities

Multiple early investigator funding programs currently have open solicitations. These programs exist to provide research and career development opportunities for early career faculty. Details on eligibility requirements can be found in the respective solicitations. If you have any questions about eligibility, please contact ndsu.researchdev@ndsu.edu.

Early Career / New Investigator Programs with Open Solicitations:

- [NIH Stephen I. Katz ESI Research Grant Program](#)
Deadline: January 26, 2021
- [DOE Early Career Research Program](#)
Deadline: February 15, 2021
- [USDA-NIFA New Investigator Grants](#)
Deadlines vary
- [NSF CAREER Program](#)
Deadline: July 26, 2021

DoD: Air Force Office of Scientific Research BAA

The Air Force Office of Scientific Research (AFOSR) plans, coordinates, and executes the Air Force Research Laboratory's (AFRL) basic research program in response to technical guidance from AFRL and requirements of the Air Force. Additionally, the office fosters, supports, and conducts research within Air Force, university, and industry laboratories; and ensures transition of research results to support U.S. Air Force needs. The focus of AFOSR is on research areas that offer significant and comprehensive benefits to our national war fighting and peacekeeping capabilities. These areas are organized and managed in two scientific Departments, each with specific topic areas of interest.

Engineering and Information Science:

- Dynamic Materials and Interactions
- GHz-THz Electronics
- Energy, Combustion, and Non-Equilibrium Thermodynamics

- Unsteady Aerodynamics and Turbulent Flows
- High-Speed Aerodynamics
- Aerospace Composite Materials
- Multiscale Structural Mechanics and Prognosis
- Space Propulsion and Power
- Agile Science of Test and Evaluation

[Download the Broad Agency Announcement \(BAA\) >>](#)

NSF / DOE: Distributed Chemical Manufacturing and Engineering the Elimination of End-of-Life Plastics

The Emerging Frontiers in Research and Innovation (EFRI) program of the NSF Directorate for Engineering (ENG) serves a critical role in helping ENG focus on important emerging areas in a timely manner. This solicitation [[NSF 20-614](#)] is a funding opportunity for interdisciplinary teams of researchers to embark on rapidly advancing frontiers of fundamental engineering research. For this solicitation, NSF will consider proposals that aim to investigate emerging frontiers in one of the following two research areas:

- Distributed Chemical Manufacturing (DChem)
- Engineering the Elimination of End-of-Life Plastics (E3P)

This solicitation will be coordinated with the Directorate for Biological Sciences, the Directorate for Mathematical and Physical Sciences and the Directorate for Social, Behavioral and Economic Sciences.

EFRI seeks proposals with potentially transformative ideas that represent an opportunity for a significant shift in fundamental engineering knowledge with a strong potential for long term impact on national needs or a grand challenge. The proposals must also meet the detailed requirements delineated in this solicitation.

FURTHER INFORMATION: Further information about the EFRI program may be obtained by viewing the slides from the FY20 EFRI informational webinar. Please click [here](#) to view the FY20 slides.

Letter of Intent deadline: December 9, 2020

Pre-proposal deadline: January 5, 2021

RECENTLY FUNDED GRANTS

- Beena D Ajmera (PI). Research Experience for Teachers: Civil Engineering Instruction for Secondary Education Teachers. \$599,537 from the National Science Foundation. 01/01/2020 – 12/31/2023.
- Dinesh R Katti (CPI). MRI: Acquisition of a High Performance Computing System for Scientific Research and Education at NDSU. \$884,596 from the National Science Foundation. 10/01/2020 – 09/30/2023.

RECENTLY SUBMITTED PROPOSALS

- Juan Li (PI). Developing an AI-based Virtual Assistant to Provide Tailored Information for Caregivers of Persons with Alzheimer's Disease and Related Dementias. \$839,931 from the National Institutes of Health. 07/01/2021 – 06/30/2026.
- Ravi Kiran Yellavajjala (PI). Synthesis of Novel Soy-based Hydrogels for Infrastructure Applications. \$30,048 from the ND Soybean Council. 07/01/2021 – 06/30/2022.
- Ravi Kiran Yellavajjala (PI). Early Detection of Palmer Amaranth in Soybean Fields Using Machine Vision Algorithms. \$29,630 from the ND Soybean Council. 07/01/2021 – 06/30/2022.
- Ravi Kiran Yellavajjala (PI). Corn-based Hydrogels for High-Performance Concrete. \$49,580 from the ND Corn Utilization Council. 07/01/2021 – 06/30/2022.

- Ravi Kiran Yellavajjala (PI). Corn-derived Emulsions for Corrosion Protection of Oil Pipelines. \$49,080 from the ND Corn Utilization Council. 07/01/2021 – 06/30/2022.
- Danling Wang (PI), Wenjie Xia (CPI), Qifeng Zhang (CPI). Collaborative Research: An innovative breath-based sensing platform for early and instant diabetes diagnosis and long-term care. \$349,827 from the National Science Foundation. 04/01/2021 – 03/31/2024.
- Mijia Yang (PI). Fence off salt from corn field through waste corn cob. \$25,980 from the ND Corn Utilization Council. 07/01/2021 – 06/30/2022.
- Umamaheswara Rao Tida (PI). Collaborative Research: IRES Track 1: Research Experience at the Convergence of Control, Communication and Signal Processing for Autonomous Systems. \$88,451 from the National Science Foundation. 09/01/2021 – 08/31/2024.
- Ademola Monsur Hammed (PI). Climatic Irregularities Analysis for Soybean Adaptive Cultivation. \$23,040 from the ND Soybean Council. 07/01/2021 – 06/30/2022.
- Ademola Monsur Hammed (PI), Nurun Nahar (CPI). Isolation and characterization of hyper-ammonia-producing bacteria for organic ammonia production from Soybean crop and byproducts. \$4,996 from the ND Soybean Council. 01/01/2021 – 04/30/2021.
- Ademola Monsur Hammed (PI), Nurun Nahar (CPI), Ewumbua Monono (CPI). Development of Super-insulator aerogel from corn-based composite of starch-oil-phenolics. \$31,748 from the ND Corn Utilization Council. 07/01/2021 – 06/30/2022.
- Benjamin Davis Braaten (PI). Analytical Model Development on Propagation in Biological Tissue. \$109,999 from the U.S. Air Force. 12/01/2020 – 12/31/2021.
- Farhad Shirani Chaharsooghi (PI). CIF: Small: An Information Theoretic Framework for Web Privacy. \$15,833 from New York University. 12/01/2020 – 08/31/2021.
- Nurun Nahar (PI), Mijia Yang (CPI). CoRncrete: A Corn-based Construction Material to Replace Cement. \$52,316 from the ND Corn Utilization Council. 07/01/2021 – 06/30/2023.
- Xinhua Jia (PI). Tile drainage effect on small farm wetland hydrology. \$49,928 from the ND Corn Utilization Council. 07/01/2021 – 06/30/2023.
- Long Jian (PI). Further development of cornmeal-based thermoplastics for improved water resistance. \$29,748 from the ND Corn Utilization Council. 07/01/2021 – 06/30/2022.
- Nita Yodo (PI), David Grewell (CPI). Multi-functional Biodegradable Mulch for Specialty Crop Production. \$139,832 from the ND Corn Utilization Council. 01/01/2022 – 12/31/2023.

RECENT PUBLICATIONS

For 2020, 156 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:

- Paudel, Shree Raj, Mijia Yang, and Zhili Gao. 2020. "PH Level of Pore Solution in Alkali-Activated Fly-Ash Geopolymer Concrete and Its Effect on ASR of Aggregates with Different Silicate Contents." *Journal of Materials in Civil Engineering* 32 (9): 04020257. [https://doi.org/10.1061/\(ASCE\)MT.1943-5533.0003344](https://doi.org/10.1061/(ASCE)MT.1943-5533.0003344).
- Wang, Xingyu, Matthew Pearson, Hong Pan, Mingli Li, Zi Zhang, and Zhibin Lin. 2020. "Nano-Modified Functional Composite Coatings for Metallic Structures: Part I-Electrochemical and Barrier Behavior." *Surface & Coatings Technology* 401 (November): 126286. <https://doi.org/10.1016/j.surfcoat.2020.126286>.
- Wang, Xingyu, Fujian Tang, Qi Cao, Xiaoning Qi, Hong Pan, Zhibin Lin, and Dante Battocchi. 2020. "Nano-Modified Functional Composite Coatings for Metallic Structures: Part II-Mechanical and Damage Tolerance." *Surface & Coatings Technology* 401 (November): 126274. <https://doi.org/10.1016/j.surfcoat.2020.126274>.

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*.

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