

COLLEGE HAPPENINGS

November 27, 2018

FROM THE DEAN

Preparing Leaders

Over the past several months, the College of Engineering leadership team has been developing a strategic plan for the college. Working with two consultants from Sagency LLC, we assessed the current reality through healthy growth scans, which included surveys and interviews to gather feedback from faculty, staff, students and advisory board members. We held an off-site retreat to clarify our core purpose, values, and vision. And, we've worked throughout the semester to craft a winning strategy by identifying strategic pillars (the areas of focus that drive our success) and key initiatives.

A key theme that has come out of that strategic planning process is a desire to differentiate our college from the numerous other colleges of engineering around the country. One of the things that we believe could differentiate us is to focus on preparing innovative leaders, teaching students to be creative problem solvers who have the skills to motivate and inspire. Thus, one of the four action teams we've recently formed, which is being led by associate dean Scott Pryor, is tasked with developing an action plan to build leadership and innovation skills of our students.

It is with that background that I invited today's seminar speaker to the college. Dr. Roger Gonzalez, an important thought leader in engineering leadership education, is on campus today for our Distinguished Lecture Series (2 p.m. in the Memorial Union Prairie Rose room). Dr. Gonzalez is the inaugural chairman and professor of the Department of Engineering Education and Leadership at the University of Texas at El Paso, the only program in the country where students can earn their BS degree in engineering leadership. You can read more about Dr. Gonzalez at <https://www.ndsu.edu/news/view/detail/35700/>. I hope that you will be able to attend his lecture this afternoon.



IN THE NEWS

[New fellowships to support NDSU faculty excellence](#)

[NDSU to award fellowships to engineering faculty \(Forum Story\)](#)

[Research team invents breath test to detect diabetes](#)

[Inspiring Teacher: Alan Kallmeyer, professor and chair of mechanical engineering](#)

[Engineering leadership expert to give Distinguished Lecture Series talk](#)

[Top research firms unveil innovative research at NDSU](#)

[Engineer goes to grad school for professional growth](#)

[Mechanical engineering professor looking for a new way to package food](#)

[NDSU researchers studying new use for flax fibers](#)

[ROBIN HUEBNER REPORTS: Workers say unfair wages, subpar material went into Moorhead interchange; state investigating](#)

CONGRATULATIONS

Achintya Bezbaruah from the **Department of Civil and Environmental Engineering** has been selected as the recipient of the **Walter F. and Verna Gehrts Endowed Professorship Award**.

Yanchao Li, a Ph. D. student in the **Department of Electrical and Computer Engineering**, has been selected as a recipient of an **Applied Power Electronics Conference and Exposition (APEC) 2019 Student Travel Support award**.

Tony Das, a Ph. D. student in the **Department of Civil and Environmental Engineering**, won 2nd place in the **Nano Pitch Contest** at the 7th Sustainable Nanotechnology Conference in Washington, D.C.

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, November 27th, **Phi Kappa Phi Faculty Lecture** entitled “Are Americans Really Becoming Less Religious?” by **Dr. Clay Routledge**, professor of psychology, 7:00 p.m., in the Plains Room, Memorial Union. A reception will follow the lecture. Registration by November 20 is appreciated but not required. [Register here](#)

Wednesday, November 28th, **Department of Civil and Environmental Engineering Seminar**. Mu’ath Al-Tarawneh will present “Traffic Monitoring System Using In-Pavement Fiber Bragg Grating Sensors.” **1:00 – 1:50 p.m. CIE 207**.

Tuesday, December 11th, **NSF CAREER 101**. Are you interested in the NSF CAREER program but are not sure where to start or what is involved? This session is designed for those new to the program. It will include a program overview, proposal requirements, planning for an application, and opportunities for Q&A. **12:00 – 1:00 p.m. MU Peace Garden Room**. [Register Here](#)

Thursday, December 13th, **Order of the Engineer Ceremony and College Graduation Celebration**. The Order of the Engineer Ceremony is at **5:30 p.m. in the Memorial Union Century Theater**. The Graduation Celebration follows in the Memorial Union Ballroom. (Faculty and staff who hold an engineering degree and have not previously participated in the ring ceremony are encouraged to do so. [RSVP here](#) by **Friday, November 30th**.)

Friday, December 14, **2018 Winter Commencement ceremony**, 2:00 p.m. at the SHAC. Faculty and staff who wish to participate in the academic processional along with our graduation class will wear caps and gowns. For your convenience, please go to <http://www.ndsu.edu/commencement/facstaff/> and complete the necessary form.

Thursday, January 10, 2019, **NDSU Day of Honor memorial service**. 3:00 p.m. Memorial Union Plains Room. If you know of a member of our campus community who has passed away in 2018, please visit the [Day of Honor webpage](#) to complete a submission form. **Submission forms will be accepted through Friday, January 4, 2019**.

DISTINGUISHED LECTURE SERIES

Engineering leadership expert **Dr. Roger Gonzalez** will serve as the as guest lecturer in this fall's Distinguished Lecture Series. Dr. Gonzalez is Chair and Professor in the Engineering Education and Leadership Department at the University of Texas at El Paso.

Engineering Leadership – Diversifying Engineering Graduates

- Tuesday, Nov. 27.
- 2 – 3:15 p.m.
- Memorial Union Prairie Rose Room

SPRING WRITING COURSE FOR COE GRADUATE STUDENTS

The 2-credit *ENGR 722: Academic Writing in the Engineering Disciplines* will be offered in the spring. Students will analyze published papers and learn to effectively use structural and sentence-level elements of academic writing. In addition, they will work on drafts of their own writing.

The course is restricted to students in CoE or affiliated with the college. Students who wish to enroll should email [Enrico Sassi, Director, Graduate Center for Writers](#). Please include your student ID#.

NEW COURSE OFFERING

CE494 (19881)/ CE 793 (19882) Machine Learning for Engineers

This is an introductory course for supervised machine learning. Students will become familiar with basic feature selection methods, classification and regression algorithms. Prior permission from the instructor is required for CE 494. Students registered in any college as a graduate student at NDSU can attend this course.

FUNDING OPPORTUNITIES

DOE EPSCoR: Implementation Grants

The Department of Energy Established Program to Stimulate Competitive Research (DOE EPSCoR) [has announced](#) its interest in receiving applications from eligible jurisdictions for Implementation Grants ([DE-FOA-0002023](#)). Grants awarded under this program are intended to improve research capability through the support of a group of scientists and engineers, including graduate students and post-doctoral fellows, working on a common scientific theme in one or more than one EPSCoR jurisdiction. These awards are not appropriate mechanisms to provide support for individual faculty science and technology research projects. The applications are sought for research in key science and technology areas related to DOE missions, as defined in the Supplementary Information section of the Funding Opportunity Announcement (FOA). Typical award size is expected to be \$2-3 million for a two year period.

Pre-applications to DOE due December 20, 2018; Full applications will be invited and are due March 27, 2019

Sanford Health - NDSU Collaborative Research Seed Grant Program

The fifth Sanford Health - NDSU Collaborative Research Seed Grant program's Request for Applications will be released December 3, 2018. You can learn more about the program, including priority areas of interest, on the [program's webpage](#). The full Request for Applications and Application form will be available for download at that site beginning next week.

Questions regarding suitability of topic areas, collaborating with Sanford, or other program-related questions can be addressed by Business Development (231-6660 or NDSU.businessdev@ndsu.edu).

RECENTLY FUNDED GRANTS

- Kalpana Katti (PI). NDSU EPSCoR Internal Funding – Seed Award. \$40,000 from ND EPSCoR. 11/09/2018 – 05/31/2019.
- Chad Ulven (PI). NDSU EPSCoR Internal Funding – Seed Award. \$40,000 from ND EPSCoR. 11/09/2018 – 05/31/2019.
- Shafiqur Rahman (PI). NDSU EPSCoR Internal Funding – Seed Award. \$10,000 from ND EPSCoR. 11/13/2018 – 05/31/2019.
- Xinhua Jia (PI), Thomas Scherer (CPI). Automatic Sensor Controlled Drip Irrigation under Mulches for Tomato and Watermelon Productions. \$81,753 from the Agriculture Marketing Service. 10/01/2018 – 09/28/2020
- Nurun Nahar (PI). Evaluating Soybean Quality Stored in Commercial Grain Bags. \$5,000 from the ND Soybean Council. 10/08/2018 – 06/30/2019.
- Jordi Estevedeordal (PI). Experimental Investigation of the Effect of Sweep on a Pitching Finite -Aspect-Ratio Wing. \$46,000 from the Department of Defense. 11/01/2018 – 10/31/2019.
- Dong Cao (PI). Development of a High Temperature (500 C) and High Power Testbed for GaN HEMT /SiC based Switching Power Converter for Long-Duration Venus Surface Operations. \$90,250 from NASA EPSCoR.

RECENTLY SUBMITTED PROPOSALS

- Ravi Kiran Yellavajjala (PI). Corn Starch Hydrogel as Unpaved Road Dust Suppressant. \$49,580 from the ND Corn Utilization Council. 07/01/2019 – 06/30/2021.
- Ravi Kiran Yellavajjala (PI). Corn Stover Ash as Partial Replacement of Cement in Concrete. \$49,580 from the ND Corn Utilization Council. 07/01/2019 – 06/30/2021.
- Ravi Kiran Yellavajjala (PI). A New Corn Product for Winter Maintenance of North Dakota Roads. \$49,080 from the ND Corn Utilization Council. 07/01/2019 – 06/30/2021.
- Kalpana Katti (PI). Bone-Mimetic Scaffolds for Personalized Care of Breast Cancer Bone Metastasis. \$999,317 from the Department of Defense. 03/01/2019 – 02/28/2022.
- Dharmakeerthi Nawarathna (PI). Point- of- care micorRNA-sensor for identification of individualized option for weight management. \$72,500 from Kansas State University. 08/01/2019 – 07/31/2020.
- Dharmakeerthi Nawarathna (PI). MicroRNA and protein biomarker panel and a point-of-care detection platform for evaluating the efficacy of immunotherapy for a triple-negative breast cancer. \$417,765 from the Department of Defense. 07/01/2019 – 06/30/2022.
- Matthew J Noah (PI). COE-CSCC VoxtelSys Smartphone R&D. \$199,851 from VoxtelSys. 10/26/2018 – 04/30/2020.
- David Grewell (PI). Corn Based Multi-functional Mulching Systems. \$139,832 from the ND Corn Utilization Council. 05/01/2019 – 04/30/2021.
- Nita Yodo (PI). Design of bio-inspired cooperative repairs for resilient dynamic complex systems. \$1,000,000 from the Department of Defense.
- Long Jiang (PI). High performance concrete reinforced by corn residual based cellulose fibers. \$35,126 from the ND Corn Utilization Council.
- John F Nowatzki (PI). ND Youth - Open Source Smart Farm. \$4,000 from the University of Minnesota. 03/01/2019- 12/31/2019.
- Igathinathane Cannayen (PI). UAV Based Corn Population Stand Count and Weeds Distribution with Mapping. \$48,606 from the ND Corn Utilization Council. 07/01/2019 – 06/30/2021.
- Halis Simsek (PI). Effect of Different Water Table Levels and Salinities on Corn Growth and Quality Parameters. \$58,587 from the ND Corn Utilization Council. 07/01/2019 – 06/30/2021.
- Shafiqur Rahman (PI). Anaerobic Co-Digestion of Livestock Manure with Corn Stover and We Distiller Grains (WDG) to Produce Green Energy. \$51,636 from the ND Corn Utilization Council. 07/01/2019 – 06/30/2021.

- Nurun Nahar (PI). Value Addition of Corn DDGS by Fiber Extraction (elutriation by air) and Application of DDGS Fiber to Manufacture Low-Density Particleboards. \$47,280 from the ND Corn Utilization Council. 07/01/2019 – 06/30/2021.

RECENT PUBLICATIONS

For 2018, 109 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:

- Gerber, Benjamin, John-Luke Singh, Yan Zhang, and William Liou. 2018. “A Computer Simulation of Short-Term Adaptations of Cardiovascular Hemodynamics in Microgravity.” *Computers in Biology and Medicine* 102 (November): 86–94. <https://doi.org/10.1016/j.combiomed.2018.09.014>.
- Karmakar, Sanjay, and Anirban Ghosh. 2019. “Secrecy Capacity Region of Fading Binary Z Interference Channel With Statistical CSIT.” *IEEE Transactions on Information Forensics and Security* 14 (4): 848–57. <https://doi.org/10.1109/TIFS.2018.2866327>.
- Petrovskaya, T. S., N. E. Toropkov, E. G. Mironov, and F. Azarmi. 2018. “3D Printed Biocompatible Polylactide-Hydroxyapatite Based Material for Bone Implants.” *Materials and Manufacturing Processes* 33 (16): 1899–1904. <https://doi.org/10.1080/10426914.2018.1476764>.

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.

