

COLLEGE HAPPENINGS

May 26, 2020

FROM THE DEAN

Thank you

Thank you faculty and staff. That hasn't been said enough over the past two months. I am proud of the resiliency you showed in transitioning to working and teaching remotely. I am grateful for the way that you rose to the challenge of converting your courses into a format that could be effectively delivered online, in very short order. I am inspired by the way that you prioritized the needs of our students, and worked hard to accommodate them.

This spring we conferred a record 413 degrees to new NDSU College of Engineering graduates, including our first PhD recipient in Biomedical Engineering. Just as we congratulated these graduating students in a recent [video message](#), I would also like to congratulate you on the completion of an academic year unlike anything we could have imagined. I know that it has been a frustrating and difficult semester, yet your resolve has been exceptional. While there are many unknowns that are still being worked out about what the on-campus environment will look like in the fall semester, I hope that you take some time to re-energize in the summer weather, and look forward to the day when we can operate in an environment free of COVID 19.



IN THE NEWS

[New environmental engineering major offered at NDSU](#)

[NDSU grant to provide research experiences for middle, high school teachers](#)

[Faculty member honored by civil engineering society](#)

[Online graduate programs: Computer science education and software engineering](#)

[Bison men's track and field student-athletes earn academic honors](#)

[NDSU awarded \\$20 million grant for cancer research, industry collaborations](#)

CONGRATULATIONS

Long Jiang from the **Department of Mechanical Engineering** has been recognized as the 2019-2020 recipient of the Excellence In Teaching Award by Pi Tau Sigma, the honor society of mechanical engineers.

Beena Ajmera from the **Department of Civil and Environmental Engineering** has been awarded the 2020 Collingwood Prize from the American Society of Civil Engineers. The award is given out to authors under the age of 35 for an outstanding paper.

Kalpna Katti and her team from the **Center for Engineered Cancer Test Beds** is featured on the cover of ACS Biomaterials Science and Engineering. The special issue highlights leaders in biomedical engineering and features the Katti team's work on finding new treatments for cancer.

Sulaymon Eshkabilov, a visiting professor in the **Department of Agricultural and Biosystems Engineering**, recently had his book "Practical MATLAB modelling with Simulink - Simulating Ordinary and Partial Differential Equations" published.

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

REMOTE TEACHING AND LEARNING SURVEY

The Provost is asking faculty take a few minutes to respond to this [short survey](#) regarding your experiences with remote teaching and learning this semester.

Your responses will help design strategies to respond better to disruptions in the future, and inform planning to return to campus in the fall. Your responses will be anonymous.

Please complete the survey by Friday, May 29, 2020. The results are for internal use only.

REMEMBERING BRIAN SLATOR

Brian Slator's unexpected death was a tragic loss for our academic community. As a faculty member in the Department of Computer Science for nearly 24 years, including a decade as head of the department, his contributions to computer science education in the region were profound. Perhaps his most enduring legacy will be the impact he had as a mentor and friend to so many students and colleagues at NDSU.

Kyle Bosch is currently working on a tribute story for Brian that will be shared through various communication channels, such as the College of Engineering alumni newsletter, the College and Department website, and social media. If you have any memories that you could share with Kyle (kyle.bosch@ndsu.edu), that would be very helpful.

2020-21 PTE INFORMATION AND TRAINING

The 2020-21 PTE Materials are now available to download from the Promotion and Tenure website at: https://www.ndsu.edu/provost/administrative_units/facultyaffairs/promotion_and_tenure/. This website contains the NDSU PTE Timeline, Guidelines for Promotion and Tenure Portfolio Preparation, Probationary Period Extension Form (per NDSU Policy 352, 3.6), Policy and Procedure Checklist, the Portfolio Cover Sheet, and Information on University-Wide PTE Advisory Committee.

Portfolios are due to the Office of the Provost/Faculty Affairs no later than December 31, 2020. If you have any questions regarding PTE, please contact Canan Bilen-Green (canan.bilen.green@ndsu.edu, 1-7040).

Information Sessions for Fall 2020 Candidates

- Thursday June 18, 10:00-11:00 am, via Zoom
- Thursday July 23, 10:00-11:00 am, via Zoom
- Wednesday September 2, 1:00-2:00 pm, Arikara
- Thursday September 3, 3:00-4:00 pm, Rose

PTE Training for Fall 2020 Reviewers

- Thursday September 3, 9:30-11:30 am, Rose
- Friday September 11, 2:00-4:00 pm, Rose
- Wednesday September 23, 2:00-4:00 pm, Badlands
- Thursday October 1, 2:00-4:00 pm, Rose
- Wednesday October 21, 2:00-4:00 pm, Rose
- Tuesday October 27, 1:00-3:00 pm, Rose

New Faculty PTE Session – Faculty hired within the last three years

- Wednesday November 4, 3:00-4:00 pm, Rose
- Thursday November 5, 3:30-4:30 pm, Rose

Registration information for these sessions is forthcoming.

REMOTE DEVELOPMENT OPPORTUNITIES FROM STAFF SENATE

The Staff Senate - Staff Development Committee has been collaborating with Human Resources to provide some online development opportunities during the remote working period. No registration is required! Sessions will be offered via Zoom and are limited to the first 300 participants to join.

Conflict Management

Is conflict healthy or unhealthy? It depends on the type of conflict. During this session we will look at the different types of conflict and the appropriate methods to use to address it. The key to conflict is not avoiding it; the key is dealing with it effectively.

Thursday, May 28th: 10:00am – 11:30am

Emotional Intelligence

Did you know that 90% of top performers have high emotional intelligence? How would you rate yourself when it comes to emotional intelligence? Emotional intelligence (EQ) is your ability to recognize and understand emotions in yourself and others, and your ability to use this awareness to manage your behavior and relationships. During this session we will review the four quadrants of emotional intelligence and look at ways to help you increase your emotional intelligence.

Sessions:

Thursday, June 4th: 10:00am – 11:30am

Monday, June 8th: 1:00pm – 2:30pm

**Note: both sessions are identical, so attend the one that works best with your schedule*

Zoom Information: <https://ndsu.zoom.us/j/91484834933?pwd=RzNMWXRCMkZlZ1dIMWJEOXhvK3MzUT09>

2020 NDSU ADVANCING INCLUSION AWARD

The Advancing Inclusion Award is given annually to an NDSU department, committee, group, or unit that has worked collaboratively to promote an inclusive culture by enhancing or contributing to the overall environment of the community or university.

Nominations may be made by any student, staff, faculty, or administrator and will be reviewed by members of the Advancing Inclusion Selection Committee. [Nomination information](#) and the [nomination form](#) can be found on the

NDSU Inclusion Committee [website](#). **Nominations are due Wednesday, July 1, 2020, by 12:00 p.m.** Winners will be notified in late August.

All NDSU departments, committees, student groups, units, etc., are eligible for this nomination.

RCA FACULTY FELLOW APPLICATIONS OPEN

The Research and Creative Activity Faculty Fellows program provides established faculty members the opportunity to enhance their academic leadership skills, bring a faculty voice and expertise to administrative offices, and gain insight into administrative practices and offices. This particular opportunity is intended to enhance research support with a focus on early career faculty research mentoring.

The program seeks to appoint one Faculty Fellow with a term of up to two years. The Faculty Fellow will report to the Vice President for Research and Creative Activity and will primarily work with the Research Development unit. The Fellow will be expected to spend approximately four hours per week working on program development, attending regular meetings, and implementing the focus area project. In return, the Fellow will receive \$7,500 in compensation for the 2020-2021 appointment. The Fellow must be eligible to receive such compensation in order to be selected. Applicants may be from any discipline at NDSU but must be at the rank of a tenured senior associate or full professor who has been at NDSU for at least five years. Appointments are for the 2020-2021 academic year with the opportunity for a one-year extension.

The position will join Faculty Fellow Rajesh Kavasseri, electrical and computer engineering professor, who is completing his first term with the RCA team.

To apply, send a CV and a statement of interest providing details about your experiences in research mentoring, particularly with early career faculty, and leadership role experience to ndsu.researchdev@ndsu.edu. Applications must be received by May 15, 2020. A selection is anticipated to be made by June 15, 2020.

FUNDING OPPORTUNITIES

Defense Established Program to Stimulate Competitive Research

The Department of Defense (DoD) announces the fiscal year 2020 (FY20) [Defense Established Program to Stimulate Competitive Research \(DEPSCoR\)](#). The aim of DEPSCoR is to improve the research capabilities at institutions of higher education (IHE) in [eligible States/Territories](#) to perform competitive basic research in science and engineering that is relevant to the DoD mission and reflect national security priorities. The Basic Research Office anticipates approximately \$7.2 million in total funding will be made available for this program to fund approximately twelve (12) awards up to \$600,000 (total cost) each. Each award will be funded up to \$200,000 (total cost) per year for three (3) years in the form of a grant.

The FY20 DEPSCoR competition seeks proposals addressing multiple topic areas, including:

- Cognitive and Computational Neurosciences
- Materials with Extreme Properties
- Computational Architectures and Visualization
- Probability and Statistics
- Molecular Structure and Dynamics
- Social and Behavioral Science
- Biotronics
- Machine Learning, Reasoning, and Intelligence
- Power Electronics & Electromagnetism, Adaptive & Machinery Controls and Advanced Machinery Systems

Whitepaper Deadline: September 21, 2020

NSF DCL: Cyberinfrastructure Centers of Excellence

The National Science Foundation's (NSF) Office of Advanced Cyberinfrastructure (OAC) recently established the Cyberinfrastructure Center of Excellence (CI CoE) Program. With this [Dear Colleague Letter \(DCL\)](#), NSF announces its interest in receiving early-stage concept definition studies and demonstration pilot projects in these areas:

- *Architecting and operating research CI ecosystems at regional, national and international scales* towards the strategic goal of enhancing and accelerating scientific collaboration, exchange and discovery, and comprising service activities such as developing and disseminating principles, approaches, and methods; building expertise and communities of practice; and addressing areas such as planning, design, analysis, integration, end-to-end performance measurement and utilization.
- *CI learning and workforce development*, comprising service activities aimed at growing and nurturing the expertise base and interactions among CI contributors, professionals and users, towards strategic goals such as enabling broad adoption of CI tools, methods and resources by the research community to catalyze discovery; and enhancing the ability and skills of researchers and CI developers to collaboratively develop and operate new research CI.
- *Campus-centric networking and cyberinfrastructure*, aimed at leveraging and sharing expertise across the campus CI community, through service activities such as exchange and dissemination of knowledge, best practices and solutions applied to scientific networking, CI facilitation for researchers and the research community, integrated solutions, federated scientific resource sharing and other campus-level CI challenges.
- *Software and data infrastructure practices and transition to production*, encompassing service activities that promote establishment and use of best practices in scientific software and data engineering in areas such as CI robustness and production-level quality; delivery; engagement of and responsiveness to the user community; pathways toward sustainability; and metrics assessing performance and impact in all these aspects.

To be eligible for funding in FY 2020, proposals must be submitted no later than June 15, 2020.

RECENTLY FUNDED PROPOSALS

- Yao Yu (PI). A High-Efficiency and Low-Cost Heat Pump System Design For Maximizing the Use of Renewable Energy. \$19,962 from Yale University. 01/01/2020 – 06/30/2021.

RECENTLY SUBMITTED PROPOSALS

- Di Wu (PI). Probabilistic Dynamic Control Stability Analysis in Power Grids with High Penetration of Renewable Resources. \$191,781 from the National Science Foundation. 01/01/2021 – 12/31/2022.
- Ravi Kiran Yellavajjala (PI). Low-cost and Sustainable Corrosion Mitigation Products Derived from Agricultural Feedstocks. \$190,140 from the National Institute of Food and Agriculture. 08/01/2021 – 07/31/2023.
- Zhibin Lin (PI). New Brain-Inspired Informatics and Risk Communication for Future Intelligent Nuclear Power Plant Structures. \$500,000 from the U.S. Nuclear Regulatory Commission. 10/01/2020 – 09/30/2023.
- Chad A Ulven (CPI). Enhancing Ecosystem Services and Developing Efficient Assessment Tools in Annual and Perennial Bioenergy Systems. \$3,427,244 from the Department of Energy. 10/01/2020 – 09/30/2025.
- Trung Bao Le (PI). A data-driven tool to predict the efficacy of pipeline embolization device implantation. \$50,000 from the Brain Aneurysm Foundation. 11/01/2020 – 10/31/2021.
- Jordi Estevadeordal (PI), Yildirim B Suzen (CPI). High Speed Volumetric Measurement System for Spatially and Temporally Resolved Flow Measurements. \$499,975 from the Department of Defense. 02/01/2021 – 01/31/2024.
- Jessica Lynne Lattimer Vold (PI). Environmentally Friendly Capstone Projects for Entrepreneurial Minded Students. \$30,000 from VentureWell. 08/01/2020 – 07/31/2023.

RECENT PUBLICATIONS

For 2020, 68 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:

- Al-Sawwa, Jamil, and Simone A. Ludwig. 2020. "Performance Evaluation of a Cost-Sensitive Differential Evolution Classifier Using Spark - Imbalanced Binary Classification." *Journal of Computational Science* 40 (February): UNSP 101065. <https://doi.org/10.1016/j.jocs.2019.101065>.
- Cao, Qi, Ruibin Wang, Jinqing Jia, Changjun Zhou, and Zhibin Lin. 2020. "A Comparative Study of Combined Treatments for Enhanced Early-Age Cracking Control of Self-Consolidating Concrete." *Construction and Building Materials* 248 (0): UNSP 118473. <https://doi.org/10.1016/j.conbuildmat.2020.118473>.
- Dey, Arup, David Hoffman, and Nita Yodo. 2020. "Optimizing Multiple Process Parameters in Fused Deposition Modeling with Particle Swarm Optimization." *International Journal of Interactive Design and Manufacturing - IJIDEM* 14 (2): 393–405. <https://doi.org/10.1007/s12008-019-00637-9>.
- Iftikhar, Adnan, Sajid Mehmood Asif, Jacob M. Parrow, Jeffery W. Allen, Monica S. Allen, Adnan Fida, and Benjamin D. Braaten. 2020. "Changing the Operation of Small Geometrically Complex EBG-Based Antennas With Micron-Sized Particles That Respond to Magneto-Static Fields." *IEEE Access* 8: 78956–64. <https://doi.org/10.1109/ACCESS.2020.2990131>.
- Khan, Muhammad S., Adnan Iftikhar, Raed M. Shubair, Antonio D. Capobianco, Benjamin D. Braaten, and Dimitris E. Anagnostou. n.d. "A Four Element, Planar, Compact UWB MIMO Antenna with WLAN Band Rejection Capabilities." *Microwave and Optical Technology Letters*. <https://doi.org/10.1002/mop.32427>.
- Le, Trung Bao, Ariel Christenson, Toni Calderer, Henryk Stolarski, and Fotis Sotiropoulos. 2020. "A Thin-Walled Composite Beam Model for Light-Weighted Structures Interacting with Fluids." *Journal of Fluids and Structures* 95 (0): UNSP 102968. <https://doi.org/10.1016/j.jfluidstructs.2020.102968>.
- Li, Yuzhan, Yuehong Zhang, Monojoy Goswami, Dan Vincent, Liwei Wang, Tuan Liu, Kai Li, et al. 2020. "Liquid Crystalline Networks Based on Photo-Initiated Thiol-Ene Click Chemistry." *Soft Matter* 16 (7): 1760–70. <https://doi.org/10.1039/c9sm01818b>.
- Sharma, Achintyamugdha, Prokshit Angadi, Todd Sirotiak, Xuhao Wang, Peter Taylor, Pawel Borowicz, and Scott Payne. 2020. "Characterization of Paste Microstructure for Durability Properties of Concrete." *Construction and Building Materials* 248 (0): UNSP 118570. <https://doi.org/10.1016/j.conbuildmat.2020.118570>.
- Zhang, Ruihang, and Yan Zhang. 2020. "Experimental Analysis of Pulsatile Flow Characteristics in Prosthetic Aortic Valve Models with Stenosis." *Medical Engineering & Physics* 79 (May): 10–18. <https://doi.org/10.1016/j.medengphy.2020.03.004>.
- Zhang, Zi, Hong Pan, Xingyu Wang, and Zhibin Lin. 2020. "Machine Learning-Enriched Lamb Wave Approaches for Automated Damage Detection." *Sensors* 20 (6): 1790. <https://doi.org/10.3390/s20061790>.

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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