

COLLEGE HAPPENINGS

February 16, 2021

FROM THE DEAN

Merger of CEE and CME

Last year I asked David Steward to chair both the Department of Civil and Environmental Engineering (CEE) and the Department of Construction Management and Engineering (CME). That decision was made primarily for budgetary reasons and to look for synergies and efficiencies between the two departments. Most of our faculty in CME have Ph.D.'s in civil engineering, and there is significant overlap between the disciplines. At the time, my thinking was that by having one person chair both departments, we could keep our options open regarding whether to move towards a departmental merger or re-commence with a department chair search in CME if resources were to become available. However, while having one person chair two departments can work for a time, it is not sustainable.

As the College of Engineering budget continued to decline this year, the possibility of regaining the CME Department Chair line has vanished. In the spirit of identifying synergies that can provide opportunities for improvement and efficiencies in our programs, I've decided to move forward with CEE and CME's merger into one department. The newly formed Department of Civil, Construction and Environmental Engineering will consist of all of the same academic programs now housed in CEE and CME, including civil engineering, environmental engineering, construction engineering, and construction management. There are no plans to eliminate any staff or faculty as a result of this reorganization. I expect the new organizational change to go into effect on July 1.



IN THE NEWS

[NDSU researchers receive EPSCoR funding for two projects](#)

[Letter: Supporting engineering education benefits us all](#)

CONGRATULATIONS

Val Marinov, emeritus professor in the **Department of Industrial and Manufacturing Engineering**, recently sold his company Uniqarta. The company was founded based on research at NDSU in the area of laser enabled advanced microelectronics manufacturing.

Kalpna Katti, University Distinguished Professor of **Civil and Environmental Engineering**, has been selected to give the 7th Annual Phi Kappa Phi Faculty Lecture. The virtual lecture will be held at 7:00 p.m. on February 22.

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

Wednesday, February 17, **3rd Annual Student Success Summit: “Supporting Student Growth through Grit and Gratitude”**. Presentations will be held virtually from 8:30 a.m. to Noon. See the schedule and presentation descriptions here: <https://career-advising.ndsu.edu/student-success-summit/>

Wednesday, February 17, **Faculty Council Meeting**. 3:00 – 4:00 p.m. on Zoom.

Friday, February 19, **Academic Leaders Series: Faculty Workload Agreements**. This presentation will discuss relevant policies, look at some departmental examples, and discuss upcoming changes in how these policies will be implemented. 12:00 – 1:30 p.m. via Zoom.

Monday, February 22, **Phi Kappa Phi Faculty Lectureship**. University Distinguished Professor of Civil and Environmental Engineering Kalpana Katti will present “Should Cancer be Deadly?”. 7:00 p.m. via Zoom.

Tuesday, February 23, **"Free Speech on Campuses and Our Road Back to Good Conversations"** with Emily Chamlee-Wright. This event is part of the Menard Family Distinguished Speaker Series. [Pre-register](#) to attend on Zoom.

Wednesday, February 24, **Talkback to Racism**. The event intends to highlight the importance of diversity and aid our community in healing from recent incidents of racism through education, awareness, and engagement. 3:00 – 4:15 p.m.

Thursday, February 25, **Research Series on Engaged Citizenship and Inclusion: Life and Politics on the US-Mexico Border**. This second virtual faculty research talk features Heath Wing, Assistant Professor of Spanish in the Department of Modern Languages. 3:00 p.m. via Zoom.

Thursday, February 25, The ADVANCE Partnership Project [Joining Forces](#) is hosting a free viewing of the short documentary film **The Bearded Lady Project: Challenging the Face of Science**. The event starts at 5:00 p.m. RSVP here: <http://bit.ly/3oFrXww>

NSF ENGINEERING CAREER PROPOSAL WRITING WORKSHOP

The 2021 NSF Engineering CAREER Proposal Writing Workshop will be held VIRTUALLY April 21 - April 23, 2021. The workshop aims to provide junior faculty who plan to submit a CAREER Award proposal to a program in the NSF's [Directorate for Engineering \(ENG\)](#) with a CAREER proposal review experience and a forum in which they can interact with NSF Program Directors and recent NSF CAREER awardees.

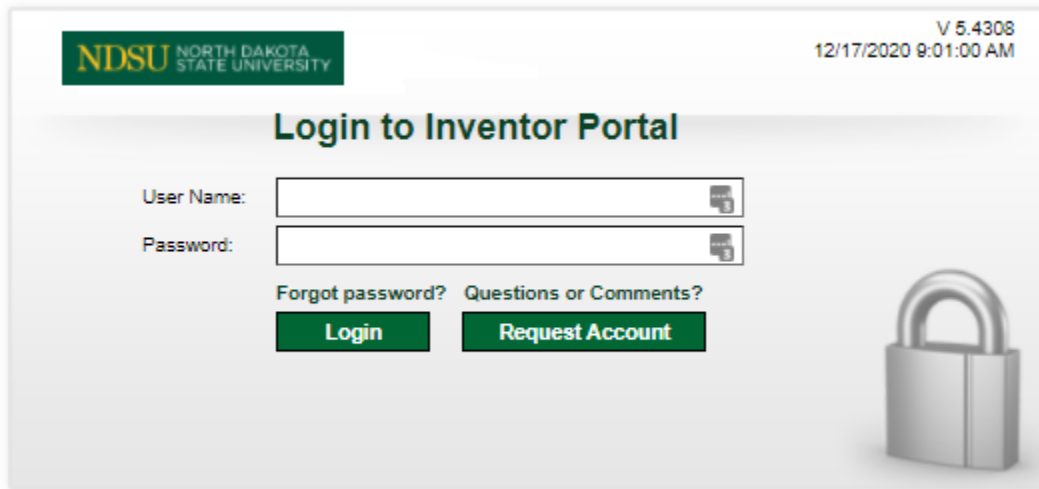
Attendees of the 2021 NSF ENG CAREER Proposal Writing Workshop will benefit from:

- Mock proposal reviews by panels
- Interactions with ENG Directorate Program Directors
- Focus sessions with recent CAREER awardees
- Interaction across disciplines and engineering schools nationwide

All activities for the 2021 NSF ENG CAREER Proposal Writing Workshop will be conducted virtually. The Mock Panel Review session is limited to 300 participants; however, all other sessions will be open. Mock Panel participants will be selected from those who submit completed applications. Applications are open and will close on February 19, 2021. Visit our [website](#) for details.

NDSU INVENTOR PORTAL

The [NDSU Inventor Portal](#) is a new, secure, web-based system for the development and submission of disclosures for new technologies and plant / horticultural varieties.



Additional information about invention disclosures and how to register to use the NDSU Inventor Portal is available on the [RCA Website](#).

If you have questions, contact the [Industry Engagement and Intellectual Property team](#).

AVENUES OF SCIENTIFIC DISCOVERY

The Office of Teaching and Learning seeks graduate students (individuals or groups) to participate in this year's Avenues of Scientific Discovery!

Due to the pandemic, this year we are offering our presentations to high school students virtually, through recorded videos. Selected proposals will create short workshop videos (10 minutes or less) demonstrating fun and interactive components of science.

Workshop video proposals are due February 26, 2021. There will be Bookstore gift card prizes for the best demonstrations or activities.

[Propose a workshop >>](#)

[Learn more about the event >>](#)

PROPOSAL DEVELOPMENT PROGRAM

The Proposal Development Program provides professional development opportunities for faculty, staff, and graduate students who are new to proposal writing or are seeking a refresher about proposal writing skills and funding agency opportunities. Sessions will be held virtually on Zoom.

Collaborative Proposals: Best Practices in Organizing a Submission

Wednesday, February 17, 2021 | 12-1pm

Presenter: Christine Strohm, Ph.D., Grant Writing Consultant

Meeting Expectations of Funding Agencies: USDA

Wednesday, March 24, 2020 | 12-1pm

Presenter: Christine Stroh, Ph.D., Grant Writing Consultant

[Register for these sessions >>](#)

Zoom access information will be shared with registrants.

FUNDING OPPORTUNITIES

DoD ONR: Young Investigator Program

The Department of Defense (DoD) Office of Naval Research (ONR) is interested in receiving proposals for its [Young Investigator Program](#). ONR's Young Investigator Program seeks to identify and support academic scientists and engineers who are in their first or second full-time tenure-track or tenure-track-equivalent academic appointment, who have received their PhD or equivalent degree on or after 01 January 2013, and who show exceptional promise for doing creative research. The objectives of this program are to attract outstanding faculty members of Institutions of Higher Education to the Department of the Navy's Science and Technology research program, to support their research, and to encourage their teaching and research careers.

Deadline: March 19, 2021

National Robotics Initiative 3.0 - Innovation in Integration of Robotics (NRI-3.0)

The [National Robotics Initiative 3.0](#): Innovations in Integration of Robotics (NRI-3.0) program builds upon the preceding National Robotics Initiative (NRI) programs to support fundamental research in the United States that will advance the science of robot integration. The program supports research that promotes integration of robots to the benefit of humans including human safety and human independence.

Collaboration between academic, industry, non-profit, and other organizations is encouraged to establish better linkages between fundamental science and engineering and technology development, deployment, and use.

The NRI-3.0 program is supported by multiple agencies of the federal government including the National Science Foundation (NSF), the U.S. Department of Agriculture (USDA), the National Aeronautics and Space Administration (NASA), the Department of Transportation (DOT), the National Institutes of Health (NIH), and the National Institute for Occupational Safety and Health (NIOSH).

Proposal Window: April 19-May 3, 2021

RECENTLY FUNDED GRANTS

- Dali Sun (PI). ExoIPThT, Secondary Structure of Exosomal Protein for Noninvasive Cancer Detection. \$652,149 from the National Institutes of Health. 09/01/2020 – 08/31/2023.
- Ali Amiri (PI), Chad A Ulven (CPI). Investigating root-cause and reduce fogging behavior of natural fiber-filled thermoplastics. \$54,345 from the National Science Foundation. 01/01/2021 – 12/31/2021.
- Ghodrat Karami (PI). ND Space Grant Concertium -NASA Rover Challenge 2020-2021. \$5,000 from the National Aeronautics and Space Administration. 12/01/2020 – 05/31/2021.
- Trung Bao Le (PI). Dakota Digital Academy proposal: Develop the new course CE739: Computational Methods for Engineering. \$5,000 from the ND University System Office. 11/16/2020 – 06/30/2021.
- Lokesh Karthik Narayanan (PI). Strengthening 3D printed (FDM) parts through application of ultrasonic vibration. \$36,500 from the Center for Bioplastics and Biocomposites. 01/25/2021 – 12/31/2021.

RECENTLY SUBMITTED PROPOSALS

- Ademola Monsur Hammed (PI), Nurun Nahar (CPI), Ewumbua Monono (CPI), Niloy Charndra Sarker (CPI). Valorization of canola meal to organic ammonia. \$43,880 from the Northern Canola Growers Association. 04/01/2021 – 03/31/2022.
- Ademola Monsur Hammed (PI), Ewumbua Monono (CPI). Developing canola-cryogel as super-lightweight insulator. \$34,798 from the Northern Canola Growers Association. 04/01/2021 – 03/31/2022.
- Ewumbua Monono (PI), Kenneth Hellevang (CPI). Evaluate the Allowable Storage Time of Two Canola Varieties at Three Moisture Levels at Typical North Dakota Temperatures. \$29,290 from the Northern Canola Growers Association. 07/01/2021 – 06/30/2022.
- Kalpana Katti (PI), Dinesh R Katti (CPI). Prostate Cancer Bone Metastasis Testbed for Regenerative Bone Therapies for Bone Metastasis. \$75,000 from the National Institutes of Health. 09/01/2021 – 08/31/2022.
- Qifeng Zhang (PI). A flash co-sintering strategy for the fabrication of LiPON-based bulk-type solid-state lithium-ion battery. \$82,856 from the National Aeronautics and Space Administration. 08/16/2021 – 08/15/2022.
- Halis Simsek (PI). Occurrence of pharmaceuticals and personal care products (PPCPs) in biosolids amended soil and their bioaccumulation in wheat grain (*Triticum aestivum* L.). \$43,380 from the ND Wheat Commission. 07/01/2021 – 06/30/2022.
- Nurun Nahar (PI). Flax Shive as Alternative Raw Material for Particleboard Production. \$15,905 from AmeriFlax. 07/01/2021 – 06/30/2022.
- Danling Wang (PI), Ying Huang (CPI), Zhibin Lin (CPI), Qifeng Zhang (CPI). Novel functionalized 1D/2D nanocomposite framework based smart sensors for water quality monitoring. \$82, 856 from the University of North Dakota. 08/16/2021 – 08/15/2022.
- Zhibin Lin (PI). Improving Bridge Concrete Overlay Performance. \$60,000 from the University of Wisconsin – Milwaukee. 06/01/2021 – 05/31/2023.
- Beena D Ajmera (PI). Weight-Volume Relationships and Conversion Factors for Soils and Aggregates of Wisconsin. \$124,974 from the Wisconsin Department of Transportation. 10/01/2021 – 03/31/2023.
- Mijia Yang (PI), Yao Yu (CPI). GOALI: Collaborative Research: Advancing the Understanding and Design of Long-Span Metal Roofs Considering Extreme Thermal Variations. \$214, 964 from the National Science Foundation. 10/01/2021 – 09/30/2024.
- Adam Curtis Gladen (PI). Using Solar-powered Cooling to Increase Trout Habitat and Refugia in Response to Warming Water Temperatures. \$40,460 from the U.S. Fish and Wildlife Service. 07/01/2021 – 06/30/2022.
- Huojun Yang (PI). Mobile home-based labs to enhance undergraduate education in building energy systems. \$300,000 from the National Science Foundation. 09/01/2021 – 08/31/2024.

RECENT PUBLICATIONS

For 2021, 31 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:

- Cao, Qi, Xianrui Lv, Yanlei Wang, Zhimin Wu, and Zhibin Lin. 2021. “Performance and Analysis of Unidirectional GFRP Actively Confined High-Strength Concrete under Monotonic and Cyclic Axial Compression.” *Construction and Building Materials* 271 (February): 121593. <https://doi.org/10.1016/j.conbuildmat.2020.121593>.
- Gajan, Sivapalan, Sujitha Soundararajan, Mijia Yang, and Damir Akchurin. 2021. “Effects of Rocking Coefficient and Critical Contact Area Ratio on the Performance of Rocking Foundations from Centrifuge and Shake Table Experimental Results.” *Soil Dynamics and Earthquake Engineering* 141 (February): 106502. <https://doi.org/10.1016/j.soildyn.2020.106502>.
- Gutschmidt, David, Raj Shankar Hazra, Xiaoyi Zhou, Xuezhu Xu, Mohammad Sabzi, and Long Jiang. 2021. “Electrospun, Sepiolite-Loaded Poly(Vinyl Alcohol)/Soy Protein Isolate Nanofibers: Preparation, Characterization, and Their Drug Release Behavior.” *International Journal of Pharmaceutics* 594 (February): 120172. <https://doi.org/10.1016/j.ijpharm.2020.120172>.

- Jiang, Shuang, Shugang Wang, Yao Yu, Zhenjun Ma, and Jihong Wang. 2021. “Further Analysis of the Influence of Interstage Configurations on Two-Stage Vapor Compression Heat Pump Systems.” *Applied Thermal Engineering* 184 (February): 116050. <https://doi.org/10.1016/j.applthermaleng.2020.116050>.
- Jones, Andrew, and Jeremy Straub. 2021. “Simulation and Analysis of Self-Replicating Robot Decision-Making Systems.” *Computers* 10 (1): 9. <https://doi.org/10.3390/computers10010009>.
- Sharma, Achintyamugdha, Todd Sirotiak, Xuhao Wang, Peter Taylor, Prokshit Angadi, and Scott Payne. 2021. “Portland Limestone Cement for Reduced Shrinkage and Enhanced Durability of Concrete.” *Magazine of Concrete Research* 73 (3): 147–62. <https://doi.org/10.1680/jmacr.19.00165>.
- Wu, Lili, Hui Wang, and Zhibin Line. 2020. “Ultimate Strength Behavior of Steel Plate-Concrete Composite Slabs: An Experimental and Theoretical Study.” *Steel and Composite Structures* 37 (6): 741–59. <https://doi.org/10.12989/scs.2020.37.6.741>.

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.

