NDSU | COLLEGE OF ENGINEERING

COLLEGE HAPPENINGS

July 10, 2018

FROM THE DEAN

Considering Move of Computer Science to the College of Engineering

I hope you are all enjoying the warm summer weather. This is the second summer that my family and I have lived in Fargo, and we continue to appreciate the season's long days and our favorite outdoor activities. Recently we enjoyed kayaking parts of the Red River. I also value the more relaxed pace in Fargo during the summer months, and appreciate the opportunities to explore the network of bike trails in the area.

One of the things I've been working on this summer that I'd like to share with you is the possibility of the Department of Computer Science and Engineering moving from the College of Science and Math (CoSM) to the College of Engineering (CoE). There are several reasons that such a move makes sense. First, the discipline of computer science is a more natural fit with engineering disciplines than with the traditional sciences. The department of computer science even offers software engineering graduate degrees, and may be interested in expanding software engineering to the undergraduate level. With the growth of big data in engineering and the evolution of various cyber-physical systems (such as autonomous vehicles, smart grids, monitoring of medical sensors, process control systems, and robotics), the line between traditional engineering and computer science continues to become more blurred. Second, bringing computer science into the college could help build interdisciplinary connections between our existing departments and computing. While there is no plan to merge computer science with electrical and computer engineering, having the departments in the same college could create efficiencies and synergies to the benefit of both departments. Finally, with support for the move from the dean of the College of Science and Math and the chair of the Department of Computer Science, now is a propitious time to make such a move.

In order to examine the wisdom and ramifications of such a move, as well as to work through the details of a potential transition, I've assigned a task force made up of representatives from the College of Engineering and the Department of Computer Science. We've also solicited questions and concerns from computer science faculty, which we have begun to work through and address. However, since such a move may also effect faculty and staff in our college, I would value getting input from you about this potential change. Send your thoughts to me by email, or stop by my office to discuss the potential move in person.

Finally, I'd like to publicly thank Associate Dean Scott Pryor, all of the departmental ABET assessment coordinators, department chairs, faculty and staff who worked so hard over the past few months preparing their ABET self-study reports. The reports for all eight of our ABET accredited engineering programs in the college were submitted by the July 1 deadline, and each report represents a tremendous amount of work. The next step in the ABET review process is preparing for the ABET site visit, which is scheduled for October 14-16, when nine program evaluators and two team co-chairs will travel to Fargo to assess our programs.

IN THE NEWS

Construction management and engineering chair appointed

Kraus-Anderson promotes NDSU grad to director of field operations

CONGRATULATIONS

Professor Xuefenfg Chu on the publication of a book he co-authored entitled: *Advanced Optimization by Nature-Inspired Algorithms*.

- Zolghadr-Asli, Babak, Omid Bozorg-Haddad, and Xuefeng Chu. 2018. "Advanced Optimization by Nature-Inspired Algorithms Introduction." In *Advanced Optimization by Nature-Inspired Algorithms*, edited by O. BozorgHaddad, 720:1–8. Berlin: Springer-Verlag Berlin.

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

Friday, August 17th, **NDSU Faculty Conference**. Register here.

FUNDING OPPORTUNITIES

NSF: Engineering Design and System Engineering

The National Science Foundation (NSF) Engineering Design and System Engineering (EDSE) program encourages multidisciplinary collaborations of experts in design and systems engineering with experts in other domains. Of particular interest is research on the design of engineering material systems that leverages the unique aspects of a particular material system to realize advanced design methods that are driven by performance metrics and incorporate processing/manufacturing considerations. The EDSE program supports fundamental research into the basic processes and phenomena of engineering design and systems engineering. The program seeks proposals leading to improved understanding about how processes, organizational structure, social interactions, strategic decision making, and other factors impact success in the planning and execution of engineering design and systems engineering projects. It also supports advances pertaining to engineering design and systems engineering in areas that include, but are not limited to, decision making under uncertainty, including preference and demand modeling; problem decomposition and decision delegation; applications of reverse game theory (mechanism design); computer-aided design; design representation; system performance modeling and prediction; design optimization; uncertainty quantification; domain- or concern-specific design methods; and advanced computational techniques for supporting effective human cognition, decision making, and collaboration. Competitive proposals for novel methods will include a plan to evaluate rigorously the effectiveness and performance of the proposed approach.
Full proposals accepted anytime.

RECENTLY FUNDED GRANTS

- Rajesh Kavasseri (PI). 50th North American Power Symposium. $17,500 from the National Science Foundation. 9/9/2018 – 9/11/2018.

- Matthew J Noah (PI). COE-CSCC Myriad R&D, Integration, Testing. $21,000 from Myriad Mobile. 2/12/2018 – 9/30/2018.
- Dong Cao (PI). High Power High Efficiency Variable Voltage Converter. $45,000 from Ford Motor Company. 6/21/18 to 8/15/2021.

RECENTLY SUBMITTED PROPOSALS

- Benjamin Delbert Brooks (PI). Improving Antibody Epitape Coverage Using Epitape Focusing. $412,500 from the National Institutes of Health. 7/01/2019 to 5/31/2022.
- Ravi Kiran Yellavajjala (PI), Dayakar Naik Lavadiya (CPI). Corn Based Deicers. $49,991 from multisponsor.9/15/2018 to 3/15/2020.

RECENT PUBLICATIONS

For 2018, 62 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:

- Grimm, Kendall, Mohsen Tahmasebi Nasab, and Xuefeng Chu. 2018. "TWI Computations and Topographic Analysis of Depression-Dominated Surfaces." *Water* 10 (5): 663. https://doi.org/10.3390/w10050663.
- Kim, Eunjong, Seunghun Lee, Hyeonsoo Jo, Jihyeon Jeong, Walter Mulbry, Shafiqur Rahman, and Heekwon Ahn. 2018. "Solid-State Anaerobic Digestion of Dairy Manure from a Sawdust-Bedded Pack Barn: Moisture Responses." *Energies* 11 (3): 484. https://doi.org/10.3390/en11030484.
- Mahapatra, Kaveri, Nilanjan Ray Chaudhuri, Rajesh G. Kavasseri, and Sukumar M. Brahma. 2018. "Online Analytical Characterization of Outliers in Synchrophasor Measurements: A Singular Value Perturbation Viewpoint." *IEEE Transactions on Power Systems* 33 (4): 3863–74. https://doi.org/10.1109/TPWRS.2017.2771782.
- Xie, Yanmei, Huojun Yang, Zhijun Zuo, Todd L. Sirotiak, and Mijia Yang. 2018. "Optimal Steel Section Length of the Composite Rigid-Frame Bridge." *Practice Periodical on Structural Design and Construction* 23 (3): UNSP 05018001. https://doi.org/10.1061/(ASCE)SC.1943-5576.0000376.
- Zhang, Yan, Jiaming Zhao, Brandon Grabrick, Brandon Jacobson, Austin Nelson, and John Otte. 2018. "Dynamic Response of Three Floaters Supporting Vertical Axis Wind Turbines Due to Wind Excitation." *Journal of Fluids and Structures* 80 (July): 316–31. https://doi.org/10.1016/j.jfluidstructs.2018.04.003.

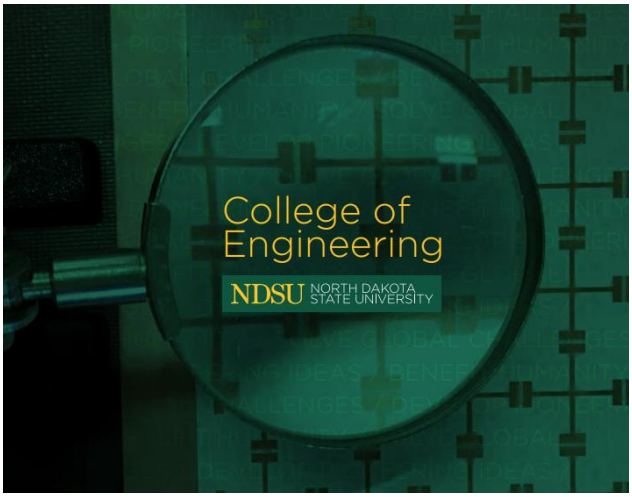
College Happenings is distributed to the NDSU College of Engineering staff and faculty every other Tuesday.

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.


College of
Engineering
NDSU NORTH DAKOTA STATE UNIVERSITY