

COLLEGE HAPPENINGS

March 20, 2018

FROM THE DEAN

Reaching an Audience

On occasion, I've been involved in research that gets featured in the popular press. My first experience with this was as a graduate student at the University of Illinois, when my collaborative work on self-healing polymers, which was part of my PhD research, was reported in the [Washington Post](#), [US News & World Report](#), [Popular Science](#), and a host of [other media](#). However, the highlight of the media coverage was when the work was mentioned by Jay Leno at the beginning of the Tonight Show. His monologue went something like "And in other news, researcher's at the University of Illinois have invented a plastic that can heal itself. Do you know what this means?... Cher can live forever!"

"Congratulations to Kalpana and her team; it's great to see the College of Engineering earning this exciting press coverage."

Recently, research led by Kalpana Katti through NDSU's Center for Engineered Cancer Test Beds was featured on a local news station. You can watch the segment [here](#). Congratulations to Kalpana and her team; it's great to see the College of Engineering earning this exciting press coverage.

Perhaps you've noticed, there is often a standard formula when the media report on science. A radio, TV announcer, or news writer tells us something along the lines of "Today's issue of the Journal of Flatulent Materials reports that....," and then attempts to explain in everyday language what the discovery was and why it is significant to "regular people." There is often an interview with the author of the discovery or some other expert.

Do you ever wonder how those reports come about?

You almost get the sense that a busy young intern had read the whole journal right after the mailman delivered a hard copy to the newsroom that very morning, spotted an interesting story and put together a piece explaining it for the lay audience, ready to be broadcast later the same day. Of course, nothing of the sort actually happens.

These stories are prepared weeks ahead and placed "in the queue" for broadcast on the official day of publication. At NDSU, these news releases are prepared by a communications team and released for various news outlets to pick-up on. Depending on the other news of the day, those outlets may or may not choose to actually air or publish a news release. If it is aired by the media, the publicity can also be great for the university. Even if they are not covered broadly, you can bet that the prepared story was shared with the agency that supported the science, and may make it into the agency's reports to Congress or its other supporters. Often, these are just as important an audience as the people who set their car radios to news channels; so if a science story doesn't get published, it can still have significant value.

I would like to encourage our researchers to think about the newsworthiness of their latest research. Perhaps the hardest part of getting a story ready for prime time is describing the discovery and its significance. This requires a lot of work on the part of someone who must translate the paper into a few sentences of lay language, while keeping the essence of the science intact. But the communications team at NDSU are great at this. What they may not always know about is the exciting work going on in your labs. Researchers can help in this process by providing as much advance notice of a high-impact publication as possible. All too often we find out about them when a searchable index like ISI posts the notice, typically about a month after the actual publication.

Timeliness matters. You never, ever, hear a newsreader saying "Six-and-a-half weeks ago the [International Journal of Fuzzy Systems](#) reported that..." If you have an article coming out in a high-impact journal, or any other newsworthy research to report, please send an email to me and to the College of Engineering's director of communications and marketing, Kyle Bosch, well before it gets into print. This will give him the opportunity to work with University Relations to help to prepare a story for broadcast on the day of official publication. It's a challenge, but the effort is certainly worthwhile.



IN THE NEWS

[Civil Engineering Grad Among Top Women in Business](#)

[Renowned oral pathologist to give Distinguished Lecture Series talk](#)

[2015 Civil Engineering grad making a difference in his community](#)

[MDU Resources Board of Directors Elects Dennis W. Johnson as Vice Chair](#)

[Alumni recognized with F-M Engineers Club honors](#)

CHAIR CANDIDATE SEMINARS

Civil & Environmental Engineering (2 presentations each)

Dr. David Steward, Kansas State University

- March 20th @ 4:00 pm in CIE 101 (Teaching & Research Experience and Objectives)
- March 21st @ 11:00 am in CIE 102 (Administrative vision, management style, objectives and goals for NDSU CEE department)

Dr. Halil Ceylan, Iowa State University

- April 3rd @ 4:00 pm in CIE 101 (Teaching & Research Experience and Objectives)
- April 4th @ 11:00 am in CIE 102 (Administrative vision, management style, objectives and goals for NDSU CEE department)

Dr. Panneer Sylvam, University of Arkansas

- April 9th @ 4:00 pm in CIE 101 (Teaching & Research Experience and Objectives)

- April 10th @ 11:00 am in CIE 102 (Administrative vision, management style, objectives and goals for NDSU CEE department)

Electrical and Computer Engineering

Dr. Abdullah Eroglu, Purdue University Fort Wayne Campus

- March 21st @ 1:30 pm in Arikara (Teaching & Research Experience and Objectives; Administrative vision, management style, objectives and goals for NDSU ECE department)

Dr. Robert Throne, Rose-Hulman Institute of Technology

- March 26th @ 2:00 pm in Arikara (Teaching & Research Experience and Objectives; Administrative vision, management style, objectives and goals for NDSU ECE department)

Dr. Benjamin Braaten, North Dakota State University

- March 29th @ 2:00 pm in Arikara (Teaching & Research Experience and Objectives; Administrative vision, management style, objectives and goals for NDSU ECE department)

CONGRATULATIONS

Dr. Yao Yu, Assistant Professor **Department of Construction Management and Engineering**, and his student team has been awarded a **People, Prosperity and the Planet (P3) Phase I grant** from the U.S. Environmental Protection Agency for their project “**A Novel Dual Purpose Solar Collector Design.**” Students participate in this grant competition to design solutions that address real-world environmental and public health challenges.

Logeeshan Velmanickam, from the **Department of Electrical and Computer Engineering**, has been selected as the College of Engineering winner for the Graduate School Research Award.

Mohsen Tahmasebi Nasab, from the **Department of Civil and Environmental Engineering** has been selected as the College of Engineering winner for the Graduate School Teaching Award.

Xiangfa Wu, from the **Department of Mechanical Engineering**, who is partnering with UND's EERC and Connecticut-based Proton OnSite, on a new U.S. Department of Energy project to [develop an improved ammonia production method](#).

Dr. Scott Pryor (Department of Agricultural and Biosystems Engineering), **Dr. Xuefeng Chu** (Department of Civil and Environmental Engineering), **Dr. Rajesh Kavasseri** (Department of Electrical and Computer Engineering), and **Dr. Chad Ulven** (Department of Mechanical Engineering) were notified last week by President Bresciani that he approved their promotions to Full Professor. On Thursday, May 10, at 3:00 p.m. in the Memorial Union Plains Room, the University community will come together to recognize their promotions at the *Celebration of Faculty Excellence*.

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

NEW HIRES

Kyle Bosch, the new **Director of Communications and Marketing** for the College of Engineering, started at the end of February.

Lauren Singelmann, the new **Outreach Coordinator** for the College of Engineering, will start sometime in April.

UPCOMING EVENTS

Tuesday, March 20th, Volunteer Meeting for **State Science Olympiad**, 1:00 pm QBB 104, for a complete list of events and a short description for each, see: <http://www.ndsu.edu/olympiad/volunteer>

Thursday, March 22, Faculty Luncheon, **Speaking Up to Bias: Bystander Intervention in Academic Settings**, 11:00am-1:30pm, MU Plains Ballroom. [REGISTER NOW](#).

Monday, March 25, **NDSU College of Engineering Distinguished Lecture Series**, 10:30 am Memorial Union Prairie Rose Room. Cell regeneration authority and oral pathologist Malcolm Snead to present “Nanofabrication Paradigm for Enamel Regeneration.”

March 26 and 27, **NDSU “Fulbright Days”**, Kaitlin Taylor, will be on campus to promote Fulbright and explain about the various awards and how to apply. [MORE INFORMATION](#).

Tuesday, March 27, **Introduce a Girl to Engineering Day**, Memorial Union Ballroom

Tuesday, March 27, **Habashwe! A Year in South Africa as a Fulbright Scholar**, Scott Pryor, Associate Dean for Undergraduate Programs in the College of Engineering, will discuss his experience applying for a Fulbright grant, as well as his professional and personal experience living in South Africa. 10:00 – 10:50 Mandan MU

Thursday March 29, 2018, a dozen representatives from the National Science Foundation will hold **NSF Day at South Dakota State University**. NDSU is invited to take part. To register, see a draft agenda, and learn more, click [here](#). The NDSU Research and Creative Activity Office will pay for the \$50 early registration fee. Please indicate your interest to ndsu.researchdev@ndsu.edu by **Tuesday, March 20 (TODAY)**, and they will follow up with registration instructions.

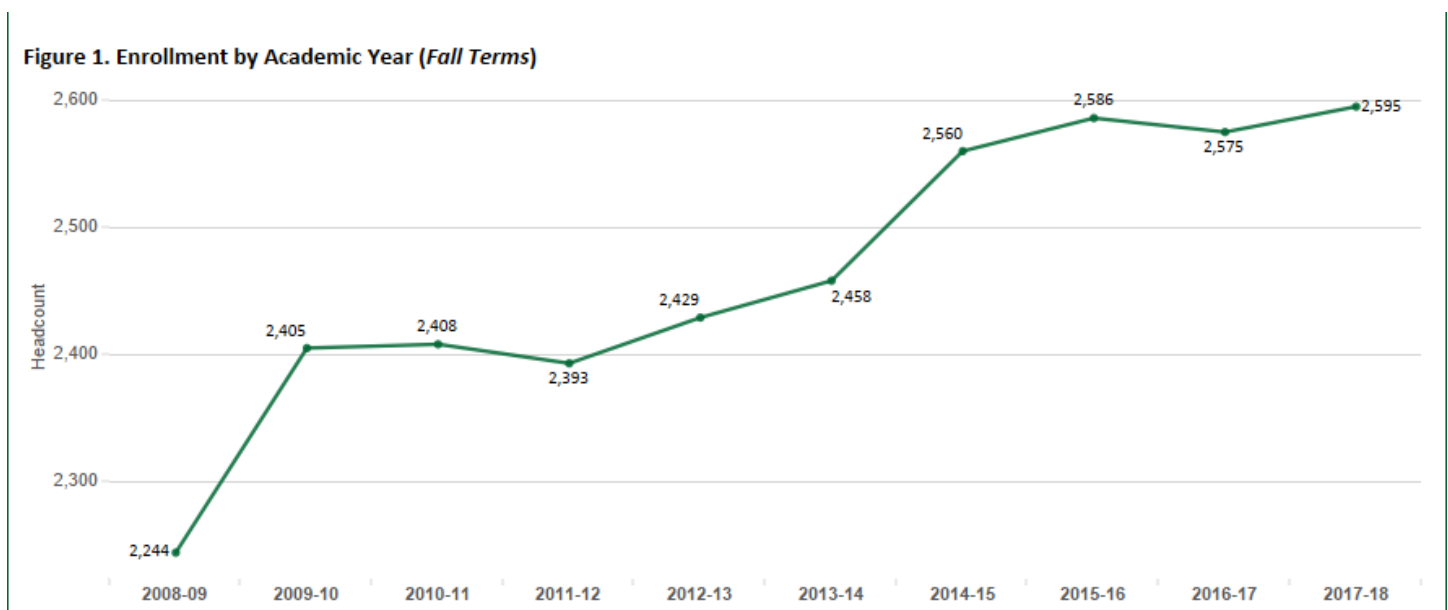
Thursday, March 29, **FORWARD Advocates “Ally Workshop”**, 9:00 to 11:00 am in the Badlands Room, MU. Interested men faculty and men postdoc/graduate students should register [here](#).

Tuesday, April 17th, ND EPSCoR 2018 Annual State Conference, Alerus Center, Grand Forks. **Registration Deadline is Noon, April 3, 2018**

Visit the conference web page <https://www.ndepscor.ndus.edu/news/nd-epscor-state-conf/> for complete details.

BY THE NUMBERS

Since 2008 enrollment in the College of Engineering as grown by more than 350 students.



FUNDING OPPORTUNITIES

Funding is still available for the following Research and Creative Activity internal funding programs. NDSU tenured and tenure-track faculty are eligible to apply. Award funds must be spent by May 31, 2018.

RCA Small Grant Program: Research Support Services

Funds of up to \$1,000 may be requested to help defray the costs of support services required for research, creative, or scholarly activity. For example, funds may be used in one of the NDSU Core Facilities, another recharge/service center, or for transcription services.

[Application and Instructions >>](#)

Research Development Travel Awards

The Research Development Travel Award is intended to be an investment in a faculty member's ability to acquire grants in order to establish and continue in a long-term research program at NDSU. Three types of travel opportunities are available: 1) Travel funds to present at a national level conference; 2) Travel to conduct research at an archive or special collection; and 3) Travel to a national lab to develop collaborations.

[Application and Instructions >>](#)

RCA Mentorship Travel Awards

The RCA Mentorship Travel Award is an opportunity for a senior faculty mentor (Professor) and a faculty mentee (+/- 2 years of becoming an Associate Professor) to travel together to meet with funding agency program officers. These awards are intended to promote research and creative activities that will improve competitiveness for external funding.

[Application and Instructions>>](#)

RECENTLY FUNDED GRANTS

- Yildirim B Suzen (PI), Yan Zhang (CPI). AIAA Design, Build, Fly Competition and Test Flight Travel Grant. \$4,000 from the University of North Dakota. 12/1/2017 – 4/22/2018.
- Shafiqur Rahman (PI). Biochar from Corn Stover and Wet Distiller Grains (WDG) as a Soil Amendment and Odor Mitigation Means. \$32,591 from the ND Corn Utilization Council. 7/1/2018 – 6/30/2020.
- Ying Huang (PI). Independent Risk Analysis for the Straits of Mackinac. \$10,000 from Michigan Technological University. 1/2/2018 – 8/31/2018.
- Long Jiang (PI), Dilpreet Singh Bajwa (CPI). All-corn Plastic Resin for Traditional Molding and 3-D Printing. \$46,008 from the ND Corn Utilization Council. 7/1/2018 – 6/30/2020.

RECENTLY SUBMITTED PROPOSALS

- Shafiqur Rahman (PI). Impact of Nitrogen Management on Canola Production and Carbon Footprint under North Dakota Management Practices. \$53,236 from the Northern Canola Growers Association. 5/1/2018 – 4/30/2020.
- John F Nowatzki (PI), Sreekala G Bajwa (CPI). Smart Ranch. \$44,782 from the ND Beef Commission. 3/15/2018 – 3/14/2020.
- Xiangqing Wang Tangpong (PI), Majura Fortunatus Selekwu (CPI), Fardad Azarmi (CPI), Zhibin Lin (CPI). MRI: Acquisition of a Polytec PSV-500 Scanning Laser Vibrometer. \$312,188 from the National Science Foundation. 8/1/2018 – 7/31/2021.
- Fardad Azarmi (PI), Ying Huang (CPI). Real Time Corrosion Assessment of Arc Spray Deposited Coating on Metallic Structures. \$29,744 from NACE International. 6/15/2018 – 6/14/2019.

- Zhibin Lin (PI), Long Jiang (CPI). New Adaptive, Energy-harvesting Building Laminates for NASA Space Exploration and Future Extravehicular Habitats. \$29,000 from the University of North Dakota. 1/15/2018 – 5/5/2018
- Zhibin Lin (PI). A Hybrid Top-Down/Bottom-Up Cognitive Computing Framework for Probabilistically Structural Diagnosis and Degradation Evolution. \$269,764 from the National Science Foundation. 9/1/2018 – 8/31/2021
- Yao Yu (PI), Yan Zhang (CPI). BreezeMaster Dry Cooler Testing. \$3,999 from Breeze-Master Products. 2/15/2018 – 5/15/2018.
- Yao Yu (PI). Free Inspection and Assessment of Indoor Air Quality (IAQ) for Low-income North Dakota Households. \$9,996 from The Consensus Council, Inc. 6/1/2018 – 12/31/2018.
- Yao Yu (PI). Free Inspection and Assessment of Indoor Air Quality (IAQ) for Low-income North Dakota Households. \$26,803 from the ND Department of Commerce. 7/1/2018 – 6/30/2019.
- Qifeng Zhang (PI), Danling Wang (CPI). Synthesis and Investigation of Ultralow Work Function 2D MXenes towards an Application for Thermionic Solar Cell. \$22,353 from the University of North Dakota. 1/15/2018 – 5/5/2018.
- Scott Christopher Smith (PI). CI-P: Collaborative Research: Infrastructure Development for Multi-level Asynchronous Logic Design Repository. \$43,204 from the National Science Foundation. 8/1/2018 – 1/31/2020.
- Jinhui Wang (PI). IRES Track I: USA-China: International Research Experience for Native American Students in IoT Enabled Environmental Monitoring Technology. \$299,920 from the National Science Foundation. 7/1/2018 – 6/30/2021.
- Na Gong (PI). IRES Track I: Collaborative Research: Application-specific Asynchronous Deep Learning IC Design for Ultra-low Power. \$72,762 from National Science Foundation. 6/1/2018 – 5/1/2021.
- Jordi Estevadeordal (PI). Proposal for the Development of a Green Propellant Thruster. \$20,000 from the University of North Dakota. 1/15/2018 – 5/5/2018.
- Yan Zhang (PI). Understanding Left Atrial Hemodynamics During Atrial Fibrillation: An Integrated Bioengineering Approach. \$173,174 from the American Heart Association. 7/1/2018 – 6/30/2020.
- Robert Allan Sailer (PI). Prototype Speculoop Development and Testing. \$5,155 from Speculoop, LLC. 1/1/2018 – 12/31/2018.
- Xiangfa Wu (PI). NSF CMMI: Interphase Mechanics of Adhesively Bonded Composite Joints Engineered with Self-repairing Interfaces. \$358,759 from the National Science Foundation. 7/1/2018 – 6/30/2021.
- Adam Curtis Gladen (PI). Torrefaction of Biomass in Molten Salts. \$45,270 from the ND Industrial Commission. 6/1/2018 – 12/31/2018.
- Ivan T Lima Jr. (PI), Dharmakeerthi Nawarathna (CPI). Dielectrophoresis Spectroscopy Sensor for the Detection of Disease Molecular Biomarkers in Body Fluids. \$1,232,500 from the National Institutes of Health. 9/1/2018 – 8/31/2023.
- Na Gong (PI). Research Initiation: Impacts of Culturally-specific Outreach Programs on Engineering Identity Formation in Native American Female High School Students. \$200,000 from the National Science Foundation. 8/16/2018 – 8/15/2020.
- Matthew J Noah (PI). COE-CSCC Cogi Next Generation Product R&D - Phase I. \$23,163 from Cogi, Inc. 2/12/2018 – 9/30/2018.
- Matthew J Noah (PI). COE-CSCC Cogi Next Generation Product R&D - Phase II. \$68,973 from Cogi, Inc. 3/12/2018 – 6/30/2019.
- Matthew J Noah (PI). COE-CSCC Myriad R&D, Integration, Testing. \$21,000 from Myriad Mobile. 2/12/2018 – 9/30/2018.
- Dharmakeerthi Nawarathna (PI). Integrated Dielectrophoretic and Plasmonic Platform for MiRNA Based Early Cancer Detection at Point-of-care. \$670,750 from the National Institutes of Health. 1/1/2019 – 12/31/2021.
- Jordi Estevadeordal (PI), Yechun Wang (CPI), Yan Zhang (CPI), Yildirim B Suzen (CPI). Acquisition of a High Repetition Rate Laser System for Spatially and Temporally Resolved Flow Measurements. \$359,337 from the National Science Foundation. 6/15/2018 – 6/15/2028.

- Chad A Ulven (PI), Dilpreet Singh Bajwa (CPI). Development of ND Flax Fiber for Automotive Applications, \$29,866 from AmeriFlax 7/1/2018 – 6/30/2019.

RECENT PUBLICATIONS

For 2018, 17 publications by authors with the College of Engineering affiliation have appeared in various journals, according to the ISI Web of Science. Here are some of the most recent publications:

- Anjum, Adeel, Saif Ur Rehman Malik, Kim-Kwang Raymond Choo, Abid Khan, Asma Haroon, Sangeen Khan, Samee U. Khan, Naveed Ahmad, and Basit Raza. “An Efficient Privacy Mechanism for Electronic Health Records.” *Computers & Security* 72 (January 2018): 196–211. <https://doi.org/10.1016/j.cose.2017.09.014>.
- Bahrami, Mahdi, Omid Bozorg-Haddad, and Xuefeng Chu. “Application of Cat Swarm Optimization Algorithm for Optimal Reservoir Operation.” *Journal of Irrigation and Drainage Engineering* 144, no. 1 (January 2018): 04017057. [https://doi.org/10.1061/\(ASCE\)IR.1943-4774.0001256](https://doi.org/10.1061/(ASCE)IR.1943-4774.0001256).
- Hou, Ligang, Fangwen Fan, Jingyan Fu, and Jinhui Wang. “Time-Varying Algorithm for Swarm Robotics.” *Ieee-Caa Journal of Automatica Sinica* 5, no. 1 (January 2018): 217–22. <https://doi.org/10.1109/JAS.2017.7510685>.
- Ijaz, Bilal, M. S. Khan, S. M. Asif, Dimitri E. Anagnostou, and Benjamin D. Braaten. “Metamaterial-Inspired Series-Fed Frequency Reconfigurable Array with Zero-Phase CRLH Interconnects.” *Microwave and Optical Technology Letters* 60, no. 1 (January 2018): 140–46. <https://doi.org/10.1002/mop.30933>.
- Luo, J., J. Sun, P. C. Guo, Z. S. Yang, Y. X. Wang, and Q. F. Zhang. “Enhancement in Efficiency of CdS/CdSe Quantum Dots-Sensitized Solar Cells Based on ZnO Nanostructures by Introduction of MnS Layer.” *Materials Letters* 215 (March 15, 2018): 176–78. <https://doi.org/10.1016/j.matlet.2017.12.025>.
- Luo, Jun, Ren Zheng Qiu, Zhi Sheng Yang, Yan Xiang Wang, and Qi Feng Zhang. “Mechanism and Effect of Gamma-Butyrolactone Solvent Vapor Post-Annealing on the Performance of a Mesoporous Perovskite Solar Cell.” *Rsc Advances* 8, no. 2 (2018): 724–31. <https://doi.org/10.1039/c7ra10695e>.
- O’Brien, Peter L., Thomas M. DeSutter, Francis X. M. Casey, Eakalak Khan, and Abbey F. Wick. “Thermal Remediation Alters Soil Properties - a Review.” *Journal of Environmental Management* 206 (January 15, 2018): 826–35. <https://doi.org/10.1016/j.jenvman.2017.11.052>.
- Parks, Shawn, Mijia Yang, Sivapalan Gajan, and Qiang Pei. “Strength-Based Differential Tolerable Settlement Limits of Bridges.” *Advances in Structural Engineering* 21, no. 1 (January 2018): 46–58. <https://doi.org/10.1177/1369433217706779>.
- Pogosova, M. A., F. Azarmi, A. A. Eliseev, and P. E. Kazin. “Eu and Cu Co-Substituted Calcium Vanadate The Crystal Structure, Luminescence and Color.” *Dyes and Pigments* 148 (January 2018): 219–23. <https://doi.org/10.1016/j.dyepig.2017.09.017>.
- Rahman, Atikur, Md Saidul Borhan, and Shafiqur Rahman. “Evaluation of Microbial Fuel Cell (MFC) for Bioelectricity Generation and Pollutants Removal from Sugar Beet Processing Wastewater (SBPW).” *Water Science and Technology* 77, no. 2 (January 2018): 387–97. <https://doi.org/10.2166/wst.2017.549>.
- Sivarajan, S., M. Maharlooei, S. G. Bajwa, and J. Nowatzki. “Impact of Soil Compaction Due to Wheel Traffic on Corn and Soybean Growth, Development and Yield.” *Soil & Tillage Research* 175 (January 2018): 234–43. <https://doi.org/10.1016/j.still.2017.09.001>.
- Sun, Yuqing, Cheng Lei, Eakalak Khan, Season S. Chen, Daniel C. W. Tsang, Yong Sik Ok, Daohui Lin, Yujie Feng, and Xiang-dong Li. “Aging Effects on Chemical Transformation and Metal(Loid) Removal by Entrapped Nanoscale Zero-Valent Iron for Hydraulic Fracturing Wastewater Treatment.” *Science of the Total Environment* 615 (February 15, 2018): 498–507. <https://doi.org/10.1016/j.scitotenv.2017.09.332>.
- Sunoj, S., C. Igathinathane, and S. Jenicka. “Cashews Whole and Splits Classification Using a Novel Machine Vision Approach.” *Postharvest Biology and Technology* 138 (April 2018): 19–30. <https://doi.org/10.1016/j.postharvbio.2017.12.006>.
- Wu, Xiang-Fa, and Uraching Chowdhury. “Fracture Toughness of Adhesively Bonded Joints with Large Plastic Deformations.” *Engineering Fracture Mechanics* 190 (March 1, 2018): 16–30. <https://doi.org/10.1016/j.engfracmech.2017.11.040>.

- Zhang, Yuehong, Vijay Kumar Thakur, Yuzhan Li, Thomas F. Garrison, Zhenhua Gao, Jiyu Gu, and Michael R. Kessler. “Soybean-Oil-Based Thermosetting Resins with Methacrylated Vanillyl Alcohol as Bio-Based, Low-Viscosity Comonomer.” *Macromolecular Materials and Engineering* 303, no. 1 (January 2018): 1700278. <https://doi.org/10.1002/mame.201700278>.
- Zhao, Jian, Derek Petersen, Zhibin Lin, and Baolin Wan. “Fiber Reinforced Polymer as External Reinforcement for Single Cast-in Anchors in Plastic Hinge Zones.” *Structures* 13 (February 2018): 1–7. <https://doi.org/10.1016/j.istruc.2017.11.001>.
- Akand, Lutfur, Mijia Yang, and Xinnan Wang. “Effectiveness of Chemical Treatment on Polypropylene Fibers as Reinforcement in Pervious Concrete.” *Construction and Building Materials* 163 (February 28, 2018): 32–39. <https://doi.org/10.1016/j.conbuildmat.2017.12.068>.
- Hou, Ligang, Tongyang Ye, Qiming Luo, Jingyan Fu, and Jinhui Wang. “A Method to Alleviate Hot Spot Problem in 3D IC.” *Microelectronic Engineering* 190 (April 15, 2018): 19–27. <https://doi.org/10.1016/j.mee.2018.01.004>.

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* are 12:00 pm Fridays.

Contact kyle.bosch@ndsu.edu to submit items for *College Happenings*.

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