



Biological Systems Engineering

UNIVERSITY OF WISCONSIN-MADISON

BSE Spring 2021 Newsletter

[BSE Webpage](#)

News from the Department Chair

Let me start by hoping all reading this are doing well and have weathered what we hope is the worst of the pandemic impacts. The last 15 months have been difficult, but the faculty, staff, and students at Biological Systems Engineering proved they were up to the challenge. The department has done well this last year graduating high-quality students, conducting cutting-edge research, and educating the public through Extension programs. I am especially proud of our student body – they showed up for classes, remained engaged, and worked safely following university protocols.

Looking forward, our summer looks like it will be a transition back to normal with increased in-person research. By the fall, we fully expect things to look back to normal with our classes and events back to in-person. Our graduating students have noticed an uptick in hiring in recent months and there is a palpable sense of joy on campus again – though it is hard to see smiles under the masks. Our faculty and staff have kept their research programs going and are excited to be able to have students be back full-time in the labs and fields.

We are grateful for the ongoing support that our alumni and friends of the department have shown this last year. We have added scholarships and have so far been able to weather the financial hit from the pandemic. We could not have done it without our extended BSE family and I could not be more grateful.

On Wisconsin!

Troy Runge

Patrick Walsh & Noreen Warren Professor of Biological Systems Engineering
Chair - Biological Systems Engineering

BSE in the News

Undergraduate student Kit Chow is featured in the spring issue of Grow for his Boosted Chews, caffeine in the form of chocolate. [Read the full article here](#)



Jordi Francis, along with Professor Robert Anex, published a paper about the flux intensity and diurnal variability of soil nitrogen monoxide emissions in a highly fertilized cropping system. The paper is featured in the latest issue of Soil Science Society of America Journal. Jordi is highlighted on the cover with one of the automatic soil chambers.

[Read the full paper here](#)



Professor John Shutske led efforts with other colleagues to provide a [resource center](#) with four primary programs and 14 additional programs designed for farmers and their families.



The resource center has provided “ready-to-go” program tools and publications to people in all 50 states. The team is grateful to have the opportunity to partner on financial interventions and other programs with the North Central Farm and Ranch Stress Assistance Center and also as the academic partner on a \$1M farm mental health and suicide prevention program in southwest Wisconsin funded by the Wisconsin Partnership Program.

[Learn more about the resource here](#)

BSE Graduate and Undergraduate Programs rank highly in the U.S. News & World Report.

Click to read the full [graduate](#) and [undergraduate](#) articles.

Diversity, Equity, and Inclusion Strategic Plan

In 2018, the Biological Engineering Department formed an Equity and Diversity Committee (formalized in 2020) to support the department's mission to foster an inclusive climate that celebrates diversity and benefits from the wealth of diverse knowledge. The department has taken great strides to continue to develop a more equitable BSE community that provides space for everyone to learn and grow. Most recently, the department has developed an anti-racism plan to implement practices to eliminate systemic racism. We believe that diversity and inclusiveness are critical to our departmental mission and are invaluable to our growth.

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ASABE Student Update

ASABE Update - from outgoing President Jared Merkel

Spring 2021 presented the ASABE Officer Team and I with many challenges, but despite the virtual environment, UW-Madison ASABE held monthly Regular Section and Social Meetings. We had the privilege of hosting speakers Sarah Luck (Wisconsin DNR), Kit Chow and Aditya Parihar (UW Students & Boosted Chews Founders), and Nolan Lacy (MacDon). We appreciate them taking the time to speak with us and offering valuable advice to learning engineers. We also hosted virtual social events such as the “Among Us” Game Night, Speed Friending, and UW/ASABE/BSE & Pop Culture Trivia Night. They were great opportunities to have fun, meet new people and get to know our great Biological Systems Engineering Faculty. In May, UW-Madison ASABE elected a new Officer Team for the 2021-2022 Academic Year! The Officer Team is very excited for the Fall Semester and is hopeful for the return of In-Person Meetings!

[Click here to view our 2021-2022
Student Officers](#)

BSE Awards

Laxmi Prasad Nominated for Launching Tomorrow's Leaders Program

The BSE Graduate Committee nominated Laxmi Prasad (RA with Anita Thompson) for the Launching Tomorrow's Leaders (LTL) program. Laxmi was one of the 16 selected from CALS. LTL is a proven program that transforms graduate students into confident professionals able to lead, collaborate, and communicate effectively to achieve greater results. It makes participants more effective now, gives them an edge when competing for a job, and prepares them for successfully transitioning into their next position, whether that is academia, an institute, a small business, or a large company.

Congratulations, Laxmi!

[Learn more about the LTL program here](#)



Paul Stoy Receives Distinguished Faculty Postdoc Mentoring Award

Congratulations to Paul Stoy (BSE Associate Professor) on receiving a Distinguished Faculty Postdoc Mentoring Award. Congratulations, Paul!



Troy Runge Awarded the Patrick Walsh and Noreen Warren Professorship

This first BSE professorship was made possible by generosity of Patrick Walsh & Noreen Warren. Congratulations to Troy Runge on receiving the Patrick Walsh and Noreen Warren Professorship. Troy and other CALS awardees were honored at the 2021 Virtual CALS Awards Program.



Matthew Digman Receives Young Engineer Award

Matt was awarded the Young Engineer Award. He teaches undergraduate courses that cover the design of agricultural machinery, has developed research programs focused on agricultural machine systems, and has supported industry development of NIRS technology. He also has advised/co-advised a number of graduate and undergraduate students and is listed on over 20 peer-reviewed articles. Matt has also been very involved in the ASABE organization, having held multiple officer positions including Section Chair. Congratulations, Matt!



David Pintens Receives BSE Graduate Student of the Year

David was named the BSE Graduate Student of the Year. David's research focuses on improving the utilization of forage fiber in dairy cattle by introducing a novel "shredding-impact processing method." David is involved in many extracurriculars such as the Alpha Gamma Rho Fraternity, ASABE, Badger Dairy Club, UW Dairy Judging team, UW Badger pulling team, and is a College of Ag and Life Sciences ambassador. David has taken a position at Kuhn and will be starting there in May! Congratulations, David!



Retirement News

Congratulations to Scott Sanford on his retirement from the University of Wisconsin-Madison on November 2, 2020. At retirement, Scott was a Distinguished Outreach Specialist-Extension Agricultural Engineering. He started in 2002 providing technical

support for the state agricultural energy efficiency program, Focus on Energy, under Doug Reinemann. He then expanded into writing grants and working on applied research and outreach programs around energy efficiency, renewable energy, and specialty crops. Scott has a strong sense of community initiating events that encouraged team building, and social interaction. He wore many hats and we thank him for his dedication!



John Panuska will be retiring on July 2, 2021. He joined BSE as a Natural Resources Extension Specialist in February 2005. During his career, John became recognized as an expert in soil and water conservation, drainage, irrigation, and water quality management. He worked with extension agents, local, state, regional, and Federal government officials on water resource management issues on a daily basis. In addition, John has conducted state-wide Extension programming for agricultural producers, consultants, and agency staff, including technical briefs for WDNR and WI Department of Agriculture Trade and Consumer Protection. Thank you John for your commitment. Congratulations on your future retirement!



Recent Graduates

Undergraduates

30 students are graduating in May/August 2021 from all curriculum tracks: 9 from Machinery Systems, 9 from Natural Resources & Environmental Engineering, 8 Food & Bioprocess Engineers, and 4 General. Among the graduates, 12 certificates in Energy Sustainability, Environmental Studies, Global Health, Entrepreneurship, Computer Science, and more.

Graduate Students

Congratulations to our Spring and August 2021 graduates! Of the graduates, four received their Ph.D. and six received their Master of Science.

Successful Graduate Student Collaboration with John Shutske

Deanna Theiss finished her dual degree in Veterinary Medicine (DVM) and Master of Public Health working with research adviser John Shutske, BSE Professor and Director of the UW Center for Agricultural Safety and Health this spring. Deanna will begin her DVM practice this summer. Deanna worked on John's research focused on the safety practices of farmworkers and the role of vets in efforts to protect broader public health by reducing the spread of antibiotic-resistant pathogens associated with dairy farms.

Congratulations to all graduates!

Thank You to All Donors!

We would like to thank all the donors who have supported the department. Your support is what keeps the department running, and we are extremely grateful for your donations.

To make a donation to the Biological Systems Engineering Fund, [click here](#)

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