



# Biological Systems Engineering

COLLEGE OF AGRICULTURAL & LIFE SCIENCES  
UNIVERSITY OF WISCONSIN-MADISON



## Welcome from the Department Chair

Dear BSE Alumni and Friends,

Happy Summer! I am excited to begin my service to the department as chair and look forward to working with our dedicated and talented faculty, staff, and students in this new role. My appointment began in April when our former chair, Troy Runge, started a new position as Associate Dean for Research in the College of Agricultural & Life Sciences. I want to thank Troy for his hard work and dedication over the past five years and for all the time and insight he has and continues to share with me during this transition.

In this newsletter we share just some of the department highlights of the past six months including new staff (welcome, Kirsten Martin!), faculty research & extension programs, student activities, alumni new (congratulations, Naomi Bernstein!), and awards (congratulations, Jaya Suneja, Yuchi Ma, and John Shutske!).

Also, congratulations and best wishes to all 2023 BSE graduates! Please keep in touch and know that you always have a home in BSE.

Anita Thompson, Department Chair

# Welcome to BSE

## Research Administrative Specialist, Kirsten Martin



Kirsten Martin is the new Research Administrator for the Department of Biological Systems Engineering. She received her B.A. in French and International Relations from UW-Madison. Kirsten brings over 25 years of research and academic administrative experience to her position. Prior to her work at UW, she was employed at McGill University in Montreal, Quebec. She is originally from Sauk City, Wisconsin and enjoys French-language podcasts, swimming, and crime fiction.

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## Department News

### Runge named Associate Dean for Research in CALS



CALS Dean Glenda Gillaspie has named **Troy Runge** as the new associate dean for research. Troy serves as the chief research officer for the College with oversight of the Research Division, Agricultural Research Stations, and the Wisconsin Agricultural Experiment Station. Likewise, he will serve as the Wisconsin representative in the North Central Regional Association of the State Agricultural Experiment Station Directors. Also under his guidance, he is responsible for the advancement and growth of the college's \$166 million research portfolio.

### GROW Magazine: "From Hardship to Hope"

The Spring 2023 issue of Grow magazine highlights the article, "From Hardship to Hope." The article details the efforts of John Shutske, Dept. of BSE and agricultural health and extension specialist, and Joy Kirkpatrick, a farm succession outreach specialist with the UW Center for Dairy Profitability, who are working to improve farm stress-reduction initiatives around the state.



In 2021, the Division of Extension's Health and Well-being Institute developed a program that was later adapted by John and Amanda Coorough, extension health and well-being educator in Sauk County at the time, into an agricultural-friendly program titled, "[WeCOPE](#)" (COPE stands for "Connecting with Our Positive Emotions").

WeCOPE allows participants to complete a seven-session series to help farmers and agricultural professionals improve emotional and physical well-being and decrease negative feelings caused by stress.



## 2023 ASABE International ¼ Scale Tractor Competition



The UW-Madison Badger Pulling ¼ Scale Tractor Team recently completed in the ASABE International Competition held in Peoria, Illinois. Faculty advisor, Brian Luck reported, "I am happy to announce that the team took a very functional tractor to competition and was able to complete in all events. They also returned to Madison with a working tractor that has no major mechanical issues, which is rare.



The team arrived at competition with an engine that had a broken timing key, which means no power and the engine would only run for 1 minute before shutting itself off. They were not aware of this and neglected to pack a second engine. They were due for a new engine from the competition and were able to install that in under 2 hours and complete their technical inspection. They also were able to help several

other teams by lending tools, manpower, and/or parts. “ Every year that I go to this event I am impressed with our student’s determination, work ethic, and sportsmanship,” noted Luck.

The team, which includes only one senior who was also the only returning participant, finished in 12<sup>th</sup> place out of 18 teams. Although the group had hoped for a higher placement, they are resolved to continue working hard to complete again next year.



*2023 Badger Pulling Team is pictured on the far right holding the New Holland Agriculture sign.*

## Soil for Society Network



*Empowering Communities for Resilient Food Systems* is a National Science Foundation AccelNet design project whose vision is a global network of scientists and stakeholders to advance land and soil management for climate adaptation & food security. The network-of networks will effectively address the societal grand challenges of food security and climate adaptation through improved land and soil system resilience.

The research-oriented community spans career stages, nations, cultures, disciplines, and sectors of society. It includes under-served and marginalized groups that are often among those most closely tied to the land. The creation of shared values and an inclusive space will foster a culture of integrated thinking and facilitate strategic collaboration towards increasing global access to knowledge on land and soil management and its impact on global food security and climate adaptation.



**Anita Thompson** (UW-Madison) is the lead PI on the grant and is working closely with co-PIs Debu Misra (University of Alaska-Fairbanks), Rabi Mohtar (Texas A&M University), Prem Parajuli (Mississippi State University), and Tala Awada (University of Nebraska-Lincoln). They are recruiting experts and stakeholders to contribute to co-designing this network-of-networks. Visit the website to join and to learn more: <https://soilforsociety.org>. Email the project coordinator, **Shanon Hankin**, for questions: [shankin@wisc.edu](mailto:shankin@wisc.edu).

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## Alumni News

**Naomi Bernstein** (BS, 2006) is the 2023 recipient of the Professional Engineering Institute's (PEI) Professional Engineer of the Year Award. This award honors an ASABE licensed engineer who has made outstanding contributions to the engineering profession, the public welfare, and/or humankind. Established in 2003, this award is made possible by the PEI of ASABE.



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## Student Chapter of ASABE

The UW-Madison Student Chapter of the American Society of Agricultural and Biological Engineers (ASABE) welcomes students interested in agriculture, food, and biological systems. The club's primary focus is to facilitate connections and foster relationships between students, faculty, and nearby companies. This engagement allows students to explore the multitude of opportunities available to them for future employment. The ASABE Pre-professionals Club at UW-Madison organizes various activities such as monthly meetings, social events, fundraisers, and service opportunities, creating a platform for students and faculty to connect and get to know each other. Through these interactions, students can gain valuable insights into the industries they are interested in, while simultaneously developing important life skills like leadership and teamwork.

Maintaining the momentum from the Fall semester, ASABE kicked off the semester with our first general meeting in February. We heard from speaker Violet Goodwin, a Project Manager from Keurig/Dr. Pepper, who spoke on her college experience providing suggestions on how to get involved as well as expanding on her various internships relating to the Food and Bioprocessing pathway! The March general meeting welcomed Alex Chapla who talked about his experience as a Water Resources

Engineer and the various paths he took to get to where he is today. Additionally, students gained insight from BSE senior Emma Dahl on the numerous benefits of Studying Abroad! Nearing the end of March, several ASABE representatives attended the Midwest Regional Rally hosted by Ohio State University where they were able to attend industry tours, hear from professionals, and establish connections with other BSE students from other universities. Ryan Seffinga was our guest presenter at the April general meeting. He talked about his experience as a Design Engineer for John Deere. As a UW-Madison BSE alum, he was able to provide great expertise on how to become involved and how to transition into industry after college. Also in April, our club received third place in the Engineering Expo! We presented on the various stages and uses of corn, covering topics such as water quality importance, corn growth process, utilization of thermal cameras and drones to determine plant stress, and the production process of different corn products. It was amazing being able to provide this demonstration to younger students and seeing the growing interest in Biological Systems Engineering! We finished off the school year with an End of the Year cookout for the BSE Department and elected the new Executive Board for the 2023-24 school year! In addition to the many great learning opportunities, ASABE has organized several social gatherings throughout the semester such as Trivia Night, Game Night, making succulent terrariums, and an end-of-the-year trip to the Brewers game!

A group of students will be headed to Omaha in July to attend the Annual International Meeting (AIM) where they will get to experience the largest gathering of Agricultural and Biological Engineers for great networking and educational opportunities! We extend a big thank you to the 2022-23 ASABE Executive Board listed below, BSE faculty, and all the ASABE members for their contribution to this fabulous year! We look forward to seeing all the exciting things to come in the next school year and welcome our new Executive Board members listed below.

### **UW-Madison Student Chapter of ASABE Executive Board 2023-24**

**President** – Jaya Suneja

**Vice President** – Cece Bnyat

**Treasurer** – Lindsey Blanchfield

**Secretary** – Eden Britt

**Fundraising** – John O'Neill and  
Riley O'Flanagan

**Social** – Paulina Baker

**Public Relations** – Sam Anhalt

**Community Outreach** – Cami Guelig and  
Emma Farrell

**CALS Rep** – Chloe Sroga

**Grad Student Reps** – Collin Klaubauf and  
Micah Robinson

# Wisconsin Section of ASABE - Awards

## Biological Systems Engineering Student of the Year: Jaya Suneja



- Jaya is a senior at the UW-Madison majoring in biological systems engineering. She is pursuing additional certificates in business management, studio art, and environmental studies.
- She is the outgoing treasurer and incoming president of the UW-Madison Student Chapter of ASABE, and the operations supervisor for the UW-Madison Recreation and Well-being.

## Biological Systems Engineering Graduate Student of the Year: Yuchi Ma

- Yuchi is pursuing a PhD degree in biological systems engineering under the mentorship of Prof. Zhou Zhang.
- His research objective focuses on remote sensing, monitoring crop growth, and agricultural mapping.
- He was awarded the 2022 Louis and Elsa Thomsen Wisconsin Distinguished Graduate Fellowship.



## Career Achievement Award: Dr. John Shutske



- Dr. Shutske has been on the faculty at the UW-Madison since 2008 as a professor in the Department of Biological Systems Engineering.
  - His research and outreach focuses on agricultural safety and health.
  - He served as the UW-Madison College of Agricultural and Life Sciences associate dean for extension and outreach, and served as the extension program director.
- Dr. Shutske has published many journal, extension, and popular press articles concerning agricultural safety.
  - He has been an ASABE member since the early 1980s and attended his first of many Annual International Meeting (AIM) in 1982.

# Recent Graduates

## Biological Systems Engineering – Bachelor's Degrees

### Spring graduates

- Arrington, Haley
- Dahl, Emma Carol
- Davis, William Blackwell
- Erdmann, Makayla
- Ewing, Maurice
- French, Mason Joseph
- Froelich, Ellie Blue
- Garwood, Jaclyn Brooke
- Hermus, Leland Jerome
- Hoffman, Victoria Kathryn
- Jaeger, Rachel Anne
- Kamath, Devika D.
- Keough, Ciera Maire O'Brien

- Kouba, Jenna Marie
- Kreft, Carter
- Redman, Alex Michael
- Robinson, Micah
- Stelzer, Ethan Scott
- Wanish, Katia
- Yeast, Austin William

### Summer graduates

- Coyne, Calvin Colin
- Holtsford, Dylan Charles
- Sotelo Edwards, Emily
- Whisler, Gabrielle Anya

## Biological Systems Engineering – Master's Degrees

### Spring graduates (faculty advisor)

- Panditharatne, N. Dimuth (Choi)
- Patel, Pryanka N. (Luck)
- Zhang, Xi (Choi)

### Summer graduates (faculty advisor)

- Fares, Diana (Digman)
- Lemcke, Tess I. (Digman)
- Steiner, Rachel Raye (Luck)
- Wang, Ruolin (Pan)

## Biological Systems Engineering – Doctoral Degrees

### Spring graduates (faculty advisor)

- Ma, Yuchi (Zhang)

### Summer graduates (faculty advisor)

- Li, Yu (Thompson and Zhang)
- Wang, Weizheng (Gunasekaran)
- Zeng, Meijun (Pan)

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## Our Donors (December 2022 – May 2023)

- Kay and Gerald Bizjak
- Gary and Sandra Bubenzer
- CNH Industrial America LLC
- Crown of Life Christian Academy
- DeForest FFA Alumni
- Todd and Kristine England
- Fang and Haibo Guo
- Richard and Barbara Holloway
- Brian and Jill Huenink
- John Deere Foundation



## Our Donors, continued

- Jeanne Kaminske
- Dennis and Jacqueline Kelley
- Jeffrey Krebs
- Mary Leroy
- Marshfield Clinic Health System
- Brandon Nigon
- Gene Nimmer
- Edgardo Ortiz Reyes and Erika Melendez
- Amy Otis
- Xuejun Pan and Dan Xie
- William and Shirley Pick
- John Ramsden and Nanci Higgins-Ramsden
- James and Cindy Rauwerdink
- Douglas Reinemann
- Lisa and Philip Risser
- Beth and Brian Rohland
- Scott Sanford
- David Schirer
- Barbara and Ronald Schuler
- Rakesh and Sunita Singh
- Charles Stone
- Shane and Amanda Williams
- Wisconsin Section of ASABE
- Nancy Witte



## Support BSE

We are sincerely grateful to our friends and alumni who continue to support our department through generous donations. These gifts help support our faculty and students through education, training, outreach, and research. Interested in joining other alumni, friends, and co-workers in supporting the BSE mission? Click the link below to learn more.

[Learn More](#)

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