



**Department of  
Mechanical Engineering**  
UNIVERSITY OF WISCONSIN-MADISON

# Mechanical Engineering Faculty Investitures

Monday, September 30, 2024

4:00 p.m.

Mechanical Engineering Building



# Program

4:00 p.m. - Welcome and introduction

*Dean Ian Robertson*

4:05 p.m. - Presentation of honorees

*Chair Darryl Thelen*

## Honorees:

Joseph Andrews, Alfred Fritz Assistant Professor

Weiyu Li, Alfred Fritz Assistant Professor

Michael Wagner, Charles Ringrose Assistant Professor

Lianyi Chen, Kuo K. & Cindy F. Wang Associate Professor

Corinne Henak, Elmer R. and Janet A. Kaiser Associate Professor

Jacob Notbohm, Harvey D. Spangler Associate Professor

James Pikul, Leon and Elizabeth Janssen Associate Professor

Ramathasan Thevamaran, Bernard A. & Frances M. Weideman  
Associate Professor

Alejandro Roldán-Alzate, Mead Witter Associate Professor

Curt Bronkhorst, Harvey D. Spangler Professor

Closing remarks

*Reception in atrium to follow*



**Ian M. Robertson**

Grainger Dean of the  
College of Engineering



**Darryl Thelen**

John Bollinger Chair of Mechanical  
Engineering & Bernard A. & Frances M.  
Weideman Professor



# Joseph Andrews

*Alfred Fritz Assistant Professor*



**Professor Andrews** leads the Laboratory for Printed Electronics and Sensors (LPES), which aims to develop printed electronic devices and sensors for interdisciplinary sensing applications. Novel electronic sensors are needed to usher in the coming age of more personalized medicine, data-driven diagnostics, and the “Internet of Things”. The impact of the work in LPES will manifest itself in many areas including biomedical research, harsh environment sensing, “smart” objects, and wearable devices.

*My teaching and research philosophy is to guide students to explore new engineering ideas motivated by both their own curiosity and the potential impact that their innovation can have on the global community.*

# Weiyu Li

*Alfred Fritz Assistant Professor*

**Professor Li** is a new assistant professor interested in multiscale behavior and transport in energy systems and storage technologies. Her lab aims to address global challenges in next-generation energy conversion, storage, and manufacturing. In line with the intention of the Alfred Fritz Professorship, Dr. Li is motivated to advance renewable energy and environmental sustainability through her work.

*I believe in teaching that sparks curiosity and encourages students to explore new ideas across different fields. I want to help them build the skills they need to solve real-world problems while inspiring them to think creatively and work together.*



# Michael Wagner

*Charles Ringrose Assistant Professor*



**Professor Wagner** directs The Energy Systems Optimization Lab (ESOL). The lab investigates strategies to incorporate renewable energy efficiently and effectively into the grid, with a particular emphasis on solar energy. The uniqueness of his approach is an integrated coupling between optimization programming techniques and detailed energy system models.

*My teaching approach focuses on enhancing student engagement by offering diverse learning mechanisms and multiple instructional methods within each course. I aim to support different learning styles and ensure that every student has the opportunity to succeed.*

# Lianyi Chen

*Kuo K. & Cindy F. Wang Associate Professor*

**Professor Chen** conducts research in metal additive manufacturing, metals design based on nanoelements, in-situ/operando characterization, and fusion energy applications. He is recognized as an international leader in the use of synchrotron-based characterization techniques to investigate the physics of manufacturing processes. This work is important to enhance the quality and consistency of metal parts created via additive manufacturing.

*My teaching and educational philosophy aligns with the vision of Professor K.K. Wang (founder and donor of the K.K. and Cindy Wang Professorship) "Learning through active participation."*



# Corinne Henak

*Elmer R. and Janet A. Kaiser Associate Professor*



**Professor Henak** studies the mechanics and mechanobiology of musculoskeletal tissues. Much of her focus is on cartilage with the goal of enhancing the understanding and treatment of osteoarthritis, a prevalent degenerative joint disease. In addition, she investigates the fundamental mechanical behavior of cartilage tissue as an inspiration for the development of man-made materials with unique capabilities.

*My teaching goal is to guide students to build intuition and connect with course content, while providing an example of what it means to be an engineer. This goal is built through active engagement during class, timely feedback, and framing courses in real-world contexts.*

# Jacob Notbohm

*Harvey D. Spangler Associate Professor*

**Professor Notbohm** leads a rapidly growing research program in cell mechanics and soft materials, with funding from federal agencies and industrial partners. He is currently investigating the mechanics of fibrous materials, cell-matrix interactions, and collective cell migration, with the goal of advancing our understanding of mechanical aspects of biological processes and disease mechanisms.

*My teaching philosophy is centered around creating an environment that facilitates, encourages, and accelerates learning by the students. One of my favorite aspects of teaching is connecting theoretical concepts from physics and mathematics to real-world experiments and engineering applications.*



# James Pikul

*Leon and Elizabeth Janssen Associate Professor*



**Professor Pikul** investigates and exploits nanoscale and macroscopic characteristics of electrochemistry and soft matter to innovate new technologies. His research seeks to make transformative advances in energy storage, energy conversion, multifunctional materials, and robotics, fields that are of paramount importance to the College of Engineering, Mechanical Engineering and grand technological challenges faced by our society.

*I believe mentoring students is one of the most important and rewarding aspects of my job. I seek to instill an intuitive understanding of physics while connecting big ideas to real-world demonstrations that prepare my students to be future technical leaders.*

# Ramathasan Thevamaran

*Bernard A. & Frances M. Weidemann Associate Professor*

**Professor Thevamaran** investigates process-structure-property-function relations in structured materials such as hierarchical carbon nanotube foams and mats, gradient-nano-grained metals, polymer nanocomposites, and nonhermitian and parity-time symmetric metamaterials.

*I use thoughtfully designed assessments and feedback to foster students' curiosity and use of mechanics, with the goal of solving complex engineering problems. Deliberate and measured experimentation and feedback enable me to evolve my teaching and research towards an integrated mechanics program that will inspire and have transformative impact on generations of students.*





# Alejandro Roldán-Alzate

*Mead Witter Associate Professor*



**Professor Roldán-Alzate** directs the UW Cardiovascular Fluid Dynamics laboratory that is jointly sponsored by the Departments of Mechanical Engineering and the Department of Radiology. His lab conducts fluid dynamics analysis of physiological and pathological flows using a combination of medical imaging, additive manufacturing and computational fluid dynamics.

*My teaching philosophy is based on real life applications. In my biofluids class, students select health related topics that are of their interest and use those to guide a semester long project where they apply the concepts learned to gain a better understanding of the problem and potential solutions. This approach exposes the students to many more aspects of the topics covered in class than if only the professor was teaching.*

# Curt Bronkhorst

*Harvey D. Spangler Professor*

**Professor Bronkhorst** conducts research the microstructural origins of material failure. His rigorous research draws from aspects of quantum molecular dynamics, classical molecular dynamics, and discrete dislocation dynamics.

*Along with topical learning, it is also critical that we encourage and assist students to learn logical thinking skills, patience, self-discipline, mental resilience, knowing when to ask critical questions, and the ability to focus one's mental energy. Together with learning the fundamental elements of mathematics, physics, mechanics, materials science, statistics and probability, students can develop themselves into highly effective professionals and leaders in their fields of endeavor.*



# Special thanks and acknowledgement of all our donors that make these professorships possible:

Alfred Fritz

Charles Ringrose

Kuo & Cindy Wang

Elmer R. and Janet A. Kaiser

Leon and Elizabeth Janssen

Bernard A. & Frances M. Weidemann

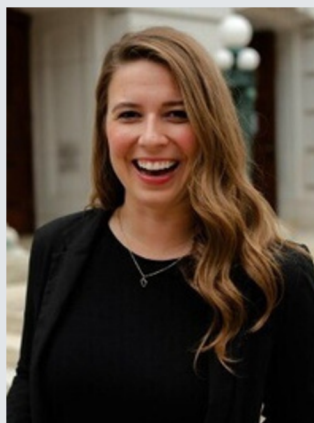
Mead Witter

Harvey D. Spangler



**Brad Green**

Senior Director of Development



**Caroline Sullivan**

Director of Development



**David Heinrich**

Associate Director of Development

Congratulations to our recently  
promoted faculty!

## **Associate Professors**



**Jen Franck**  
Solid & Fluid Dynamics



**Shiva Rudraraju**  
Solid & Fluid Dynamics

## **Full Professors**



**Mark Anderson**  
Energy Systems



**Mike Zinn**  
Robotics, Controls & Sensing

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**Welcome to our new faculty!**

Lei Zhou, Wei Wang, Graham Wabiszewski,  
Yunus Alapan, Xiao Kuang, Weiyu Li



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