School of Civil and Environmental Engineering

Structures and Applied Mechanics Seminar Series

Present

When Structures Meet Data and AI

Speaker:

Zhaoshuo Jiang, Ph.D., P.E., LEED AP
Professor of Civil Engineering
San Francisco State University

Recent advancements in AI and big data analytics have significantly expanded the capabilities of various industries, creating new opportunities for innovation, optimization, and real-time insights. In civil engineering, these technologies are transforming the field by enabling more accurate, data-driven decision-making, optimizing design and maintenance processes, and enhancing the resilience and sustainability of structures and infrastructure in unprecedented ways. In this talk, we will start with an interesting laboratory experiment on innovatively using infrasound, low-frequency sound waves inaudible to humans, to perform structural health monitoring. After demonstrating the feasibility of this technique in laboratory experiments, the idea was put to test in a real-world setting using data collected through the long-term bridge health monitoring program in Connecticut.

Friday, October 11, 2024
12:20 – 1:10 PM
CAST 204

Bio: Dr. Zhaoshuo Jiang is a proud alumnus of the University of Connecticut, where he earned his Ph.D. in Civil Engineering. After his time at UConn, he gained valuable industry experience at renowned firms such as Skidmore, Owings & Merrill. As a licensed professional engineer in the states of Connecticut and California, Dr. Jiang has been involved in the design of a variety of low-rise and high-rise projects, including office towers, retails, hotels, courthouses, and theatre. Now as faculty member at San Francisco State University, Dr. Jiang continues to integrate his industry expertise into academia, preparing the next generation of engineers and researchers. His current research centers on understanding structural dynamics and vibrations and using the gained knowledge for smarter and more sustainable structures and infrastructures. By combining this knowledge with AI and big data, his work has expanded to smart connected heath applications, where he explores the intersection of structural vibration and smart technologies to deliver equitable healthcare solutions for underserved aging populations.