香港大學 機械工程系
Department of Mechanical Engineering
THE UNIVERSITY OF HONG KONG

SEMINAR

Health Monitoring with Energy Harvesting and Wearable Sensors

Date: 24 August, 2026 (Monday)
Time: 11:00 a.m.
Venue: Room 7-34 and 7-35
Haking Wong Building
HKU

Speaker: Professor Junyi Cao
School of Mechanical Engineering
Xi'an Jiaotong University
China

Abstract:

Health monitoring of industrial components is of significance for maintaining effective operations, ensuring consistent performance, minimizing downtime, and ultimately enhancing the safety and reliability of key equipment systems. Therefore, it is necessary to address intelligent self-powered diagnosis methods. The enabled technology of different energy harvesting configurations is addressed to improve the capability of self-powered smart diagnosis methods. More importantly, the proposed intelligent diagnosis technologies are introduced for health monitoring of human motion. Moreover, wearable devices with self-powered sensing capabilities are presented for designing intelligent monitoring systems to assess human movement functions. Quantitative evaluation and clinical intelligent diagnosis of neurodegenerative diseases in the elderly are developed. Finally, the challenges and potential avenues for future advancements will be provided.

Biography:

Dr. Junyi Cao is a Professor in the School of Mechanical Engineering at Xi'an Jiaotong University, China. He currently serves as Director of the Institute of Intelligent Design, Associate Editor of IEEE Journal of Biomedical and Health Informatics, and Deputy Director of the Shaanxi Vibration Engineering Society. His research interest includes energy harvesting, vibration control, and wearable health monitoring. He has published more than 100 research papers (H-index: 52). He is a recipient of First Prize for Technological Invention by the Ministry of Education, Second Prize of the China Vibration Engineering Society, 2021 ASME Best Paper Award in Journal of Vibration and Acoustics and 2025 ASME Best Paper Award in Structural Health Monitoring.

ALL INTERESTED ARE WELCOME

For further information, please contact Prof. Xiaofan Li at 3917 7904.