Building Consensus on Validating Wearable Technology for Intelligent Health Monitoring

Date: 30 November 2023 (Wed)
Time: 18:00-19:30
Venue: Room E33-2036, Faculty of Education
Language: English
Audience: UM Staff / Students
Registration: Online Registration (https://go.um.edu.mo/f5ld6j5z or)
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Speaker:
Prof. Shulin CHENG, Zhiyuan Endowed Chair Professor at Shanghai Jiao Tong University, China and was a Professor of Health Science and Technology at the University of Jyväskylä, Finland. Prof. Cheng conducts pioneering research on family-based longitudinal studies of bone, lipid, and glucose metabolism. With over 194 publications in top journals including Nature Genetics and Journal of Bone and Mineral Research, her high-impact work has recently examined gut microbiome and fatty liver disease (Journal of Hepatology, 2014), wearable devices for health monitoring (BMC Sports Science, Medicine and Rehabilitation, 2021), and genetics of bone mass (Journal of Bone and Mineral Research, 2018). Prof. Cheng' has over 30 experience in groundbreaking interdisciplinary research in public health, nutrition, physiology, genetics, and biomedical engineering. Renowned for large-scale population studies utilizing cutting-edge technology, her translational work aims to elucidate biological mechanisms underlying metabolic diseases and promote fitness and healthy lifestyles globally.

Abstract:
Wearable devices offer immense potential for health and well-being monitoring through their various sensors and algorithms. Nonetheless, the absence of standardized review methodologies has led to concerns over the reliability and precision of consumer wearables. Through expert convenings, previous protocols, and literature reviews, the INTERLIVE consortium identified best practices across six key reporting domains when assessing wearables. These include study design, device description, criterion measure justification, metric selection, statistical analysis, and results transparency. Standardizing these evaluation criteria will ensure methodological consistency, facilitate comparisons across devices, provide open validation datasets, and unlock the complete potential of the technology.