Project Title
Intelligent Wearable Sensing Technologies for Eldercare and Prevention of Cardiovascular Diseases

Person-in-charge
Professor Zhao Ni
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Members
Professor Yuan-Ting ZHANG
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Dr. Jing LIU
PhD (Electronic Engineering), 2018

Project Description
This project aims to transform our years of leading research achievements in biomedical sensing technologies and health informatics into a series of wearable medical-grade devices that can track cardiovascular disease (CVD) risk factors in an unobtrusive, accurate and continuous fashion, as well as to pair the devices with personalized AI doctor (Dr. PAI) based on generative AI models to enable real-time CVD prediction and diagnosis with a unique human-and-sensor-in-the-loop approach. The platform will be tested, optimized and standardized through large scale clinical trials in both Hong Kong and mainland China, by our interdisciplinary team including cardiologists and eldercare providers. Our innovative approach opens new horizons in personalized healthcare, especially in the realm of eldercare and cardiovascular disease management.

The founding members include Prof. Yuan-Ting Zhang (CUHK), Prof. Ni Zhao (CUHK) and Prof. David Clifton (Oxford). Prof. Ni Zhao is a Fellow of the Royal Society of Chemistry, awardee of China's Excellent Young Scientists Fund, and elected member of The Hong Kong Young Academy of Sciences. Her pioneered work in optoelectronics and wearable sensing technology has been widely recognized, leading to a high h-index of 73. Prof. Yuan-Ting Zhang is a Fellow of IEEE, IAMBE, AIMBE and AAIA. He led the establishment of the first international standard on wearable and cuffless blood pressure measurement devices (IEEE 1708), which has now been partially adopted by FDA. He was also invited to join ISO working group on cuffless blood pressure devices. Mostly recently he received the IEEE-EMBS's highest honor - William J. Morlock award. Prof. David Clifton s the Chair Professor of Clinical AI at the University of Oxford, and leads the Computational Health Informatics (CHI) Lab which focuses on "AI for Healthcare". He is also NIHR Research Professor, appointed as the first non- medical scientist to the NIHR's "flagship chair". Dr. Jing Liu obtained her PhD in 2018 and has developed a series of physiological models and wearable systems for accurate monitoring of vital cardiovascular parameters. After graduation, she has been working as a biomedical engineering in the leading electronic company Analog Devices Inc in the United States.