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S2-6	M2002-A 16:45-17:00	The Study of Non-Invasive Blood Information Measurement and Monitoring Method via Wearable MWPPG Device Cheng Chun Chang, **Chi Fu Chung**, Xiang Jun Zhang, and Po Wen Lu National Taipei University of Technology, Taiwan Abstract—In recent years, with the proliferation of wearable devices, wearable watches and wristbands capable of detecting physiological information have been considered indispensable tools of modern civilization. These wearable devices enable individuals to monitor real-time physiological data such as heart rate, blood pressure, and blood oxygen concentration to maintain their health. However, there is currently no non-invasive method available on the market for measuring blood-related information within the human body. Therefore, this study aims to investigate whether wearable devices can provide a non-invasive means of acquiring blood-related information through related signal processing algorithms and neural network models. The research is divided into three main components: the development of a non-invasive wearable device, the collection of blood information in a clinical setting, and the exploration of one-dimensional signal algorithm models. Currently, we have collected blood-related data at the hospital using our self-developed MWPPG measurement device. We have also trained artificial intelligence models for various blood

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		parameters. The accuracy rate for blood glucose is seventy percent, while for hemoglobin, platelet count, sodium ion concentration, calcium ion concentration, and total protein content, the accuracy rate is approximately sixty to seventy percent.

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