

應用力學所專題討論公告

IAM Seminar Announcement

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講 題：感測器研究簡介

Introduction to sensors

主持人：陳瑞琳教授

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摘要

The **Tzu-En Lin Laboratory (TEL Lab)** at National Taiwan University is a premier hub for the development of high-performance, next-generation sensors. The lab's research centers on the architectural engineering of **two-dimensional MXene-based nanomaterials** to create sensors with unprecedented sensitivity and mechanical resilience. By leveraging the high metallic conductivity and hydrophilic surface of MXenes, the lab fabricates specialized structures including **MXene nano-cellulose fiber membranes**, conductive aerogels, and 3D-printed hydrogels.

These sensors are specifically designed for the **Healthcare 4.0** landscape, focusing on "Bridging Sensing and Prediction" through physical hardware. The TEL Lab excels in developing multi-modal sensors capable of detecting subtle physiological signals and large-scale human motions via advanced pressure and strain sensing mechanisms. To address the global challenge of e-waste, the lab prioritizes **sustainable electronics**, utilizing biodegradable substrates like bamboo-derived cellulose. This ensures that the lab's cutting-edge wearable devices remain eco-friendly while providing continuous, real-time health monitoring.