



THE CHINESE UNIVERSITY OF HONG KONG
Department of Electronic Engineering
Seminar

Advances in THz in vivo imaging of skin

Prof. Emma MacPherson
Professor
Warwick University, UK

Date: 26 Sept 2023 (Tuesday)

Time: 2:00 p.m.

Place: Rm 222, Ho Sin Hang Engineering Building, CUHK

Abstract

Professor MacPherson has worked in THz imaging for over 20 years and conducted some of the first in vivo THz measurements while at Cambridge University. She joined CUHK in 2006 and set up a THz group which developed devices and techniques for speeding up THz imaging and improving accuracy. Now a Professor at Warwick university, UK, she has demonstrated how THz sensing can be used to quantify changes in skin hydration. This talk will present many of the advances she has made in THz in vivo sensing, and will show her recent work towards incorporating THz with robotics.

Biography

Having completed her PhD in Physics at Cambridge in 2005, she worked for TeraView Ltd as a Medical Scientist until moving to Hong Kong in 2006. Prof MacPherson set up a terahertz laboratory at the Department of Electronic Engineering, Chinese University of Hong Kong (CUHK) in 2007. She has been on the International Organising Committee for the Infrared and Millimeter Wave and Terahertz Wave (IRMMW-THz) conference series since 2009 and was the General Conference Chair of the 2015 IRMMW-THz conference held at CUHK. In 2017 Prof MacPherson won a Wolfson Merit award to support her return to the UK at Warwick University, and joined the Ultrafast Photonics group in the Physics department as a Reader in October 2017 and she was promoted to Professor in 2021. Prof MacPherson is PI of the £8M EPSRC Programme grant, "Terabotics" which is combining advances in THz technology and surgical robotics. Her research has featured on Sky news international TV (Prof. Emma MacPherson talks to Sky News International about her skin cancer research: <https://vimeo.com/757511937/c9a3e8cbd7>).

***** ALL ARE WELCOME *****

For enquiries: Prof BLU Thierry Albert Jean-Louis (tblu@ee.cuhk.edu.hk), Tel: 3943 8288