

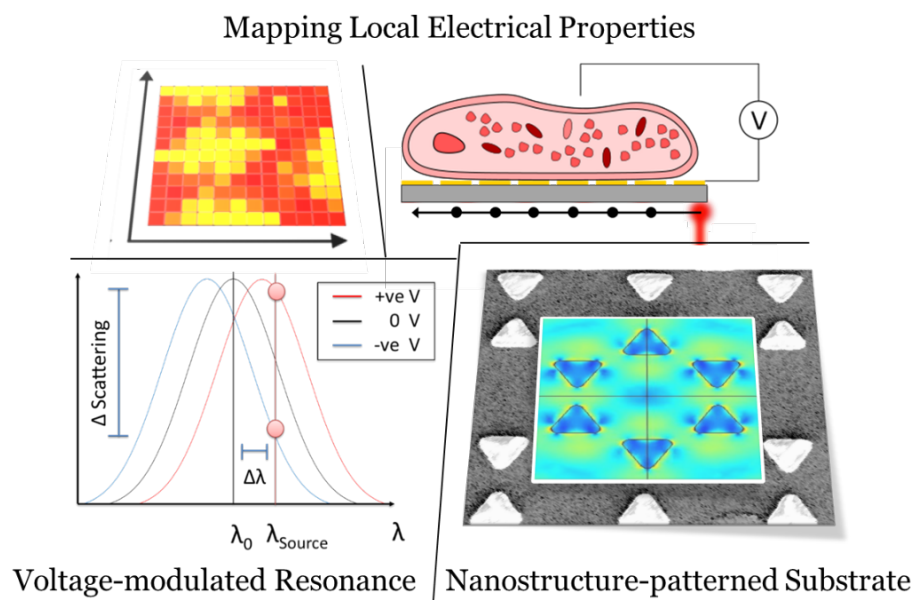
Autumn
2023

Optics & Photonics Group Lunchtime Seminar Series

University of Nottingham

Plasmonic nanostructures and the high resolution imaging of electrical impedance

Finlay Nelson
University of Nottingham



13:30 Wednesday 6 December 2023
Life Sciences Building - B3



Finlay
Nelson

Plasmonic nanostructures and the high resolution imaging of electrical impedance

It has long since been understood that electricity is a key determinant of biological activity; an essential ingredient for life that governs most everything we do. Our understanding of it, however, has at every stage been limited by the quality of information available and the precision with which it can be measured. Now, having routinely achieved spatial resolutions at the level of a single cell, a technological step-change is in order to peek behind the curtain and stretch the bounds of electrophysiological investigation. Such a revolution is made possible by the unique interaction of certain materials with light, providing an entirely optical means by which to image the electrical properties of cells at length scales hitherto unseen. The localised surface plasmon resonance (LSPR) impedance microscope discussed in this talk, based on such plasmonic phenomena, offers a route to unparalleled clarity concerning the detailed function of cells, their response to chemical/environmental stimuli, and crucially the mechanisms underpinning disease and pathophysiology.

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All are welcome



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