

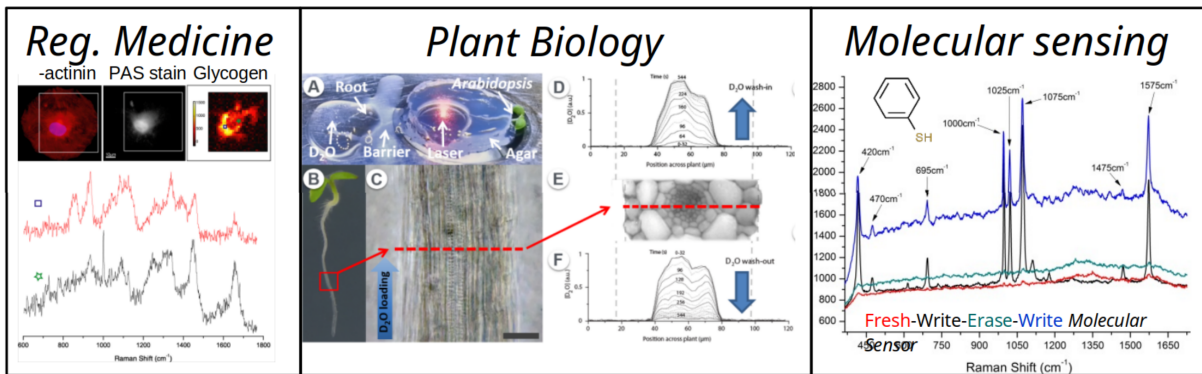


Optics and Photonics Group Lunchtime Seminar

“Raman Spectroscopy a Label-free bio-photonic tool; from stem-cells to plant biology to molecular sensing”

Dr Flavius C. Pascut

Optics and Photonics Group



13:30 Wednesday 10 May 2023
Coates Building - C24
All Welcome

http:

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MS Teams link

Since its discovery by Raman and Krishnan in 1926, the Raman effect has enjoyed an explosion of new applications. The past 30 years in the Raman spectroscopy history are perhaps the most exciting for biology with the demonstration of the first Raman application on live cells by Puppels in 1990. Since then, a plethora of new applications have emerged that demonstrate the true potential of Raman technology in biology. This talk will showcase three beautiful examples where Raman spectroscopy shines as a tool in Regenerative Medicine - in-vitro differentiation of stem cells inside micro-bioreactors under physiological conditions while detecting biomolecular changes taking place inside intact embryoid bodies during cardiogenic differentiation; Plant Biology - monitoring hydrodynamics within living root tissues by imaging of water-transporting through xylem vessels in *Arabidopsis thaliana*; and Molecular sensing - novel nano-porous re-writable substrates for the sensitive detection of low concentrations of target analytes.