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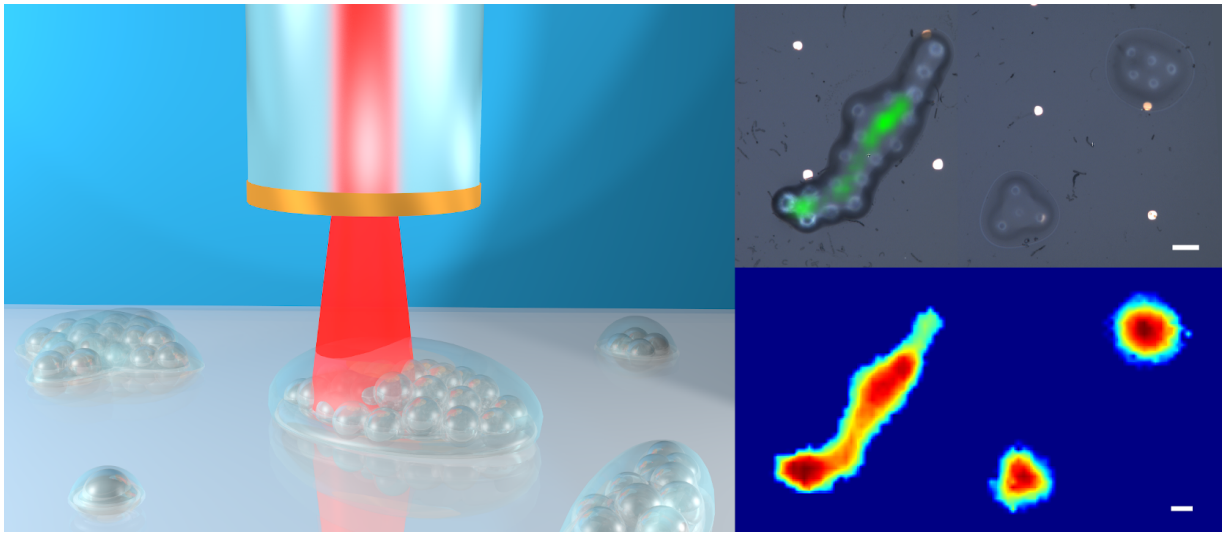
OPTICS & PHOTONICS
UNIVERSITY OF NOTTINGHAM

Optics and Photonics Group
Lunchtime Seminar

"Imaging through optical fibres for hair-thin endo-microscopes"

Salvatore La Cavera III



1330 Wednesday 09/03/2022
C24 Coates building
All Welcome

Add to Calendar

http://optics.nottingham.ac.uk/wiki/Talks_2022

“Imaging through optical fibres for hair-thin endo-microscopes”

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MS Teams link

Optical fibres have revolutionised clinical practice in the form of the optical endoscope, and are now providing the framework for an entirely new endoscopic paradigm: all-optical acoustics. Here we present the development of a novel endoscopic fibre-device that uses coherent acoustic phonons to probe microscopic environments. Phononic imaging provides new benefits to endoscopy, such as label-free contrast, access to super-optical resolution using the phonon wavelength, and sensitivity to the elastic properties of specimens through the effect of Brillouin scattering. We demonstrate 3D imaging with optical lateral resolution, nanometric axial resolution, and compatibility with biological cells towards future in vivo diagnostics.