

GLASGOW PUBLIC LECTURE SERIES

Organised by the Institute of Physics in Scotland in collaboration with Glasgow University Physoc and Astrosoc



Seeing with Atoms

Prof Paul Dastoor University of Newcastle and University of Cambridge

Thursday May 9th 2019, 6.30pm Room 257, Kelvin Building, University of Glasgow

Imaging is the key to discovery in science and yet conventional microscopes can damage delicate materials and devices; altering the very structures that they are trying to see. However, the scanning helium microscope (SHeM) opens a new window on science; providing for the first time completely non-damaging imaging using beams of neutral helium atoms.

This talk will explain the importance of microscopy in science and descibe how the development of the SHeM revolutionises the imaging of delicate materials (such as biological samples) and the potential for damagefree microscopy to impact society. The presentation will also highlight the importance of international collaboration in science and its role in the development of new technology.



Figure: SHeM images of dorsal skin from a female Port Jackson shark. (a) A ca. 3 x 4 mm section of skin, including several dermal denticles protruding out of the underlying surface. Scale bar 1 mm. (b) Zoomed region of the same area of tissue. 3D SHeM imaging was used to measure the heights of the denticles. Scale bar 500 μ m. (c) Micrograph of single denticle. Scale bar 250 μ m.



Paul Dastoor is a Professor in Physics in the School of Mathematical and Physical Sciences and the director of the Centre for Organic Electronics at the University of Newcastle in Australia. He received his B.A. degree in Natural Sciences from the University of Cambridge in 1990 and his PhD in Surface Physics, also from the University of Cambridge, in 1995. After completing his doctorate he joined the Surface Chemistry Department at British Steel in 1994 before taking up his present appointment at the University of Newcastle in 1995.

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How to find us

The Kelvin Building, School of Physics and Astronomy, is on the main University Campus.

Free Parking is available on University Place. You can find the Kelvin Building on a campus map at: <u>http://www.gla.ac.uk/media/media 1887 en.pdf</u>