



Cambridge Society for the Application of Research

Churchill College
Storey's Way
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Holographic Technology

Do we really need pixels?

Dr Tim Wilkinson
Reader in Photonic Engineering, Department of Engineering
University of Cambridge

7.30 p.m., Monday 10th May, 2010
The Wolfson Lecture Theatre, **Churchill College**, Storey's Way, Cambridge

About the Lecture:

Dr Wilkinson writes:

"Computer-generated holograms have been a means of manipulating light for over 30 years; however it is recent developments in liquid crystal over silicon VLSI technology that has allowed them to become a commercial reality. In this presentation, I shall give an overview of how these holograms work. I shall then review activities at Cambridge in computer-generated holography over the last 10 years. This will include work on all-optical reconfigurable switches for telecommunications through to the recent commercial successes of holography for 2D and 3D projection display systems. I will also be looking into the future of this technology and the possible impact it may have on the fundamental concept of images, pixels and resolution."

About the speaker

Tim Wilkinson is an undergraduate of Canterbury University, New Zealand and gained his PhD from Magdalene College Cambridge. He is currently a Reader in Photonic Engineering in the Engineering Department of Cambridge University, a member of the CMMPE group and a Fellow of Jesus College. He has been working in the field of photonics, holographic technology, devices and applications for over 19 years. This includes new liquid crystal device structures based on arrays of vertically grown multiwall carbon nanotubes and graded refractive index structures which have applications such as switchable lenslet arrays and 3D displays/sensors.

The Organising Secretary adds....

Look at the CMMPE (Centre of Molecular Materials for Photonics and Electronics) website for the gamut of phenomena and devices into which its people carry out research.

Dr Wilkinson is involved in much of it.

(http://www-g.eng.cam.ac.uk/CMMPE/research_devices.html)

Some members may recall a stunning CSAR lecture on organic light-emitting diodes (OLEDs), delivered by Dr David Fyfe (now a member of the CSAR Council) back in 2001. His firm has commercialised OLEDs, which were discovered at the Cavendish. Some cameras and phones now use OLEDs in their displays; they are very economical on power (and produce lovely colours). See <http://www.cdtltd.co.uk/technology/36.asp> for more.

I hope that Dr Wilkinson's lecture will, in the same way, show us what is on, or just over, the horizon in display technologies.

Tea, Coffee and Biscuits will be available in the Foyer outside the Wolfson, as usual; but please remember **this is 'quiet period' for the college**. Undergraduates are revising for their exams, so please chatter and clatter quietly.

Best Regards
Richard Freeman
Organising Secretary

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