



## *Distinguished Speaker Series*

# Watching and Controlling Single Molecules in nm-scale Plasmonic Cavities

**Speaker: Professor Jeremy J. Baumberg**

NanoPhotonics Centre, Cavendish Laboratory  
University of Cambridge, UK



**Time:** 3:30-5:00 pm, Wednesday, April 6<sup>th</sup>, 2016

**Location:** Lecture Hall C302,  
New Science Building

**Abstract:** Coupling between plasmonic nano-components generates strongly red-shifted resonances combined with intense local field amplification on the nanoscale. This allows directly seeing molecules as well as excitations in semiconductors. We have recently explored plasmonic coupling which can be tuned dynamically, through reliable bottom-up self-assembly. The crucial aspect of these systems is the extreme sensitivity to separation, and how quantum tunneling starts to be directly seen at room temperature in ambient conditions. We recently demonstrated how quantum plasmonics controls the very smallest space that light can be squeezed into.

**Bio:** Prof. Jeremy J. Baumberg, FRS, has extensive experience in developing optical materials structured on the nano-scale and also directs the Cambridge Nano Doctoral Training Centre. Together with strong experience with Hitachi, IBM, and spin-offs led to Royal Society Rumford Medal (2014), IoP Young Medal (2013), Royal Society Mullard Prize (2005), the IoP Charles Vernon Boys Medal (2000) and the IoP Mott Lectureship (2005).

