Chemistry Departmental Seminar

Dr Sam Stranks

University of Cambridge

Thursday 24 October

4.00 pm, Physics Lecture Theatre, Science Concourse

‘Understanding Charge-Carrier Recombination in Halide Perovskites for Photovoltaic and Light-Emission Applications’

Solar cells and light-emitting diodes (LEDs) incorporating halide perovskites are rapidly emerging as serious contenders to rival the leading technologies. Here, I will give an overview of some of our key photophysical findings to advance understandings of optoelectronic behaviour of the perovskite materials and operation of state-of-the-art devices. I will identify avenues towards eliminating power losses by focussing on the the relationships between nano-scale optoelectronic, chemical and structural properties of these materials. Understanding these properties is key to further development of the field and to bringing the perovskite technology to commercialisation.

Biography

Sam Stranks is a University Lecturer in Energy and Royal Society University Research Fellow in the Department of Chemical Engineering & Biotechnology and the Cavendish Laboratory, University of Cambridge. He obtained his Dphil (PhD) from the University of Oxford in 2012. From 2012-14 he was a Junior Research Fellow at Worcester College Oxford and from 2014-16 a Marie Curie Fellow at MIT. He established his research group in 2017, with a focus on the optical and electronic properties of emerging semiconductors for low-cost electronics applications.