

The Graham Lecture

Shedding light on biological time: a new understanding of the eye

Professor Russell Foster



7.30 p.m 30th March, 2016
Main Lecture Theatre, (3.25)
John Anderson Building
University of Strathclyde



Biography

Russell Foster is Professor of Circadian Neuroscience, he heads the Department of Ophthalmology and is Director of the Sleep and Circadian Neuroscience Institute (SCNi) at the University of Oxford. His research is focused upon how circadian rhythms and sleep are generated and regulated by light, and what happens to health when these systems are disrupted.

Abstract

Until recently it seemed inconceivable to vision biologists that there could be an unrecognised class of photoreceptor within the eye. After all, the eye was the best understood part of the nervous system. One hundred and fifty years of research had explained how we see: Light is detected by the rods and cones and their signals are assembled by inner retinal neurones before advanced visual processing in the brain. This representation left no room for an additional class of photoreceptor. However, we now know that the rods and cones are not the only photosensory neurones of the vertebrate eye. There exists a “third” class of photoreceptor based upon a group of “photosensitive retinal ganglion cells” (pRGCs). The unearthing of the pRGCs, the critical role they play in regulating sleep and circadian rhythms, and how this discovery has redefined our understanding of blindness in clinical ophthalmology will all be considered in this presentation.

<http://www.ox.ac.uk/research/research-in-conversation/healthy-body-healthy-mind/russell-foster>

<http://www.royalphil.org>