DEPARTMENT OF ENGINEERING SCIENCE

Mini-lectures

Wednesday 10 May 2017 from 2.30pm
Thom Building, Parks Road, Oxford OX1 3PJ

The Queen's Anniversary Prizes
For Higher and Further Education
2015

UNIVERSITY OF OXFORD

'Network Complexity and the Internet of Things'

Speaker: Associate Professor Justin Coon, University of Oxford

The evolution of wireless communication technology over the past two decades has led to severe engineering challenges concerning interference and network densification. As we begin to embrace the Internet of Things (IoT) paradigm, these challenges are sure to grow. Indeed, it is predicted that connection densities will surpass one million per square kilometre in the near future, largely owing to the deployment of IoT networks and services. Yet, relatively little has been done to quantify the growing complexity of these networks, and the subsequent implications that this growth will have on network performance.

In this talk, I will explore the issue of complexity in the IoT from a fundamental perspective and provide some insight into what this means for practical deployments in the future.

'Wireless Communications Using Light'

Speaker: Professor Dominic O'Brien, University of Oxford

The demand for wireless communications is growing exponentially, and the radio spectrum required to meet this demand is increasingly crowded, leading to predictions of a 'spectrum crunch'. Using light for wireless transmission is an attractive alternative. Optical wireless can offer access to almost unlimited spectrum, albeit with many implementation challenges.

In this lecture I will introduce the field, the challenges, and the promise for the future of this area of research.

The Department of Engineering Science is grateful to the Trustees of the Lubbock Trust for their generous support of this event.