Professor Jon Cooper

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Abstract

'Lab-on-a-Chip as a Tool In the Biomedical Sciences'

The growing need for accurate and fast methods of DNA, protein and cell based assays in the post-genome era has generated considerable interest in the development of new microfluidic analytical platforms, fabricated using methods adapted from the semi-conductor industry. This talk will explore the development of new Lab-on-a-Chip platforms for such measurements, using microfluidics as a packaging technology in order to enable advances in micro- and nanoscale science to be implemented. Particular emphasis will be placed on a series of new sensor formats, including recent development in cell based assays and diagnostic sensors. In particular, the talk will show how system-on-a-chip methods can also be integrated with Lab-on-a-Chip devices to create remote and distributed intelligent sensors, which can be used in a variety of diagnostic applications, including for example remote biosensing within the GI tract.

Speaker Biography

Professor Jon Cooper

Professor Jon Cooper's research is in the field of Bioelectronics and Bioengineering in the Department of Electronics at the University of Glasgow. He has developed a range of technologies associated with Lab-on-a-Chip (including areas as diverse as bionanotechnology, microfluidics, surface analysis, biochip fabrication and development, instrumentation, modelling and cell based assays). He has been closely involved in the commercialisation of a number of these technologies associated with this field, including for example Lab-on-a-Pill technologies and new tools for drug discovery. Professor Cooper was elected as a Fellow of the Royal Society of Edinburgh in 2001 and a Fellow of the Royal Academy of Engineering in 2004. His work has been recognised by his appointment as The Wolfson Chair of Bioengineering in 2008. He has given invited lectures at many leading conferences and has published ca. 145 papers in the field.