CBC SEMINAR ANNOUNCEMENT

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New Technological Approaches to Blood Coagulation Monitoring

New technologies, particularly point-of-care diagnostic devices have had a significant impact on the management of chronic health conditions, such as diabetes. Several approaches based on sensors have been developed for measuring a range of biological markers of disease, many of which are adaptations of laboratory-based assays. These have focused on the use of enzyme-based sensors, or affinity-based devices based on protein (e.g., antibodies) or nucleic acid (e.g., DNA) interactions.

One area of disease management has been less studied. Haemostasis is the body’s mechanisms to prevent bleeding. Imbalance in this process can lead to excessive bleeding, or excessive clotting, and can cause significant morbidity and mortality. Most testing is still performed in the hospital laboratory. However, moving testing to point-of-care could assist disease management very significantly.

In this presentation, I will detail some of the challenges associated with both bleeding and thrombotic disorders, and present some of the approaches my research has taken to developing novel point-of-care tests and devices to address some of these challenges, including lateral flow technologies, QCM approaches, and, most recently, the development of paper-based devices for use in low resource economies.

Biography
Tony has been Professor of Biomedical Sciences at the University of the West of England for almost 10 years. His main area of teaching is in haematology. However, his research is predominantly bioanalytical in nature. He completed his PhD in Dublin City University in 1998 for Prof. Richard O’Kennedy developing engineered antibodies, and then worked with Prof. Malcolm Smyth to develop novel electrochemical analytical techniques. In the last decade, he has focused on the development of diagnostic technologies, and the use of low cost, mass production approaches such as screen and inkjet printing, other microfabrication approaches. He has spent time in both industry and academia and is very active in the commercialisation of research.