

Professor Hilary Humphreys granted HRB/SFI Award to research healthcare-associated infections

Professor Hilary Humphreys, RCSI Department of Clinical Microbiology and Dr Stephen Daniels from Dublin City University were recently successful in a joint bid to the Health Research Board (HRB) and Science Foundation Ireland (SFI) for funding to enhance the detection of environmental reservoirs of healthcare-associated infections (HCAI).

HCAI affect between 5-10% of patients admitted to an acute hospital. These are serious for patients, sometimes resulting in death, and are costly to the health service. There is a growing body of evidence indicating the hospital environment acts as a reservoir for HCAI as these pathogens have adapted to survive there. Consequently, there is a need for novel approaches to eradicating pathogens from the hospital environment as a measure to prevent and control HCAI.

Through this research award, Prof Humphrey and Dr Daniels aim to enhance the detection of environmental reservoirs of Healthcare-associated infections (HCAI), including MRSA, *Clostridium difficile* and other pathogens, and to use gaseous plasma, an exciting option for environmental decontamination, in eradicating hospital reservoirs of HCAI. Current decontamination processes are not ideal, either because they rely on high temperatures or potentially toxic chemicals, or some components of the hospital environment are not readily accessible to regular and effective decontamination.

This three year research programme will explore optimal methods for the detection of causes of HCAI in the hospital environment and apply a prototype gaseous plasma system to environmental decontamination. The initial phase of the research programme will be largely laboratory based but towards the latter part of the research period, a trial will be undertaken in a hospital environment to enhance current environmental decontamination strategies. Finally, the involvement of the researchers with industrial partners, and the application of gaseous plasma at home and abroad through collaborators, has significant potential commercial benefits.