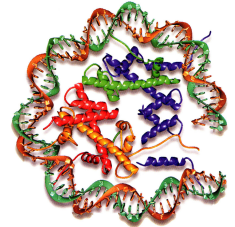


## ***PhD Program in Molecular Biomedicine***

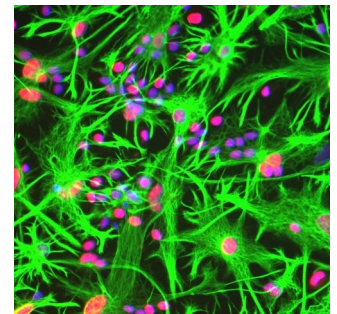
**November 29, 2018 - 9:00**

Seminar room, I floor, Q Building – Via Giorgieri 5



**Dr. David H. Edwards**

*(University of Dundee Dental School,  
Dundee, UK)*



### **The investigation of a oral bacteria in the development of cancer**



The role of oral bacteria in systemic human infections is well established. Oral Streptococci are known to be a major cause of infective endocarditis, while some of the more aggressive pathogens such as *Porphyromonas gingivalis* have been implicated in a range of diseases that include pancreatic cancer. The genera *Fusobacteria* consists of a number of animal and human pathogens that historically have been linked to diseases of the head and neck. Research on *Fusobacteria nucleatum* has revealed a role for this Gram-negative anaerobic micro-organism in still births and a subset of colon tumours. Our work has focused on the understanding the comparative infectivity of different sub-species of *F. nucleatum* and analysing the role of specific proteins that alter human cell signalling pathways. The use of standard infection assays and a systems level protein analysis methodology, Digiwest, has provided insights into the virulence of different sub-species. We have also observed a diverse set of responses in an oral cancer cell line challenged with three different *Fusobacteria* surface proteins. An understanding of how oral bacteria influence human health, and the molecular dissection of the processes involved should provide a better understanding of this emerging human pathogen.

