



What can Tissue Engineering tell us about the biology of the cornea?

Speaker: Che Connon, Professor of Tissue Engineering, Institute of Genetic Medicine, Newcastle University

When: 4pm on Friday 8th of February 2019

Where: B2.36 - B2.38, Trinity Biomedical Sciences Institute

Recreating or engineering a functional tissue requires the development of new materials and new approaches to control and direct cell growth. Thus novel numerous biomaterials have been recently developed to address this need. However, the cells response to these materials or growth conditions may also feedback into increasing our understanding of how the tissue actually works in nature. Within this seminar I will give a couple of examples of how our understanding of the corneal biology has been improved by the application of modern biomaterials and culture techniques when used to create a tissue engineered cornea.



Che Connon obtained his PhD in Biophysics from the Open University Oxford Research Unit in 2000, during which time (under the supervision of Professor Keith Meek) he investigated corneal wound healing and transparency. He subsequently obtained a JSPS post-doctoral fellowship to work with Professor Shigeru Kinoshita in Kyoto, Japan for two years studying corneal stem cell transplantation. Upon his return to the UK he was awarded a Royal Society Fellowship to investigate the use of biomaterials in stem cell therapies. He obtained his first permanent position in 2007 at University of Reading, School of Pharmacy and since 2014 he has held the position of Professor of Tissue Engineering at Newcastle University.

Professor Connon's research team seeks to engineer functional replacement and temporary 'bridge' tissues using a modular approach while also developing model systems to study physiological and pathophysiological corneal tissue formation. He is currently working with smart (cell responsive) biomaterials, characterizing the mechanical and geometric environment of the corneal stem cell niche and 3D printing the corneal stroma. Professor Connon has received continuous UK government research funding since 2007 and has published over 70 papers in international journals and has edited several books in corneal regenerative medicine, stem cell bioprocessing and hydrogels in tissue engineering.

Professor Connon has embraced academic entrepreneurial activities and has successfully founded Atelerix. Ltd a company that supplies hydrogels for the storage and shipment of cells at controlled room temperature for clinical and scientific purposes. And is in the process of spinning out a further two companies from Newcastle University (3D Bio-Tissues Ltd and CellulaREvolution Ltd)

Professor Connon has a wife, Joanna, and two children, Tobias and Scarlett aged 13 and 11 and a Corgi-Jack Russell crossbred dog named Louie (age unknown). They all live, more or less happily, in the coastal village of Cullercoats, outside of the city of Newcastle in the North East of United Kingdom.