



November 16th (Mon), 2015, 13:30 - 14:30

Meeting room 3, Bldg.4

“Towards better biomaterials”

Dr Gavin Jell

Division of Surgery & Interventional Science, University College London

Talk summary: With an aging and more active population there is an increasing need for “better biomaterials”. Society needs biomaterials that don’t wear, don’t fail and have desirable biological interactions (e.g. to promote tissue regeneration). Technological advances in material science and a greater understanding of regenerative approaches in the body, have greatly broadened the potential of biomaterials in medicine (for example in; targeted pharmaceutical delivery, for the recruitment and directed differentiation of stem cells and to promote new tissue formation). For these advances to become a reality a number of obstacles need, however, to be overcome, including a better understanding of what happens at the material-biological interface. This talk highlights the need for better biomaterials, the potential of biomaterials in medicine and addresses some of the challenges that face the development and translation of new “better biomaterials”.

About Speaker:

Dr Gavin Jell is a lecturer in Nanotechnology & Regenerative Medicine at the University College London (UCL) and Programme Director for an MSc in Nanotechnology and Regenerative Medicine (UCL). His research focuses on understanding how materials interact within biological environments, to create novel materials that can promote desirable cellular responses by; 1) preventing biomaterial fibrotic encapsulation and 2) promoting tissue regeneration (e.g. by creating hypoxia inducing factor regulating materials). He’s published highly cited papers on these topics in leading international journals (e.g. Nature Materials) and advanced the commercialization of science through patent generation (e.g. WO/2009/144453). He is a cross-disciplinary scientist with a background in biology (BSc in Biology, MSc in Parasitology), a PhD in biomedical materials and post-doctoral posts at Imperial College (London) in bioceramic and tissue engineering research (with Prof. Larry Hench and Prof. Molly Stevens). He uses this multi-disciplinary background to enable a cross-disciplinary approach to understand material-cell interactions and characterize new tissue formation.

Dr Jell is also passionate about communicating science to the public and inspiring the next generation of scientists. He is the senior scientific advisor a Wellcome Trust Society grant for the development of a cross-media platform comic series ([Surgeon X](#)) that explores the future of surgery in society. His views on medical research have been reported in national newspapers (e.g. [Daily Mail](#) 2015) and he has been involved with numerous outreach programs (e.g. STEM NET, “In2scienceUK scheme”). Gavin is also the Division of Surgery graduate tutor, has initiated number of graduate teaching programmes within the Division and teaches on a wide range of regenerative medicine related topics including; cell-material interactions, nanotechnology in tissue engineering, nontoxicity, bone and cartilage tissue regeneration, angiogenesis and stem cells.

Dr Jell is also proud to be an Associate Prof. Biomaterials at Nagoya Institute of Technology (and is looking forward to continuing the successful collaborations with Prof. Kasuga and furthering the research agreement (including staff/student exchange) between our institutions.