

Challenge 16 Virtual Infectious Disease Research

The use of virtual information and tools to enhance disease modelling and new target development

Member Name	Organisation	Expertise
Tom MacDonald (Chair)	Barts & the London School of Medicine & Dentistry	Gastrointestinal tract immunology - T cell, inflammation, inflammatory bowel disease, allergy, signalling, immune regulation, gut epithelium
Roman Lukaszewski	Defence, Science & Technology Laboratory	The diagnosis of infectious disease, host-pathogen interactions and mathematical modelling of infection
Clare Bryant	University of Cambridge	Innate Immunity; Role that pattern recognition receptors play in the immune response generated against infection. Use of mathematical models and physical techniques to explore how bacteria infect cells
Steven Webb	University of Liverpool	Mathematical and systems biology, particularly modelling cell-cell interactions, pharmacology, cancer, computational cell biology and infectious diseases; Computational and mathematical techniques ranging from individual based models, correlation equations, stochastic moment closure systems to ordinary and partial differential equations and numerical analysis
Fiona Tomley	Royal Veterinary College	Biology and control of protozoan parasites that cause disease in livestock, especially poultry. Interaction of parasites with the host. Eimeria genomics, transcriptomics, proteomics and reverse genetics. Sustainable poultry production and global food security. Livestock health and infectious disease
Marcus Tindall	University of Reading	Mathematical modelling in cardiovascular cell biology, lipoprotein metabolism, genetic regulation and protein-protein interaction pathways, bacterial chemotaxis, tumour growth; Multi-scale modelling; Synthetic Biology
Bill Dawson	Bionet Ltd	Drug Discovery, lifesciences, pharmacology, pharmaceuticals, technology transfer and clinical development