



**QUEEN'S
UNIVERSITY
BELFAST**

**WELLCOME-WOLFSON
INSTITUTE FOR
EXPERIMENTAL MEDICINE**

**Kenneth B. Fraser Memorial Symposium
"Inflammation and Infection"**

**Wellcome-Wolfson Institute for Experimental Medicine
School of Medicine, Dentistry and Biomedical Sciences
Queen's University Belfast**

Date: 3rd of June 2020

Preliminary Programme: Speakers' profiles

Prof. Josef Penninger, Director of the Life Sciences Institute, University of British Columbia, Vancouver, Canada

He is a world-class research leader in cellular and molecular biology. Prof. Penninger's research focus on developing new and effective treatments for diseases by uncovering the fundamental biological principles underlying development and disease. To accomplish these goals his group develops and deploys a broad range of *in vitro* and *in vivo* tools that reveal the fundamental mechanisms involved in human disease. These approaches include genetic editing *in vitro* and *in vivo*, human induced pluripotent (iPS) cell models of disease, haploid cells for genetic as well as compound screening paradigms, mouse and human organoid cultures, as well as genetically engineered mice. Our multidisciplinary techniques enable us to model and study the complexity of diseases spanning from cancer to inflammatory and infectious diseases. (<http://lsi.ubc.ca/person/josef-penninger/>)

Prof. Ruth Massey, School of Cellular and Molecular Medicine, University of Bristol, UK

The Massey Lab is interested in understanding the means by which major human pathogens cause disease, with a primary focus on the Gram-positive organisms *Staphylococcus aureus* and *Streptococcus pneumoniae*. Her group studies how these bacteria cause damage to their human hosts at both population and molecular levels, interrogating these species for genetic features that associate with more severe patient outcomes following infections. (<http://www.bristol.ac.uk/cellmolmed/people/massey/>)

Prof. Brendan Gilmore, School of Pharmacy, Queen's University Belfast

His group investigates mechanistic and biochemical pathways central to the process of microbial biofilm formation and to uncover novel targets for prevention of microbial biofilms particularly 'druggable' protease targets; spanning medicinal chemistry, microbiology, chemical biology, and synthetic chemistry directed toward antimicrobial and anti-biofilm applications. This research has already yielded promising lead antimicrobial and quorum sensing inhibitory compounds, novel proteases and other enzymes relevant to API synthesis.

Dr. Anna Krasnodembskaya, Centre for Experimental Medicine, Queen's University Belfast

Her research group works with Mesenchymal Stem Cells (MSC) with the particular focus on the MSC based cell therapy for Acute Respiratory Distress Syndrome (ARDS). ARDS constitutes a spectrum of severe acute respiratory failure and is leading cause of morbidity and mortality in critically ill. Her central goal is to understand how MSC work in the context of the injury microenvironment, how MSC modulate reparative capacities of the host cells and if we can enhance MSC therapeutic potential.

Dr. Andriana Margariti, Centre for Experimental Medicine, Queen's University Belfast

Dr. Margariti has developed significant expertise in stem cell biology, with particular emphasis on cell reprogramming, chromatin remodelling, cell signalling and endothelial cell biology. Her research group focuses on cell reprogramming and induced pluripotent stem (iPS) cell technologies and has developed patient-specific cells lines from diabetic donors based on fast and highly efficient approaches, which have applications in novel clinical treatments for diabetic retinopathy and other chronic diseases.

Prof Miguel A. Valvano, Centre for Experimental Medicine, Queen's University Belfast

His research involves an interdisciplinary approach using molecular genetics, biochemistry, cell biology, and structural biology to understand the pathogenesis of opportunistic Gram-negative bacteria at the molecular and cellular levels. *Burkholderia cenocepacia*, *Pseudomonas aeruginosa*, *Enterobacter* and *Achromobacter* species, are the primary model organisms used in different aspects of his research program and with a special focus on infections in people with Cystic Fibrosis

Please save the date