



Seroprevalence

mAb Efficacy

Vaccine Immunogenicity

Immunocompromised  
Population Protection

Emerging Viruses

# PSEUDOTYPING IN A PANDEMIC- LESSONS FOR PREPAREDNESS



CHAIR, MOLECULAR VIROLOGY,  
DIRECTOR, VIRAL PSEUDOTYPE UNIT (VPU)  
AND RESEARCH & INNOVATION,  
UNIVERSITY OF KENT



## PROFESSOR NIGEL TEMPERTON

CHAIRPERSON: ASSOCIATE PROFESSOR TAN YEE JOO

### Abstract:

In this talk I will present a series of vignettes based on the use of coronavirus pseudotype platform technologies for the study of many different facets of the COVID pandemic. This includes application to seroprevalence, vaccine immunogenicity and VOCs, mAb efficacy, WHO antibody standards, immunocompromised population protection, correlation with live virus, electrostatic precipitation and seasonal coronaviruses. The “once in a lifetime” opportunity to establish and roll out this technology to multiple national and international stakeholders during an unfolding global pandemic presents a framework for application to other viruses of pandemic potential including Disease X.

### Biography:

Nigel obtained his BSc in Microbiology and Genetics from University College London (UCL) in 1990 and an MSc in Applied Molecular Biology of Infectious Diseases (1992), PhD in Molecular Parasitology (1999) and DLSHTM (2000) from the London School of Hygiene & Tropical Medicine (LSHTM). After his PhD, he returned to UCL as a post-doctoral scientist in the Division of Infection and Immunity. In 2009 Nigel was elected as a member of the highly prestigious Medical Research Club and set up his own research group at the University of Kent. He is currently Chair and Professor in Molecular Virology, Director of the Viral Pseudotype Unit (VPU) and Director of Research and Innovation. His R&D focus is on the exploitation of retroviral vectors as serological antigens for high-throughput, sensitive neutralisation assays for emerging viruses, with particular focus on influenza and the coronaviruses. Nigel is a Fellow of the Royal Society of Biology (FRSB), Senior Associate Member of the Royal Society of Medicine (RSM), Member of the International Society for Influenza and other Respiratory Virus Diseases (ISIRV), the Microbiology Society and the European Society for Virology (ESV). He has published over 200 articles with an h-index of 53, >14k citations (ORCID: 0000-0002-7978-3815). Nigel acts as external consultant for VisMederi (Italy) and RQbio (UK) and in 2024 founded a pseudotype consultancy company, VPUbio Limited.