

BSMT Annual Microbiology Conference 19th July 2022

The Genomic and Microbiology Revolution: in Technology we Trust?

Moderator profiles

Dr Kate Templeton, Consultant Clinical Scientist, RIE and Honorary Senior Lecturer in Medical Microbiology



Kate Templeton, PhD, Consultant Clinical Scientist in Microbiology, Royal Infirmary Edinburgh, Honorary Senior lecturer in Medical Microbiology, University of Edinburgh

Dr Kate Templeton is a Consultant Clinical Scientist in Microbiology in the Royal Infirmary Edinburgh and is an honorary Senior lecturer in Medical Microbiology at the University of Edinburgh. Her main focus is on clinically useful molecular diagnostics and molecular epidemiology and has several current research grants as well as collaborations with diagnostic companies on developing new molecular assays for diagnosis across pathology. She has previously worked on an EU project in Leiden the Netherlands for 5 years. In 2006 and 2016 she was given awards from the European Society for Virology for her original contributions in the area of viral diagnosis.

Outside professional life, she is former international rower and Member of the British Olympic team for rowing in 1995-6. She is a mother of 2 children and married to Richard, who runs a B&B from home.

Kate is the President of the BSMT.

Professor Brian I Duerden CBE, BSc, MD, FRCPath, FRCPEdin



Professor Brian Duerden, Emeritus Professor of Medical Microbiology at Cardiff University.

Professor Duerden qualified in medicine and microbiology at the University of Edinburgh in 1972. He was a Lecturer in Medical Microbiology in Edinburgh (1973-76) and in Sheffield University Medical School (1976) where he became Senior Lecturer (1979) and then Professor of Medical Microbiology from 1983. He was also Consultant Medical Microbiologist to the Sheffield Children's Hospital. In 1991 he moved to the Chair of Medical Microbiology in the University of Wales College of Medicine, Cardiff, and the Directorship of the Cardiff Public Health Laboratory.

Brian has also acted as the Deputy Director and Medical Director of the PHLS (England and Wales) from 1995 and was appointed Director of the PHLS in August 2002 until it became part of the Health Protection Agency in April 2003. In the HPA, he was Director for Clinical Quality until moving to the Department of Health in January 2004 as Inspector of Microbiology and Infection Control and Clinical Director for the HCAI programme. He retired from DH at the end of 2010 but continued to do independent consultancies until 2015. His major interests are in anaerobic microbiology, healthcare associated infection and antibiotic resistance. He has published over 150 scientific papers, edited and contributed to several textbooks and served for 20 years (1982-2002) as Editor in Chief of the Journal of Medical Microbiology. He was awarded a CBE for services to medicine and charity in 2008.

BSMT Virtual Conference 19th July 2022

The Genomic and Microbiology revolution: in technology we trust?

Speaker profiles

Professor Paul Dark BSc MB ChB PhD FRCS FRCEM FFICM FRCA (Hon)

National Institute for Health Research, National Specialty Lead for Critical Care



Professor Dark originally studied undergraduate physics and then medicine. Graduating from The Manchester Medical School 1989, he went on to study clinical academic surgery, emergency medicine and critical care at the Universities of Glasgow and Manchester in the UK, and at the Catholic University of Leuven, Belgium. He returned to Manchester in 1998 as MRC Clinical Training Fellow and completed his PhD in 2002

He was appointed to his current substantive clinical academic post at the University of Manchester in 2003, developing clinical services and academic practice in Critical Care Medicine as Honorary NHS Consultant at Salford Royal NHS Foundation Trust. He is the National Institute for Health Research's National Specialty Lead for Critical Care and has also served on NIHR's Urgent Public Health Research Advisory Group, providing expert advice on research priority for DHSC and UK's CMOs during the COVID-19 pandemic. From April 2021 Professor Dark was appointed as NIHR National Specialty Cluster Lead at King's College London. In addition, he is Research Professor in The Humanitarian and Conflict Response Institute at The University of Manchester, providing strategic interdisciplinary collaborative leadership and translation of acute care research in low resource settings.

Professor Dark will be presenting on developing the best evidence for effective molecular diagnostic technologies in sepsis: impacts of a viral pandemic.

Dr Katie Hopkins.

Clinical Scientist, HCAI & AMR Division, National Infection Service.



Dr Katie Hopkins is a Clinical Scientist with over 15 years' experience working on antibiotic resistance and the molecular epidemiology of Gram-negatives. Initially graduating with a BSc (Hons) in Microbiology in 1997 Katie then obtained a PhD from the University of Birmingham in 2001 and now serves as the Head of the Antimicrobial Resistance & Mechanisms Service within AMRHAI.

Dr Hopkins' interests lie in the application of novel pheno- and genotypic methods for the rapid detection of antimicrobial resistance to key antimicrobials within the Enterobacteriaceae, *Pseudomonas aeruginosa* and *Acinetobacter baumannii* groups

Dr Hopkins has publishing over 125 peer-reviewed articles around this subject and will be discuss current methods and problems in testing for antimicrobial resistance.

Adela Alcolea-Medina,

Clinical Scientist Microbiology, Guys and St Thomas' Hospital, Viapath



Adela Alcolea-Medina qualified in Pharmacy in 2003 at Universidad de Valencia, Valencia Spain and then specialised in Clinical Microbiology and Parasitology. In 2008 she obtained an MPhil at the Universidad Complutense de Madrid and worked in Spain as a Consultant Clinical Scientist before moving to the UK. Alcolea-Medina obtained her PhD with Kings College in London and currently works as a Clinical Scientist at Guy's and St Thomas' in the fields of NGS and Mycobacteria with a specific interest in implementing the use of Nanopore Technology for 16S PCR and Metagenomics.

Adela will talk about direct sequencing from clinical specimens for the rapid detection of viral pathogens.

Dr Natasha Weston, MRCP, FRCPath.

Senior Registrar, University Hospitals Birmingham NHS Trust.

Dr Natasha Weston graduated from the University of Birmingham Medical School in 2011 and since then has continued to work and train in the West Midlands. Having completed a Senior Clinical Fellowship at the National Mycobacterial Reference Service in 2021, she is currently working as a Senior registrar in Infectious Diseases and Microbiology at Queen Elisabeth Hospital in Birmingham. She has an ongoing interest in molecular diagnostics including whole genome sequencing and the clinical management of mycobacterial infections

When not working Natasha will be spending as much time as possible outdoors either walking, rock climbing or gardening

Dr Weston will be presenting on whole genome sequencing of MTB and other mycobacteria, and what can we learn beyond ID and sensitivity.

Dr Elaine McCulloch PhD

Technical Project Manager QCMD



Dr Elaine McCulloch initially gained her PhD at the Glasgow Caledonian University and then worked as a postdoctoral research associate at the Royal Hospital for Sick Children in the city. After a variety of roles working on assay development for various pathogens in high risk patients such as those with immune deficiencies and chronic lung disease including cystic fibrosis and COPD she joined QCMD as a Senior Scientist in April 2013. Dr McCulloch currently works with QCMD as the technical project manager, leading the design and development of EQA schemes to support the needs of clinical laboratories.

Dr Esmita Charani, PhD MSc MPharm, ESCMID Fellow

Research Lead, Imperial College London



After completing her post graduate training in Cambridge Dr Charani worked as a Clinical Pharmacist for ten years across sites such as Addenbrookes, the Royal Free and North Middlesex Hospitals. Dr Charani obtained an MSc in Infectious Diseases in 2006 from the London School of Hygiene and Tropical Medicine and held the role of Scientific Secretariat to a Department of Health Scientific Expert Advisory Group in 2008/2009.

Dr Charani then joined Imperial College as a researcher in 2014 earning her PhD in 2018. She is currently the research lead for Practice, Design and Engineering at the National Institute of Health Research and also a visiting researcher for Haukeland University Hospital, Honorary Associate Professor University of Cape Town, Visiting Professor at the Academy of Medical Sciences Hamied Foundation and a Global Health Fellow with the office of the Chief Pharmaceutical Officer for England.

Esmita's talk will be on an international perspective on antimicrobial stewardship.

Dr Dinesh Aggarwal



Dr Dinesh Aggarwal completed his medical degree from UCL and the University of Cambridge in 2013. In 2020 Dinesh was awarded a Wellcome Clinical PhD Fellowship to understand the biological basis of Staphylococcus aureus carriage under the supervision of Professor Peacock, Professor Danesh and Dr Harrison at The University of Cambridge and the Wellcome Sanger Institute. Currently Dinesh is an Infectious Diseases and Microbiology Specialist Trainee in the London Deanery and is now working at

COG-UK and Public Health England as an Infectious Diseases and Microbiology Specialist Trainee. His current work is around the characterisation of SARS-CoV-2 importations and he has a special interest in transmission within care homes and universities as part of the Cambridge University Screening Study.

Dr Aggarwal will present on the role of genomics in understanding and controlling the COVID-19 pandemic.