

Registration Form

21st International Conference on Advances in New Technologies and their Impact on Microbial Research

Workshops: Thursday 21st June

Conference: Friday 22nd June

Venue: Middlesex University, London

Title:	First name:
Last name:	
Address:	
Telephone:	
E-mail:	

☐ I am interested in presenting a poster.

Poster presentations are encouraged and will be displayed during the course of the meeting. The poster prize will be awarded for the poster judged to be of the highest scientific merit and relevance. Please indicate in the box above if you wish to present a poster during the meeting. The dimensions are standard (approximately 1sq. meter, A0 size).

Registration for the Conference is free but a fee of £25 (concessions £15) is charged for each workshop. Please enclose a cheque payable to Middlesex University or contact Prof. Ajit Shah – see details below: The fee covers registration, refreshments and lunch

Signed:	Date:
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For further information, please contact the organisers:

Prof. Ajit J. Shah or Haroun N. Shah
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London NW4 4BT

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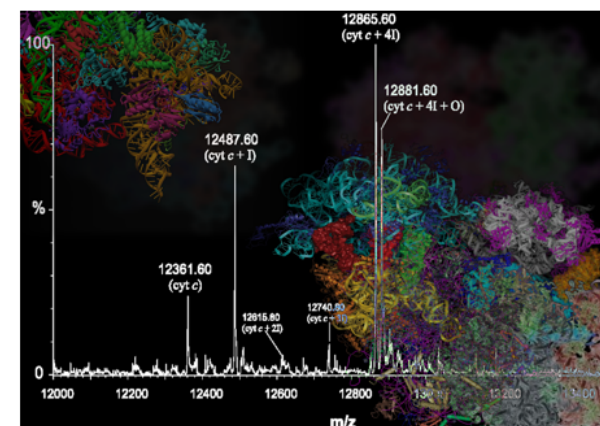
Co-Sponsors



21st International Conference on
Advances in New Technologies and
their Impact on Microbial Research

The Impact of Advances in Mass Spectrometry and Analytical Techniques on Detecting and Revealing Microbial Behaviour and Interaction with their Environment

A joint meeting with the Society for Chemical Industry, King's College London, Royal Free London NHS Trust, University of East London, University College London, Guys Hospital, Queen Mary University of London & Public Health England



21st -22nd June 2018

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The application of whole and deep genome sequencing has created the blue print of microbial structure, evolution and response to their environment. It is the accumulation of genome sequences of thousands of species and multiple strains and clones of each organism that are now propelling both the tools and need to translate the genomic code and potential into actual and measured microbial activities and behaviour as they colonise and spread into new niches both in man and nature.

The last five years have combined the automation and increased resolution of mass spectrometry with AI and big data technologies leading to the capacity to measure traces of protein and peptide signals while accurately quantifying the expressed metabolome and proteome of microbial cells. This combined approach has dramatically shifted the focus of translational research in life and clinical sciences towards accurate measurement of microbial products and resistance factors from depending on predictive genetics to detecting cellular function. This is now apparent in measurement of cancer markers, response to drugs and radiotherapy and monitoring antibiotic and antiviral therapy.

In this year's 21 conference of our "International Series of Advances in Technology and their Impact on Microbial Research", we will focus on the maturity of these technologies and application potential to unravelling microbial diversity and the dynamics of microbial proteome and metabolome from diverse environments as they interact with man and animals

Presentations will cover the breadth and range of research in these areas from concepts to applications presented primarily by young researchers across London universities and colleges, industry and the Society for Chemical Industry and the SCI (www.soci.org).

CONFERENCE PROGRAMME 22nd JUNE 2018

Session 1 Advances in MALDI - MS Applications

Chairs: Haroun Shah and Omar Belgacem

09.15 - 09.30	Opening address: <i>Professor Martin Loomes</i> <i>Pro-Vice Chancellor of Science & Technology School at Middlesex</i>
09.30 - 10.00	Differentiation of Genetically Poorly Resolved Taxa Using MALDI-TOF MS; from Mycobacteria to Moulds <i>Valerie Monnin, bioMerieux, France</i>
10.00 - 10.30	Overview of the use of MALDI-TOF MS in Identification of clinical isolates of Fungi and Yeast <i>Emmanuel Wey, Royal Free London NHS Trust and UCL</i>
10.30 - 11.00	Parallel MALDI -MS analysis of Using the Bruker's Autoflex and Ascend MS Tinkerbell MS <i>Lyna Sellami</i> <i>Ascend Diagnostics Limited, UK; University of East London and Queen Mary University of London & Middlesex University, London</i>
11.00 - 11.30	TEA/COFFEE
11.30 - 12.00	Assessing the Resolution of MALDI-TOF MS in the study of <i>Propionibacterium acnes</i> <i>Itaru Dekio, JCM, Japan</i>
12.00 - 12.30	Rapid Antibiotic Resistance and Susceptibility Testing Using the MALDI BioTyper <i>Danièle Sohler, Bruker Daltonics, Bremen</i>
12.30 -13.15	Keynote Address: Biophysical and NMR metabolomic approaches to characterising biocide adaptation and antibiotic susceptibility in <i>Pseudomonas aeruginosa</i> <i>A. James Mason, Reader in Membrane Biochemistry, King's College, London</i>
13.15 - 14.15	LUNCH

Session 2 MS/MS and other Techniques in Biosciences

Chairs: Ajit Shah and Jenny Ho

14.15 - 14.30	SCI: - A Unique Multi-Science and Multidisciplinary Forum where Science Meets Business; Opportunities for Graduate <i>K. Clive Thompson</i> <i>ALS Laboratories (UK) Limited</i>
14.30 - 15.00	Changes in the Proteome of <i>Faecalibacterium prausnitzii</i> , a key component of the Gut Microbiome <i>G. Bravo Ruiseco Sanchez and Hermie J.M. Harmsen</i> <i>University Medical Center Groningen, Holland</i>
15.00 - 15.30	Linking the Gut Microbiome to Heart Disease with Metabolomics <i>Toru Suzuki, University of Leicester</i>
15.30 - 16.00	Antimicrobial Activity of Apple Cider and Vinegar and its Effect on the Proteome of <i>E. coli</i> , <i>S. aureus</i> and <i>C. albicans</i> <i>Vlad Serafim and Ajit Shah</i> <i>Middlesex University, London</i>
16.00 - 16.30	Top Down Proteomics using the Q-Exactive <i>Jenny Ho</i> <i>ThermoFisher Scientific</i>
16.30 - 17.30	Tea/Posters and Poster Prize

21st JUNE 2018

Workshops in Mass

Spectrometry/Proteomics

Department of Natural Sciences, Middlesex University, Hendon, London, NW4 4BT

There will be two MS workshops each two and half hours. A nominal registration fee of £25 will be charged for the day or £15 for workshop.

Workshops 1: 9.30 - 12.00: MALDI-TOF MS for Beginners

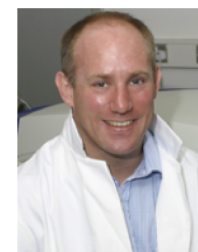
This will involve sample preparation and analysis using two different Linear TOF MS instruments. Spectra obtained from both instruments will be compared.

Workshop 2: 13.30 - 16.00: LC-MS/MS

This will involve trypsin digestion of samples and analysis using a ThermoFisher Q-Exactive MS. The processes involved in obtaining protein sequence data and identification will be studied.

KEYNOTE ADDRESS: A. James Mason:

Reader in Membrane Biochemistry, Institute of Pharmaceutical Science, School of Cancer and Pharmaceutical Sciences, King's College London, Franklin-Wilkins, Building, 150 Stamford Street, London, SE1 9NH



James Mason is a Reader in Membrane Biochemistry at King's College London. He did both his undergraduate and postgraduate studies at Oxford after which he took up post-doctoral positions in Europe where he expanded his interest in solid-state NMR technologies and applications in the dynamics of membrane fluidity. In particular, his

work focuses on the interactions of peptides and how they disrupt, disorder and/or cross their membranes. His group studies natural and designed antibiotic peptides biocides and cationic lipids with a rational to design antibiotics that are active against bacteria such as *Pseudomonas aeruginosa* and/or *Mycobacterium tuberculosis* and to understand how such pathogens develop resistance. Their overall aim is provide understanding of events at bacterial membranes to aid antibiotic development application.