
Programme

Friday 11th September 2015

Midday onwards, residential delegates may collect room keys

- 18.15 Pre-dinner drinks sponsored by Sunvil Travel in the Council Room
19.00 Conference dinner in the Dome
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Saturday 12th September

- 08.30 Registration opens
09.30 **Welcome and introduction. Treatment failure - what is the evidence?**
Stella Huyshe-Shires, Lyme Disease Action
- Experience of the LDA Help desk**
Sandra Pearson, Lyme Disease Action
- 10.20 **The difficulties faced by doctors in an infectious diseases clinic**
Hadewych ter Hofstede, Radboud University Medical Centre, Netherlands
- 11.10 Coffee break
- 11.35 **Everything you wanted to know about Borrelia but didn't know whom to ask**
Richard Bingham, University of Huddersfield
- 12.05 **Current work in PHE around Lyme disease**
Tim Brooks, Public Health England
- 12.45 Lunch
- 13.40 **What We Learned from the U.S. Clinical Trials & New Directions**
Brian Fallon, Columbia University USA
- 14.35 **Host defence against Borrelia**
Marije Oosting Radboud University Medical Centre, Netherlands
- 15.25 Tea break
- 15.50 **Borrelia persists and possible drugs to target them**
Ying Zhang, Johns Hopkins University, USA
- 16.40 **Is phage therapy for Lyme disease possible?**
Jinyu Shan, University of Leicester
- 17.00 **Panel discussion**
Speakers and delegates
- 17.30 Conference closes

Speakers

Richard Bingham *Everything you wanted to know about Borrelia but didn't know whom to ask*

Dr Richard Bingham is currently a Senior Lecturer in Biological Science at the University of Huddersfield. After Richard's first degree at the University of Sheffield in 1999 he obtained a PhD in X-ray crystallography at the University of Leeds working for Professor Simon Phillips. Richard continued to work at Leeds studying protein structures and their interactions. Then in 2006 he moved to the University of York and worked as a Postdoctoral Research Fellow in the laboratory of Professor Jennifer Potts. He studied the interactions between bacterial surface proteins and fibronectin.

In 2008 Dr Bingham moved to the University of Huddersfield and began his own programme of research focusing on the surface proteins of *Borrelia* with the objective of furthering our understanding of this unique pathogen at the molecular level. Richard has been a rock climber for 20 years and enjoys the outdoors.

Tim Brooks *Current work in PHE around Lyme disease*

Dr Tim Brooks is Head of the Public Health England's Rare and Imported Pathogens Laboratory (RIPL). Following his medical training he worked briefly in the National Health Service as a trainee surgeon before joining the British Army. Returning to hospital medicine he became a pathologist and microbiologist.

RIPL provides the UK acute diagnostic facilities for a wide range of arboviruses, rickettsiae and viral haemorrhagic fevers, vector-borne diseases and zoonoses, including anthrax, tularemia and Q fever. Dr Brooks is one of the leading partners in the national Imported Fever Service, which offers a 24 hour service for acutely ill travellers arriving in the UK. He was responsible for establishing laboratories in Sierra Leone to help in the Ebola crisis. RIPL has been the home of the national Lyme disease specialist service since June 2012, in keeping with the laboratory's role in vector borne zoonoses.

Brian Fallon

What we learned from the U.S. clinical trials & new directions

Dr Brian Fallon is currently a Professor of Psychiatry and director of the Lyme & Tick-borne Diseases Research Center at Columbia University Medical Center. He completed two degrees at Harvard University (college and Master's in Counselling Psychology) and two degrees from Columbia University (Public Health Epidemiology and Medicine). His research group at Columbia has focused on characterizing the neurocognitive and neuroimaging profile of post-treatment Lyme syndrome, as well as on evaluating the effectiveness of repeated antibiotic therapy.

In addition to careful clinical profiling and long-term follow-up of patients, Dr Fallon continues to collaborate with numerous scientists seeking to identify predictive biomarkers, better diagnostics, and more effective treatments. New studies will be assessing both novel antibiotic regimens as well as non-antibiotic strategies to address post-treatment Lyme symptoms. When not studying Lyme disease, he enjoys hiking up mountains and putting paint on canvass hoping it will look like a landscape.

Hadewych ter Hofstede

The difficulties faced by doctors in an infectious diseases clinic

Dr ter Hofstede is an infectious diseases physician at the Radboud University Medical Centre in the Netherlands She trained as an internal medicine specialist and specialised in infectious diseases in 2006. She gained her PhD in 2009 and during her residency became interested in Lyme-disease because of its many uncertainties and the disabilities it causes patients.

Marije Oosting

Host defence against Borrelia

Following her first degree Dr Marije Doppenberg-Oosting had a spell as a research technician studying the prevalence of Borrelia in ticks and the onset of clinical signs of Lyme disease in patients. She completed her masters in Biomedical Sciences at the Free University Amsterdam with specialisations in Immunology, Cell Biology and Infectious Diseases. Her PhD involved research into the pattern recognition of Borrelia by immune cells, the role of genetic variation in the modulation of inflammation by these bacteria and the development of clinical signs in Lyme disease. At the end of 2012 she worked for three months at Boulder Diagnostics Europe where she contributed to the development of a new diagnostic test for the detection of active Lyme disease, SpiroFind™.

She now has a post-doc appointment at the Department of Experimental Internal Medicine of the Radboud UMC where she continues her research into the pathogenesis of Borrelia and Lyme disease. She is also conducting a study into the role of the microbiome in combination with genetic variants and habits on susceptibility to disease and on the variety in immune responses in 500 healthy volunteers. These results will be compared to patients suffering from inflammatory diseases, including Lyme disease.

She is married to Tom Doppenberg and they have a 10 month old son, Gilles.

Jinyu Shan

Is phage therapy for Lyme disease possible?

Dr Jinyu Shan earned his Bachelor's and Master's Degrees in Microbiology from Shandong University and Nankai University in China. After a period of working as researchers in Nankai University and the University of Hong Kong, he came to the UK in 2003 and gained his PhD in studying bacteriophages (bacterial viruses) infecting marine blue-green algae from University of Warwick.

Since 2008, Dr Shan has been working as a Post-Doctoral Researcher at Professor Martha Clokie's laboratory, University of Leicester. His areas of expertise include identification, characterisation and pre-clinical development of bacteriophages infecting human pathogens, including *Clostridium difficile*, *Burkholderia pseudomallie* (causative agent of melioidosis) and bacteriophages of *Borrelia burgdorferi* strains.

His wife Ying Jia is also a microbiologist with a PhD in molecular microbiology. Apart from scientific activity, they spend most of their leisure time playing badminton, tennis, and swimming with their son and daughter.

Ying Zhang

Borrelia persists and possible drugs to target them

Dr Ying Zhang is a Professor at the Department of Molecular Microbiology and Immunology, Johns Hopkins Bloomberg School of Public Health, Baltimore, USA. He got his MD from Taishan Medical College, China, and his PhD from University of Birmingham, UK. He then worked at the MRC TB Unit at Hammersmith Hospital and St. Mary's Hospital, Imperial College, London. Since 1995, he has been a faculty of Johns Hopkins University, USA, becoming full professor in 2005.

Dr Zhang's research interests are in bacterial persistence, antibiotic resistance, and pathogenesis. Although much of his research career is on *M. tuberculosis*, recently, he has been working on the problem of persistent Lyme disease. His group recently identified a range of FDA-approved drugs that have high activity against *Borrelia burgdorferi* persists. These findings open up new opportunities for more effective treatment of Lyme disease. In collaboration with colleagues, he is interested to evaluate these drug candidates in animal models and in Lyme patients.