

An invitation to the second European

CRYPTO-INFECTIONS CONFERENCE: LYME DISEASE & OTHER HIDDEN INFECTIONS

ONE HEALTH

Saturday 26th September to Sunday 27th September 2020

Catherine Mc Auley Centre, 21 Nelson Street, Dublin 7, Ireland



DAY 1- THE SCIENCE

CHAIRS –Prof John (Jack) Lambert & Christian Perronne

13:00 Introduction

Prof John (Jack) Lambert

13:10 One Health: Forming Collaborations that transcend disciplinary boundaries

Dr Cheryl Stroud

13:40 PCR for crypto-infections diagnosis in patients with PTLDS :Comparison of matrices (venous blood, capillary blood, urine and saliva)

Prof Christian Perronne

14:20 Clinical spectrum of persistent Bartonella infection and important considerations in Diagnosis and Treatment

Dr B Robert Mozayeni

15:20 Hiding in the body: metamorphoses of Lyme disease spirochetes

Dr. Natasha Rudenko

15:50 Coffee break

16:15 Late Lyme carditis- *Samantha Bishop, Hasibul Haque, Vett Lloyd*Tissue distribution of *B. burgdorferi* and *B. miyamotoi* in wildlife - *Chris Zinck and Vett Lloyd**Borrelia bissettii* in Canada - *Samantha Bishop and Dr Vett Lloyd*

17:15 Uptake and intracellular processing of borreliae by human macrophages

Prof Stefan Linder

18:15 End of Conference first day

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MEETING AGENDA

SUNDAY 27th SEPTEMBER 2020

DAY 2 From Bench to Bedside.

- 8:00 **Introduction** -CHAIRS Prof Christian Perronne & Fred Verdult
- 8:15 **Pioneering Dutch Lyme Patients, Inspired By The AIDS Movement: The United Strategic Path From NO HEALTH To ONE HEALTH** -Fred Verdult
- 9:00 **How to make a disease disappear.** Michael Cook
- 9:10 **PCR for crypto-infections diagnosis in patients with PTLDS : Correlation with clinical signs** - Dr Christian Perronne
- 9:50 Coffee break
- 10:20 **Lyme Triad- A Research Study To Advance Our Knowledge Of Treatment Of Tick-Borne Infections-** Dr Jack Lambert
- 10:40 **Assessing the tick infection prevalence in an emerging region for Lyme disease-** Julie Lewis (Accepted abstract)
- 11.05 **Babesiosis- a one health approach**
Dr Willie Weir
- 11.30 **'Chronic Lyme Disease': a model for persistent pathogen involvement in chronic disease: an expression of interest application to the MRC-** Dr Karl Morten
- 12:15 Lunch

- 13:15 Three presentations (submitted abstracts) of 15 minutes
- 1- *Unravelling Some of the Complexities of Laboratory Testing in Lyme disease and Other Infections-* Dr Armin Schwarzbach
 - 2- *Neglected Infections And Gastrointestinal Issues In Patients With Late / Persistent / Chronic Vector-Borne Infections-* Tanja Mijatovic
 - 3- *Specific Borrelia phages as new strategies for diagnostics* Louis Teulieres
- 14:00 **Lyme Disease: Columbia research, treatment trials, and future directions-** Dr Brian Fallon
- 14:45 **Ticks bite in pregnancy- How are the offspring affected: lessons from animal models, application to humans.**
Prof John (Jack) Lambert
- 15:30 **Endocarditis, a common pathology caused by chronic Bartonella infections in both animals and humans-**Dr Bruno Chomel
- 16.15 **Conclusions:**
Prof Christian Perronne & Prof John Lambert
- 16:30 End of conference

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CALL FOR ABSTRACTS

DEADLINE 2nd SEPTEMBER 2020

Aims and eligibility

Abstracts should contain original material from recent work that is not yet in publication. The conference encourages research on crypto infections as well as best practice examples and lessons learned.

Abstract categories

Please see below list of topics/ tracks available for submitted abstracts for Crypto-Infections 2019:

1. Human studies
2. Animal studies
3. Epidemiology
4. Diagnostics and therapeutics

For abstracts submitted by students, the registration for the conference will be waived, but all costs related to the conference participation should be covered by you, including flight and accommodation.

Please send your abstract in pdf format to gavramovic@mater.ie by the 2nd September 2020. Word count limit is 250 words excluding title and authors. The abstract should contain the following sections: Title and Authors, Introduction, Methods, Results and Discussion. Authors should indicate if they wish to apply for an oral presentation or poster only.

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SPEAKERS' BIOGRAPHIES

Prof Jack (John) Lambert

Consultant Infectious Diseases, Mater Misericordiae University Hospital/ University College Dublin, Ireland.

Dr John Lambert is a consultant in Infectious diseases and genitourinary medicine, and has been practicing in Dublin Ireland as a consultant in the Mater and Rotunda Maternity hospitals, with teaching appointment at UCD School of Medicine and Medical Science. He is director of the National Isolation Unit for Highly Infectious Diseases at the Mater Misericordiae University Hospital and a member of the National Viral Hemorrhagic Fever Committee of the HSE. He has also been involved in the Sexual Health Strategy group in Ireland and teaching GP in Ireland on the subject of STDs. He has presented widely in the field of Lyme and co infections in the last 3 years through EU and USA conferences supported by the International Lyme and Associated Diseases Society (ILADS).

Dr. Brian Fallon

Director, Lyme and Tick-borne Diseases Research Center, Columbia University Irving Medical Center, New York, USA

Dr. Brian Fallon (MD, MPH) trained in epidemiology and psychiatry at Columbia University, where he developed an expertise in clinical trials research. His work on Lyme disease began in 1991 and has included studies in children and adults, focusing on phenomenology, diagnostics, neuroimaging, neurocognition, and treatment studies. He has lectured widely and published extensively, including a recent book entitled *Conquering Lyme Disease: Science Bridges the Great Divide* (Columbia University Press, 2018). He has received federal and foundation grants and currently serves on the Department of Health and Human Services Tick-borne Disease Working Group. Current research projects at the Columbia Lyme Center include: a) two treatment studies (e.g., disulfiram; meditation); b) a national cohort study in Denmark to clarify whether Lyme disease is associated with psychiatric manifestations; c) precision medicine collaborations using the Center's biorepository of specimens from longitudinal and cross sectional studies; d) post-mortem brain studies; e) a collaborative Powassan Virus diagnostic and treatment development study; f) a biometric studies to develop a new measure of symptom burden.

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SPEAKERS' BIOGRAPHIES

Dr B Robert Mozayeni, MD

Expert in Translational Medicine, the science and art of advancing medical science safely and efficiently

Dr. Mozayeni trained in Internal Medicine, Rheumatology and Molecular Biophysics in a physician-scientist research residency at Yale-New Haven Hospital, where Lyme disease was discovered and treated by Rheumatologists in the Rheumatology section. He subsequently became a Senior Staff Fellow at the National Institutes of Health (NIH) where he completed a second fellowship in Rheumatology. Since 1994, while in private practice, has held clinical privileges at Suburban Hospital, a member of Johns Hopkins Medicine and an affiliate of the NIH Clinical Center.

Recently, he became the President of ILADS. His main objective with ILADS is the same as with his professional career – to advance the science of translational medicine and learn from the issues presented by Lyme disease, how to more rapidly advance medical science. His career passion is to find the fastest path for advancing medical science in diverse areas of patient need and controversy to validate and continuously improve best clinical practices.

He is the Chief Medical Officer of Galaxy Diagnostics, LLC. Recently, he founded 'T Lab' focusing on the use of high resolution microscopy to identify cryptic infections and demonstrate how they cause disease. He is a Fellow of the non-profit Think Lead Innovate Foundation and he is a founder of the non-profit Foundation for the Study of Inflammatory Diseases.

His work on cerebrovascular diseases, as a Rheumatologist, he began to appreciate the importance of Bartonella cryptic infections. Over the past 12 years, he has been actively researching chronic rheumatic and cerebrovascular diseases and their relationship to persistent human Bartonella infection.

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SPEAKERS' BIOGRAPHIES

Dr. Natasha Rudenko, PhD.

Deputy Head of the laboratory of Molecular Ecology of Vectors and Pathogens at the Institute of Parasitology of Biology Centre Academy of Sciences of the Czech Republic

For the last two decades her research were focused on ecology, epidemiology, and distribution of arthropod-borne diseases and vector-host-pathogen interactions. The main interests are: ecology, epidemiology, genetic diversity of the causative agent of human Lyme disease, the spirochetes from *Borrelia burgdorferi* sensu lato complex, in Europe and around the world and their impact in global public health, microbial infectivity, pathogenicity, survival behaviors, and response to antibiotic treatment or capability to transform into persisting forms that cause relapsing or chronic diseases.

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SPEAKERS' BIOGRAPHIES

Prof Christian Perronne

Professor of Infectious and Tropical Diseases at the University of Versailles-St Quentin (UVSQ), France

Christian Perronne, MD, PhD, qualified in Internal medicine, is Professor of Infectious and Tropical Diseases at the University of Versailles-St Quentin (UVSQ), Paris-Saclay, France. Since 1994, he is chief of a Department of Medicine at the Raymond Poincaré University Hospital in Garches, Greater Paris University Hospitals group. He had major responsibilities within several institutions: Pasteur institute in Paris (vice-director of the national tuberculosis reference center), French College of Professors of Infectious and Tropical Diseases (chairman), French National Technical Advisory Group of Experts on Immunisation (chairman), French Drug Agency (chairman of several working groups making evidence based recommendations), Superior Council for Public Hygiene of France (Chairman), French High Council for Public Health (Chairman of the Communicable diseases commission), INSERM, National Council of Universities (Chairman for infectious and tropical diseases), European Advisory Group of Experts on Immunisation at the World Health Organization (vice-chairman). He was principal investigator of several major clinical trials. He is author or co-author of more than 300 scientific publications in peer-reviewed journals. Since 1994, Christian Perronne is involved in the management of chronic Lyme and associated diseases. He is leading a coalition of patients and physicians for the recognition of chronic Lyme disease and other crypto-infections (hidden infections) in France. He is cofounder and vice-president of the French federation against tick-borne diseases (FFMVT) and president of its scientific council. He is author of a book “La vérité sur la maladie de Lyme” (in French) (“The truth about Lyme disease”), Odile Jacob publisher, Paris, which will be published in English in May 2020 (“Crypto-infection, the truth about Lyme disease and other hidden infections”), Hammersmith publisher, London, Dublin.

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SPEAKERS' BIOGRAPHIES

Dr Alain Trautmann

Emeritus researcher, Cochin Institute, Paris, France

Alain Trautmann is an emeritus researcher from CNRS. He has been working first in neurobiology, then in immunology. Still active in cancer immunotherapy at the Cochin Institute in Paris, he became interested in Lyme disease for family reasons a few years ago. He is member of the scientific advisory board of FFMVT, the French federation of tick-borne diseases.

Dr Hugues Gascan

Research Director at CNRS (French National Centre for Scientific Research), IGDR, Rennes and Angers, France

Hugues Gascan is a research director from CNRS, the French National Centre for Scientific Research, and he has been working in the field of immunology, and more particularly in cytokines and chronic diseases for approximately 35 years. He has been interested in Lyme disease for few years now, leading a project whose aim is an analysis of the immune response in late and chronic forms of this pathology, in order to facilitate its diagnosis.

Stefan Linder

Professor for Cellular Microbiology, University Medical Center Eppendorf, 20246 Hamburg, Germany

Stefan Linder holds a professorship for Cellular Microbiology at the University of Hamburg since 2009. His research is focused on the interaction between bacterial pathogens and human immune cells, and specifically on the uptake and intracellular processing of *Borrelia burgdorferi* by primary human macrophages. His group is particularly interested in the regulation of cytoskeletal dynamics and intracellular trafficking pathways that contribute to phagocytosis and phagolysosomal degradation of borreliae.

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ONE HEALTH

SPEAKERS' BIOGRAPHIES

Dr Cheryl Stroud, DVM, PhD

One Health Commission, USA

Dr. Stroud has enjoyed professional experiences in Industry, Academic Research / Teaching, Private Veterinary Practice and as a One Health practitioner. After years of research she returned to small animal veterinary practice where she enjoyed teaching clients about Vector-Borne and Zoonotic Diseases. In 2010 she was instrumental in creating the North Carolina One Health Collaborative, Chairing its Steering Committee for over three years and facilitating collaborative formation of an interinstitutional One Health course, One Health: Philosophy to Practical Integration of Human, Animal and Environmental Health, cross-listed at Duke, UNC and NC State. In 2013 she served on a US National Biodefense Science Board working group on Situational Awareness, Strategic Implementation and Bio-Surveillance.

Currently as Executive Director of the One Health Commission Dr. Stroud's primary focus is educating, locally, nationally and globally, about the need for One Health when addressing issues like vector-borne diseases. She shares updates about the global One Health movement with audiences around the world and seeks to connect One Health stakeholders into Action Teams, strategic networks and partnerships that educate about the full scope of and critical need for One Health thinking and acting at all levels of academia, research, clinical practice and government. She refers to One Health as our 'Ray of Hope for the Future'.

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ONE HEALTH

SPEAKERS' BIOGRAPHIES

Dr Vett Lloyd

Professor of Biology – Mount Allison University, Canada

Dr. Vett Lloyd is a professor of Biology at Mount Allison University with expertise in molecular genetics and epigenetics. Her research has included finding animal models for rare human genetic diseases, cloning organisms and cancer cell biology. For the past decade her lab has been working on the genetics of ticks and the pathogens they transmit. Dr. Lloyd is the founding member of the Maritime Lyme Disease Network and Canadian Lyme Consortium, an interdisciplinary network of researchers tackling the biological, social and human dimensions of Lyme disease and incorporating the Lyme patient community as full partners in this endeavor. Dr. Lloyd runs the Mount Allison tick lab, which does tick research that provides tick identification and pathogen testing to members of the public and veterinary medical community in the Maritimes. Her published work in this area includes tick genetics, tick behaviour and the use of dogs as a sentinel species to predict the risk of Lyme disease in humans. Additionally, she has a special interest in encouraging citizen science in tick surveillance activities as a way to promote tick education to communities.

Dr Karl Morten

Principal Investigator and Director of Graduate Studies in the Nuffield Department of Women's and Reproductive Health.

The Morten lab has a long standing interest in understanding the role of mitochondria in health and disease and have built up over the last 10 years technologies allowing this to be studied in a high throughput format. As the leading group in Oxford working on mitochondria the group collaborate widely in Oxford, leading to numerous publications in this area. Recently we have been actively exploring the mechanisms behind Myalgic Encephalomyelitis/Chronic fatigue syndrome (ME/CFS) (<https://www.mortengroup.org.uk/>) in addition to developing new approaches to study cancer energetics in a project funded by Horizon 2020.

CRYPTO-INFECTIONS CONFERENCE

ONE HEALTH

SPEAKERS' BIOGRAPHIES

Dr Bruno B. Chomel (DVM, MS, PhD, Dr. Sc)

Dr. Chomel graduated from the School of Veterinary Medicine in Lyon, France in 1977 and received his DVM degree in 1978 from the University of Lyon, France. He was a faculty member of the Lyon Veterinary School from 1979 until 1990. Dr. Chomel received a MS in Microbiology (Pasteur Institute, Paris, 1981), a MS in Immunology (University of Lyon, 1982) and his PhD in Microbiology (1984), as well as his research directorship degree (former Dr.Sc degree) in 1989 from the same University. He served for 2 years as an Epidemic Intelligence Service Officer for the Centers for Disease control in Atlanta. Dr. Chomel served as a consultant in several international organizations including the French Ministry of Foreign Affairs, the United Nations Development Program, the World Health Organization, the World Bank, and NGOs such as Bioforce and Vétérinaires sans Frontières. Dr. Chomel joined the faculty of the School of Veterinary Medicine, UC Davis in 1990 where he is Professor of Zoonoses since 1999 and was nominated distinguished Professor in 2018. His research centers on cat scratch disease and Bartonella infections in domestic animals and wildlife, the epidemiology of rabies and plague and zoonoses of wildlife. He has authored or co-authored more than 220 peer-reviewed publications and numerous book chapters. He was the Director of the World Health Organization/Pan American Health Organization (WHO/PAHO) Collaborating Center on New and Emerging Zoonoses from 1997 until 2009 and was the Director of the Master of Preventive Veterinary Medicine at UC-Davis from 1998 until 2001 and from 2008 until 2013. Dr. Chomel was elected corresponding member of the French National Academy of Medicine in January 2007.

Fred Verdult

Chairman of the Dutch Lyme Patients Association

In 2018, Fred Verdult received the royal decoration as Knight for his 20 years of commitment to people living with HIV, and in particular for bringing the patient perspective into research on HIV cure. Since 2018 he is chairman of the Dutch Lyme Patients Association, as well as founding father of the Dutch Lyme Fund (Lymefonds). 'Partly due to the efforts of activists, I now only take one HIV pill per day, and I have never been ill because of HIV at all. The contrast with Lyme couldn't be greater: my struggle to obtain a diagnosis, the disabling symptoms and my 78 daily pills and drinks.'

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ONE HEALTH

SPEAKERS' BIOGRAPHIES

Dr Willie Weir

Senior University Clinician (Veterinary Pathology, Public Health & Disease Investigation) Associate (Institute of Biodiversity Animal Health & Comparative Medicine), University of Glasgow, UK

Dr Weir graduated from the University of Glasgow Veterinary School in 1995. After spending five years in mixed practice in the North of England, he returned to Glasgow on a Wellcome Trust Fellowship to study the molecular epidemiology of *Cryptosporidium*. Following a secondment to the State Veterinary Service to assist with the Foot and Mouth crisis in 2001, Dr Weir accepted a Scholarship from Glasgow Veterinary School to allow him to pursue a PhD in Molecular Parasitology, which he completed in 2006. His research interests have developed in a number of areas including the genetics, genomics and transcriptomics of protozoan parasites, principally *Theileria* and *Babesia*. He is Principal Investigator on several projects investigating tick-borne pathogens and is currently funded to pursue research by the Scottish Government, EU, HBLB and the Donkey Sanctuary. In 2016, Dr Weir was appointed as Academic Head of the Veterinary Diagnostic Service Infectious Disease Unit at the University of Glasgow.

Michael J Cook

BSc degree from London University (Physics and Mathematics). His 36 year career included computer chip design, research and development and process engineering in the semiconductor industry. Working in the United Kingdom, United States and leading multinational teams from the US, Europe and Asia. He was diagnosed with Lyme disease in 2009 and started to investigate Lyme and associated diseases. He is author or co-author of 6 papers on Lyme disease and has presented his work at conferences in Paris, Boston, Dublin and London. Other work includes presentations to members of the UK Houses of Lords and Commons, medical and national & local government environmental and health agencies. He also investigated a UK Lyme testing laboratory and provided the evidence of failures in support of patient representations to the UK Parliamentary and Health Services Ombudsman. He also accompanied a team to the United Nations where evidence of regarding human rights abuses related to patients and doctors treating Lyme disease was presented.

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