Lyme & Other Tick-Borne Diseases: Science Bridging the Gap
Jointly Provided by:
COLUMBIA UNIVERSITY College of Physicians and Surgeons
and Lyme Disease Association, Inc.

Saturday, Nov. 14 & Sunday, Nov. 15, 2015
Providence-Warwick Crown Plaza
Warwick, Rhode Island

AGENDA – SATURDAY, NOVEMBER 14, 2015
Registration/Exhibits/Continental Breakfast
Patricia V. Bisoli, President, Lyme Disease Association, Inc., Conference Planner, Conference Organizing Committee
Welcomes, Remarks/Shelf of Lyme Spread/Introduction Session-Facilitator

Brian A. Fallon, MD, MPH, Conference Director, Conference Organizing Committee
William Robinson, MD, PhD, Keynote
Associate Professor, Stanford University, CA

Linda L. Etchell, PhD
University Distinguished Professor, Director, Arthritis Discovery Center, Northeastern University, MA

Karin M. Lampe, PhD
University Distinguished Professor, Director, Arthritis Discovery Center, Northeastern University, MA

Ying Zhang, MD, PhD
Professor Bloomberg School of Public Health, Johns Hopkins University, MD

Descendants, Dose-Drug Implications for Improved Treatment

Morning Discussion Panel

Coffee Break

TBA

Dorota Roszewska, PhD
President, Center Bialystok, Tulane National Private Research Center, LA
“Are We in a Pathogens of Lyme Neuroborreliosis?”

Tim G. Brooks, MD, MS, MSCE, EDMLB, MSIC, FRCPath, FRCP, CRRC
Clinical Services Director, Rare & Imported Pathogens Laboratory, Public Health England Ltd

“Lyme Borreliosis in England”

Lunch

Richard T. Marconi, PhD Conference Co-Director, Organizing Committee, Saturday Afternoon Facilitator

Massimo M. Milich, MD, PhD
Department of Law and Psychiatry, Yale School of Medicine, Suicide & Lyme Neuroborreliosis Case Report

Kleen M. Stile, MD
Instructor of Medicine, Harvard Medical School
Assistant in Immunology, Massachusetts General Hospital
“Critical and Host Factors in Immune Responses in Lyme Disease”

Brian A. Fallon, MD, MPH
Professor of Psychiatry, Columbia University College of Physicians & Surgeons Director, Columbia Lyme and Tick-Borne Diseases Research Center Director, Center for Study of Neuroinflammatory Disorders & Biomedical Media. NY/NY PANAS, PANES, & Lyme

Mid-afternoon Discussion Panel

Afternoon Coffee Break

Philip J. McIlroy, MD
Assistant Clinical Professor of Medicine, Tufts University School of Medicine MA Medical Director, MAGEN Diagnostic Reference Laboratory, NY Laboratory Director, PMS Labs, MA
Staff, Beth Israel Deaconess, Plymouth, MA

Toni Lynne

Richard T. Marconi, PhD
Professor in the School of Medicine, Virginia Commonwealth University Medical Center "Current Linear IgM-based Vaccines for Lyme Disease & Other Tick-Borne Diseases: Progress Report on The Road to a New Human Vaccine"

Afternoon Discussion Panel

NETWORKING RECEPTION

AGENDA – SUNDAY, NOVEMBER 15, 2015
Registration/Exhibits

Bororo Rocha, MD, BSc, Sunday Facilitator
Professor of Medicine, New Jersey Medical School, Rutgers University

John N. Assent, MD
Assistant Professor of Medicine, Johns Hopkins University Director, Johns Hopkins Rheumatology Lyme Disease Clinical Research Center “Serum QuantiTiter and Chemiluminescence Biomarkers for Post-Treatment Lyme Disease”

Edward B. Breitkreitz, DVM, PhD
Professor of Medicine, Duke University Medical Center Director, Intravascular Pathogen Research Laboratory, Center for Comparative Medicine & Translation Research, NC State-CHM
Director, Vector-Borne Disease Diagnostic Laboratory Director, CHM/COB-Biology Level 3 Laboratory "Pathogenic Infectious Diseases"

Charlton Chiu, MD, PhD
Associate Professor, Laboratory Medicine and Infectious Diseases Infectious Disease Specialist, Imperial College London "The Diagnosis of Lyme Disease: An Approach to a Common Misdiagnosis"

Eric McGinn, MD
Adult & Pediatric Allergy/Clinical Immunology Practice, Southampton, NY Southampton Hospital Tick-Borne Disease Resource Center's Medical Advisory Panel "Alpha-Gal Meat Allergy after Lyme Ticks Bite You”

Morning Discussion Panel

Break

Point-Counterpoint: Possibility of Sexual Transmission

Raphael B. Shriver, MD
Medical Director, Johns Hopkins Medical Associates, CA Point-Counterpoint: "Evidence Suggests the Potential for Sexual Transmission"

Seun J. Dang, MD
Infectious Disease Pract (Reg 515) Consultant, Infectious Disease, at Faulkner Hospital, MA Point-Counterpoint: "Evidence Suggests Lyme is Not Sexually Transmissible"

Disclosures: None

William V. Padula, DO, DPMD, PFAA, FNBHA
Pennsylvania College of Osteopathic, adjunct faculty Rehabilitation Hospital at CT & Geisinger Hospital CT, staff appointments "The Role of the General Practitioner Regarding the Consequences of Tick-borne Diseases on Vision and Visual Processing"

Richard B. Oehlrich, PhD
Senior Biometrician, Cary Institute of Ecosystem Studies, NY External Editorial Board of Bloomberg, and Vector-Borne and Zoonotic Diseases "Impact of Climate Change & Loss of Biodiversity on Ticks”

Afternoon Discussion Panel

Reception/Networking/Continental Breakfast
Faculty Summary:

William Robinson, MD, PhD – "Next Generation Diagnostics for Lyme Disease"
We are developing multiplex assays for the early and accurate diagnosis of B. burgdorferi infection, and for characterizing inflammatory responses in post-treatment Lyme disease syndrome (PTLD). We are also sequencing B and T cell repertoires in acute B. burgdorferi infection and PTLD, to elucidate the targets of the immune responses in these conditions. Our results from these studies will be presented.

Kim Lewis, PhD – "B. burgdorferi Persisters and Ther eradication"
We examined the ability of B. burgdorferi to form persisters. Killing of growing cultures of B. burgdorferi with antibiotics led to the disease was distinctly heterogeneous in several studies. Prolonged exposure reduced cell-to-cell variability, thus persisters are resistant but not resistant mutants. The role of persisters increased sharply as the culture transitioned from exponential to stationary phase. Clinical disease in patients is clearly heterogeneous, a membrane-active bactericidal agent, used in combination with a membrane-acting antibiotic, and MtrC, an anti-antigen factor that forms adducts with DNA, killed persisters and eradicated both growing and stationary cultures of B. burgdorferi. Finally, we are developing an in-vivo assay to detect antibiotic susceptibility of persisters, which will allow for antibiotic resistance to be monitored in patients.

Zhang Yang, MD, PhD – "Borrelia Persisters: Implications for Improved Treatment"
The Lyme disease and the problem of Lyme antibodies will be discussed. New drug candidates from FDA drug library and NICHD compounds that have activity against Borrelia persisters will be presented. The effect of drug combinations to more effectively eradicate Borrelia persisters will be presented. Our data include three drug combinations that are more effective at eradicating the more resistant Borrelia persisters of B. burgdorferi, minocyclines, than single drugs and two drug combinations in vitro. The implications of these findings for more effective Lyme treatment will be discussed.

Geeta Ramnath, PhD – "The Relevance of Borrelia spp. in Lyme Neuronombosis"
In humans, Lyme neuroborreliosis may present most commonly as meningitis, cranial neuritis, and/or acute radiculoneuritis. Our central hypothesis is that Borrelia-related immune responses in the spinal fluid and cranial nerves, and constitutes a fundamental mechanism for the development of signs and symptoms of encephalitis and spinal cord inflammatory disease, and that viral meningitis and lymphocytic meningitis are common complications of Lyme neuroborreliosis.

Tina Brooks, MA, MB, BCch, LMSA, MSE, FRCPath, FSHP – "Lyme Borreliosis in England"
The incidence of Lyme Disease in the UK is lower than in Europe or the eastern US, but is slowly rising with around 120 laboratory confirmed cases a year and each year it is increasing. The disease is present in the county of Herefordshire, the closest source of non-human wildlife, and the county has the highest proportion of farm land in the UK. Many cases are likely to be missed due to the low index of suspicion among health professionals. The majority of our cases are confirmed by PCR, but a few of the cases have confirmed by immunofluorescence and the majority were diagnosed in the acute phase of the disease.

Brian A. Fallon, MD, MPH – "PANDAS, PANS, Lyme Disease"
Dr. Fallon will address the latest developments in post-infectious neuropsychiatric disorders, focusing in particular on disorders occurring after strep throat (PANDAS), and more recently, post-infectious disorders occurring after other microorganisms (PANS). Controversial aspects of these disorders will be addressed, as will various treatment approaches. Finally, new findings will be presented from a joint study with Dr. Meade Cunningham of Cornell University and with others in New York under the auspices of the Lyme Associated Neuropsychiatric Study.

Philip J. Molloy, MD – "Borrelia miyamotoi"
Borrelia miyamotoi is an important emerging tick-borne pathogen, transmitted to humans by deer ticks. The first known case in North America occurred in 2013. In 2014, Dr. Molloy and colleagues discovered that B. miyamotoi has recently been isolated from the US. Molloy and colleagues (J Clin Microbiol 2013 May;51(5):1545-9) describe a case series describing 31 patients with acute borrelia infection; he personally evaluated and managed 15 of these patients, and was involved with the development of laboratory tests for this condition. His presentation will summarize current epidemiology, and the clinical findings in these patients.

Richard T. Marconi, PhD
"Chronic Lyme Posterior Re-examination: Evidence that there is a New Human Vaccine"
My laboratory has developed a new vaccine technology that is being applied in the design and construction of a novel human Lyme vaccine. The technology employs the use of linear peptide epitope based-bacterial proteins that are known to be the most immunogenic fraction of the bacterial antigens that have been identified. The goal of this technology is to develop a post-exposure human vaccine model.

John N. Autieri, MD, PhD – "Borrelia afzelii: The Key to Lyme Disease Clinical Antimicrobial Strategies"
Borrelia afzelii: The Key to Lyme Disease Clinical Antimicrobial Strategies. Essential laboratory and clinical strategies to determine the presence of Borrelia strains that are not B. burgdorferi. The demonstration of this work is essential to the development of a human vaccine for Lyme disease.

Richard B. Reisch, MD – "The Relevance of Borrelia spp. in Lyme Neuronombosis"
In humans, Lyme neuroborreliosis may present most commonly as meningitis, cranial neuritis, and/or acute radiculoneuritis. Our central hypothesis is that Borrelia-related immune responses in the spinal fluid and cranial nerves, and constitutes a fundamental mechanism for the development of signs and symptoms of encephalitis and spinal cord inflammatory disease, and that viral meningitis and lymphocytic meningitis are common complications of Lyme neuroborreliosis.

Charles Chiu, MD, PhD – "Ganocin Investigations of Lyme Disease"
Lyme disease, the most common tick-borne illness in the United States, is an acute febrile illness caused by the bacterium Borrelia burgdorferi, and is up to 20% of infected patients may exhibit chronicybacteremia with symptoms appropriate despite adequate antibiotic treatment. These biomarkers of ongoing infection may prove to be useful in monitoring response to therapy and identifying those at risk of chronic illness who may require more extensive treatment.

Edward B. Bruchewski, DVM – "Borrelia wrigglesi"
Borrelia wrigglesi, caused by an expanding number of recently discovered Borrelia species, is a zoonotic infectious disease of worldwide distribution. Over 30 Borrelia species of animal origin have been associated with an expanding spectrum of animal disease, including including hares, Ioz, mice, sand fleas and ticks. Advances in diagnostic technique have facilitated documentation of chronic bloodstream infections with Borrelia species. The role of Borrelia wrigglesi in zoonotic infections and immunocompromised patients has been established. This emerging Borrelia species is a cause of disease in animals and human patients and the benefits of using a One Health approach to this emerging infectious disease.

Eris McGinty, MD
Board certified in Allergy and Immunology. Dr. McGinty will discuss from a clinical perspective the Alpha1-piap protein which may be triggered by the bite of the Arthropod assassinique, true stink stinger.

Ralph B. Stricker, MD – "Point and Counterpoint: 'Evidence Suggests the Potential for Sexual Transmission'"
Recent evidence indicates that more than 200,000 cases of Lyme disease are diagnosed yearly in the US, the "widespread epidemic of asymptomatic borreliosis" has been identified in the United States with concurrent meningitis and the appearance of derailed immune system functions. A number identify all vector-borne infectious agents. To address these challenges, we are harnessing genomic tools to develop new assays for diagnostic Lyme disease and other tick borne diseases. A platform called the ArboChip, a ChIP-seq platform with a gene expression panel obtained by transcriptome profiling of patients. Our findings also include the discovery of a persistent and distinct gene expression signature in Lyme disease and other tick borne diseases, previously unidentified pathways and genes that may play key roles in the progression of Lyme-infected patients to PTLD.

Sam T. Donta, MD – "Point and Counterpoint: ‘Evidence Suggests Lyme is Not Sexually Transmissible’"
Recent evidence indicates that more than 200,000 cases of Lyme disease are diagnosed yearly in the US, the "widespread epidemic of asymptomatic borreliosis" has been identified in the United States with concurrent meningitis and the appearance of derailed immune system functions. A number identify all vector-borne infectious agents. To address these challenges, we are harnessing genomic tools to develop new assays for diagnostic Lyme disease and other tick borne diseases. A platform called the ArboChip, a ChIP-seq platform with a gene expression panel obtained by transcriptome profiling of patients. Our findings also include the discovery of a persistent and distinct gene expression signature in Lyme disease and other tick borne diseases, previously unidentified pathways and genes that may play key roles in the progression of Lyme-infected patients to PTLD.

Richard S. Oefelein, PhD – "Impact of Climate Change & Loss of Biodiversity on Lyme Disease""