

# Lyme Borreliosis and Tick Borne Illnesses: Diagnostics, Emerging Pathogens and Avenues for New Research

November 8–9, 2014

Massachusetts General Hospital | O’Keeffe Auditorium  
55 Fruit Street | Boston, MA 02114

## Course Director

Kent Lewandrowski, MD  
*Massachusetts General Hospital*

## Course Co-Director

Elizabeth Lee-Lewandrowski, PhD, MPH  
*Massachusetts General Hospital*

## Faculty

Allen Steere, MD  
*Massachusetts General Hospital*

Paul Mead, MD, MPH  
*Centers for Disease Control*

Franc Strle, MD  
*University Medical Centre, Slovenia*

Alfred DeMaria, MD  
*Mass. Department of Public Health*

Patricia Rosa, PhD  
*National Institutes of Health*

Durland Fish, PhD  
*Yale University*

Xin Li, PhD  
*New England Medical Center*

Sam Telford, DSc  
*New England Medical Center*

Peter Krause, MD  
*Yale University*

W. Ian Lipkin, MD  
*Columbia University*

Ira Schwartz, PhD  
*New York Medical College*

Linden Hu, MD  
*New England Medical Center*

Klemen Strle, PhD  
*Massachusetts General Hospital*

Elise Drouin, PhD  
*Massachusetts General Hospital*

Kurt Reed, MD  
*University of Wisconsin*

Kent Lewandrowski, MD  
*Massachusetts General Hospital*

William Robinson, MD, PhD  
*Stanford University*

Charles Chiu, MD, PhD  
*University of California, San Francisco*

John Branda, MD  
*Massachusetts General Hospital*

Andreas Kogelnik, MD, PhD  
*Open Medicine Institute*

Brian Fallon, MD, MPH  
*Columbia University*

Jayakumar Rajadas, PhD  
*Stanford University*

Mark Eschoo, PhD  
*Abbott Laboratories*

Stanley Plotkin, MD  
*University of Pennsylvania*

John Aucott, MD  
*Johns Hopkins University*

Cheryl Koopman, PhD  
*Stanford University*

Britain Nicholson, MD  
*Massachusetts General Hospital*

Organizing Committee: Donna Felsenstein, MD, Massachusetts General Hospital & Nevena Zubcevik, DO, Spaulding Rehabilitation Hospital

This live symposium will include presentations from leading investigators on Lyme disease and tick borne infections emphasizing our current understanding and avenues for new research. The conference will be a valuable continuing educational experience for internists, pediatricians, infectious disease specialists, and pathologists.

## TARGET AUDIENCE

Physicians in general internal medicine, primary care, infectious disease, and neurology, as well as interested residents and fellows.

## Upon completion of this activity, participants will be able to:

- ◇ Identify the epidemiology, ecology, molecular, and cell surface protein biochemistry of the Lyme spirochete
- ◇ Cite host-pathogen interactions in Lyme disease
- ◇ Describe the performance characteristics, pitfalls, and inadequacies of current testing for tick-borne illnesses

## REGISTER NOW!

Visit [www.partners.org/cpd](http://www.partners.org/cpd)

Choose “Find an Activity” and search keyword “Lyme”

General Admission: \$300 | Allied Health Professionals: \$150 | Residents/Fellows: Free (with Group ID\*)

Refund requests must be received via email to [partnerscpd@partners.org](mailto:partnerscpd@partners.org) by October 25, 2014. No refunds will be made thereafter. A \$25 handling fee will be deducted for the cancellation.

For questions regarding the registration process, please contact the Partners Office of Continuing Professional Development at [PartnersCPD@partners.org](mailto:PartnersCPD@partners.org) or (617) 535-6453

\*Contact Elizabeth Lee-Lewandrowski at [elewandrowski@partners.org](mailto:elewandrowski@partners.org) to obtain the Group ID

Provided by:



MASSACHUSETTS  
GENERAL HOSPITAL

PATHOLOGY

A FOUNDING MEMBER OF



## ACCREDITATION

Partners HealthCare System is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Partners HealthCare System designates this live activity for a maximum of 12.75 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

## Agenda

### **NOVEMBER 8, 2014**

7:30-8:00	Continental Breakfast	
8:00-8:05	Welcome and Opening Remarks	<i>Kent Lewandrowski, MD</i>

#### **Plenary Lectures**

---

8:05-8:45	An overview of tick-borne diseases, emerging pathogens and important areas of future research	<i>Allen Steere, MD</i>
8:45-9:15	Lyme disease in the United States	<i>Paul Mead, MD, MPH</i>
9:15-9:45	Lyme disease in Europe	<i>Franc Strle, MD</i>
9:45-10:15	Lyme disease in Massachusetts	<i>Alfred DeMaria, MD</i>
10:15-10:30	Break	

#### **Session 1: Overview of the Lyme spirochete**

---

10:30-11:00	Molecular genetics of the cell surface proteins of <i>Borrelia burgdorferi</i> and the plasmids that carry them	<i>Patricia Rosa, PhD</i>
11:00-11:30	Ecology of Lyme disease	<i>Durland Fish, PhD</i>
11:30-12:00	Cell surface lipoprotein succession in <i>Borrelia burgdorferi</i> in different stages of the bacterial life cycle and infection	<i>Xin Li, PhD</i>
12:00-12:45	Lunch ( <i>provided in the Eat Street Café, Garden Room</i> )	

#### **Session 2: Co-infections and tick-borne diseases other than Lyme disease: Clinical presentations, microbiology, laboratory diagnosis and areas of new research**

---

12:45-1:15	Powassan virus and <i>Borrelia miyamotoi</i>	<i>Sam Telford, DSc</i>
1:15-1:30	Anaplasmosis and Babesiosis	<i>Peter Krause, MD</i>
1:30-2:00	Surveillance for new potential tick-borne pathogens: small game hunting	<i>W. Ian Lipkin, MD</i>
2:00-2:15	Break	

#### **Session 3: Host pathogen interactions in Lyme Disease**

---

2:15-2:45	Factors influencing pathogenicity and virulence of <i>Borrelia burgdorferi</i>	<i>Ira Schwartz, PhD</i>
2:45-3:15	Host pathogen interactions of <i>Borrelia burgdorferi</i>	<i>Linden Hu, MD</i>
3:15-3:45	Cytokines and chemokines as biomarkers as markers of the innate and adaptive immune response to <i>Borrelia burgdorferi</i>	<i>Klemen Strle, PhD</i>
3:45-4:15	Immune dysregulation in Lyme disease	<i>Elise Drouin, PhD</i>
4:15-4:30	Break	
4:30-5:30	Roundtable discussion on future research needs and collaborations <i>Moderators: Donna Felsenstein, MD and Christine Green, MD</i>	

### **NOVEMBER 9, 2014**

7:30-8:00	Continental Breakfast	
-----------	-----------------------	--

#### **Session 4: Diagnostic testing for tick-borne diseases: current state and future directions**

---

8:00-8:45	Overview of currently available tests for Lyme disease and other tick-borne illnesses: strategies and pitfalls	<i>Kurt Reed, MD</i>
8:45-9:15	Point-of-care testing for Lyme disease: Current approaches and future directions	<i>Kent Lewandrowski, MD</i>
9:15-9:45	Multiplex assays for tick-borne infections	<i>William Robinson, MD, PhD</i>
9:45-10:15	Microarray and next-generation sequencing approaches for diagnosis of borreliosis and other tick-borne infections	<i>Charles Chiu, MD, PhD</i>
10:15-10:30	Break	
10:30-11:00	Differential performance of Lyme disease tests on European and North American <i>Borrelia burgdorferi</i> strains	<i>John Branda, MD</i>
11:00-11:05	Bay Area Lyme Foundation Research Funding Announcement	
11:05-11:30	Gene expression profiling in Lyme and neuroimmune diseases	<i>Andreas Kogelnik, MD, PhD</i>
11:30-12:00	Interleukin 1 beta: a surrogate marker of <i>Borrelia burgdorferi</i> infection	<i>Brian Fallon, MD, MPH</i>
12:00-12:45	Lunch ( <i>provided in the Eat Street Café, Garden Room</i> )	
12:45-1:15	Novel cellular proteo-stress biomarkers for post-treatment Lyme disease syndrome (PTLDS)	<i>Jayakumar Rajadas, PhD</i>
1:15-1:30	Direct Molecular Detection and Genotyping of Early Lyme Disease from Blood	<i>Mark Eschoo, PhD</i>

#### **Session 5: Special topics in tick-borne infections**

---

1:30-2:00	Vaccine development for Lyme disease: past, present and future directions	<i>Stanley Plotkin, MD</i>
2:00-2:30	Establishing a biorepository for tick borne diseases	<i>John Aucott, MD</i>
2:30-2:45	The Stanford Lyme Disease Working Group: Embracing Diverse Perspectives with Scientific Rigor	<i>Cheryl Koopman, PhD</i>
2:45-3:00	Summary and closing comments	<i>Britain Nicholson, MD</i>

**Accommodation:** A limited number of rooms have been reserved at **The Wyndham Boston Beacon Hill Hotel** 5 Blossom Street, Boston, MA (Telephone: 617-742-7630) or online at [www.wyndhambeaconhill.com](http://www.wyndhambeaconhill.com)  
Please specify that you are enrolled in this course to receive a reduced room rate.

**Parking:** Complimentary parking is available in the Nashua Street Orange Lot at 99 Nashua Street, Boston  
Open 7:00 AM–6:00 PM on November 8 & 9

This program has received support in the form a donation from the Bay Area Lyme Foundation



**Bay Area Lyme  
FOUNDATION**