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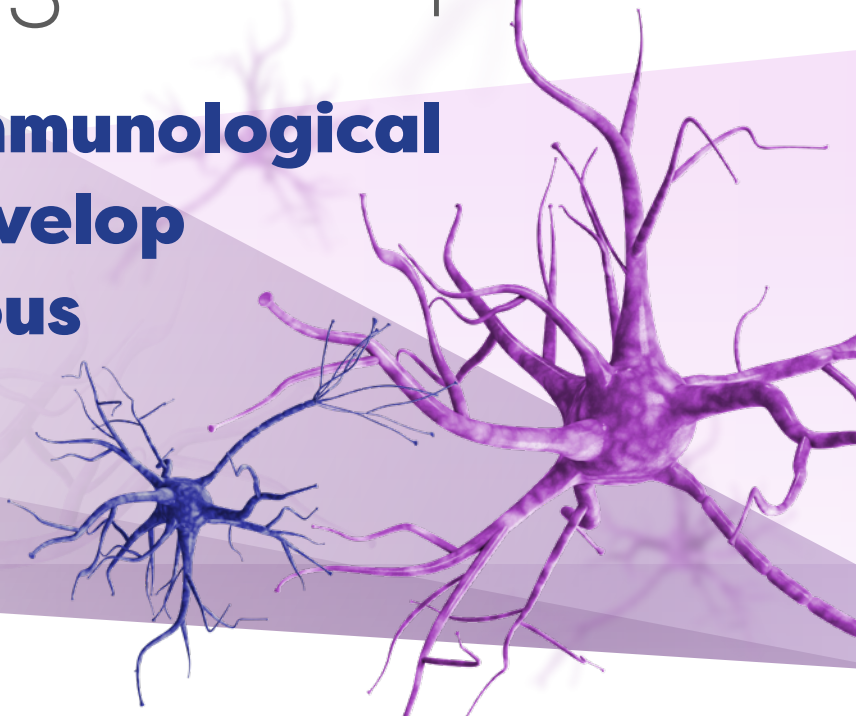
April 16-18, 2019 | Boston, MA

www.neuroimmunology-drugdevelopment.com

NIDD

Neuroimmunology Drug Development

Targeting Neuroimmunological Mechanisms to Develop Clinically Efficacious Therapeutics



Expert Speakers Including:

Sally Ishizaka
Senior Director, Immunodementia
Eisai

Richard Ransohoff
Entrepreneur in Residence
Third Rock Ventures

Thomas Misko
Lead Scientist & Senior Scientific Director, Translational Neuroscience
AbbVie

Tarek Samad
Head, MS & Neuroinflammation Research
Sanofi

Robert Nelson
Co-founder & Vice President, Exploratory Biology
MindImmune Therapeutics

Gilbert Di Paolo
Director
Denali Therapeutics

"Great meeting that has the right balance of science, drug discovery & development, and networking"
Proclara Biosciences

Innovation Partner:
AXOL Quality Cells, Consistent Results

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Tel: +1 617 455 4188 **E-mail:** info@hansonwade.com

www. neuroimmunology- drugdevelopment.com The Neurodegenerative Disease Forum

hansonwade

The Neuroimmunology Drug Development Summit (NIDD)

Improve Your Understanding of Chronic Neuroinflammation Biology & Pathology, Validate Effective Neuroimmunological Drug Targets & Develop More Predictive Preclinical Models

Built with thought-leaders at **Sanofi, Eisai, AbbVie** and **Denali**, the inaugural **NIDD Summit** will share the field's cutting-edge scientific advances enabling you to translate your neuroimmunology research into a clinically effective therapeutic for neurological diseases.

With an emphasis on neurodegeneration, chronic neuroinflammatory mechanisms will be explored whilst addressing your drug development challenges:

- Discover robust biomarkers of neuroinflammation to enable successful translation and patient stratification
- Navigate preclinical model limitations to better predict clinical efficacy
- Explore the identification and validation of neuroimmunological targets and assess novel therapeutic approaches

Don't miss this opportunity to **learn from 20+ industry expert speakers to effectively target neuroimmunological mechanisms and rapidly progress your research to the clinic.**

With 70+ drug developers attending, you will also get the chance to network with peers, meet with collaborators and develop the partnerships you need to power your neuroimmunology drug development this year.

Hear what past attendees from our other CNS meetings have to say:

"Excellent networking and learning opportunity for pharma scientists"

Matthew Kennedy, Director, Early Discovery Sciences, Neuroscience, Merck

"High level, focused meeting, with overall very interesting presentations and discussion by decision makers in CNS research and development"

Johan Luthman, Vice President, Clinical Development, Eisai

Attend NIDD to:

1. Understand neuro-immuno biology and pathology to **develop more effective therapeutic strategies**
2. Validate identified genetic neuroinflammation targets to **pursue those with clinical potential**
3. Establish robust neuroinflammatory biomarkers for **early detection and monitoring of disease progression**
4. Assess and discover established and novel preclinical models to **better recapitulate human disease states**
5. Undertake strategic study design whilst considering disease progression, variation and patient population selection to **improve translation**
6. Evaluate drug delivery and targeting neuroinflammation using blood-brain barrier technologies **to reduce peripheral risk and increase target engagement**

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www. neuroimmunology- drugdevelopment.com The Neurodegenerative Disease Forum
hansonwade

Your Expert Speakers

Ajay Verma
Senior Scientific Advisor
United Neuroscience & Annexon Biosciences

Brett Abrahams
Vice President
Magnolia Neurosciences

Christian Mirescu
Principal Scientist
Merck

David Hansen
Scientist
Genentech

Eric Hostetler
Executive Director
Merck

Gilbert Di Paolo
Director
Denali Therapeutics

Ilaria Tassi
Senior Scientist
Alector

Joseph Foss
Chief Medical Officer
NeuroTherapia

Laralynne Przybyla
Scientist
Denali Therapeutics

Marco Colonna
Professor
Washington University

Martin Gill
Director
Neuropore Therapies

Mary Hamby
Head of Neuroinflammation Drug Discovery, The Neurodegeneration Consortium
MD Anderson

Oleg Butovsky
Associate Professor
Harvard Medical School

Richard Ransohoff
Entrepreneur in Residence
Third Rock Ventures

Robert Nelson
Co-founder & Vice President
MindImmune Therapeutics

Sally Ishizaka
Senior Director
Eisai

Steven Braithwaite
Chief Scientific Officer
Alkahest

Tarek Samad
Head, MS & Neuroinflammation Research
Sanofi

Thomas Misko
Lead Scientist & Senior Scientific Director
AbbVie

Yaming Wang
Senior Research Scientist
Eli Lilly

Michael Mingueneau
Senior Scientist, Multiple Sclerosis & NeuroInflammation Research
Biogen

Jonathan Levenson
Vice President, Translational Biology
Tiaki Therapeutics

Pre-Conference Workshops Tuesday, April 16

Workshop A

Basic Neuroimmunology Course: Protection & Pathology

8:30am – 11:30am

Review the basic neuroimmunology of the brain to understand the different peripheral and central immune cells, their interactions and how they contribute to brain function or disease pathology.

This session will cover the innate immune pathways in neurodegeneration.

Join this workshop to:

- Improve your understanding of the different cells involved in the innate immune responses in the brain
- Understand how they are affected in neurodegeneration
- Explore different approaches for determining microglial function/dysfunction

Workshop Leader
Marco Colonna
Professor
Washington University

Workshop B

Identifying Translational Phenotypes to Improve Clinical Efficacy

12:00pm – 3:00pm

A focused session on neuroinflammatory phenotypes to screen around and understanding the translation of both phenotypes from *in vitro* work to *in vivo* work.

In this workshop, we will cover microglia modulation of functional properties during processes of tissue injury, neuroinflammation and neurodegeneration.

Attend this session to:

- Improve your understanding on microglia cell phenotypes and gene signatures
- Learn how to improve translation from *in vitro* to *in vivo* work
- Explore different approaches for *in vitro* and mouse models

Workshop Leader
Oleg Butovsky
Associate Professor
Harvard Medical School

Conference Day One
Wednesday, April 17

Tarek Samad
Head, MS & Neuroinflammation Research
Sanofi

8.00 Chair's Opening Remarks

Neuroinflammation: Cause or Consequence?

Richard Ransohoff
Entrepreneur in Residence
Third Rock Ventures

8.15 Microglia: A Performance Appraisal

- Discussing how microglia execute important and time-sensitive tasks during brain development and their activities in the adult brain constitute a linear extension of those functions
- Analyzing how evolution exerts no pressure on microglia to repair the damaged brain or to ameliorate effects of aging, including stroke and neurodegeneration
- Assessing sexual dimorphism as a property of microglia (among most other cells) and its influences on their response to dyshomeostasis
- A consensus human microglial transcriptome has been reported

Tarek Samad
Head, MS & Neuroinflammation Research
Sanofi

8.45 Is Chronic Neuroinflammation Driving Neurodegeneration?

- Discussing whether chronic neuroinflammation is driving, or a result of, neurodegeneration?
- Evaluating the advantages and disadvantages of targeting chronic neuroinflammation as a treatment for neurological diseases
- Understanding the different approaches for targeting neuorinflammation and considering the limitations

Richard Ransohoff
Third Rock Ventures

Tarek Samad
Sanofi

Gilbert Di Paolo
Denali Therapeutics

Sally Ishizaka
Eisai

9.15 Panel Discussion: Neuroinflammation: Cause or Consequence?

- Is chronic neuroinflammation a cause or result of neurological disease?
- Developing strategies to pool and share raw data from human post mortem single-cell RNA-seq
- Is targeting neuroinflammation a valid therapeutic for neurological disorders?
- What are the potential benefits and risks to consider?

9.45 Speed Networking

This session is the ideal opportunity to get face-to-face time with many of the brightest minds working in the neuroimmunology field and establish meaningful business relationships to pursue for the rest of the conference.

10.45 Morning Refreshments

Seeking Robust Biomarkers of Chronic Neuroinflammation

Thomas Misko
Lead Scientist & Senior Scientific Director
AbbVie

11.15 CSF, Blood & Imaging - Linking Neuroinflammatory Biomarkers to Disease Progression & Therapeutic Benefit

- Neuroinflammation in MS and AD: what it may tell us about the molecular underpinnings of disease
- Evaluating markers at the nexus of neuroinflammation and neurodegeneration
- Analyzing how blood biomarkers and imaging may hold the key to more rapid assessment of therapeutic benefit in the clinic

Eric Hostetler
Executive Director
Merck

11.45 An Assessment of Current Imaging Techniques & The Potential for Neuroinflammation Application

- A review of the current imaging techniques for neurodegeneration
- Discussing the efforts being made to develop imaging techniques and strategies focused on neuroinflammation
- Assessing the benefits and future opportunities for neuroinflammatory imaging

Thomas Misko
AbbVie

Eric Hostetler
Merck

12.15 Panel Discussion: Developing Strategies for Neuroimmunology Biomarkers

- Exploring how to quantify microglial activity
- Developing pre-competitive biomarker and imaging strategies
- The benefits of pooling and sharing raw data

12.45 Lunch & Networking

Accounting for *In Vivo* Model Limitations to Predict Clinical Efficacy

Sally Ishizaka
Senior Director
Eisai

2.00 Translation or Conversation? Mouse Models in the Age of Human Data

- Analyzing how human genetic data has given important new insights into the mechanisms behind neurodegenerative diseases
- Reviewing cross-species differences and their impact in the immune system
- Using a combination of human data and thoughtful application of mouse systems for robust confirmation of therapeutic approaches to human disease

Steven Braithwaite
Chief Scientific Officer
Alkahest

2.30 Modulating Aging: A Translational Path to Therapeutics

- Understanding how fundamental aging processes are malleable and a viable target for therapeutic development
- Demonstrating how *in vivo* models of aging recapitulate age-related deficiencies
- Evaluating how the modulation of plasma chronokines reverses mechanisms of CNS aging
- Advancing an intervention in inflammatory processes of aging from mouse to man

3.00 Afternoon Refreshments & Networking

Optimizing Preclinical Modelling Strategies to Improve Translation

Laralynne Przybyla
Scientist
Denali Therapeutics

3.30 iPSC-derived Microglia as Model Systems for Neurodegeneration Targets

- Using CRISPR-mediated target gene knockouts to define microglia-specific gene functions in a human system
- Developing robust, scalable, disease-relevant microglia functional assays as screening platforms for therapeutic agents
- Elucidation of signaling nodes and molecular pathways that regulate fundamental microglia functionality relevant to disease progression

Jonathan Levenson
Vice President,
Translational Biology
Tiaki Therapeutics

4.00 Modelling the Neuroinflammatory Signature Associated with Alzheimer's Disease with an Ex Vivo Platform

- Identifying druggable, molecular targets on microglia that, when modulated, mitigate neuroinflammation and improve neuronal health
- Enabling this using a systems biology platform modelling chronic neuroinflammation associated with Alzheimer's disease and other neurodegenerative disorders. The platform permits interrogation of neuron-glia interactions that are integral to understanding healthy and disease states
- Validating potential neuroimmunological targets and screening compounds in support of neuroinflammation-directed drug discovery

Daniel Rock
Microglia Application
Specialist
Axol Bioscience

4.30 Molecular & Functional Characterisation of IPSC-Derived Microglia: Developing Tools to Model Neurodegeneration

- Developing a scalable and reproducible generation of physiologically-relevant microglia
- Validation of robust, disease-relevant assays
- Building a translatable neurodegeneration model: longitudinal monitoring of healthy and patient donor iPSC co-cultures
- Assessing the contribution of astrocytes and microglia to the neuroinflammatory microenvironment

Brett Abrahams
Vice President
Magnolia Neurosciences

5.00 Round Table: Preclinical Model Discussion

- Reviewing the disadvantages and advantages of current *in vitro* and *in vivo* models of neuroinflammation
- Suggestions for improvements of modelling systems
- Discussing the potential of novel preclinical models

This round table session will host interactive discussions on the future of neuroimmmunological preclinical models. Share your opinions and experiences with your peers to navigate significant preclinical model challenges to direct future interest and research.

5.30 Chair's Closing Remarks

5.45 Scientific Poster Session

After the formal presentations have finished, the learning and networking carries on. The Poster Session allows you to connect with your peers in a relaxed atmosphere and continue to forge new and existing relationships.

"I liked the breadth of commercial development (pre-clinical up through clinical) included in the program. The meeting is a must go for anyone seriously considering drug development"

St. Lawrence University

Conference Day Two
Thursday, April 18

Tarek Samad Head, MS & Neuroinflammation Research **Sanofi**	**8.30**	**Chair's Opening Remarks**
Validating Neuroinflammatory Targets		
David Hansen Scientist **Genentech**	**8.45**	**Beyond GWAS & Mouse Transcriptomes: Identifying Causal Alleles in Alzheimer's Risk Loci & Understanding Differences Between Human & Mouse Microglia** • Most GWAS-identified loci have unknown reasons for disease association • Discussing how a PILRA coding variant likely accounts for the association of the ZCWPW1 locus with Alzheimer's risk • Acknowledging that certain aspects of human microglial activation are not captured in mouse neurodegeneration models
Gilbert Di Paolo Director **Denali Therapeutics**	**9.15**	**TREM2 Controls Microglial Lipid Metabolism Upon Chronic Phagocytic Challenge** • Reviewing the gene expression studies showing that TREM2 KO microglia fail to reach the DAM state in a chronic demyelination paradigm • Studying lipidomic studies which show that TREM2 KO microglia accumulate lipids • Exploring the features shared by TREM2 KO microglia and aged microglia
Mary Hamby Head of Neuroinflammation Drug Discovery, The Neurodegeneration Consortium **MD Anderson**	**9.45**	**Preclinical Validation of DLK Inhibition for Treatment of Alzheimer's Disease Using RNA-seq in Mouse Models** • Understanding the role of inappropriately activated DLK in neurodegenerative disorders • Analyzing, through longitudinal RNAseq profiling, the role of DLK in two mouse models of Alzheimer's disease • Linking the role of DLK in Alzheimer's disease to the previously identified dysregulation of an immune/microglia network in post-mortem human brain • Shedding light on how inhibition of neuronal DLK confers benefit, at least in part, through alteration of the microglial phenotype
	10.15	**Morning Refreshments & Networking**
Evaluating Therapeutic Approaches Targeting Neuroinflammation		
Martin Gill Director **Neuropore Therapies**	**10.45**	**Validating Target Engagement to Identify Appropriate Doses of Neuroinflammation-Targeted Therapeutics** • Assessing methods for target engagement identification • Reviewing a case study of novel, potent and selective TLR2 antagonists which have been identified and further optimized • Target engagement blocks pro-inflammatory cytokine release in central and peripheral immune cells • Pre-clinical evaluation using multiple models of central and peripheral *in vivo* inflammation
Yaming Wang Senior Research Scientist **Eli Lilly**	**11.15**	**Accounting for Disease Progression: When to Intervene** • Evaluating the features of Alzheimer's disease, an amyloid-mediated tauopathy? • Where does innate immunity fit into the AD cascade? • Discussing a potential stage-dependent role of microglia as suggested by preclinical data
Joseph Foss Chief Medical Officer **NeuroTherapia**	**11.45**	**Targeting & Isolating Neuroinflammatory Mechanisms: The Good, The Bad & Avoiding Comorbidity** • Summarizing neuroinflammatory triggers and the cascade • Evaluating targets, ligands and their non-neuroinflammatory effects • Discussing how to identify the optimal target
	12.15	**Lunch & Networking**

Neuroimmunology Biology & Pathology to Guide Future Drug Development

Michael Mingueneau
Senior Scientist, Multiple Sclerosis & NeuroInflammation Research
Biogen

1.15 Identification of Novel Microglia Subsets & Their Differential Cellular Functions & Response to Aging & Neuroinflammation
- Determining microglial states, subsets and functions in health and disease
- Understanding how microglia play a key role in brain homeostasis and being able to preserve those functions while effectively blocking microglia pathogenic contributions in disease state will be crucial
- Identifying and characterizing microglia heterogeneity and subsets to aid the development of effective and safe drugs modulating microglia biology

Ilaria Tassi
Senior Scientist
Alector

1.45 Developing Monoclonal Antibodies to Target Microglial Functions in Neurodegeneration
- Using human genetics to identify neuroinflammatory targets
- Developing antibodies e.g. TREM2 agonist
- Characterization of the antibodies in a variety of mouse models

Christian Mirescu
Principal Scientist
Merck

2.15 A Novel Imaging-based Platform Points to Neuroprotective Microglia in Alzheimer's models
- Exploring target identification using GWAS and transcriptomic studies
- Understanding the underlying mechanisms that mediate neuroimmune responses and modulate neuritic dystrophy across the disease course
- Investigating disease stage-dependent functions of the microglia-plaque niche
- Utilizing high-resolution confocal microscopy and a custom quantitative, semi-automated image analysis platform to generate a protective-barrier-index (PBI) for individual plaques

Mary Hamby
Head of Neuroinflammation Drug Discovery, The Neurodegeneration Consortium
MD Anderson

2.45 Round Table: Service Provider Satisfaction & Opinions to Guide Future Partnerships
As the field is still in its infancy, this discussion will focus on selection criteria and enable you to share experiences with your peers on vendor services to improve and accelerate neuroinflammation research.
- What does the current service provider landscape look like in the neuroinflammation space?
- Reviewing past success and lessons learned
- What work is currently done in-house which you would prefer to use a third-party company?
- What considerations are important to address when selecting service providers?

Use this session to assess failed and successful service provider relationships and how to to navigate significant challenges associated with working with third parties to direct future interest and research.

3.15 Afternoon Networking & Refreshments

The Blood-Brain-Cerebrospinal Fluid Barriers & Neuroinflammation

Robert Nelson
Co-founder & Vice President
MindImmune Therapeutics

3.45 The [Re-]Emerging Role of Neurovascular Inflammation in Alzheimer's Disease
- What is old is new again: Understanding how new research complements older studies in implicating the peripheral immune system in AD pathology
- This talk presents evidence that an innate immune cell termed the dendritic cell is recruited from blood to brain in both amyloid-depositing and neurofibrillary tangle-forming transgenic mouse models
- Discuss the development of a platform approach identifying inhibitors of dendritic cell recruitment in AD, as well as a strategy for developing a near-infrared imaging biomarker of recruited dendritic cells in AD brain

Ajay Verma
Senior Scientific Advisor
United Neuroscience & Annexon Biosciences

4.15 Bypassing the Blood-Brain Barrier Via Intrathecal Delivery of Therapeutics: Mechanisms & Neuroimmunology Connections
- Underlying biological principles for delivering therapeutic molecules to the central nervous system through intrathecal dosing
- Assessing the impact of neuroanatomy, dosing parameters, therapeutic modality, CSF-CNS molecular exchange mechanisms and CSF clearance routes
- Elucidation of inter-thecal CNS immune surveillance networks relevant to disease and therapeutics

Robert Nelson
MindImmune Therapeutics

Ajay Verma
United Neuroscience & Annexon Biosciences

Yaming Wang
Eli Lilly

4.45 Panel Discussion: Exploring Technologies to Effectively Transport Large Molecules Across the BBB
- What are the biggest challenges for targeting the CNS?
- What current methods are available for allowing drug delivery to the CNS?
- Debating the disadvantages and advantages of various technologies
- Guiding future development for crossing the blood-brain barrier

5.15 Chair's Closing Remarks

Partner With Us

Experts from **AbbVie, Eisai, Sanofi** and **Alector**, along with other leading pharmaceutical and biotechnology companies, are actively seeking the support of service providers specializing in neuroinflammation and neuroimmunology. They are looking to improve disease recapitulation with neuroimmunological preclinical model innovations and discover the latest neuroinflammatory biomarker technologies available.

With 70+ CNS drug development decision makers converging at **NIDD**, partnering with this meeting will enable you to:

- Demonstrate how and why you're the first choice service provider for neuroimmunologists
- Improve your understanding of the neuroimmunology landscape to identify the right connections to make
- Utilize the current opinions of drug development partnerships to build rapport and create valuable relationships
- Communicate new products and exciting progress to the decision makers in the field to enhance or generate leads

To learn more about how we can support your future partnerships and deliver the right solution for you, get in touch today at **sponsor@hansonwade.com**

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AXOL's hiPSC-derived Microglia provide a reproducible, physiologically-relevant model in an easy-to-use, assay-ready format for investigating neuroglia involvement in neurodegeneration and neurodevelopment. This homogenous and reproducible population of iPSC-derived Microglia exhibit physiologically relevant functionality, are highly phagocytic and produce cytokines in response to pathogens. They also express the microglia-specific marker TMEM119 along with myeloid markers TREM2 and IBA-1, making these iPSC-derived Microglia suitable models for investigating neuroinflammation in Alzheimer's disease, multiple sclerosis and Parkinson's disease.

www.axolbio.com

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Censo Biotechnologies offers CNS focused discovery services using our human iPSC based neuro-degenerative and neuro-inflammation platforms. We provide access to a diverse range of existing human iPSC lines including both healthy and disease background. We can gene edit these lines, and have developed highly reproducible differentiation protocols for a number of lineages. Using these cells we offer both customised and standard phenotypic assays to provide new insights and functional disease related understanding of our clients assets.

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For Partnership Opportunities:

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1. Improve your understanding of neuroimmunology biology and pathology
2. Discover and establish innovative strategies to accelerate your neuroimmunological efforts
3. Network with key thought leaders in the neuroimmunology field to establish connections, learn from your peers and secure future collaborations

Team Discounts*

- **10% discount – 3 delegates**
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*Please note that discounts are only valid when three or more delegates from one company book and pay at the same time.

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Package Details	Register & Pay By Friday March 8, 2019	Standard Rate
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Conference Only	$2799 **(save $100)**	$2899
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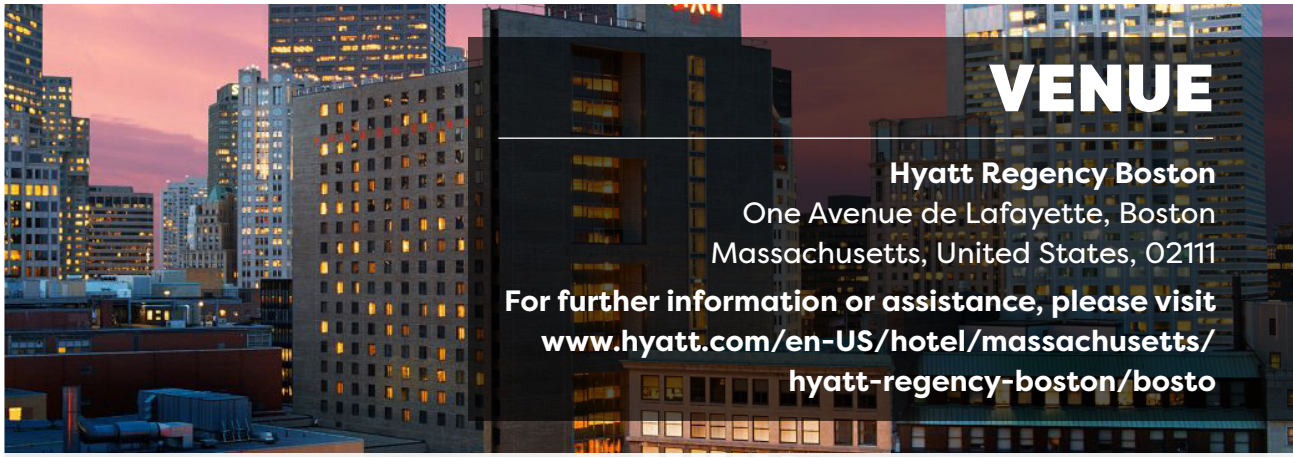
To find out about our academic rates, please contact: register@hansonwade.com



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