



COLUMBIA

COLUMBIA UNIVERSITY
DEPARTMENT OF NEUROLOGY

The Department of Neurology
Division of Translational Neurobiology
The Motor Neuron Center
& The Eleanor and Lou Gehrig ALS Center
are pleased to host the
1st Annual “T Cells in the Brain” Symposium
Friday, January 12, 2024
Roy and Diana Vagelos Education Center
104 Haven Ave, Room 401, New York, NY 10032



8:30AM

Registration and Breakfast

9:00-9:05AM

Introduction and Welcome

Wassim Elyaman, PhD

Assistant Professor of Neurological Sciences (in Neurology and the Taub
Institute for Research on Alzheimer's Disease and the Aging Brain)
Co-Chief, Division of Translational Neurobiology
Columbia University Irving Medical Center

Session I:

Advanced Methods for Analyzing Antigen-Specific T Cells

Moderator: Sally Kent, PhD

Associate Professor, Department of Medicine, UMass Chan Medical School

9:05-9:25AM

*Deciphering the MHC Peptidome in Neurodegenerative Diseases: Insights
from the Human Brain*

Lawrence Stern, PhD

Professor, Department of Pathology, UMass Chan Medical School

9:25-9:45AM

*High-Throughput and High-Dimensional Profiling of Single Antigen-Specific T
Cells*

Ning Jenny Jiang, PhD

J. Peter and Geri Skirkanich Associate Professor of Innovation,
Department of Bioengineering, University of Pennsylvania

9:45-10:05AM

*Peptide-Binding Specificity Prediction Using Fine-Tuned Protein Structure
Prediction Networks*

Philip Bradley, PhD

Professor, Public Health Sciences Division,
Program Head, Herbold Computational Biology Program
Fred Hutchinson Cancer Research Center
University of Washington

10:05-10:25AM

Polyspecific CD8⁺ α/β T Cells Responding to Multiple Viral Antigens

David Klatzmann, PhD

Professor of Immunology, Sorbonne Université and Pitié-Salpêtrière Hospital,
Paris, France

10:25-10:35AM	Session - Open Discussion
10:35-10:55AM	BREAK
Session II:	Microbial Infections as a Risk Factor for Neurodegenerative Diseases Moderator: Kiran Thakur, MD Herbert Irving Associate Professor of Neurology Columbia University Irving Medical Center
10:55AM-11:15PM	<i>Pathogens, Microglia, and Alzheimer's Disease</i> Elizabeth M. Bradshaw, PhD Adler Assistant Professor of Neurological Sciences (in Neurology and the Taub Institute for Research on Alzheimer's Disease and the Aging Brain) Columbia University Irving Medical Center
11:15-11:35PM	<i>Distinct Th17 Effector Cytokines Differentially Promote Microglial and Blood-Brain Barrier Inflammatory Responses During Post-Infectious Encephalitis</i> Dritan Agalliu, PhD Associate Professor of Pathology and Cell Biology (in Neurology) Columbia University Irving Medical Center
11:35-11:55PM	<i>The Role of Advanced Age in Recovery from Neurotropic Coronavirus Infection</i> Kristen E. Funk, PhD Assistant Professor of Biological Sciences University of North Carolina at Charlotte
11:55-12:15PM	<i>Antiviral Therapy: Valacyclovir Treatment of Alzheimer's Disease (VALAD) Trial</i> Devangere Devanand, MD Professor of Psychiatry (in Neurology and the Gertrude H. Sergievsky Center) Director of Geriatric Psychiatry Columbia University Irving Medical Center
12:15-12:25PM	Session - Open Discussion
12:25-1:05PM	LUNCH
1:05-1:30PM	POSTER PRESENTATIONS
1:30-1:40PM	GROUP PHOTO
Session III:	Decoding Peripheral Immune Responses in Neurological Disorders Moderator: Towfique Raj, PhD Associate Professor Co-Director, Alzheimer's Disease Research Center - Genomics Core Departments of Neuroscience, Genetics and Genomic Sciences, and Artificial Intelligence and Human Health Friedman Brain Institute and Icahn Genomics Institute Icahn School of Medicine at Mount Sinai Hospital
1:40-2:00PM	<i>Human Immunity in Space and Time</i> Donna Farber, PhD

George H. Humphreys, II Professor of Surgical Sciences (in Surgery) and
Professor of Microbiology and Immunology
Chief, Division of Surgical Sciences
Columbia University Irving Medical Center

2:00-2:20PM *The Landscape of T-Cell Immunity in Parkinson's Disease*

Osama Al Dalahmah, MD

Assistant Professor in Pathology and Cell Biology
Columbia University Irving Medical Center

2:20-2:40PM *Peripheral Immune Cell Phenotypes in Medically-Refractory Epilepsy*

Rani Sarkis, MD

Assistant Professor of Neurology
Brigham and Women's Hospital and Harvard Medical School

2:40-3:00PM *Unraveling Phenotypic Variations and TCR Profiles in Sporadic versus Familial ALS*

Wassim Elyaman, PhD

Assistant Professor of Neurological Sciences (in Neurology and the Taub
Institute for Research on Alzheimer's Disease and the Aging Brain)
Co-Chief, Division of Translational Neurobiology
Columbia University Irving Medical Center

3:00-3:10PM Session - Open Discussion

3:10-3:30PM BREAK

Session IV Revolutionizing Neurodegenerative Disease Treatment: The Era of Immunotherapies

Moderator: Remi Creusot, PhD

Associate Professor of Medical Sciences (in Medicine)
Columbia University Irving Medical Center

3:30-3:50PM *Investigational New Drug Application (IND) for CK0803, a T Regulatory (Treg) Cell Therapy for Amyotrophic Lateral Sclerosis*

Neil Shneider, MD, PhD

Clare Tow Associate Professor of Motor Neuron Disorders (in Neurology)
Director, Eleanor and Lou Gehrig ALS Center at Columbia
Columbia University Irving Medical Center

3:50-4:20PM *Nasal Anti-CD3 mAb induces Tregs that Dampen Microglial Activation and Treats Neurologic Diseases including MS, AD and ALS*

Howard Weiner, MD

Robert L. Kroc Professor of Neurology, Director and Founder of the Brigham
MS Center, Co-Director of the Ann Romney Center for Neurologic Diseases
Brigham and Women's Hospital and Harvard Medical School

4:20-4:30PM Session - Open Discussion

4:30PM Special Recognition for Best Poster Presentations and Closing Remarks