# Frontiers in HIV: Sailing in the scientific perspective


SCIENCE
*BOSTON*

Sun, December 08, 2019
11:30 am

### Venue
Massachusetts Institute of Technology, Building E51 (Tang Center), Room 395, 70 Memorial Drive, Cambridge, MA, 02142
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### Admission
Free, RSVP required

### Credits
Presented by ECUSA, in collaboration with Massachusetts Institute of Technology and Fundacion Ramón Areces

## The symposium gathers a groups of scientists experts in the field who will explore the current situation of the HIV research.

When HIV first began infecting humans in the 1970s, scientists were unaware of its existence. Now, more than 35 million people across the globe live with HIV/AIDS. The medical community, politicians and support organizations have made incredible progress in the fight against this formerly unknown and heavily stigmatized virus. Despite the fact that infection rates have fallen or stabilized in many countries across the world,we still have a long way to go.

Current estimates point to the number of HIV-positive patients in treatment exceeding the number of new infections. Throughout its history, the number of new infections has always outweighed the number of patients in treatment. In light of this new data, it looks like scientists may finally take the lead in the battle against the global AIDS epidemic.

Recent scientific advances have brought us closer to the elusive goal of an AIDS vaccine, but reaching that goal will require broad collaboration to adapt breakthroughs in the sciences that cultivate an understanding of the interactions between HIV and the immune system.

With World AIDS Day on December 1st, ECUSA would like to highlight the current advances in HIV research. For this reason, they have invited 4 highly recognized researchers who stand for the fight against infection:

**Dr. Maria Duenas Decamp** is an Assistant Professor at UMASS Medical school. She graduated from Universidad Complutense de Madrid and obtained her Ph.D. in Universidad Autónoma de Madrid. Before moving to the USA, she was a research fellow in the Centro de Investigación Básica de España, Merck Sharp &

Dohme in Spain. She has a broad background in Human immunodeficiency virus type 1 (HIV-1) with specific expertise in areas including HIV-1 tropism, neutralization, evolution, fitness, and resistance to antiretroviral drugs. She has studied HIV-1 envelopes derived from brain and lymph node tissues to map determinants of macrophage-tropism and sensitivity to neutralizing antibodies (NAbs). She has found new amino acids in specific positions implicated in gp120 structural changes that affect the accessibility of some important regions in the trimer to NAbs. These determinants will be used to develop future immunogens that elicit broadly potent NAbs. Dr. Duenas Decamp has been awarded an R21 and an R01 for this project. She has also been interested in the role of hematopoietic progenitor cells in HIV pathogenesis and in contributing to HIV viral reservoirs in vivo. She was awarded a CFAR Developmental Pilot grant, and the project was also funded by NIH.

**Dr. Fatema Z. Chowdhury (Navin)** is a Senior Research Scientist at the Ragon Institute of MGH, MIT and Harvard in Cambridge. She comes from a diverse scientific training background starting with her undergraduate published studies in bacterial physiology using competitive colonization of mouse intestine by E. coli as a model. She subsequently earned her PhD in Immunology at UT Southwestern Medical Center, where she published her studies of how innate inflammatory cytokines regulate CD8+ T cell function, both in mice and humans. She is interested in further studying host-pathogen interaction and joined the Ragon Institute as a postdoctoral fellow in 2014 to study HIV-1 pathogenesis and immunity. She has always been very active in outreach as well, such as participating in fundraising events raising awareness about HIV and AIDS in the community.

**Dr. Andrew J. Anderson** did his Ph.D. at the University of California, Riverside, in Kenneth Dorshkind's lab, where he studied how bone marrow microenvironments influence B lymphocyte development. He then moved to Columbia University, to work in Kathryn Calame's lab and focused on T cell-specific gene expression. During this time, he began exploring how cell-specific transcription factors influence HIV replication, which has been the primary focus of his research as an independent investigator. His first position as an independent investigator was at Penn State University in the Department of Veterinary and Biomedical Sciences, where activities included being a co-director of the Immunobiology Graduate Program, Director of the Immunology and Infectious Diseases Undergraduate Program and Director of the Center for Immunology and Infectious Diseases. He moved to Boston University School of Medicine, Department of Medicine and Section of Infectious Diseases in 2007, and his institutional activities include Assistant Dean of Graduate Medical Sciences, Co-director of the Providence/Boston Center for AIDS Research, Director of the BU PREP post-Bac program and developing international training programs.

**Dr. Daniel Claiborne** is a senior postdoctoral fellow in the laboratory of Dr. Todd Allen at the Ragon Institute of MGH, MIT, and Harvard. In 2014 he received his Ph.D. in Immunology and Molecular Pathogenesis from Emory University. During his graduate work, he helped to define the integral role of transmitted viral characteristics, such as replicative capacity, in determining many aspects of HIV-associated pathogenesis and the severity of disease progression. His current work

focuses on understanding the potential for novel gene therapy approaches, including CAR T cell therapy, to control HIV, as well as identifying the host and viral factors influencing the selection of transmitted/founder viruses during the HIV-1 transmission bottleneck and the trajectory of disease progression thereafter.

## PROGRAM

- 11:30 am – 11:40 am: Opening and welcoming.
- 11:40 am – 12:10 pm: *Cells at the service of HIV: Cytotoxic responses to infection*, by Dr. Fatema Z. Chowdhury.
- 12:10 pm – 12.40 pm*: HIV models: the use of humanized mice*, by Dr. Daniel Clairborne.
- 12:40 pm – 1 pm: Break with light appetizers and coffee
- 1 pm – 1:30 pm: *New therapeutic target: Research on effective vaccines*, by Dr. Maria J. Duenas-Decamp.
- 1:30 pm – 2 pm: *Today HIV latency: Barrier to an effective cure*, by Dr. Andrew J. Henderson.
- 2 pm: Closure.