



National Institute of  
Allergy and Infectious Diseases  
Division of AIDS (DAIDS)



Global HIV Vaccine  
Enterprise

# HARNESSING NOVEL IMAGING APPROACHES TO GUIDE HIV PREVENTION AND CURE DISCOVERIES

May 8-9, 2017  
5601 Fishers Lane, Conference Room 1D13, Rockville, MD 20852

## FINAL AGENDA

### MONDAY, MAY 8, 2017

8:30 a.m. – 8:45 a.m. WELCOME & OPENING REMARKS  
**Introduction by Diana Finzi**, NIAID, NIH  
**Yegor Voronin**, Global HIV Vaccine Enterprise

8:45 a.m. – 9:00 a.m. WORKSHOP GOALS  
**Jacob D. Estes**, Frederick National Laboratory, MD

#### SESSION 1

#### EARLY EVENTS AND PATHOGENESIS

##### CHAIRS

**Thomas J. Hope**, Northwestern University, IL  
**Timothy Schacker**, University of Minnesota, MN

##### SESSION OVERVIEW & QUESTIONS

9:00 a.m. – 9:30 a.m. **Ashley T. Haase**, University of Minnesota, MN  
*Image analysis of HIV/SIV pathogenesis: A guide to improving treatment, vaccine development, and cure strategies*

##### SESSION PRESENTATIONS

9:30 a.m. – 10:00 a.m. **Thomas J. Hope**, Northwestern University, IL  
*Imaging HIV/SIV transmission and prevention in macaque mucosal challenge and human explant models*

10:00 a.m. – 10:30 a.m. **Brandon F. Keele**, Frederick National Laboratory, MD  
*Imaging and molecular techniques combined to track mucosal transmission and dissemination*

- 10:30 a.m. – 11:00 a.m. BREAK
- 11:00 a.m. – 11:30 a.m. **Timothy Schacker**, University of Minnesota, MN  
*Image analysis of HIV induced lymphoid tissue fibrosis advances our understanding of HIV pathogenesis*
- 11:30 a.m. – 12:00 p.m. **Michele Di Mascio**, NIAID, NIH, MD  
*Dynamics of CD4 pool repopulation in the whole-body following antiretroviral treatment of SIV infection: an in vivo imaging study*
- 12:00 p.m. – 12:30 p.m. SESSION DISCUSSION
- 12:30 p.m. – 1:30 p.m. LUNCH
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## SESSION 2

## RESERVOIRS AND CURE

### CHAIRS

**Timothy Henrich**, University of California, San Francisco, CA  
**Thomas J. Hope**, Northwestern University, IL

### SESSION OVERVIEW & QUESTIONS

- 1:30 p.m. – 2:00 p.m. **Robert F. Siliciano**, Johns Hopkins University, MD  
*New developments in understanding the latent reservoir for HIV*

### SESSION PRESENTATIONS

- 2:00 p.m. – 2:30 p.m. **Jacob D. Estes**, Frederick National Laboratory, MD  
*Novel in situ imaging approaches to understand viral persistence*

- 2:30 p.m. – 3:00 p.m. BREAK

- 3:00 p.m. – 3:30 p.m. **Francois Villinger**, University of Louisiana, LA  
*Mapping early SIV replication during acute and post acute infection*

- 3:30 p.m. – 4:00 p.m. **Elizabeth Connick**, University of Arizona, AZ  
*Imaging B cell follicles to investigate HIV/SIV persistence*

- 4:00 p.m. – 4:30 p.m. **Won-Bin Young**, University of Pittsburgh, PA  
*Visualization of HIV mucosal transmission, viremia rebound, and drug-resistance in humanized mice*

- 4:30 p.m. – 5:00 p.m. SESSION DISCUSSION

## TUESDAY, MAY 9

### SESSION 3

### VACCINES

#### CHAIRS

**Roger Le Grand**, CEA, France

**Costas Petrovas**, National Institutes of Health, MD

#### SESSION OVERVIEW & QUESTIONS

8:30 a.m. – 9:00 a.m.

**Dan Barouch**, Beth Israel Deaconess Medical Center, MA  
*New approaches to HIV vaccines and imaging*

#### SESSION PRESENTATIONS

9:00 a.m. – 9:30 a.m.

**Costas Petrovas**, NIAID, NIH, MD  
*Tissue imaging: Shedding light into immune dynamics in vaccinology and viral infections*

9:30 a.m. – 10:00 a.m.

**Philip Santangelo**, Georgia Tech, GA  
*Immuno-PET/CT interrogations of SIV and SHIV infections*

10:00 a.m. – 10:30 a.m.

**Roger Le Grand**, CEA, France  
*Imaging changes at vaccine injection site*

10:30 a.m. – 11:00 a.m.

SESSION DISCUSSION

11:00 a.m. – 11:30 a.m.

BREAK

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### SESSION 4

### EMERGING TECHNOLOGIES AND LESSONS FROM NON-HIV/SIV MODELS

#### CHAIRS

**Gabriel Victora**, Rockefeller University, NY

**Thorsten R. Mempel**, Harvard University, MA

11:30 a.m. – 12:00 p.m.

#### SESSION OVERVIEW & QUESTIONS

**Gabriel Victora**, Rockefeller University, NY  
*Visualizing the immune response to infection and immunization*

12:00 p.m. – 12:30 p.m.

#### SESSION PRESENTATIONS

**Michael Gerner**, University of Washington, WA  
*Visualizing immune responses to vaccines*

12:30 p.m. – 1:30 p.m.

LUNCH

1:30 p.m. – 2:00 p.m.

**Weiming Yu**, NIAID, NIH (Ron Germain Lab), MD  
*Histo-cytometry – highly multiplex quantitative 2D and 3D tissue imaging*

- 2:00 p.m. – 2:30 p.m.     **Sigal Shachar**, Center for Cancer Research (NCI), MD  
*Using high-throughput microscopy to study cellular structure and function*
- 2:30 p.m. – 3:00 p.m.     **Thorsten R. Mempel**, Harvard University, MA  
*Cellular and viral dynamics during HIV infection in humanized mice*
- 3:00 p.m. – 3:15 p.m.     BREAK
- 3:15 p.m. – 3:45 p.m.     **Michael Angelo**, Stanford University, CA  
*High dimensional, subcellular imaging of clinical FFPE biopsies using MIBI*
- 3:45 p.m. – 4:15 p.m.     **Angela Kashuba**, University of North Carolina, NC  
*Using mass spectrometry imaging to visualize drug distribution in putative viral reservoirs*
- 4:15 p.m. – 4:45 p.m.     SESSION DISCUSSION
- 4:45 p.m. – 5:00 p.m.     CLOSING REMARKS (Organizing Committee)