



**Tuesday December 3, 2013**

**Satellite meeting sponsored by the NIMH Division of AIDS Research**

**Virus-CNS Interplay: Role of Myeloid cells in HIV Latency and Persistence**

15:45 Opening Remarks

16:00 Modulation of Myeloid Cell Traffic into and out of the CNS; the Effects on Macrophage Populations and Viral Infection  
Kenneth Williams; *Boston College; Boston, USA*

16:15 Persistent Perturbation of CNS Myeloid-lineage Cells during Suppressive Therapy  
Serena Spudich; *Yale University; New Haven, USA*

16:30 Virus Compartmentalization in the CNS  
Ronald Swanstrom; *University of North Carolina, Chapel Hill, Chapel Hill, USA*

16:45 Antiviral Restriction of Myeloid Cell Infection  
Baek Kim; *Emory University, Atlanta, USA*

17:00 Analysis of Macrophage Reservoirs in HIV-infected Individuals  
Mario Stevenson; *University of Miami, Miami, USA*

17:15 Strategies to Purge the Macrophage Reservoir  
Jonah Sacha; *Oregon Health & Science University, Portland, USA*

17:30 Discussion

18:20 Welcoming Message

18:30 Challenges in HIV Eradication Research  
Robert Siliciano; *John Hopkins University, Baltimore, USA*

19:00 Dinner

**Wednesday December 4, 2013**

**08:00-10:00 Session I: Basic Mechanisms of HIV Latency**

*Chairs: Carine Van Lint; Université Libre de Bruxelles, Gosselies, Belgium  
Monsef Benkirane; CNRS, Montpellier, France*

- 8:00 Signaling Pathways and Epigenetic Mechanisms Controlling HIV Latency  
Jonathan Karn; *Case Western Reserve University, Cleveland, USA*
- 8:20 Role of Lysine Methylation in HIV Latency  
Melanie Ott; *Glastone Institute of Immunology and Virology, San Francisco, USA*
- 8:40 A Novel Pathway of HIV-1 Proviral Latency Controlled by Amino Acid Starvation via HDAC4  
Guido Poli; *San Raffaele University, Milano, Italy*
- 9:00 Dual role of the cellular cofactor CTIP2 in HIV-1 latency  
Carine Van Lint; *Université Libre de Bruxelles, Gosselies, Belgium*
- 9:20 Iws1 connects LEDGF/p75 and Spt6 to silence HIV-1 gene expression in latently infected cells  
Stéphane Emiliani; *INSERM U1016, Paris, France*
- 9:40 The NCOR2-Nurr1-CoREST Transrepression Axis Impairs HIV Reactivation in Latently Infected Microglial Cells  
David Alvarez-Carbonell; *Case Western Reserve University, Cleveland, USA*
- 10:00 Break, Posters

**10:30-12:10 Session II: Assays to Measure HIV Persistence**

*Chairs: Sarah Palmer; Westmead Millenium Institute for Medical Research and University of Sydney, Westmead, Australia  
Douglas Richman; University of California San Diego/VA Medical Center, La Jolla, USA*

- 10:30 Comparative Analysis of Measures of Viral Reservoirs in HIV-1 Eradication Studies  
Janet Siliciano; *John Hopkins University, Baltimore, USA*
- 10:50 “Digital” Assays for Quantitative Analysis of Persistent Infection  
Matthew Strain; *University of California, San Diego, USA*
- 11:10 Assessment and Quantification of Cell Associate Unspliced HIV-1 RNA using Reverse Transcriptase Droplet Digital PCR  
Zixin Hu; *Brigham and Woman’s Hospital and Harvard Medical School, Cambridge, USA*
- 11:20 Droplet Digital PCR, the new tool in HIV reservoir quantification?  
Ward De Spiegelaere; *Ghent University, Ghent, Belgium*
- 11:30 Subtype Independent Amplification and Sequencing of Low Level Viremia in HIV-1 Infected Patients on Combination Antiretroviral Treatment  
Tomas Mellberg; *University of Gothenburg, Goteborg, Sweden*
- 11:40 Sensitive HIV-1 RNA detection in plasma and cerebrospinal fluid (CSF) of patients receiving stable antiretroviral therapy  
Anna Maria Geretti; *University of Liverpool, Liverpool, United Kingdom*
- 11:50 Pyroptosis Drives Both CD4 T-Cell Death and Chronic Inflammation In HIV-Infection: Potential Implications for the Latent HIV Reservoir  
Warner Greene; *Gladstone Institute of Virology and Immunology, San Francisco, USA*
- 12:00 Comparison of Latent HIV-1 Reactivation in Multiple Cell Models and Resting CD4+ T Cells from Aviremic Patients  
Vicente Planelles; *University of Utah, Salt Lake City, USA*
- 12:10 Lunch

**14:00-15:10 Session III: *In vivo* and *in vitro* Models of HIV Persistence**

*Chairs: Jose Alcami; Instituto de Salud Carlos III, Madrid, Spain*

*Vicente Planelles; University of Utah, Salt Lake City, USA*

- 14:00 Viral Reservoirs and Anti-Latency Interventions in Nonhuman Primate Models of SIV/SHIV Infection  
Koen VanRompay; *UC Davis, Davis, USA*
- 14:20 *In vivo* Analysis of HIV Persistence and Eradication  
J. Victor Garcia-Martinez; *University of North Carolina at Chapel Hill, Chapel Hill, USA*
- 14:40 HIV Latency Drug Discovery: Optimizing Drugs to Induce Latent HIV Expression  
Daria Hazuda; *Merck, West Point, USA*
- 15:00 Modeling a Cure for HIV in Nonhuman Primates Using Hematopoietic Stem Cell Gene Therapy Approaches  
Hans-Peter Kiem; *Fred Hutchinson Cancer Research Center, Seattle, USA*

**15:10-16:10 Session IV: Clinical Virology of HIV Persistence**

*Chairs: Christine Rouzioux; Hôpital Necker, Paris, France  
John Coffin; Tufts University, Boston, USA*

15:10 Understanding Lentiviral Persistence *in vivo* Using Nonhuman Primate Models  
Jacob Estes; SAIC-Frederick, Inc, Frederick, USA

15:30 Does Expression of Vpx by SIV Facilitate Infection of Macrophages and Resting CD4 T cells *in vivo*?  
Jason Brenchley National Institutes of Health, Bethesda, USA

15:50 Longitudinal analysis of infection frequencies and genetic makeup of intracellular HIV-1 from tissue compartments during long-term suppressive therapy  
Sarah Palmer; Westmead Millennium Institute and University of Sydney, Westmead, Australia

16:00 Persistent Elevation in HIV viremia during cART with Identical WT Sequences Imply Expansion of a Clonal Source  
Frank Maldarelli; HIV-Drug Resistance Program, Frederick, USA

16:10 Break, Posters

**16:40-18:00 Session V: Anatomic and non-CD4 Cell Reservoirs**

*Chairs: Mario Stevenson; University of Miami - Miller School of Medicine, Miami, USA  
Ashley Haase; University of Minnesota, Minneapolis, USA*

16:40 Anatomic and Cellular Reservoirs of HIV Infection Before and During HIV Therapy  
Timothy Schacker; University of Minnesota, Minneapolis, USA

17:00 Quantitation of Latently Infected Macrophages in Tissues of Suppressed SIV-infected Macaques that Contribute to the Viral Reservoir  
Janice Clements; John Hopkins University School of Medicine, Baltimore, USA

17:20 Experimental CD4 Depletion Prior to SIV Infection in rhesus macaques Results in Massive Macrophages and Microglia Infection with Rapid Turnover of Infected Cells  
Mirko Paiardini; Emory University, Atlanta, USA

17:35 Distribution and Fine Structure Genetic Analysis of HIV in Gut Associated Lymphoid Tissue (GALT) and Blood after Prolonged Antiretroviral Therapy  
Francesco Simonetti; NCI-NIH; Frederick, USA

17:50 Persistent expression of HIV-1 p24-Gag in tissues of patients on cART  
Richard Fox; University of Washington, Seattle, USA

Free Evening to enjoy Miami!

**Thursday December 5, 2013**

**08:00-10:00 Session VI: Immunology of HIV Persistence**

*Chairs: Marie-Lise Gougeon; Institut Pasteur, Paris, France*

*Nicolas Chomont; VGTI-Florida, Port St. Lucie, USA*

- 8:00 The Non-human Primate Model for Studies of HIV Eradication  
Guido Silvestri; *Emory University, Atlanta, USA*
- 8:20 The Role of Immune-based Therapeutics in Curing HIV Infection  
Steven Deeks; *University of California San Francisco, San Francisco, USA*
- 8:40 The Negative Regulators PD-1, LAG-3 and TIGIT are Associated with HIV Persistence and Incomplete Immune Reconstitution during ART  
Remi Fromentin; *VGTI Florida, Port St Lucie, USA*
- 9:00 Low Tryptophan 2,3-dioxygenase (TDO) Expression is Associated with Distinctive Immune-metabolism of Tryptophan and Preserved Th17/Treg Balance in HIV Elite Controllers  
Jean-Pierre Routy; *McGill University Health Centre, Montreal, Canada*
- 9:20 All Bark and no Bite: HIV Exploitation of CTL 'Help' in the Absence of Killing  
Robbie Mailliard; *University of Pittsburgh, Pittsburgh, USA*
- 9:40 Seminal Cytomegalovirus (CMV) Replication is Associated with Increased CD4+ T-cells Immune Activation and Higher Levels of Proviral HIV DNA Reservoir in Effectively Treated HIV-1-Infected Men who Have Sex with Men (MSM)  
Marta Massanella; *University of California, San Diego, La Jolla, USA*
- 10:00 Break, Posters

**10:30-12:00 Session VII: Pharmacology of HIV Persistence**

*Chairs: Alain Lafeuillade; General Hospital, Toulon, France*

*Courtney Fletcher; University of Nebraska Medical Center, Omaha, USA*

- 10:30 Is There a Pharmacologic Basis for Persistent HIV Replication?  
Courtney Fletcher; *University of Nebraska Medical Center, Omaha, USA*
- 10:50 Current and Future Approaches to Quantifying the Relationship Between Pharmacology and HIV Persistence  
Angela Kashuba; *University of North Carolina Eshelman School of Pharmacy, Chapel Hill, USA*
- 11:10 Inhibitory Slopes Show Minimal Variation Within and Across Mechanistic Classes of HIV-1 Antiretroviral Agents and Are Not Likely to Contribute to Differential Effectiveness of Combination Therapy and Viral Persistence  
Jay Grobler; *Merck & Co., West Point, USA*
- 11:25 Farnesyl-Transferase inhibitors: Identification and validation of a class which reactivates HIV latent expression and is synergistic with other mechanisms in vitro  
Richard Barnard; *Merck & Co., West Point, USA*
- 11:40 What If a Drug that was Developed to Treat HIV Infection Could Actually Help to Cure It?  
Mark Wainberg; *McGill University AIDS Centre, Montreal, Canada*

12:00 Lunch

**14:00-15:00 Session VIII: Late Breakers**

*Chairs: Alain Lafeuillade; General Hospital, Toulon, France*

*Mario Stevenson; University of Miami - Miller School of Medicine, Miami, USA*

14:00 Suppression of low-level transcription from latently infected cells and Inhibition of HIV-1 reactivation by a potent Tat inhibitor  
*Susana Valente; The Scripps Research Institute, Jupiter, USA*

14:20 The effect of maraviroc on HIV transcription in resting CD4+ T-cells from ART-suppressed HIV-1-infected patients  
*Nadia Madrid; Hospital Ramon Y Cajal, Madrid, Spain*

14:40 HIV Sanctuaries, Latency and Reactivation  
*Boris Peterlin; UCSF, San Francisco, USA*

**15:00-16:00 Session IX: Drug Discovery**

*Chairs: Mario Stevenson; University of Miami - Miller School of Medicine, Miami, USA*

*David Margolis; University of North Carolina at Chapel Hill, Chapel Hill, USA*

15:00 Anti-PD-L1 immunotherapy in ARV-suppressed rhesus monkeys  
*James Whitney; Beth Israel Deaconess Medical Center, Boston, USA*

15:10 Dual Approach to HIV-1 Cure: Activation of Latency and Restoration of Exhausted Virus-specific T Cell Function  
*Steve Mason; Bristol Myers Squibb, New York, USA*

15:30 Concepts of Combination Therapy for HIV Eradication  
*Romas Geleziunas; Gilead Sciences, Inc, Foster City, USA*

16:00 Break, Posters

**16:30-18:30 Session X: Acute HIV Infection and Functional Cure**

*Chairs: Deborah Persaud; Johns Hopkins University, Baltimore, USA*

*Andrew Spaltenstein; GlaxoSmithKline, Raleigh - Durham, USA*

16:30 Challenges and Strategies Towards Functional Cure: How Low Do You Need To Go  
*Timothy Henrich; Brigham and Women's Hospital, Boston, USA*

16:50 Virologic and Immunologic Characterization of HIV reservoirs in Children Following Early Therapy  
*Katherine Luzuriaga; University of Massachusetts Medical School, Worcester, USA*

17:10 Persistence of HIV-1 Transcription in Patients Initiating Antiretroviral Therapy during Primary Infection  
*Alexander Pasternak; University of Amsterdam, Amsterdam, Netherlands*

17:30 Small Peripheral Blood HIV-1 Reservoir after Allogeneic (Cord Blood) Stem Cell Transplantation  
*Annemarie Wensing; University Medical Center Utrecht, Utrecht, Netherlands*

17:50 Mathematical Model of Spontaneous HIV Infection Control Following Termination of Antiretroviral Therapy  
*Alan Perelson; Los Alamos National Laboratory, Los Alamos, USA*

18:10 Sigmoid Lamina Propria CD4 T cell Depletion during Acute HIV Infection is Associated with Activated CD4/CD8 T cells, Inflammatory Biomarkers and Viral Burden in the Gut and Blood  
*Jintanat Ananworanich; SEARCH, The Thai Red Cross AIDS Research Center, Bangkok, Thailand*

19:30 Dinner



**Friday December 6, 2013**

**08:00-10:00 Session XI: New Therapeutic Approaches – Part I**

*Chairs: Andrea Savarino; Istituto Superiore Di Sanita, Rome, Italy  
George Hanna; Bristol-Myers Squibb, Princeton, USA*

- 8:00 Translational Challenges in Targeting Latent HIV Infection  
David Margolis; University of North Carolina at Chapel Hill, Chapel Hill, USA
- 8:20 Activating Latent HIV with Vorinostat. The Knowns and Unknowns  
Sharon Lewin; *Monash University, Melbourne, Australia*
- 8:40 Cyclic Dosing of Panobinostat to Reverse HIV Latency: Findings from a Clinical Trial  
Thomas Rasmussen; *Aarhus University Hospital, Skejby, Denmark*
- 9:00 Pharmacologically Induced Functional Cure-like Condition in Chronically SIVmac251 Infected Macaques is Associated with Immune Reconstitution and Broad Anti-Gag Immune Responses *Increasing over Time*  
Iart Shytaj; *Istituto Superiore di Sanità, Rome, Italy*
- 9:10 Design and delivery of homing endonucleases for inactivation of HIV provirus  
Keith Jerome; *Fred Hutchinson Cancer Research Center, Seattle, USA*
- 9:20 Novel CD4-Based Chimeric Antigen Receptors as Immunotherapy for an HIV Functional Cure  
Ed Berger; *NIAID, NIH, Bethesda, USA*
- 9:30 Evaluating CTL-based flush and kill HIV Eradication Strategies Against Primary Cell Models of Latency and Natural HIV Reservoir  
Brad Jones; *Ragon Institute of MGH, MIT, and Harvard, Cambridge, USA*
- 9:40 Ex-Vivo Expanded Cytotoxic T Cell Lymphocytes Enhance Clearance of Latent HIV Infection  
Julia Sung; *University of North Carolina, Chapel Hill, USA*
- 10:00 Break, Posters

**10:30-12:00 Session XII: New Therapeutic Approaches – Part II**

Chairs: Jose Gatell; *Hospital Clinic, Barcelona, Spain*

Mark Wainberg; *McGill University AIDS Centre, Montreal, Canada*

- 10:30 Progress Towards the Clinical Validation of a Cytokine-enhanced pDNA Prime, rVSV Boost Therapeutic Vaccination Regimen Capable of Eliciting Robust, de novo, HIV-specific Immunity  
Michael Egan; *Profectus Biosciences, Tarrytown, USA*
- 10:50 Immune Activation and HIV Persistence: New Therapeutic Approaches  
Hiroyu Hatano; *University of California, San Francisco, USA*
- 11:10 Update in HIV Therapeutic Vaccines and Immunotherapy  
Jose Gatell; *Hospital Clinic, Barcelona, Spain*
- 11:30 HIV Protected Zinc Finger Nucleases Mediated CCR5 Modified Autologous CD4 T-cells (SB-728-T) Reduce HIV Viral Load in CCR5  $\Delta$ 32 Heterozygote Subjects During Treatment Interruption (TI): Correlates of Effect, and Effect of Cytoxan Pre-Conditioning Regimen  
Joumana Zeidan; *VGTI, Florida, Port St Lucie, USA*
- 11:40 Using an autologous HIV vaccine/activator (based on the full length virus genome and the intrapatient virus population) to induce latent HIV and boost immunity  
Eric Arts; *Case Western Reserve University, Cleveland, USA*
- 11:50 Dendritic Cell-based HIV Therapeutic Vaccination Increases Residual Viremia in Individuals on Antiretroviral Therapy  
Bernard Macatangay; *University of Pittsburgh, Pittsburgh, USA*
- 12:00 HIV-1 Infection Abrogated by Drug-Induced Reactivation of Apoptosis  
Michael Matthews; *Rutgers University, Newark, USA*
- 12:10 In vivo Administration of Lithium Does Not Induce HIV-1 Reactivation or Changes in the Viral Reservoir  
Maria Puertas; *IrsiCaixa, Badalona, Spain*
- 12:20 Ing-B (ingenol-3-hexanoate) is a Potential PKC Activator for the Shock and Kill Strategy in HIV Eradication  
Lucio Gama; *Johns Hopkins School of Medicine, Baltimore, USA*
- 12:30 **Workshop Conclusion**