



Join Keystone Symposia
for the 2016 conference on:

HIV Vaccines

March 20–24, 2016

Resort at Squaw Creek | Olympic Valley, California | USA

Scientific Organizers:

David C. Montefiori and Mario Roederer

Joint with the conference on: HIV Persistence – Pathogenesis and Eradication

Evidence from multiple passive transfer experiments in non-human primates, as well as from studies of immunologic correlates of modest efficacy in the RV144 Thai trial, support the notion that both neutralizing and non-neutralizing antibodies have potential to prevent infection. Major advances have been made in understanding the epitopes, structures and evolutionary pathways of broadly neutralizing antibodies, leading to new avenues to pursue for vaccine design. The extraordinary breadth and potency of some recently discovered neutralizing antibodies has generated additional interest in potential therapeutic applications, including cure strategies. There has also been a steady increase in knowledge of other types of antiviral antibodies and their effector functions that may be important for vaccines. This meeting aims to cover a range of topics including: 1) Initial virus transmission events for vaccine intervention, 2) Non-neutralizing antibody correlates of sterilizing immunity; 3) Epitopes, structures and ontogeny of broadly neutralizing antibodies; 4) Novel vaccine concepts for broadly neutralizing antibody induction; and 5) Immunotherapy. Emphasis will be placed on recent unpublished findings in key areas that hold the greatest promise for rapid progress toward an effective vaccine.

Session Topics:

- Acute HIV Infection and Initial Transmission Events (Joint)
- Immunologic Correlates of Sterilizing Immunity
- Epitopes, Structures and Ontogeny of Broadly Neutralizing Antibodies
- Vaccine Concepts I & II
- Pathways Leading to Long-Term Protective Immunity Against HIV-1
- Immunotherapy (Joint)
- Bridging Innate and Acquired Immunity



Submitting an abstract is a great way of participating in the conference through poster presentation and possible selection for a short talk.

Scholarship & Discounted Abstract Deadline: Nov 19, 2015

Abstract Deadline: Dec 17, 2015

Discounted Registration Deadline: Jan 21, 2016

For additional details, visit www.keystonesymposia.org/16X8.

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KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

HIV Vaccines (X8)

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SUNDAY, MARCH 20

Arrival and Registration

MONDAY, MARCH 21

Welcome and Keynote Address (Joint)

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

***Carl W. Dieffenbach**, NIAID, National Institutes of Health, USA

Anthony S. Fauci, NIAID, National Institutes of Health, USA

Recorded Presentation: Ending the HIV/AIDS Pandemic: Follow the Science

Acute HIV Infection and Initial Transmission Events (Joint)

***Nilu Goonetilleke**, University of North Carolina at Chapel Hill, USA

George M. Shaw, University of Pennsylvania, USA
Novel SHIV Design to Recapitulate HIV-1 Transmission, Persistence and Pathogenesis and as a Guide for Vaccine and Cure Research

Joseph Eron, University of North Carolina School of Medicine, USA
Acute HIV Infection: Antiretroviral Therapy and Persistence

Giuseppe Pantaleo, Centre Hospitalier Universitaire Vaudois, Switzerland
Novel Therapeutic Interventions in the Targeting of the HIV Cell Reservoir

Zachary S. Ende, Centers for Disease Control and Prevention, USA
Short Talk: Heterosexual Transmission of Subtype C HIV-1 Does Not Require Increased Replicative Capacity or Interferon Resistance

Shilpa Iyer, University of Pennsylvania, USA
Short Talk: Mucosal Transmission of HIV-1 Selects for Variants with Enhanced Infectivity, Replication Fitness and Interferon Resistance

DAIDS Programmatic Agendas, Recent Review Policy Updates, and Grantsmanship Advice (Joint)

Workshop 1: Requirements for bnAb Induction (X8)

***Pamela J. Bjorkman**, California Institute of Technology, USA

Matthew D. Gray, Fred Hutchinson Cancer Research Center, USA
Self-assembling HIV Envelope Nanoparticles Increase Antibody Binding, Membrane Dynamics and B-cell Activation

Christina Guzzo, NIAID, National Institutes of Health, USA
Critical Role of V2 Sulfotyrosines in Stabilizing the HIV-1 Envelope Trimer in Its Closed, Antibody-Protected Conformation

Colin Havenar-Daughton, La Jolla Institute for Immunology, USA
Virtual Immunization with eOD-GT8: Probing the Human Naive B Cell Repertoire to a Candidate HIV Vaccine Immunogen

Cassandra Simonich, Fred Hutchinson Cancer Research Center, USA
An Infant bNAb with Low Somatic Hypermutation Contributes to Polyclonal Breadth

Lorena S. Ver, IAVI, International Aids Vaccine Initiative, USA
Characterization of Neutralizing Antibody Responses to the N332 Site of Vulnerability on HIV Env in IAVI Protocol C Cohort

Amelia Escolano, Rockefeller University, USA
Sequential Immunization Strategies to Elicit HIV-1 bNAbs in Human Ig Knock-in Mice

Daniela Fera, Swarthmore College, USA
Structural Analysis of an HIV-1 Broadly Neutralizing B-Cell Lineage Targeting the Env N332 Glycan

Immunologic Correlates of Sterilizing Immunity (X8)

***Mark Connors**, NIAID, National Institutes of Health, USA

Merlin L. Robb, Walter Reed Army Institute of Research, USA
Optimizing Quality and Durability of Immune Responses: Insights from RV 144 Follow-up Studies

Genoveffa Franchini, NCI, National Institutes of Health, USA
Activated RAS in PBMCs and Extracellular Vesicle, Mucosal Envelope Antibody to V2, and Innate Lymphoid Cells are Associated with Vaccine-Mediated Reduced Risk of SIVmac251 Acquisition

Georgia D. Tomaras, Duke University Medical Center, USA
HIV-1 Vaccine Humoral Immunity, Immune Correlates and Mechanistic Insights

Genevieve Fouda, Duke University Medical Center, USA
Short Talk: HIV Exposed Infants Vaccinated with a rgp120/MF59 Vaccine have Higher Magnitude anti-V1V2 IgG Responses than Adults Immunized with the Same Vaccine

Thomas Musich, 1Armed Forces Research Institute of Medical Sciences, Thailand
Short Talk: Vaccine-Induced Effects on Neutrophils in Rhesus Macaques

Mechanisms of Persistent Infection (X7)

***Steven G. Deeks**, University of California, San Francisco, USA

Jonathan Karn, Case Western Reserve University, USA
Epigenetic Control of HIV Latency

Melanie M. Ott, University of California, San Francisco, USA
Epigenetic Regulation of HIV Latency

Susana T. Valente, Scripps Florida, USA
Eradication without Reactivation

Andrew P. Rice, Baylor College of Medicine, USA
Regulation of P-TEFb and HIV Latency

Poster Session 1

TUESDAY, MARCH 22

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Epitopes, Structures and Ontogeny of Broadly Neutralizing Antibodies (X8)

***Rogier W. Sanders**, University of Amsterdam and Weill Cornell Medical College, Netherlands

Pamela J. Bjorkman, California Institute of Technology, USA
Structure-Based Design of Improved Antibodies Against HIV

Sasha Murrell, The Scripps Research Institute, USA
Short Talk: Crystal Structures of Two Related Broadly Neutralizing Antibodies against the N332 Supersite in HIV Env

Marit van Gils, University of Amsterdam, Netherlands
Short Talk: Broadly Neutralizing Antibodies from an Elite Neutralizer Target a Novel Site at the gp120-gp41 Interface

Dennis R. Burton, The Scripps Research Institute, USA
Broadly Neutralizing Antibodies to Guide HIV Vaccine Design

Jinal Nomathemba Bhiman, The Scripps Research Institute, USA
Viral Variants that Initiate and Drive Maturation of Broadly Neutralizing Antibodies

William Schief, IAVI and The Scripps Research Institute, USA
Epitope-Focused HIV Vaccine Design

Christina Yacoob, Fred Hutchinson Cancer Research Center, USA
Short Talk: Selective Allelic Expansion of HIV-1 Immunized Rhesus Macaques Based on Different Antigenic Properties of Env Immunogens

Reservoirs and Persistence I (X7)

***Susana T. Valente**, Scripps Florida, USA

Janice E. Clements, Johns Hopkins University, USA
Tissue Reservoirs of CD4+T Cells and Macrophages in ART Suppressed SIV-Infected Macaques

Satya Dandekar, University of California, Davis, USA
Early Establishment of HIV Reservoirs

John M. Coffin, Tufts University, USA
Mechanism of HIV Persistence despite Suppressive Antiretroviral Therapy

J. Victor Garcia-Martinez, University of North Carolina at Chapel Hill, USA
In vivo Analysis of HIV Persistence

Sara Ferrando-Martinez, NIAID, National Institutes of Health, USA
Short Talk: Immune Activation Drives Accumulation of Follicular CTL during Chronic HIV/SIV Infection

Binhua Ling, Tulane National Primate Research Center, USA
Short Talk: Gut Viral Reservoirs in SIV-Infected Long-Term Nonprogressing Chinese Rhesus Macaques on Antiretroviral Therapy

Hands-On Computer Session on Los Alamos Sequence Database (X8)

Workshop 1: Challenges of Persistent HIV Infection (X7)

***Romas Geleziunas**, Gilead Sciences, Inc., USA

Kirston M. Barton, University of Sydney, Australia
HIV-1 in the Blood and Intestine Contribute to Viremia During Treatment Interruption

Ya-Chi Ho, Yale School of Medicine, USA
Activation of Novel Splice Donor Sites Allows Production of tat and rev Transcripts in Defective Patient-Derived HIV-1 Proviruses

Lillian B. Cohn, Chan Zuckerberg Biohub, USA
HIV DNA Integration Site Selection in Productive Infection

Allison Thomas, George Washington University, USA
After Long-Term ART, T-cell Responses Targeting Early HIV Proteins Uniquely Correlate with Infected Cell Frequencies

Luca Micci, Emory University, YNPRC, USA
Determinants of Viral Control following ART-interruption in SIV-infected Rhesus Macaques

James L. Riley, University of Pennsylvania, USA
Engineering Chimeric Antigen Receptors for Durable Control over HIV-1 Replication

Maud Mavigner, Emory University, USA
Reducing HIV Persistence by Targeting Stem Cell Properties of Memory CD4+ T-cells

Angela Wahl, University of North Carolina at Chapel Hill, USA
CD4+ Tissue-Resident Memory T Cells are an Important Reservoir for HIV Persistence

Vaccine Concepts I (X8)

David C. Montefiori, Duke University Medical Center, USA
Standardized Assessments of HIV Vaccine-Elicited Neutralizing Antibodies

***Mario Roederer**, NIAID, National Institutes of Health, USA
The SIV Model to Evaluate Antibody-Based Intervention

Bette Tina Marie Korber, Los Alamos National Laboratory, USA
Using Neutralization Resistance/Sensitivity Signatures to Inform Vaccine Design

Javier Guenaga, IAVI Neutralizing Antibody Center at TSRI, USA
Short Talk: Display of the HIV-1 Env MPER in the Context of a Well-ordered Soluble Uncleaved (NFL) Trimer

James Mark Binley, San Diego Biomedical Research Institute, USA
Short Talk: Eliciting Tier 2 anti-HIV-1 NAb using Native, Membrane Trimers

Auxillary Genes and Host Restriction Factors (X7)

***J. Victor Garcia-Martinez**, University of North Carolina at Chapel Hill, USA

Alan N. Engelman, Dana-Farber Cancer Institute, USA
CPSF6 Regulates HIV-1 Integration into Active Chromatin

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Stephen P. Goff, Columbia University, USA

Retroviral Silencing: Transcriptional and Post-Transcriptional Regulation

Michael Emerman, Fred Hutchinson Cancer Research Center, USA

Evolution of Host Antiviral Restriction Factors

Richard Apps, NCI, National Institutes of Health, USA

Short Talk: HIV-1 Immune Evasion by Downregulation of HLA-C

Poster Session 2

WEDNESDAY, MARCH 23

Pathways Leading to Long-Term Protective Immunity Against HIV-1 (X8)

***Jay A. Berzofsky**, NCI, National Institutes of Health, USA

Bali Pulendran, Stanford University School of Medicine, USA
Signaling Mechanisms

W. Ripley Ballou, GlaxoSmithKline Vaccines, USA
Inducing Long-Term Protection with Vaccines

Richard A. Koup, NIAID, National Institutes of Health, USA
T Cell Help

Maria Blasi, Duke University Medical Center, USA
Use of Integrase Defective Lentiviral Vectors Expressing HIV-Envs to Induce Durable Immune Responses

Jinghe Huang, NIAID, National Institutes of Health, USA
Short Talk: Intranasal Replication Competent Adenovirus Type 4-Influenza-H5 (Ad4-H5-Vtn) Vaccine Induces Durable Neutralizing Antibody Responses in Humans

Konstantin Virnik, Food and Drug Administration, USA
Short Talk: Expression of HIV and SIV Env Proteins in a Highly Immunogenic Rubella Vaccine Platform

Antiviral Host Response and Inflammation (X7)

***Satya Dandekar**, University of California, Davis, USA

Nicolas Chomont, Université de Montréal, Canada
Immune Checkpoint Molecules and HIV Persistence during ART

Alberto Bosque, George Washington University, USA
Short Talk: Targeting Pathogen Recognition Receptors to Reactivate Latent HIV-1

Ivona Pandrea, University of Pittsburgh, USA
Nonhuman Primate Studies with Relevance for Cure Research

David Favre, GlaxoSmithKline, USA
Immune Modulation as a Strategy to Clear Persistent Infection

Heinrich Gottlinger, University of Massachusetts Medical School, USA

Short Talk: SERINC3 and SERINC5 Synergistically Inhibit HIV-1 Infectivity and are Antagonized by Nef

Catherine A. Blish, Stanford University School of Medicine, USA
Short Talk: NK Cell Response

Hands-On Computer Session on Los Alamos Immunology Database (X8)

Workshop 2: New Technologies and Approaches (X7)

***Karl Salzwedel**, NIAID, National Institutes of Health, USA

Collin Kieffer, University of Illinois at Urbana-Champaign, USA
Longitudinal Imaging of Early HIV infection in Humanized Mice with Parallel 3D Immunofluorescence and Electron Microscopy

Bonnie J. Howell, Merck, USA
Ultrasensitive Detection of Viral p24 following Reactivation of Latent HIV

Tram N.Q. Pham, Institut de Recherches Cliniques de Montreal, Canada

Enhancing Tethering of HIV Virions by BST2/Tetherin Augments the Susceptibility of Productively and Latently Infected T Cells to ADCC Mediated by Broadly Neutralizing Anti-HIV Antibodies

Yik Lim Kok, University Hospital Zurich, Switzerland
A Novel HIV-1-Based Vector that Reproduces Features of Productive and Latent HIV-1 Infections

Julia Sung, University of North Carolina, USA
HIV specific Ex vivo Expanded T Cell (HXTC) Therapy to Target the Latent Reservoir

Kenneth M. Law, Icahn School of Medicine at Mount Sinai, USA
Cell-to-cell HIV-1 Transmission Promotes Multicopy Micro-Compartmentalized Infection in Humanized Mice

Lydie Trautmann, US Military HIV Research Program, USA
Differentiation of Effector CD8 T Cells Toward Short Lived Cells Lacking Memory Potential During Acute HIV Infection

Sarah DiNapoli, NIAID, National Institutes of Health, USA
Lymphoid Tissue-Resident Myeloid Cells Contain Replication-Competent Virus that is Genetically Similar to Virus from CD4+ T Cells in ARV-Naïve Asian Macaques

Vaccine Concepts II (X8)

***Bette Tina Marie Korber**, Los Alamos National Laboratory, USA

John P. Moore, Weill Medical College of Cornell University, USA
How to Make and Use Multiple Native-Like SOSIP Trimers for Vaccine and Structural Studies

Barton F. Haynes, Duke University Medical Center, USA
B Cell Lineage Immunogen Design Approach to Elicit HIV Broadly Neutralizing Antibodies

Peter D. Kwong, NIAID, National Institutes of Health, USA
Structure-Based Immunogen Design

Marzena Pazgier, Institute of Human Virology, USA
Short Talk: Paring down HIV-1 Env: Design and Structure of an Independent Inner Domain of gp120 Stably Expressing the A32 ADCC Epitope Sub-region

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Talar Tokatlian, Massachusetts Institute of Technology, USA
Short Talk: Design and Characterization of gp140 Envelope Trimer-Coupled Liposomes for an HIV Vaccine

Cure Studies in Models and Man (X7)

***Carl W. Dieffenbach**, NIAID, National Institutes of Health, USA

Daria J. Hazuda, Merck Research Laboratories, USA
HIV Latency Drug Discovery: Optimizing Drugs to Induce Latent HIV Expression

John W. Mellors, University of Pittsburgh School of Medicine, USA
Biomarkers of HIV Persistence and Response to Therapeutic Interventions

Jerome A. Zack, University of California, Los Angeles, USA
Synthetic PKC Modulators as HIV Latency Reversing Agents

Lucy Dorrell, University of Oxford, UK
Short Talk: Elimination of HIV-1 Reservoir Cells from Antiretroviral Therapy-Suppressed Subjects by Engineered Immune-Mobilising Dual Affinity T cell Receptors

Poster Session 3

THURSDAY, MARCH 24

Keynote Address (Joint)

***David C. Montefiori**, Duke University Medical Center, USA

John R. Mascola, NIAID, National Institutes of Health, USA
Active and Passive Antibody-Based Immunity to HIV-1

Immunotherapy (Joint)

***Michael Seaman**, Beth Israel Deaconess Medical Center-Harvard Medical School, USA

David D. Ho, Aaron Diamond AIDS Research Center, USA
Bispecific Antibodies

Michael Farzan, The Scripps Research Institute, USA
AAV-Expressed eCD4-Ig as an Alternative HIV-1 Vaccine

David M. Margolis, University of North Carolina at Chapel Hill, USA
Enlisting Effector Cells to Clear Latent HIV Infection

Louis J. Picker, Oregon Health & Science University, USA
CMV-Based HIV Vaccines for HIV Prevention and Clearance

Poster Session 4

Workshop 2: NHP Models for HIV Vaccines (X8)

***Diane L. Bolton**, US Military HIV Research Program, WRAIR, USA

Nina Rafterman Derby, Population Council, USA
HSV-2 Infection Increases Rectal SIV?Nef Infection and May Reduce Vaccine Effect

Shelby O'Connor, University of Wisconsin-Madison, USA
Tracking SIV Infection and Viral Evolution in vivo using a Barcoded Virus Stock

Hadia Mohammad Abdelaal, University of Minnesota, USA
CTL-Based Vaccine-Induced Protection is Associated with Induction of High Follicular to Extra-Follicular Ratios of Virus-Specific CD8 T Cells

Namal Liyanage, Ohio State University, College of Medicine, USA
Recruitment of Vaccine Induced MMucosal IL17+NKp44+Innate Lymphoid Cells (ILCs) to Decrease the Risk of SIVmac251 Acquisition in Macaques

M. Anthony Moody, Duke University Medical Center, USA
Vaccine-Induced Anatomic Distribution of Env-Specific B Cell Repertoires: Implications for the Genesis of Induced Mucosal Antibodies in Rhesus Macaques

George M. Shaw, University of Pennsylvania, USA

Jay A. Berzofsky, NCI, National Institutes of Health, USA
Immune Activation and the Microbiome in Mucosal Transmission of SHIV

Donald Forthal, University of California, Irvine, USA
Non-Neutralizing Antibodies Reduce the Rate of SIVmac251 Infection Following Low-Dose Repeated Penile Challenge

Bridging Innate and Acquired Immunity (X8)

***Nicole Frahm**, Bill & Melinda Gates Medical Research Institute, USA

Stylianos Bournazos, Rockefeller University, USA
Optimizing Antibody-FcR Interactions

Margaret E. Ackerman, Dartmouth College, USA
Profiling Protective Antibody Responses

George K. Lewis, University of Maryland, USA
Qualitative and Quantitative Variables that Contribute to Fc-mediated Protection Against HIV-1

Reservoirs and Persistence II (X7)

***Douglas D. Richman**, University of California, San Diego, USA

Sarah E. Palmer, University of Sydney, Australia
Characterizing the HIV-1 Reservoir During Long-Term Therapy

Vicente Planelles, University of Utah, USA
Novel Classes of HIV Latency-Reversing Agents

Nancie M. Archin, University of North Carolina at Chapel Hill, USA
Updates on in vivo Administration of Vorinostat

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (X8)

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (X7)

FRIDAY, MARCH 25

Departure