Announcing Keystone Symposia’s 2015 conference on:

The Golden Anniversary of B Cell Discovery

joint with the meeting on: HIV Vaccines

March 22–27, 2015
Fairmont Banff Springs
Banff, Alberta, Canada

Scientific Organizers:
Patrick C. Wilson, Michael P. Cancro and Anne Durandy

This 2015 meeting marks the golden anniversary of the discovery of B cells by Max Cooper and Robert Good in their classic Nature paper. Each topical session begins with a commentary on the history of the area, followed by presentations of the most current advances. Particular emphasis is placed on B cell immunopoiesis in germinal centers, on the interaction of B cells with follicular-helper T cells, on antibody-mediated immunity to HIV and influenza, and on plasma and memory B cell biology. The goal is to showcase the latest breakthroughs in B cell biology, antibody technologies and the potential for B cell/antibody-mediated vaccine development.

Session Topics:
• Antibody Therapy (Joint)
• Peripheral B Cell Development and Function
• B/T Cell Interactions (Joint)
• Memory and Plasma Cell Differentiation and Fate
• Anti-Viral B Cell Responses (Joint)
• Antibody Maturation and Class Switch
• B Cell Immune Deficiencies
• B Cell Autoimmunity

plus six workshops with short talks chosen from abstracts

Discounted Abstract/Scholarship Deadline: Nov 19, 2014
Abstract Deadline: Dec 17, 2014
Discounted Registration Deadline: Jan 20, 2015

To see the full program and for additional details, visit www.keystonesymposia.org/15X6.
The Golden Anniversary of B Cell Discovery (X6)

Scientific Organizers: Patrick C. Wilson, Michael P. Cancro and Anne Durandy

Sponsored by BioLegend, Inc., Genmab A/S and Roche

HIV Vaccines (X5)

Scientific Organizers: Giuseppe Pantaleo, Rafick P. Sekaly and Leonidas Stamatas

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SUNDAY, MARCH 22
Arrival and Registration

MONDAY, MARCH 23
Keynote Session (Joint)
*Patrick C. Wilson, University of Chicago, USA
*Giuseppe Pantaleo, Centre Hospitalier Universitaire Vaudois, Switzerland
Max D. Cooper, Emory University, USA
Comparative Analysis of Alternative Adaptive Immune Systems
Anthony S. Fauci, NIAID, National Institutes of Health, USA
Toward an HIV Vaccine: A Scientific Journey

Antibody Therapy (Joint)
Jeffrey V. Ravetch, Rockefeller University, USA
Fc Effector Functions
Gary J. Nabel, Sanofi, USA
The Challenges and Promise of Broadly Neutralizing Abs for HIV Prevention and Treatment
Michel C. Nussenzweig, HHMI/Rockefeller University, USA
Passive Immunization

Workshop 1: B1 Cell Biology (X6)
*Thomas L. Rothstein, Western Michigan University, USA
*Gregg J. Silverman, New York University Langone Medical Center, USA
Cecilia B. Cavazzoni, Federal University of Rio de Janeiro, Brazil
Characterization of the Repertoire of Natural Antibodies Anti-HSC70
Gudrun F. Debes, Thomas Jefferson University, USA
Il-10 Producing Innate-Like B Cells Are Part of the Skin Immune System and Require alpha4-beta1 Integrin to Migrate between the Peritoneum and Inflamed Skin
Stephanie Glaesener, Hannover Medical School, Germany
Pneumovax23© Directly Stimulates B Cells in vivo Generating a Predominant IgA Response Early after Vaccination
Benchang Guo, Feinstein Institute for Medical Research, USA
RasGRP1 Shapes Autoreactive Receptor Repertoire in B1a Cells which Prevents Autoimmune Disease
Matthias Hahn, University Medical Center Mainz, Germany
Over-Expression of an Alternative Splice Variant of the Negative NF-kappaB Regulator CYLD Leads to the Development of B-CLL in Mice
Nichol E. Holodick, Feinstein Institute for Medical Research, USA
Age-Related Decline in Natural IgM Function: Diversification and Selection of the B-1a Cell Pool with Age
Rudolf Übelhart, National Center for Tumor Diseases, Germany
Structural Differences between IgD and IgM Control B Cell Responsiveness and the Activation of Innate-Like B1 Cells

Workshop 1: Envelope Structure and Immunogen Design Efforts (X5)
*Leonidas Stamatas, Fred Hutchinson Cancer Research Center, USA
*John P. Moore, Weill Medical College of Cornell University, USA
Production and Properties of Multiple Native-Like SOSIP.664 Trimers
Gabriel Ozorowski, The Scripps Research Institute, USA
Characterization and Design of HIV-1 Env SOSIP gp140 Trimers
Jose Maximiliano Medina-Ramirez, University of Amsterdam, Netherlands
A Native-Like HIV-1 Envelope Trimer that Engages Multiple Germline Precursors of Broadly Neutralizing Antibodies
Guillaume B.E. Stewart-Jones, National Institutes of Health, USA
Crystal Structures of Glycosylated JR-FL and BG505 SOSIP Trimers at 3.7Å Resolution Reveal how N-Linked Glycosylation Shield the Glycan Free CD4 Binding Site
M. Gordon Joyce, US Military HIV Research Program, USA
Designed HIV-1 Env Molecules from Multiple Clades that Display Structural and Antigenic Characteristics of the Mature Prefusion HIV-1 Env
Javier Guenaga, IAVI Neutralizing Antibody Center at TSRI, USA
Structure-Guided Identification of gp120 Residues that Increase the Propensity of Env Sequences to Form Native-Like Soluble Trimers
Richard T. Wyatt, IAVI Neutralizing Antibody Center, The Scripps Research Institute, USA
Identification of New HR1 Proline Substitutions that Stabilize the Cleavage-Independent, Well-Ordered, Native Flexibly Linked (NFL) Trimmers
Wei Cheng, University of Michigan, USA
Optical Trapping Virometry Reveals the Positive Cooperativity of HIV-1 Envelope Glycoproteins in Mediating Viral Infection

Workshop 2: B Cell Selection and Tolerance (X6)
*Eric Meffre, Yale University School of Medicine, USA
*David J. Rawlings, University of Washington, Seattle Children’s Hospital Research Institute, USA
Lars Nitschke, University of Erlangen, Germany
Siglec-G: A B Cell Inhibitory Receptor Controlling Autoimmunity
Martin S. Naradikian, University of Pennsylvania, USA
IL-4 and IL-21 Reciprocally Regulate T-BET Expression in Activated B Cells
Jean-Nicolas Schickel, Adimab, LLC, USA
AID Expression in Human B Cell Precursors Is Essential for Central B-Cell Tolerance
Matthieu Perreau, University Hospital of Lausanne, Switzerland

Combined Immunological/Virological Therapies for HIV Functional Cure/Eradication

Michael Farzan, The Scripps Research Institute, USA

AAV-Expressed eCD4-Ig Provides Durable Protection from Multiple SHIV Challenges

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

FRIDAY, MARCH 27

KEYSTONE SYMPOSIA
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Masayuki Kuraoka, Duke University, USA
BCR and TLR Synergy Elicits High Levels of AID Expression in Immature/T1 B Cells to Ensure Central B-Cell Tolerance

Kristin M.S. Schroeder, National Jewish Health, USA
B Cell Tolerance Mechanisms Limit Protective HIV Antibody Responses

Thomas Hägglöf, Karolinska Institutet, Sweden
Neutrophils License NKT Cells to Regulate Self-Reactive B Cell Responses

Christopher M. Tipton, Emory University, USA
Diversity, Cellular Origin and Autoreactivity of Antibody-Secreting Cell Expansions in Acute Systemic Lupus Erythematosus

Aaron J. Marshall, University of Manitoba, Canada
TAPP Adaptors Control Akt-Dependent Metabolic Activation of B Cells and Suppress Autoimmunity via Binding to the SHIP Protein PI(3,4)P2

Peripheral B Cell Development and Function (X6)

* Michael P. Cancro, University of Pennsylvania, USA
New Paths to Peripheral B Cell Tolerance and Differentiation

Andrea Cerutti, Mount Sinai School of Medicine, USA
Marginal Zone B Cells

Stuart G. Tangye, Garvan Institute of Medical Research, Australia
Molecular Requirements for Productive Humoral Immunity in Humans - The Power of PIDs

Michael G. McHeyzer-Williams, The Scripps Research Institute, USA
Molecular Dynamics of Memory B Cell Responses

Claude-Agnès Reynaud, Necker-Paris Medical School, France
Short Talk: High Throughput Ig Sequencing of Paired Blood and Spleen Samples Allows a Redefinition of IgM Memory Subsets in Humans

Natural and Vaccine-Induced Development of Antibody Response (X5)

* Susan Zolla-Pazner, Icahn School of Medicine at Mount Sinai, USA
Developmental Pathways of Broadly Neutralizing Antibodies

Antonio Lanzavecchia, Institute for Research in Biomedicine, Switzerland
Overcoming HIV-1 Evasion of Antibody Avidity with Intra-Spike Crosslinking Reagents

Pamela J. Bjorkman, California Institute of Technology, USA
Structural Definition of a Novel Set of Converged Broadly Neutralizing Influenza Antibodies Elicited in H5N1 Vaccines

B/T Cell Interactions (Joint)

* Jason G. Cyster, HHMI/University of California, San Francisco, USA
B Cell Guidance Cues and the Antibody Response

* Shane Crotty, La Jolla Institute for Allergy and Immunology, USA
T Cell Help to B Cells: Follicular Helper CD4 T Cell (Tfh) Biology

Giuseppe Pantaleo, Centre Hospitalier Universitaire Vaudois, Switzerland
T Follicular Helper (Tfh) Cells in Health and Chronic HIV Infection

Claudia Cicala, NIAID, National Institutes of Health, USA
Short Talk: Targeting alpha4beta7 Integrin Reduces Mucosal Transmission and Dissemination of SIV

Gabriel D. Victora, Rockefeller University, USA
Short Talk: Clonal Dynamics and Evolution in Germinal Centers

David J. Rawlings, University of Washington, Seattle Children's Hospital Research Institute, USA
Short Talk: Distinct Impact of B Cell-Intrinsic Type 1 vs Type 2 Interferon Signals in GC B Cell Tolerance

Hands-On Computer Session on Los Alamos Sequence Database (X5)

Workshop 3: Vaccines and Immunity (X6)

* Bonnie B. Blomberg, University of Miami School of Medicine, USA
Vaccines and Innate Immunity: Innate Immunity and Vaccine Design

Paul V. Thomas, NIAID, National Institutes of Health, USA
Structural Definition of a Novel Set of Converged Broadly Neutralizing Influenza Antibodies Elicited in H5N1 Vaccines

Goetz R. Ehrhardt, University of Toronto, Canada
Biomarker Discovery on Memory B Cells and Plasma Cells Using Monoclonal VLR Antibodies

Carole Henry, University of Chicago, USA
Pre-Existing Human Antibodies Neutralize the Novel Influenza H7N9 Strain

Mattias Forsell, Umeå University, Sweden
Activation of Circulating Platelets Leads to the Release of Potent Antiviral IgG

Hana Golding, US Food and Drug Administration, USA
Exploring Antibody Repertoires and Affinity Maturation Against Pandemic Influenza Vaccines: Impact of Adjuvants and Prime-Boost Approaches

Gregory C. Ippolito, University of Texas at Austin, USA
New Molecular and Proteomic Techniques for the "Deep" Profiling of Vaccine-Elicited Cellular and Serological Antibody Repertoires
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Workshop 2: New Immunization Tactics (X5)

*Nicole A. Doria-Rose, NIAID, National Institutes of Health, USA
*Gunilla B. Karlsson Hedestam, Karolinska Institutet, Sweden
Rena D. Astronomo, Fred Hutchinson Cancer Research Center, USA
Low Concentrations of Broadly-Neutralizing Antibodies (bnAbs) Protect Against Early Events of Mucosal HIV-1 Infection in a Human ex vivo Vaginal Explant Model

Jinghe Huang, NIAID, National Institutes of Health, USA
Isolation of a Broad and Potent CD4-Binding Site Monoclonal Antibody with Novel Binding Characteristics

Joseph G. Jardine, The Scripps Research Institute, USA
In vivo Activation of GL-VRC01 Class Antibodies in Transgenic Mice by Germline-Targeted Immunizations

Huaxin Liao, Duke University Medical Center, USA
HIV-1 CH505 Env Immunogens Initiated CD4 Binding Site Antibody Lineage in Rhesus macaques

Aaron Louie, National Institutes of Health, USA
HIV-Specific Antibodies Derived from Exhausted Memory B Cells of Infected Individuals Show Deficiencies in Neutralization and Somatic Hypermutation

Delphine C. Malherbe, Oregon Health & Science University, USA
Early Breadth Clade C Env Immunogens Elicit Cross-Clade NAbs and Env-Specific Tfh Responses

Jose M. Martinez-Navio, University of Miami - LSTP, USA
Host Anti-Antibody Responses following AAV-Mediated Delivery of Antibodies Against HIV and SIV

Rogier W. Sanders, University of Amsterdam and Weill Cornell Medical College, Netherlands
HIV Neutralizing Antibodies Induced by Native-Like Envelope Trimmers

Workshop 4: B Cell Development and Signaling (X6)

Julia Jellusova, University of Freiburg, Germany
GSK3 Regulates B Cell Metabolism, Cell Growth and Proliferation

Nikita S. Kolhatkar, University of Washington, USA
The Role of Altered Antigen Receptor Signaling in Wiskott Aldrich Syndrome

Ai Kotani, Tokai University, Japan
A Single miRNA Substitutes for Requirement of EBF1 in B Lineage Commitment

Jimin Lee, NIAID, National Institutes of Health, USA
Defining the Oligomeric State on B Cell Receptors on the Surfaces of Human Naive and Memory B Cells Using Super-Resolution Fluorescence Microscopy

Stephen K. H. Li, Western University, Canada
Identification of a Negative Regulatory Role for the E26 Transformation-Specific Transcription Factor Spi-C in the Murine B Cell Lineage

Hongsheng Wang, NIAID, National Institutes of Health, USA
An Essential Role of Transcription Factors PU.1 and IRF8 in Follicular B Cell Development and the Germinal Center Response

*Duane R. Wesemann, Harvard Medical School, USA
Role of Environment in the Shaping of the Primary Immunoglobulin Repertoire

Maryalice Coffre, New York University School of Medicine, USA
Dicer-Dependent Non-Coding RNAs Are Essential for B Cell Development and Maturation

Memory and Plasma Cell Differentiation and Fate (X6)

*Andreas Radbruch, Deutsches Rheuma-Forschungszentrum, Germany

Patrick C. Wilson, University of Chicago, USA
Immune Memory Shapes B Cell Responses to Influenza

David M. Allman, University of Pennsylvania, USA
Plasma Cell Subpopulations in the Bone Marrow

Mark J. Shlomchik, University of Pittsburgh School of Medicine, USA
Signaling and Selection in GC B Cells

Kim Good-Jacobson, Monash University, Australia
Short Talk: c-Myb Establishes a Transcriptional Network in Germinal Center B Cells that Controls T-bet, Class Selection and Long-Term Immunity

Predictors of Response to Vaccines (X5)

*Dennis R. Burton, The Scripps Research Institute, USA

Rafick-Pierre Sekaly, Case Western Reserve University, USA
Genetic and Epigenetic Determinants of Vaccine Responses

Tobias R. Kollmann, University of British Columbia, Canada
Predictors of Vaccine Responses in Children

Poster Session 2

WEDNESDAY, MARCH 25

Anti-Viral B Cell Responses (Joint)

Barton F. Haynes, Duke University Medical Center, USA
Ontogenicity of Broadly Neutralizing Antibodies during HIV-1 Infection

John R. Mascola, NIAID, National Institutes of Health, USA
Antibody Responses to HIV
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*Leonidas Stamatos, Fred Hutchinson Cancer Research Center, USA
Characteristic of Recombinant HIV-1 Envelopes that Bind Germline Forms of Broadly Neutralizing Antibodies

Ian A. Wilson, The Scripps Research Institute, USA
Broad Neutralization of Influenza Viruses

Pia Dosenovic, Rockefeller University, USA
Short Talk: Development of HIV-1 Broadly Neutralizing Antibodies in Human Variable Region Knock-In Mice

Scott D. Boyd, Stanford University, USA
Short Talk: Storage and Recall of Anti-Influenza Antibodies in Younger and Older Adults

**Meet the Editors (X6)**
*Catarina Sacristán, Cell Press, USA
Alison Farrell, Nature Publishing Group, USA
Fabiola V. Rivas, Immunity/Cell Press, USA
Liz Thompson, Immunity, Cell Press, USA
Sri Devi Narasimhan, Cell Press, USA
Gabriel A. Gasque, PLOS Biology, USA
Kristen L. Mueller, Science Magazine, USA

**Workshop 3: B Cell Pathogenesis and BCR Repertoire Session (X5)**
*Susan Moir, NIAID, National Institutes of Health, USA
*Matthieu Perreau, University Hospital of Lausanne, Switzerland

James J. Knox, University of Pennsylvania, USA
HIV Infection induces the Expansion of T-Bet Expressing B Lymphocytes

Thomas Liechti, Institute of Medical Virology, Switzerland
Tracing B Cell Subset Changes during Acute and Chronic HIV-1 Infection and Restoration upon ART Initiation

Chung Park, NIAID, National Institutes of Health, USA
Lymph Node B Cell Maturation and Class Switch (X6)

*Tsukasa Honjo, Kyoto University Graduate School of Medicine, Japan
Molecular Mechanism of AID-Mediated SHM and SCR

Frederick W. Alt, Boston Children's Hospital, USA
Affinity Maturation of B Cell Clonal Repertoires

Poster Session 3

**THURSDAY, MARCH 26**

B Cell Immune Deficiencies (X6)
*Anne Durandy, Institut Imagine, France
Immunoglobulin Class Switch Recombination Deficiencies: An Update

Klaus Warnatz, University Clinic Freiburg, Germany
NF-kappaB2 in B Cell Differentiation - From an Immunosuppressive to an Immunepermissive Standpoint

Mary Ellen Conley, Rockefeller University, USA
Defects in Early B Cell Development

Lennart Hammerström, Karolinska Institute, Sweden
Defects in Late B Cell Development - Lessons from WES and WGS

Jacob M. Rosenberg, Stanford University, USA
Short Talk: The Landscape and Function of Anti-Cytokine Autoantibodies in Health and Primary Immunodeficiency

Fabienn Mackay, Monash University, Australia
TH17 and Th22 Lineage Differentiation in the Enhanced Activation of IgG-Memory B Cell Related Diseases (X6)

*Ignacio Sanz, Emory University, School of Medicine, USA
*Fabienne Mackay, Monash University, Australia

**Workshop 7: B Cell Immunology (X6)**
John H. Kehrli, NIAID, National Institutes of Health, USA
B Lymphocyte Specific Defects in Chronic HIV-1 Infection and Chronic HIV-1 Infection - Causes a Galpha Protein Deficit and Severe Humoral Immunodeficiency

Cindy Eunhee Lee, Australian National University, Australia
The Transcription Factor Bcl-2 Regulates the Development of Marginal Zone, Germinal Center and B1 B Cells

**Workshop 8: HIV-1 Molecular Biology (X6)**
Wanli Liu, Tsinghua University, China
Membrane Sequestration of the mG9 Cyttoplasmic Tail Confers a Safety Trigger Mechanism for the Enhanced Activation of IgG-Memory B Cell

Jürgen Wienands, Georg August University of Goettingen, Germany
Expression Presents with X-Chromosome-Linked Antibody Deficiency in Humans

Lynne Rae Waters, University of
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**Hands-on Computer Session on Los Alamos Immunology Database (X5)**

**Workshop 5: Affinity Maturation and Class Switch (X6)**

*Kim Good-Jacobson, Monash University, Australia
*Garnett H. Kelsoe, Duke University and Medical Center, USA
Alexander D. Gittin, Rockefeller University, USA
Clonal Selection in the Germinal Center by Regulated Proliferation and Hypermutation

**Stephan P. Methot, Institut de Recherches Cliniques de Montreal, Canada**
Consecutive Interactions with HSP90 and EEF1A1 Underlie a Functional Maturation and Storage Pathway of AID in the Cytoplasm

**Heping Xu,**
Cincinnati Children’s Hospital Medical Center, USA
Regulation of Birfurcating B Cell Responses by IRF4 and IRF8-Mediated Reciprocal Feedback

**Zhiyong Yang,**
University of California, San Francisco, USA
Plasma Cell Differentiation Driven by Antigen-Independent Signaling Activity of the IgE B Cell Receptor

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**Cells Survey Interfollicular SIGN-R1+ Macrophages that Capture HIV-1 gp120**

**D. Noah Sather,**
Center for Infectious Disease Research, USA
Repertoire Analysis of the B Cell Receptor-Encoding Locus in Humans and Rhesus macaques by Next Generation Sequencing

**Chaim A. Schramm,**
NIAAD, National Institutes of Health, USA
Longitudinal Deep-Sequencing of the VRC01-Antibody Lineage Reveals High Evolutionary Rate and Extraordinary Diversity

**Zihang Sheng,**
Columbia University, USA
Evolutionary Rate Dynamics of HIV-1 Broadly Neutralizing Antibody Lineages

**Workshop 4: Ab Based Therapy for Prevention and/or Eradication (X5)**

*Richard A. Koup, NIAID, National Institutes of Health, USA
*M. Juliana McElrath, Fred Hutchinson Cancer Research Center, USA
Sara Ferrando-Martinez, NIAID, National Institutes of Health, USA

**Hopital, USA**
Mechanisms that Direct Specificity and Outcome of Activation-Induced Cytidine Deaminase (AID) Activity

**Rafael Casellas,**
NIAMS-NCI, National Institutes of Health, USA
AID Targeting

**Patricia J. Gearhart,**
NIH, National Institutes of Health, USA
Short Talk: DNA Polymerases iota and Zeta Standoff during Hypermutation

**Utilia Basu,**
Columbia University, USA
Short Talk: In B Cells, High-Throughput Proteomic Screen Identifies Co-Factors for RNA Exosome that Enables AID Access to Both Strands of Transcribed DNA

**Kevin M. McBride,**
University of Texas MD Anderson Cancer Center, USA
Short Talk: Uracil DNA Glycosylase of Gammaherpesvirus Alters B Cell Class Switch Recombination

**Envelope Structure (X5)**

*Peter D. Kwong, NIAID, National Institutes of Health, USA
Sriram Subramaniam, University of British Columbia, Canada
Dennis R. Burton, The Scripps Research Institute, USA
Sara Ferrando-Martinez, NIAID, National Institutes of Health, USA

**Jayanta Chaudhuri,**
Memorial Sloan Kettering Cancer Center, USA
Short Talk: Non-Coding RNA Generated following Lariat Debranching Mediates Targeting of AID to DNA

**HIV Vaccine Clinical Development (X5)**

*Peggy Johnston, Bill & Melinda Gates Foundation, USA
*M. Juliana McElrath,* Fred Hutchinson Cancer Research Center, USA
Overview of HIV Clinical Vaccine Development

**Nelson L. Michael,**
Walter Reed Army Institute of Research, USA
Immune Correlates of Protection

**Nathalie Garçon,**
French National Institute of Health and Medical Research, France
Bioaster, France
Interfollicular TFH Cells Are Essential for Antibody Maturation and Reclass Switching

**Workshop 5: B/T Cell Interactions (X5)**

*Rama Rao Amara,* Emory University, USA
Robert Abbett, La Jolla Institute for Allergy and Immunology, USA
The A2a Adenosine Receptor Is Required for Affinity Maturation in the Germinal Center

**Atef F. Allam,**
Walter Reed Army Institute of Research, USA
Female Reproductive Tract and in Peyer’s Patches of Humanized DRAG Mice, Are Highly Permissive to HIV-1, and Show Impaired Cytokine Production Over the Course of HIV-1 Infection

**John P. Barton,**
University of California, Riverside, USA
Computational Prediction of Intra-Individual HIV Evolution to Evade Cellular Immune Selection Pressure

**Thorsten Dembreg,**
NCI, National Institutes of Health, USA
Leukemia

**Rajagopal Murugan,**
German Cancer Research Center, Germany
High Throughput Analysis of B Cell Clonal Expansion and Antibody Selection to Controlled Plasmodium falciparum Infection

**Workshop 5: B/T Cell Interactions (X5)**

*Kim Good-Jacobson, University of Chicago, USA
Ann Marshak-Rothstein, University of Massachusetts Medical School, USA
Endosomal and Cytoplasmic Nucleic Acid Sensors in Autoimmunity

**Hedda Wardemann,**
German Cancer Research Center, Germany
Single Cell-Based High-Throughput Analysis of Human B Cell Antibody Responses

**Michael C. Carroll,**
Boston Children’s Hospital, Harvard Medical School, USA
Follicular Dendritic Cells Are Essential for Maintenance of Autoreactive B Cells

**Haochu Huang,**
Atef F. Allam, USA
Short Talk: Spontaneous B Cell Class Switching in the Thymus and Tolerance

**HIV Functional Cure and/or Eradication**
Receptor
Rushad Pavri, Institute for Molecular Pathology, Austria

The Role of the Mcm Complex in Class Switch Recombination
Jennifer L. Yates, Wadsworth Center, New York State Department of Health, USA

Innate iNKT Cells Provide T-Dependent Type 2 Help for B Cells: Expanding the Helper Paradigm
M. Anthony Moody, Duke University Medical Center, USA

Follicular CD8 T Cells Have Superior Cytolytic Capacity and Mediate a Redirected Killing of HIV-Infected Cells by Bispecific Antibodies

M. Anthony Moody, Duke University Medical Center, USA

Elevated Prevalence of Autoantibodies in HIV-Infected Individuals with Plasma Broadly Reactive Neutralizing Antibodies (bnAbs) Compared to Infected Individuals Lacking Plasma bnAbs

Ariel Halper-Stromberg, Rockefeller University, USA

Targeting the HIV-1 Reservoir in Humanized Mice Using Broadly Neutralizing Antibodies and Viral Inducers

Workshop 6: System Immunology and Modeling (X6)

Sarah Cobey, University of Chicago, USA

* Uri Hershberg, Drexel University, USA

Brandon DeKosky, University of Kansas, USA

Paired VH:VL Analysis of Naïve B-Cell Repertoires and Comparison to Antigen-Experienced B-Cell Repertoires in Healthy Human Donors

Institutes of Health, USA

Persistent Loss and Dysregulation of Marginal Zone B-Cells after SHIVSF162p4 Challenge Despite Control of Viremia

Colin Havenar-Daughton, La Jolla Institute for Immunology, USA

T Follicular Helper Cell and Germinal Center B Cell Responses to HIV gp140 Protein + TLR-Encapsulated Nanoparticle Immunization in Rhesus macaques

Joyce K. Hu, La Jolla Institute for Allergy and Immunology, USA

Characterization of Antibody and Tfh Cell Responses after BG505 SOSIP.664 Trimer Immunizations in Mice

Yin Xu, University of New South Wales, Australia

HIV Entry into T Follicular Helper (Tfh) Cells May Be Associated with CCR5+ Pre-Tfh Cells in Lymph Nodes

* Giuseppe Pantaleo, Centre Hospitalier Universitaire Vaudois, Switzerland

Persephone Borrow, University of Oxford, UK

Relationship between CD4+ T Cell Subsets and the Neutralization Breadth of the Antibody Response Generated during HIV-1 Infection

* Session Chair † Invited but not yet accepted  Program current as of June 23, 2019. Program subject to change. Meal formats are based on meeting venue. For the most up-to-date details, visit www.keystonesymposia.org/15X6 and www.keystonesymposia.org/15X5.