



Join Keystone Symposia
for the 2016 conference on:

T Follicular Helper Cells and Germinal Centers

February 26–March 1, 2016

Hyatt Regency Monterey | Monterey, California | USA

Scientific Organizers: Shane Crotty and Carola G. Vinuesa

Follicular helper CD4 T cells (Tfh) are the specialized providers of B cell help and are essential for germinal centers and most antibody responses. Germinal centers are the engines of rapid B cell evolution and have exquisitely complex cellular dynamics. Tfh differentiation is a multistage, multifactorial process. Tfh have recently emerged as major players in protective immunity to pathogens, generation of high-affinity and long-term antibody responses to vaccines, autoimmune diseases, allergies and even cancer. However, there are major gaps in our understanding of Tfh differentiation, Tfh function, germinal center function and the biological selection of high-affinity antibody responses in vivo in a variety of relevant anti-pathogen and autoimmune contexts. This conference will bring together scientists and physicians from a range of disciplines and disease models to elaborate the complex biology of Tfh cells and germinal centers and discuss emerging avenues to manipulate them in clinical settings.

Session Topics:

- Tfh Differentiation
- Workshop 1: Tfh Differentiation
- Tfh Functions and B Cell Functions
- Germinal Center B Cell Biology and Selection: T Cell Help
- Workshop 2: Germinal Center B Cell Biology and Selection: T Cell Helps
- Tfh and GCs in Infections and Vaccines
- Human Tfh and GCs and Lessons from Human Diseases
- Workshop 3: Tfh and GCs in Disease
- Tfh and GCs in Autoimmunity and Allergy/Type 2 Responses
- Complexities of Tfh and GC Regulation: Molecules, Cells and Systems
- Workshop 4: Memory and its Regulation
- Memory and its Regulation



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: Oct 27, 2015

Abstract Deadline: Nov 30, 2015

Discounted Registration Deadline: Jan 5, 2016

For additional details, visit www.keystonesymposia.org/16B4.

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FRIDAY, FEBRUARY 26

Arrival and Registration

SATURDAY, FEBRUARY 27

Welcome and Keynote Address

***Shane Crotty**, La Jolla Institute for Allergy and Immunology, USA

Chen Dong, Tsinghua University, China

Transcription in the germinal center: a tale of twin factors

Tfh Differentiation

***Carola G. Vinuesa**, Australian National University, Australia

Shane Crotty, La Jolla Institute for Allergy and Immunology, USA
Pathways of Tfh Differentiation and Function

John J. O'Shea, NIAMS, National Institutes of Health, USA
Epigenetics and MicroRNAs in Tfh Differentiation

Arlene H. Sharpe, Harvard Medical School, USA
Control of Tfh Cells by T follicular regulatory cells

Sunil Kannanganat, Houston Methodist Research Institute, USA
Short Talk: Regulation of T Helper Fate Decisions by Dynamic Control of IRF4

Hui Hu, University of Alabama at Birmingham, USA
Short Talk: A Multi-Level Control of T Follicular Helper Cell Differentiation by Transcription Factor Foxp1

Workshop 1

***Nicolas Fazilleau**, Center of Pathophysiology of Toulouse-Purpan, France

***John J. O'Shea**, NIAMS, National Institutes of Health, USA

Chen Yao, NIAMS, National Institutes of Health, USA
Skin DC Induce Follicular Helper T Cells and Protective Humoral Immune Responses

Seung-Chul Choi, University of Florida, USA
The Lupus Susceptibility Gene Pbx1 Regulates the Balance between Follicular Helper T Cell and Regulatory T Cell Differentiation

Yoontae Lee, Pohang University of Science and Technology, South Korea

Capicua Regulates Follicular Helper T Cell Differentiation and Autoimmunity through Repression of Pea3 Group Gene Expression

Hidehiro Yamane, NIAID, National Institutes of Health, USA
The Gamma-Secretase Complex Co-Operates with TCR Signals to Regulate Tfh Differentiation by Modulating the IL-2R Pathway

Michela Locci, University of Pennsylvania, USA
Activin A Orchestrates the Gene Program of Human Tfh Cells

Anastassia Alexandrovna Tselikova, National Institutes of Health, USA

Two-step Regulation of Tfh Differentiation by E-box Binding Proteins

Masashi Watanabe, NCI, National Institutes of Health, USA
Costimulatory Pathways Mediating T-Dependent Germinal Center Responses: Distinct Cellular Requirements for CD40 and B7 Costimulation

Maria D. Lopez-Ocasio, National Institutes of Health, USA
T Follicular Regulatory (TFR) Cells Suppress Germinal Center (GC) B Cell Differentiation by Targeting TF Helper (TFH) Cells

Tfh Functions and B Cell Functions

***Shane Crotty**, La Jolla Institute for Allergy and Immunology, USA

Carola G. Vinuesa, Australian National University, Australia
A FOXP3-Negative Follicular Regulatory T Cell Subset, "Tfr2", that Controls Germinal Center Antibody Responses in Humans

Facundo D. Batista, Ragon Institute of MGH, MIT and Harvard, USA
Visualizing the Early Events of Antigen Recognition by B Cells

Pamela L. Schwartzberg, NIAID, NHGRI, National Institutes of Health, USA
Signaling Pathways and Molecules Affecting Tfh Differentiation and Function

Yu Kato, University of Melbourne, Australia

Short Talk: Clec9A-mediated Induction of Tfh and B Cell Responses

Poster Session 1

SUNDAY, FEBRUARY 28

Germinal Center B Cell Biology and Selection: T Cell Help

***Michel C. Nussenzweig**, HHMI/Rockefeller University, USA

Gabriel D. Victora, Rockefeller University, USA
Clonal Dynamics in Germinal Centers

Hai Qi, Tsinghua University, China
Tfh Interactions with B Cells in vivo

Michelle A. Linterman, Babraham Institute, UK
Formation and Function of Follicular Regulatory T Cells

Jason G. Cyster, HHMI/University of California, San Francisco, USA
Requirements for Germinal Center organization and function

Stefan Feske, New York University School of Medicine, USA
Short Talk: Store-Operated Ca²⁺ Entry in Follicular T Cells Controls Humoral Immune Responses and Autoimmunity

Andrea Radtke, Johns Hopkins Bloomberg School of Public Health, USA

Short Talk: Multi-plexed, Quantitative Imaging of Germinal Center Reaction Reveals Profound Impact of Adjuvants on Cell Fate Decisions in situ

Poster Session 2

Yuxing Li, University of Maryland, USA

Workshop 2

***Beatriz León**, University of Alabama at Birmingham, USA

***Hideki Ueno**, Icahn School of Medicine at Mount Sinai, USA

Alexander Dent, Indiana University School of Medicine, USA
Follicular Regulatory T Cells Act on Multiple Facets of the Germinal Center Response

Cristian G. Beccaria, Facultad de Cs. Químicas, Universidad Nacional de Córdoba, Argentina
Galectin-3 Restrains Spontaneous Germinal Centers Formation Preventing Autoimmunity

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Ilenia Papa, Australian National University, Australia
Tfh-derived Dopamine: An 'Immunetransmitter' in the Germinal Center

Irina Grigorova, University of Michigan Medical School, USA
Production of CCL3,4 Chemokines by Germinal Center B Cells Promote their Direct Interactions and Control by Follicular Regulatory T Cells

Ana Raquel Maceiras, i3s - instituto de investigação e inovação em saúde, Portugal
Different TCR-Specificity Requirements in T Follicular Helper and T Follicular Regulatory Cells from the Same Germinal Centers

Andre Ballesteros-Tato, University of Alabama at Birmingham, USA
Interleukin-2 (IL-2) Prevent Foxp3+ T Follicular Regulatory (TFR) Cell Responses During Influenza Virus

Keiko Sakamoto, Kyoto University, Japan
Osteopontin Produced by CD153+ Follicular T Cells Suppresses Apoptotic Cell-engulfment by Tingible Body Macrophages in Germinal Centers to Accelerate SLE in NZB/W F1 Mice

Shirdi E. Schmiel, University of Minnesota, USA
Activation of Adenosine 2A Receptor on CD4 T Cells Promotes Tolerance by Reducing Germinal Center Follicular Helper T Cells and Pathogenic B Cells

Tfh and GCs in Infections and Vaccines

***Jason G. Cyster**, HHMI/University of California, San Francisco, USA

Michel C. Nussenzweig, HHMI/Rockefeller University, USA
The Importance of GC Biology in HIV Vaccine Development

Elina I. Zuniga, University of California, San Diego, USA
T follicular Helper Cell Regulation By Gp130 Signaling Cytokines

Hideki Ueno, Icahn School of Medicine at Mount Sinai, USA
Human T Follicular Helper Cell Subsets

Isabela Pedroza-Pacheco, University of Oxford, UK
Short Talk: Perturbations in Regulatory and Helper CD4+ T Cell Subsets in HIV 1-infected Individuals Producing Broadly Reactive Neutralizing Antibodies: Relevance to HIV-1 Vaccine Design

MONDAY, FEBRUARY 29

Human Tfh and GCs and Lessons from Human Diseases

***Joseph E. Craft**, Yale University, USA

Mark M. Davis, Stanford University School of Medicine, USA
Human T Cell Response to Influenza Vaccines

Di Yu, Australian National University, Australia
Monitoring and Modulation of Tfh cell activity: a tale of two cytokines

Riccardo Dalla-Favera, Columbia University, USA
Transcriptional Regulation of Germinal Center Development and its Mutational Deregulation in B Cell Lymphoma

Stuart G. Tangye, Garvan Institute of Medical Research, Australia
Tfh and B Cell Memory: Lessons from Human Genetic Diseases

Karen Willard-Gallo, Universite Libre de Bruxelles, Belgium
Short Talk: CXCL13-producing Tfh Cells Link Immune Suppression and Adaptive Immunity in Human Breast Cancer

Daniel E. Kaufmann, University of Montreal, Canada
Short Talk: Germinal Center Hyperactivity and HIV-associated Residual Immune Dysregulation Syndrome

Tfh and GCs in Autoimmunity and Allergy/Type 2 Responses

***Stuart G. Tangye**, Garvan Institute of Medical Research, Australia

Joseph E. Craft, Yale University, USA
Regulation of Tfh Cell Development and Differentiation

Cecile King, Garvan Institute of Medical Research, Australia
To MAVS and MAVS not: Cytoplasmic nucleic acid sensors and adaptive immunity

Frances E. Lund, University of Alabama at Birmingham, USA
Tuning Antibody Production by Modulating the Blimp1/Bcl6 Balance in B cells

Hsin-Jung Wu, University of Arizona, USA
Short Talk: Gut Microbiota Drives Autoimmune Arthritis by Unleashing the Tfh Response

Poster Session 3

TUESDAY, MARCH 1

Complexities of Tfh and GC Regulation: Molecules, Cells and Systems

***Chen Dong**, Tsinghua University, China

Ari M. Melnick, Weill Cornell Medical College, USA
Bcl6 Functions in Tfh and GC B Cells

Sidonia Fagarasan, RIKEN Research Center for Allergy and Immunology, Japan
Follicular Dendritic Cells (FDC) as Regulators of GC B Cells and Tfh Cells

Bali Pulendran, Stanford University School of Medicine, USA
Systems-based approaches to vaccine development

Akshay T. Krishnamurty, University of Washington, USA
Short Talk: Somatic Hypermutation of Plasmodium-specific IgM+ Memory B Cells Are Optimally Responsive to a Secondary Blood Stage Malaria Infection

Fabio Grassi, Institute for Research in Biomedicine, Switzerland
Short Talk: Regulation of T Follicular Helper Cells by ATP-gated Ionotropic P2X7 Receptor

Workshop 3

***Brian J. Laidlaw**, University of California, San Francisco, USA

***Bali Pulendran**, Stanford University School of Medicine, USA

Jodi Gullicksrud, University of Iowa, USA
TCF1 Long Isoforms are Critical for Secondary Tfh Responses

Tobias Boettler, University Hospital Freiburg, Germany
Follicular T Helper Cell Signatures on Virus-Specific CD4 T Cells during Acute and Chronic HCV Infection

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Nicolas Riteau, NIAID, National Institutes of Health, USA

Dual Roles for Myd88 and Type I Interferon in Adjuvant Induced Tfh Polarization

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

Longitudinal Analysis of Tfh and Germinal Center B Cells by Lymph Node Fine Needle Aspirates (FNA) after HIV Envelop Trimer Immunizations

Laura Garcia Ibanez, University of Birmingham, UK

The CCL19/CCL21 Axis Regulates Memory B Cell Appearance and Migration

Yang Yang, Stanford University School of Medicine, USA

Expression of CTLA4 in B-1 Cells Plays a Key Role in Regulating B Cell Homeostasis

Kristen Valentine, University of California, Merced, USA

Dysregulated CD8 T Cells Resemble Tfh-like Cells and Promote B Cell Activation during Autoimmunity

Faith I. Uwadiae, Imperial College London, UK

Chronic Exposure to Inhaled Allergen Results in Sustained T Follicular Helper Cell Generation in Both the Lungs and Peripheral Lymph Nodes, which Potentially Contributes to Allergic Airway Disease

Mohammad M. Sajadi, University of Maryland School of Medicine, USA

The HIV Env Humoral Response: A Paucity of Epitopes and Antibodies

Memory and its Regulation

***Shane Crotty**, La Jolla Institute for Allergy and Immunology, USA

Marc K. Jenkins, University of Minnesota Medical School, USA

Insights into CD4+ T Cell Differentiation and Memory from Analysis of Single Cells

Michael G. McHeyzer-Williams, The Scripps Research Institute, USA

Deconstructing B Cell Memory at the Single Cell Level

David M. Tarlinton, Monash University, Australia

Generation of Memory B Cells

Rafi Ahmed, Emory University School of Medicine, USA

Tfh Cell Memory

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

WEDNESDAY, MARCH 2

Departure