

KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

Tuberculosis: Immunity and Immune Evasion (A2)

January 16-20, 2020 • Eldorado Hotel & Spa • Santa Fe, NM, USA

Scientific Organizers: Joel Ernst, Jennifer Philips and Daniel L. Barber

Part of the Keystone Symposia Global Health Series, supported by the Bill & Melinda Gates Foundation

Global Health Travel Award Deadline: August 13, 2019 / Discounted Abstract & Scholarship Deadline: September 24, 2019 / Abstract Deadline: October 16, 2019 / Discounted Registration Deadline: November 19, 2019

THURSDAY, JANUARY 16

Arrival and Registration

FRIDAY, JANUARY 17

Welcome and Keynote Address

Eric Goosby, University of California, San Francisco / United Nations, USA

Global Solutions to Elimination of Tuberculosis: The Roles of Immunology and Vaccines

TB Vaccines and Vaccine Immunology

Patricia A. Darrach, NIAID, National Institutes of Health, USA
Mechanisms of Protection following Intravenous BCG Immunization in Nonhuman Primates

Thomas J. Scriba, University of Cape Town, South Africa
Immune Responses to Diverse TB Vaccines in Humans

Ann M. Ginsberg, International AIDS Vaccine Initiative, USA
TB Vaccine Human Efficacy Trials: What Have We Learned? Where Are We Headed?

Short Talks Chosen from Abstracts

Workshop 1: B Cells to the Rescue?

Short Talks Chosen from Abstracts

Impact of Host and Pathogen Diversity

Chetan Seshadri, University of Washington, USA
Interferon Gamma Independent Immune Markers of Mycobacterium Tuberculosis Exposure

Sara Suliman, Brigham and Women's Hospital, USA
Human Genetic and Transcriptional Correlates of TB Progression

Shabaana Khader, Washington University School of Medicine, USA
Role of Innate Lymphoid Cells in Tuberculosis

Sarah M. Fortune, Harvard TH Chan School of Public Health, USA
Single Cell RNAseq Reveals Novel Correlates of TB Granuloma Fate

Poster Session 1

SATURDAY, JANUARY 18

Mechanisms of T Cell Protection

Marc K. Jenkins, University of Minnesota Medical School, USA
CD4+ T Cell-Based Control of a Phagosomal Pathogen

Cecilia S. Lindestam Arlehamn, La Jolla Institute for Allergy and Immunology, USA
T Cell Transcriptomics Reveal Immune Signatures of Tuberculosis

Daniel L. Barber, NIAID, National Institutes of Health, USA
Protective CD4 T Cell Responses to M. tuberculosis Infection

Paul Ogongo, University of California, San Francisco, USA
Compartmentalization of M. tuberculosis-Specific Human T-Cells in the Lung

Short Talks Chosen from Abstracts

Workshop 2: Will DURTs Clean Up?

Short Talks Chosen from Abstracts

Immunometabolism and Host-Directed Therapies

Amit Singhal, Singapore Immunology Network, Singapore
Reprogramming Host Immunometabolic Circuits for Designing TB HDT

Sarah A. Stanley, University of California, Berkeley, USA
Metabolic Regulation of Macrophage Activation during Mtb Infection

Jennifer Philips, Washington University School of Medicine, USA
Targeting Host Metabolism to Treat TB

Short Talks Chosen from Abstracts

Poster Session 2

SUNDAY, JANUARY 19

Lessons from other Persisters

Steven Holland, NIAID, National Institutes of Health, USA
Are Infections in the Lung and Outside it the Same? Host Factors in Mycobacterial Tissue Specificity

Nevil J. Singh, University of Maryland, USA
The Signaling Logic Regulating T Cell Responses to Persistent Antigens

David L. Sacks, NIAID, National Institutes of Health, USA
Dermis Resident Macrophages are Maintained as a Replicative Niche for Leishmania in a Th1 Immune Environment

Haina Shin, Washington University, USA
Distinct Host Restriction of HSV-1 and HSV-2 Genital Herpes

Short Talks Chosen from Abstracts

Mechanisms of T Cell Evasion

Joel D. Ernst, University of California, San Francisco, USA
Partners of T Cells: Functional Diversity of Mononuclear Phagocytes in Chronic M. tuberculosis Infection

Samuel M. Behar, University of Massachusetts Medical School, USA
Differential Processing of M. tuberculosis Antigens in Priming and Persistence

Kevin B. Urdahl, Seattle Children's Research Institute, USA
Barriers to Immunity in the TB Granuloma

Short Talks Chosen from Abstracts

Poster Session 3

MONDAY, JANUARY 20

Pathogen Determinants of Immune Evasion

Steven A. Porcelli, Albert Einstein College Of Medicine, USA
Mycobacterial PE_PGRS Proteins in Evasion of Innate and Adaptive Immunity

Olivier Neyrolles, IPBS, CNRS-University of Toulouse, France
C-Type Lectin Receptors in Immunity to Tuberculosis

Maximiliano Gutierrez, Francis Crick Institute, UK
Mycobacterium tuberculosis Evasion of Xenophagy in the Cytosol of Host Cells

Oren S. Rosenberg, University of California, San Francisco, USA
TB from the Inside Out: Structural Biology of ESX Secretion

Short Talks Chosen from Abstracts

Workshop 3: Radical Immune Modulation for Treatment of XDR-TB

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Trained Immunity and Control of TB

Mihai G. Netea, Radboud University, Netherlands

Trained Immunity: A Memory for Innate Host Defense

Maziar Divangahi, McGill University, Canada

M. tuberculosis Reprograms HSCs to Limit Myelopoiesis and Impair Trained Immunity

Simone A. Joosten, Leiden University Medical Center, Netherlands

Trained Immunity in TB Exposure

Short Talk Chosen from Abstracts

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

TUESDAY, JANUARY 21

Departure