

KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

Immunity in Early Life: From the Maternal to the Microbial Environment (Z4)

Scientific Organizers: Chris Wilson, Tobias Kollmann and Claire-Anne Siegrist

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

Maternal-Fetal Crosstalk (Z3)

Scientific Organizers: Sing Sing Way, Carole R. Mendelson and Michal A. Elovitz

June 7-11, 2020 • Keystone Resort • Keystone, CO, USA

Sponsored by Bill & Melinda Gates Foundation

Global Health Travel Award Deadline: January 7, 2020 / Discounted Abstract & Scholarship Deadline: February 6, 2020 / Abstract Deadline: March 5, 2020 / Discounted Registration Deadline: April 7, 2020

SUNDAY, JUNE 7

Arrival and Registration

MONDAY, JUNE 8

Welcome and Keynote Address (Joint)

Joseph (Mike) McCune, Bill & Melinda Gates Foundation and University of California, San Francisco, USA
Layered Immunity

Maternal-Fetal Immunological Detente (Joint)

Tippi MacKenzie, University of California, San Francisco, USA
Maternal-Fetal Tolerance in Healthy and Complicated Pregnancies

Gil G. Mor, Wayne State University School of Medicine, USA
Remodeling and Inflammation at the Maternal-Fetal Interface

Adrian Erlebacher, University of California, San Francisco, USA
Epigenetics of Pregnancy and Parturition

Short Talks Chosen from Abstracts

Poster Session 1

Primary Microbial Colonization and Offspring Development (Joint)

Florent Ginhoux, Singapore Immunology Network, Singapore
Learning from Fetal Immunity

Maria G. Dominguez-Bello, Rutgers University, USA
Postnatal Microbiome and Growth

Kjersti Marie Aagaard, Baylor College of Medicine, USA
Our Earliest Friends

Short Talks Chosen from Abstracts

TUESDAY, JUNE 9

Innate, Trained and Heterologous Immunity (Z4)

Dorothee Viemann, Hannover Medical School, Germany
Perinatal Innate Immune Programming

Tobias R. Kollmann, Telethon Kids Institute, Australia
Innate Immune Ontogeny

Mihai G. Netea, Radboud University, Netherlands
Molecular Mechanisms of Trained Immunity

Sabra L. Klein, Johns Hopkins University, USA
Heterologous Immunity and the Impact of Sex on Immune Development

Short Talks Chosen from Abstracts

Maternal Microbiota in Healthy Pregnancy and Adverse Pregnancy Outcomes (Z3)

David A. Relman, Stanford University, USA
Microbiome Dynamics During and After Pregnancy

Frederic D. Bushman, University of Pennsylvania, USA
The Microbiome and Virome in Early Life

Michal A. Elovitz, University of Pennsylvania School of Medicine, USA
Gardnerella Vaginalis Induced Cervical Inflammation

Speaker to be Announced

Short Talks Chosen from Abstracts

Workshop 1: Animal Pregnancy Models: Benefits and Drawbacks (Z3)

Short Talks Chosen from Abstracts

Ontogeny of Adaptive Immunity: Repertoire and Response (Z4)

Scott D. Boyd, Stanford University, USA
The Human Adaptive Immune Repertoire in Early Life

Deena L. Gibbons, King's College London, UK
T Cell Development and Function in the Human Neonate

Claire-Anne Siegrist, University of Geneva, Switzerland
Early Life B Cell Vaccine Responses and Influence of Maternal Antibodies

Short Talks Chosen from Abstracts

Pregnancy Timing, Is there a Parturition Clock? (Z3)

Carole R. Mendelson, University of Texas Southwestern Medical Center, USA

Fetal - Maternal Signaling in the Initiation of Labor

Brice Gaudilliere, Stanford University School of Medicine, USA
Immunological Clock during Pregnancy

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Sarah K. England, Washington University School of Medicine, USA
Clock Genes and Parturition Timing

Short Talks Chosen from Abstracts

Poster Session 2

WEDNESDAY, JUNE 10

Immune Responses to Infection in Early Life (Z4)

Jody L. Baron, University of California, San Francisco, USA
HBV

Margaret Feeney, University of California, San Francisco, USA
The Fetal Immune Response to Malaria

Nigel Curtis, University of Melbourne, Australia
The Heterologous Effects of Neonatal BCG Vaccination

Purvesh Khatri, Stanford University, USA
Systems Approaches to Predict and Unravel the Immunobiology of Neonatal Sepsis

Short Talks Chosen from Abstracts

The Placenta in Health and Disease (Z3)

Susan J. Fisher, University of California, San Francisco, USA
Normal and Abnormal Placental Development

Mana M. Parast, University of California, San Diego, USA
Trophoblast Differentiation in Placental Development and Disease

Kent L. Thornburg, Oregon Health & Science University, USA
Maternal Stresses Modify Placental Function and Fetal Growth

Short Talks Chosen from Abstracts

Workshop: Novel Platforms and Mechanisms of Inducing Protective Immunity to HIV in Early Life (Z4)

***Anjali Singh**, National Institutes of Health, USA

***Kristina De Paris**, University of North Carolina at Chapel Hill, USA

***Sallie R. Permar**, Duke University Medical Center, USA

***Mary A. Marovich**, NIAID, National Institutes of Health, USA

Workshop 2: Shared Pathophysiology Underlying Common Pregnancy Complications (Stillbirth, Spontaneous Abortion, Prematurity, Preeclampsia)? (Z3)

Short Talks Chosen from Abstracts

Protecting the Infant through Maternal and Neonatal Immunization (Z4)

Arnaud Marchant, Université libre de Bruxelles, Belgium
Maternal Immunization and the Developing Immune System

Ofer Levy, Boston Children's Hospital, USA
Precision Vaccines: Age-Specific Adjuvantation Systems to Enhance Early Life Immunization

Rino Rappuoli, GlaxoSmithKline Vaccines, Italy
Engineering Vaccines to Protect the Neonate and Young Infant

Immunity at the Maternal-Fetal Interface (Z3)

Kang Chen, Wayne State University and National Institutes of Health, USA

Harnessing the Function of B Cells to Prevent Preterm Labor

Aleksandar Stanic, University of Wisconsin-Madison, USA
Integration of Single cell RNAseq and T Cell Receptor Repertoire Data at the Maternal-Fetal Interface

Elizabeth Bonney, University of Vermont, USA
Regulation of the Immune Response during Pregnancy

Nardhy Gomez-Lopez, Wayne State University, USA
Effector and Regulatory T Cells in the Pathophysiology of Preterm Labor

Short Talks Chosen from Abstracts

Poster Session 3

THURSDAY, JUNE 11

The Rising Tide of Allergy and Autoimmunity (Z4)

Donata Vercelli, University of Arizona, USA
Talk Title to be Announced

Peter Vuillermin, Deakin University, Australia
Ontogeny of the Immune System and Microbiome in Relation to Allergies

Mikael Knip, University of Helsinki, Finland
Early Origin of Autoimmunity

Short Talks Chosen from Abstracts

Local and Systemic Maternal Changes in Normal Pregnancy and Pregnancy Complications (Z3)

Philippe Van de Perre, University Montpellier, France
Breastmilk Cell Trafficking and Neonatal Immune Maturation

Manuel Friese, University Medical Center Hamburg-Eppendorf, Germany
T Cell Modulation During Pregnancy in Autoimmunity

Sing Sing Way, Cincinnati Children's Hospital, USA
Microchimeric Cells

Congenital Infections as a Probe for Maternal Fetal Cross Talk (Joint)

Carolyn B. Coyne, University of Pittsburgh, USA
Trophoblast Antimicrobial Immunity

Sallie R. Permar, Duke University Medical Center, USA
Selective Placental IgG Transfer and Protection Against Neonatal Pathogens

Philip J. Goulder, University of Oxford, UK
Congenital HIV

Short Talk Chosen from Abstracts

Closing Keynote Address (Joint)

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Andrew J.S. Macpherson, University of Bern, Switzerland
Maternal Microbiota Influences on the Newborn and during Early Life

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)
(Z4)

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)
(Z3)

FRIDAY, JUNE 12

Departure