ITI Human Immune Monitoring Technology and Bioinformatics Conference  
Sponsored by the  
Center for Human Systems Immunology (PD: Mark M. Davis)  
Organizing Committee: Catherine Blish, Purvesh Khatri & Bali Pulendran  
Thursday, May 2nd - Friday May 3rd 2019, Berg Hall, Li Ka Shing Center, Stanford

Thursday, May 2, 2019

07:30–08:30  BREAKFAST

08:30–08:45  Welcome & Opening Remarks  
Lynda Stuart, MD,PhD, Bill and Melinda Gates Foundation  
Mark Davis, PhD, Bali Pulendran, PhD, Catherine Blish, MD,PhD, Purvesh Khatri, PhD, Stanford  

Session Chair: Bali Pulendran, PhD  

08:50–09:15  Bruce Walker, MD, Ragon Institute of MGH, MIT and Harvard  
Prospects for a T-Cell Mediated Functional Cure of HIV Infection

09:20–09:45  Justin Sonnenburg, PhD, Stanford  
Establishing the Diet-Microbiome-Immune Axis in Humans

09:50–10:15  Carolyn Bertozzi, PhD, Stanford  
Chemical Technologies for Infectious Disease Diagnostics

10:20–10:45  Olivier Gevaert, PhD, Stanford  
Multi-Scale Modeling to Study Complex Diseases

10:50–11:05  COFFEE BREAK

11:05–11:30  Nima Aghaeepour, PhD, Stanford  
Multomics Analysis of Term and Preterm Human Pregnancy

11:35–12:00  Petter Brodin, MD, PhD, Karolinska Institute  
Shaping of Human Immune Systems by Environmental Factors Early in Life

12:05–12:30  Nathan Price, PhD, Institute for Systems Biology, Seattle  
Longitudinal Multi-omic Profiling for Thousands of People

12:30–01:15  LUNCH & POSTER VIEWING

Session Chair: Purvesh Khatri, PhD

01:15–01:40  Mike Snyder, PhD, Stanford  
Big Data and Health
01:45–02:10  Joel Dudley, PhD, Icahn School of Medicine of Mount Sinai
Moving from Precision Medicine to Next Generation Healthcare

02:15–02:40  William Shih, PhD, Harvard
HiFi Molecular Transmission via Crisscross Cooperativity

02:45–03:10  X. Shirley Liu, PhD, Dana-Farber Cancer Institute
Hidden Immunology Signals in Tumor RNA-seq

03:10–03:30  COFFEE BREAK & POSTER VIEWING

03:30–03:55  Crystal Mackall, MD, Stanford
Engineering T Cells for Cancer Therapy

04:00–04:25  Evan Newell, PhD, Fred Hutchinson Cancer Research Center
Decomposing Disease Associated T cell Responses Using Mass Cytometry

04:30–04:55  Ami Bhatt, MD, PhD, Stanford
Genomic Approaches to Decipher Microbial Contributions to Health and Disease

05:00–05:25  Somuya Raychaudhuri, MD, Harvard Broad Institute
Defining the Architecture of Rheumatoid Arthritis at the Single Cell Level

05:30–06:30  RECEPTION AND POSTER SESSION

Friday, May 3, 2019

08:00–08:30  BREAKFAST

08:30–08:55  Hal Drakesmith, University of Oxford, MRC Weatherall Institute
Iron Powers Adaptive Immunity: Implications for Vaccinations

09:00–09:25  Sarah Fortune, MD, Harvard
Single Cell RNAseq Analysis of TB Granulomas: Defining Therapeutic Challenges

09:30–09:55  Yueh-hsiu Chien, PhD, Stanford
A Multi-Cohort Study of the Immune Factors Associated with M. Tuberculosis Infection Outcomes

10:00–10:25  H. Tom Soh, PhD, Stanford
Multiplexed Protein Measurements with High Sensitivity and Resolution

10:25–10:40  COFFEE BREAK & POSTER VIEWING

10:40–11:05  Mark M. Davis, PhD
Tools for T cells

11:10–11:35  Nir Yosef, PhD, UC Berkley
Metabolic Modeling with Single-Cell RNA-Seq Reveals Actionable Targets in Autoimmunity
Rhiju Das, PhD, Stanford
Inexpensive Diagnostics for Ratiometric Gene Signatures through Designer Riboswitches

12:10–01:10  LUNCH

Session Chair: Catherine Blish, MD, PhD

Andrea Radtke, PhD, NIH
Advanced Optical Imaging Approaches to Understand Human Immunity in a Tissue Context

Garry Nolan, PhD, Stanford
Pathology from the Molecular Scale on Up

William Greenleaf, PhD, Stanford
Integrative, Multiomic, Single-Cell Dissection of Mixed-Phenotype Acute Leukemia.

Manu Prakash, PhD, Stanford
Octo-pi: Open Eeconfigurable High-Throughout Imaging Platforms for Field Diagnosis of Infectious Disease

03:10–03:25  COFFEE BREAK

Elizabeth Egan, MD, PhD, Stanford
New Approaches to Discover Host Erythrocyte Factors for Malaria

Kari Nadeau, MD, PhD, Stanford
Studying Immunological Mechanisms to Try to End Food Allergy

Rosa Bacchetta, MD, Stanford
New Approaches to Dissect Immune Dysregulation in Children with Genetic Immune Diseases

Steven Deeks, MD, UCSF
Towards and HIV Cure: Untangling the Immunology of HIV Persistence during Antiretroviral Therapy

Closing Remarks, Mark Davis, PhD, Stanford