SUNDAY, FEBRUARY 6
Arrival and Registration

MONDAY, FEBRUARY 7
Welcome and Keynote Address (T3)
Rafi Ahmed, Emory University School of Medicine, USA
T Cell Functional State, from Viruses to Cancer

Welcome and Keynote Address (B1)
Ira Mellman, Genentech, Inc., USA
Checkpoint and Immune Exhaustion Overview

Antigen Targets (T3)
Jonathan W. Yewdell, NIAID, National Institutes of Health, USA
Identification of Viral Antigen Targets and Discovery of Novel ORFs

Michal Bassani-Sternberg, University Hospital of Lausanne, Ludwig Institute for Cancer Research, Switzerland
Mass Spectrometry and Proteogenomics Based Approaches for Antigen Detection

Maxim Artyomov, Washington University in St. Louis, USA
Computational Informatic Approaches for Prediction of Neoantigens

Thorbad van Hall, Leiden University Medical Center, Netherlands
Novel Cancer Antigens in the Setting of TAP Deficiency

Short Talks Chosen from Abstracts

Advances in Checkpoint Biology I: Lymphocytes (B1)
E. John Wherry, University of Pennsylvania, USA
PD 1/PD L1 and CD8 T Effectors

Chen Dong, Tsinghua University, China
Beyond PD 1: Differential Roles for other T Cell Checkpoints (e.g. TIM 1 or TIM 3 or TIGIT)

William H. Robinson, Stanford University School of Medicine, USA
Checkpoints in B Cells

Short Talks Chosen from Abstracts

Cellular Interactions Critical to Effective Tumor Immunity (T3)
Jannie Borst, Leiden University, Netherlands
Role of CD4 T Cell Help, and Impact of CD27 Costimulation

Robert D. Schreiber, Washington University School of Medicine, USA
Macrophage Subpopulations in Cancer Immune Response

Nir Hacohen, Massachusetts General Hospital, USA
TCF7 Expression in CD8+ T Cells and Its Role in Cancer Immunotherapy

Short Talks Chosen from Abstracts

Checkpoints in Autoimmunity: Beyond Lymphocytes and Genetic Insights (B1)
Ferenc A. Scheeren, Leiden University Medical Center, Netherlands
Genetics 1—WGS/GWAS in Checkpoint Autoimmunity

Gulbu Uzel, National Institutes of Health, USA
Genetics 2—Insights from Human Checkpoint Mutations (both Autoimmunity and Immune Deficiency)

Carla V. Rothlin, Yale University, USA
Innate Immune Checkpoints: TAMs

Miriam Merad, Mount Sinai School of Medicine, USA
Non-Lymphocyte Checkpoint Biology 2: Myeloid Cells (eg DC, NK or Other)

Short Talk(s) Chosen from Abstracts

Poster Session 1

TUESDAY, FEBRUARY 8
Reprogramming the Microenvironment (T3)
Valerie Chew, SingHealth, Singapore
The Microenvironments of Hepatitis B Virus (HBV)-Related Hepatocellular Carcinoma

Jennifer Ann Wargo†, University of Texas MD Anderson Cancer Center, USA
Microbiome and Cancer Immunotherapy

Garry P. Nolan, Stanford University, USA
Direct Spatial Visualization of Microenvironment Changes with Immunotherapy

Short Talks Chosen from Abstracts

Advances in Checkpoint Biology II: Immune Exhaustion and Immunometabolism (B1)
Rafi Ahmed, Emory University School of Medicine, USA
Immune Exhaustion: Functional and Molecular Definitions in Th and Teff Populations

Jeffrey C. Rathmell, Vanderbilt University, USA
Immune Metabolism in the Tumor Microenvironment and Checkpoint Function

Luke A. J. O'Neill, Trinity Biomedical Sciences Institute, Ireland
Immune Metabolism in Checkpoint Function 2: Innate

Short Talk(s) Chosen from Abstracts

Panel Discussion: New Directions in Checkpoint Biology: Major Gaps and Emerging Insights (B1)

Immune Targeting against Viral Antigens (T3)
Helen Heslop, Baylor College of Medicine, Houston Methodist Hospital and Texas Childrens, USA
Adoptive Transfer of Virus Specific T Cells
Cancer Neoantigens, Vaccines and Viruses (T3)
Scientific Organizers: Catherine J. Wu, Robert D. Schreiber and Cornelis J.M. Melief
Supported by the Directors’ Fund

Advances in Checkpoints Immunology from Autoimmunity to Oncology to Infectious Diseases (B1)
Scientific Organizers: David M. Lee, Arlene H. Sharpe and William H. Robinson

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Cornelis J. M. Melief, Leiden University Medical Center & ISA Pharmaceuticals BV, Netherlands
Vaccines Targeting HPV Antigens

Eric Vivier, Aix Marseille University, France
Unleashing Anti-Viral and Anti-Tumor Responses with NK Cell-Targeting Therapy

Short Talks Chosen from Abstracts

Checkpoints in Autoimmunity: Function and Dysfunction in Disease (B1)

Bali Pulendran, Stanford University School of Medicine, USA
Defining what Good Looks Like: Quantifying Homeostasis and Appropriate Immune Exhaustion as Treatment Goals

Laura Cappelli, Johns Hopkins University, USA
Checkpoint Dysfunction, Disease 1 (e.g. RA or MS)

Kenneth Smith, University of Cambridge, UK
Lymphocyte Exhaustion State in Autoimmune Disease X: Integrating Functional Status across Active Checkpoints

Short Talk(s) Chosen from Abstracts

Poster Session 2

WEDNESDAY, FEBRUARY 9

Immunoregulation and Immunosuppression (Joint)

Thomas Gajewski, University of Chicago, USA
The Tumor Microenvironment and Immunotherapy Efficacy

Shannon J. Turley, Genentech, Inc., USA
Stromal Cells in Modulating Anticancer Responses

Jane L. Grogan, Arsenal Biosciences, USA
Beyond PD-1: Differential Roles for other Checkpoints

David A. Hafler, Yale University School of Medicine, USA
Checkpoint Dysfunction in Autoimmune Disease

Short Talks Chosen from Abstracts

Vaccines in Cancer and Other Non Infectious Syndromes (T3)

Gerald P. Linette, University of Pennsylvania, USA
The Tumor Microenvironment and Immunotherapy Efficacy

Ugur Sahin†, BioNTech AG, Germany
Individualized RNA-Based Cancer Vaccines

Catherine J. Wu, Dana-Farber Cancer Institute, USA
SLPs for Personal Neoantigen-Targeting Vaccines

Short Talks Chosen from Abstracts

Checkpoints Insights from Infectious Diseases and Environmental Triggers (B1)

Speaker to be Announced
Checkpoint Signaling in Chronic Viral Infection (e.g. Hep b) (or, Immune Exhaustion Profiles in Chronic Viral Infection)

Speaker to be Announced
Defining Checkpoint Usage in Successful Clearance and Resolution of Viral Infection, or Contribution to Viral Infection Pathology/Over Response

Kevan C. Herold, Yale University, USA
Checkpoint Inhibitor Autoimmunity after Withdrawal of Therapy: Continued Checkpoint Dysfunction or Evidence for Environmental Regulation?

Short Talks Chosen from Abstracts

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (B1)

Poster Session 3

THURSDAY, FEBRUARY 10

Novel Combinatorial Approaches (T3)

Padmanee Sharma, University of Texas MD Anderson Cancer Center, USA
Role of ICOS in Checkpoint Blocking Therapy

Nina Bhardwaj, Icahn School of Medicine at Mount Sinai, USA
Combination of Flt3L and Vaccine

Irving L. Weissman, Stanford University, USA
Normal and Neoplastic Stem Cells

Short Talks Chosen from Abstracts

Checkpoints in Oncology—Treatment Effectiveness, Include CAR T, States of Immune Exhaustion in I O, and Combo Approaches (B1)

W. Nicholas Haining, Merck Research Laboratories, USA
Determinates of Treatment Effectiveness

Maria E. Suarez-Almazor, University of Texas MD Anderson Cancer Center, USA
Oncology Adverse Events Treatments

Crystal L. Mackall, Stanford University, USA
Checkpoints in CAR-T Therapies

Arlene H. Sharpe, Harvard Medical School, USA
Using Genetics to Define Novel Combo Checkpoints

Short Talk(s) Chosen from Abstracts

Combination Therapy with Oncolytic Virus and Viral Delivery Systems (T3)

John C. Bell, Ottawa Hospital Research Institute, Canada
Oncolytic Viruses: Multiplex Cancer Therapeutics

Kevin Harrington, Institute of Cancer Research, UK
Physical & Pharmacological Modulation of Oncolytic Virotherapy

Alan J. Korman, Vir Biotechnology, Inc., USA
Virus as an Antigen Delivery System

* Session Chair † Invited but not yet accepted  Program current as of April 30, 2021. Meal formats are based on meeting venue.
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KEYSTONE SYMPOSIA
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Short Talks Chosen from Abstracts

**Emerging Clinical Insights into Checkpoint Contributions to Autoimmunity (B1)**

**Javid Moslehi**, Vanderbilt University Medical Center, USA  
*I-O Checkpoint Antagonists Associated Autoimmunity: Distinct Disease Phenotypes (similarities and differences to spontaneous autoimmunity) Associated with Current Monotherapy and Combo Therapy Approaches*

**Alexandra-Chloé Villani**, Broad Institute of MIT and Harvard, USA  
*New Views on ’Traditional’ Autoimmune Disease Informed by Checkpoint Antagonist Therapy*

**David M. Lee**, Janssen Pharmaceutical Companies of Johnson & Johnson, USA  
*Checkpoint Agonists 1 (disease/checkpoint)*

**Closing Keynote Address (T3)**

**James P. Allison**, University of Texas MD Anderson Cancer Center, USA  
*Where We Are Going as a Field*

**Panel Discussion: Targeting Checkpoints in Human Disease: Gaps for Translation and Opportunities Ahead (B1)**

**Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (T3)**

FRIDAY, FEBRUARY 11

Departure