Advances in Checkpoints Immunology from Autoimmunity to Oncology to Infectious Diseases - RESCHEDULED (RB1)

WEDNESDAY, JUNE 8
Arrival and Registration

THURSDAY, JUNE 9
Welcome and Keynote Address (8:00 am Start) (RT3)
*Catherine J. Wu, Dana-Farber Cancer Institute, USA
Session Chair
Rafi Ahmed, Emory University School of Medicine, USA
T Cell Functional State, from Viruses to Cancer

Welcome and Keynote Address (8:00 am Start) (RB1)
*William H. Robinson, Stanford University School of Medicine, USA
Session Chair
Ira Mellman, Genentech, Inc., USA
Mechanistic Basis of Cancer Immunotherapy

Antigen Targets (9:00 am Start) (RT3)
*Catherine J. Wu, Dana-Farber Cancer Institute, USA
Session Chair
Benoit J. Van den Eynde, University of Louvain, Belgium
The Processing of Tumor Antigens for MHC Class I Presentation to CD8 T Cells
Michal Bassani-Sternberg, University Hospital of Lausanne, Ludwig Institute for Cancer Research, Switzerland
Mass Spectrometry and Proteogenomics Based Approaches for Antigen Detection
Sjoerd H. van der Burg, Leiden University Medical Center, Netherlands
Shared Neoantigens as T-Cell Targets for TAP-Impaired Tumors
Vinod Balachandran, Memorial Sloan Kettering Cancer Center, USA
Short Talk: High Quality Neoantigens are Immunoedited in Long-Term Pancreatic Cancer Survivors
Matthew H. Bakalar, Broad Institute, USA
Short Talk: Novel Programmable Production of pMHC Libraries with Analysis by Mass Spectrometry Enables Targeted Profiling of Peptide-MHC Binding and Stability

Advances in Checkpoint Biology I: Lymphocytes (9:00 am Start) (RB1)
*Arlene H. Sharpe, Harvard Medical School, USA
Session Chair
Chen Dong, Tsinghua University, China
Remote Presentation: Factors that Regulate CD8+ T Cell Fates in Cancer
Dietmar Zehn, Technical University of Munich, Germany
Molecular Recognition of T-Cell Exhaustion
David Bending, University of Birmingham, UK
Short Talk: Antigen and Checkpoint Receptor Engagement Recalibrates T Cell Receptor Signal Strength

Joseph Jae-Suk Kim, NYU School of Medicine, USA
Short Talk: The Role of TCR Affinity in Response to Immune Checkpoint Blockade
Paolo D A Vignali, University of Pittsburgh School of Medicine, USA
Short Talk: Tumor Hypoxia Drives Suppressor Function in Exhausted T Cells Limiting Antitumor Immunity

Career Roundtable (Joint) (2:30 pm Start)
Ira Mellman, Genentech, Inc., USA
Gulbu Uzel, National Institutes of Health, USA
Alice O. Kamphorst, Icahn School of Medicine at Mount Sinai, USA
Michal Bassani-Sternberg, University Hospital of Lausanne, Ludwig Institute for Cancer Research, Switzerland
Mishtu Dey, Cell Press, USA

Cellular Interactions Critical to Effective Tumor Immunity (5:00 pm Start) (RT3)
*Michal Bassani-Sternberg, University Hospital of Lausanne, Ludwig Institute for Cancer Research, Switzerland
Session Chair
robert david schreiber, Washington University, USA
Remote Presentation: Spatial Proteome Analysis (CODEX) of Effective Cancer Immunotherapy
Jannie Borst, Leiden University, Netherlands
How CD4+ T Cell Help Optimizes Cytotoxic T Cell Responses in Cancer
Nir HaCohen, Broad Institute, Massachusetts General Hospital, Harvard Medical School, USA
Spatially Organized Hubs of Immune Cells in Tumors
Giacomo Oliveira, Dana-Farber Cancer Institute, USA
Short Talk: The Landscape of Helper and Regulatory antitumor CD4+ T cells in Human Melanoma

Emerging Clinical Insights into Checkpoint Contributions to Autoimmunity (5:00 pm Start) (RB1)
*William H. Robinson, Stanford University School of Medicine, USA
Checkpoints in B Cells
*Kevan C. Herold, Yale University, USA
Tissue/Immune Cell Interactions Leading to Autoimmunity (Diabetes) with Checkpoint Inhibitors
Alexandra-Chloé Villani, Broad Institute of MIT and Harvard, USA
New Views on 'Traditional' Autoimmune Disease Informed by Checkpoint Antagonist Therapy
Ellen D. Kaan, UMC Utrecht, Netherlands
Short Talk: Identification of Potential Immune Inhibitory Receptors in Interferon Associated Systemic Autoimmune Disease
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KEYSTONE SYMPOSIA
on Molecular and Cellular Biology

Cancer Neoantigens, Vaccines and Viruses - RESCHEDULED (RT3)

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Zoltan Maliga, Harvard Medical School, USA
Short Talk: Molecular Characterization of Skin Toxicities from Immune Checkpoint Inhibitors

Poster Session 1

FRIDAY, JUNE 10

Reprogramming the Microenvironment (8:00 am Start) (RT3)
*Kellie N. Smith, Johns Hopkins University School of Medicine, USA
Session Chair

Valerie Chew, SingHealth, Singapore
The microenvironments of Hepatitis B virus(HBV)-related Hepatocellular carcinoma

Matthew H. Spitzer, University of California, San Francisco, USA
Talk Title to be Announced

Stefani Spranger, Massachusetts Institute of Technology, USA
Not All T Cell Responses are Generated Equal: The Role of Dendritic Cells in Anti-Tumor Immunity

Abhijeet Pataskar, Netherlands Cancer Institute, Netherlands
Short Talk: Exploring IFN-mediated Tryptophan Depletion for the Identification of Inducible Cancer Neo-antigens

Aude-Helene Capietto, Genentech, Inc., USA
Short Talk: Neoantigen Targeted Therapy Promotes Expansion of T Follicular Helper CD4 T Cells and Induces Rejection of Established E0771 Breast Tumors in Mice

Nicolas Cuburu, National Cancer Institute, NIH, USA
Short Talk: Harnessing Anti-Cytomegalovirus Immunity for Local Immunotherapy against Solid Tumors

Anna-Sophia Wiekmeijer, ISA Therapeutics BV, Netherlands
Short Talk: T Cell Inducing SLP Vaccine against SARS-CoV-2 for Protection of Patients with Spontaneous or Therapy-Induced B Cell Deficiencies

Checkpoints in Autoimmunity: Genetic Insights and Innate Immunity Lineages(8:00 am Start) (RB1)

*Ferenc A. Scheeren, Leiden University Medical Center, Netherlands
The Role of Glutaminyl Cyclase in Innate Immunity from Oncology to Infectious Disease

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

Ben A. Youngblood, St. Jude Children’s Research Hospital, USA
Epigenetic Programs Regulating CD8 T Cell Responses during Immune Checkpoint Blockade

Sarah Weiss, Harvard University, USA
Short Talk: Deletion of an Exhaustion-associated PD-1 Enhancer Augments CD8+ T cell Function in Chronic Viral Infection and Improves Tumor Control

Linde Meyaard, University Medical Center Utrecht, Netherlands
Short Talk: Inhibitory Pattern Recognition Receptors as a Novel Class of Immune Regulators Recognizing Endogenous and Microbial Patterns

Workshop 2:30 pm Start) (RT3)
*David A. Braun, Dana-Farber Cancer Institute, USA
Session Chair
*Giacomo Oliveira, Dana-Farber Cancer Institute, USA
Session Chair

Rosaria Chila, IFOM, The FIRC Institute of Molecular Oncology, Italy
Non-Canonical Neoantigens are the Largest Fraction of MHC I Peptides in Mismatch Repair Deficient Murine Colorectal Cancer

Zachary C. Hartman, Duke University, USA
Vaccination Targeting Mutant ESR1 Resistance Driver Neoepitopes to Immunologically Prevent and Suppress the Emergence of ER+ Endocrine Therapy-Resistant Breast Cancer

Alex M. Jaeger, Moffitt Cancer Center, USA
Deciphering the Immunopeptidome in vivo Reveals Novel Tumor Antigens

Allison M. Kirk, St. Jude Children's Research Hospital, USA
Developing T Cell Immunotherapies Targeting Conserved Fusion Neoantigens in Fibrolamellar Carcinoma

Ana Marcu, Genentech Inc., USA
The HLA Ligand Atlas: Defining Actionable Targets for T-Cell-Based Immunotherapy

Mark J. McCarron, Genentech, Inc., USA
The Phenotype of the T Cell Response against Weak Antigens is Altered by the Presence of Strong T Cell Responses against Immunodominant Antigens

Christian Seca, University of Liege, Belgium
Wobble tRNA Modification Regulates Melanoma Immune Response

Sri Krishna, National Cancer Institute, USA
Impact of Neoantigen-Specific T Cell Phenotypes on Cellular Immunotherapies Targeting Metastatic Solid Tumors

Workshop 1: Emerging Checkpoints Insights: Basic and Animal Model Studies (2:30 pm Start) (RB1)
*Roarke A. Kamber, Stanford University, USA
Systematic Discovery of Mechanisms that Impede Macrophage Phagocytosis of Cancer Cells Using Inter-cellular CRISPR Screens

*Hrishi Venkatesh, University of Minnesota, USA
Targeted Therapy and Anti-PDL1 Checkpoint Blockade Elicit a CD4 T Cell Response that Eliminates B Cell Leukemia and Prevents Relapse

* Session Chair † Invited but not yet accepted     Program current as of December 25, 2022 Meal formats are based on meeting venue.
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Michiel van der Vlist, University Medical Center Utrecht, Netherlands
CD200R+ Macrophages Resolve Inflammatory Pain Through Interaction with iSec1 on Sensory Neurons

Iryna Voloshyna, NYU School of Medicine, USA
Humanized FocR (hFocR) Mice as a Pre-clinical Model to Study Checkpoint Inhibitor-induced irAEs

Elena Fueyo-Marcos, CNIO, Spain
Exploring the Potential of Selectively Killing PD-L1-Expressing Cells in Cancer Therapy

Martina Damo, Yale University, USA
Anti-PD-1 Disrupts Tolerance of Self-antigen-specific CD8 T Cells in Skin Causing Lichenoid irAEs

Abby E. Overacre, University of Pittsburgh, USA
Microbiota-specific T Follicular Helper Cells Drive Tertiary Lymphoid Structure Formation and Anti-tumor Immunity in Colorectal Cancer

Immune Targeting against Viral Antigens (5:00 pm Start) (RT3)

*Susan E. Klaeger, Broad Institute, USA
Session Chair

Helen Heslop, Baylor College of Medicine, Houston Methodist Hospital and Texas Children’s, USA
Adoptive Transfer of Virus Specific T Cells

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

Kellie N. Smith, Johns Hopkins University School of Medicine, USA
Discovery and Characterization of Tumor-Reactive TIL

Derin Benerci Keskin, Dana Farber Cancer Institute, USA
Short Talk: Reversal of Viral and Epigenetic HLA Class I Repression in Merkel Cell Carcinoma

Michael C. Brown, Duke University, USA
Short Talk: Intratumor Childhood Vaccine-specific CD4+ T Cell Recall Coordinates Antitumor Type I and II Immunity

Esmé van der Gracht, ISA Therapeutics, Netherlands
Remote Presentation: Short Talk: A Third Vaccination with a Single T Cell Epitope Protects against Lethal SARS-CoV-2 Infection

Advances in Checkpoint Biology II: Immune Exhaustion and Immunometabolism (5pm Start) (RB1)

*Rafi Ahmed, Emory University School of Medicine, USA
TGF-beta Regulates the Quiescence and Differentiation of PD-1+ TCF-1+ Stem-like CD8 T Cells during Chronic Infection

*Weiping Zou, University of Michigan, USA
Metabolic Impact on Cancer Immunity and Immunotherapy

Christopher E. Rudd, University of Montreal, Canada
Short Talk: Glycogen Synthase Kinase (GSK-3) Inhibition Generates CD8 Super-armed Killers in its Synergy with PD-1/PDL1 Blockade in Tumor Immunity

Sabelo M. Lukhele, University Health Network, Canada
Short Talk: IRF2-mediated Inhibition of Interferon Signaling Drives CD8 T Cell Exhaustion to Prevent Long-term Cancer Control

Andrew Frisch, University of Pittsburgh, USA
Short Talk: Redirecting Glucose Flux During In Vitro Expansion Improves the In Vivo Performance of Adaptive T Cell Therapies for Cancer

Panel Discussion: New Directions in Checkpoint Biology: Major Gaps and Emerging Insights (6:45 pm Start) (RB1)

*Arlene H. Sharpe, Harvard Medical School, USA
Session Chair

Weiiping Zou, University of Michigan, USA
Jennifer Guerrero, Brigham and Women's Hospital, USA
David A. Hafler, Yale University School of Medicine, USA
Bali Pulendran, Stanford University School of Medicine, USA
Ira Mellman, Genentech, Inc., USA

Poster Session 2

SATURDAY, JUNE 11

Immunoregulation and Immunosuppression (Joint) (8:00 am Start)

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

Hussein Sultan, Washington University School of Medicine, USA
Unexpected Complexity of Neoantigen Specific Synthetic Long Peptide Cancer Vaccines: Potential for Induction of Tumor Specific Immunosuppressive CD4+ T cells

Jennifer Guerrero, Brigham and Women’s Hospital, USA
Elucidating Macrophage Diversity to Uncover Novel Anti-cancer Therapeutic Strategies

David A. Hafler, Yale University School of Medicine, USA
Transcriptional Mechanism of FoxP3+ Treg Dysfunction in Human Autoimmune Disease

Jessica Stark, Stanford University, USA
Short Talk: Antibody-lectin Bispecifics for Glyco-immune Checkpoint Blockade

Andreas Wieland, Ohio State University, USA
Short Talk: Defining HPV-Specific B Cell Responses in Patients with Head and Neck Cancer

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Workshop 2: Emerging Checkpoints Insights: Translational and Clinic Studies (3:00 pm Start) (RB1)

*Kate Carbone*, Genentech, Inc., USA
Surveillance of in situ Tumor Arrays Reveals Early Environmental Control of Cancer Immunity

*Zhi Liang Chu*, Crossgain Therapeutics, Inc., USA
TMER1: A Treg Cell Expressed, Hippo-YAP Regulating GPCR as a Novel Target for Cancer Immunotherapy Drug Development

**Lynn Collier**, Harvard University, USA
PD-1 Blockade Drives T Cell Transcriptional States in NOD Mice that are Comparable to T Cells in NOD Mice with Spontaneous Autoimmune Diabetes

**David R. Glass**, Fred Hutchinson Cancer Center, USA
Multi-omic Analysis of Cutaneous T Cell Lymphomas Reveals Broad Changes in Cellular Immunity Induced by Mono- and Combination Anti-PD-1 Immunotherapy

**Akashdip Singh**, UMC Utrecht, Netherlands
Cancer Immunotherapy by NC410, a LAIR-2 Fc Protein Blocking Human LAIR-collagen Interaction

Checkpoints in Autoimmunity: Function and Dysfunction in Disease (5:00 pm Start) (RB1)

*Bali Pulendran*, Stanford University School of Medicine, USA
Systematic Analysis of Cutaneous T Cell Lymphomas Reveals Broad Changes in Cellular Immunity Induced by Mono- and Combination Anti-PD-1 Immunotherapy

*Eoin McKinney*, Cambridge University, UK
Lymphocyte Exhaustion State in Autoimmune Disease X: Integrating Functional Status across Active Checkpoints

**David M. Lee**, Janssen Pharmaceutical Companies of Johnson & Johnson, USA
Co-inhibitory Modulators in Autoimmunity: The Complex Path From Concept to Therapeutic Candidates

**Chris Paluch**, MiroBio Ltd, UK
Short Talk: A BTLA Agonist Antibody for the Treatment of Autoimmune Disease

**Yang Zhao**, Janssen Immunology Discovery, USA
Short Talk: VISTA is a Checkpoint Receptor Target for Autoimmune Diseases

Combination Therapy with Oncolytic Virus and Viral Delivery Systems (5:00 pm Start) (RT3)

*Jennifer Guerriero*, Brigham and Women’s Hospital, USA
Session Chair

**Matthias Gromeier**, Duke University School of Medicine, USA
Cancer Immunotherapy through Endogenous Type-I IFN Dominant Signaling in Dendritic Cells

**Klaus Früh**, Oregon Health & Science University, USA
Harnessing the Unique Immune Biology of Cytomegalovirus for Cancer Immunotherapy

**E. Antonio Chiocca**, Brigham and Women’s Hospital, USA
Clinical Trials of Oncolytic Virus- and Gene-based Immunotherapy: Human Evidence of Changes in the Tumor Immune Microenvironment

**Kristin DePeaux**, University of Pittsburgh, USA
Short Talk: Overcoming Microenvironmental Resistance to Oncolytic Virus Immunotherapy with Virus-encoded Delivery of a Potent TGFβ Inhibitor

**Emma Wagner**, University of Cambridge, UK
Short Talk: Role of Innate Immune DNA Sensing in Response to Oncolytic Virus Therapy

Poster Session 3

**Sunday, June 12**

Vaccines in Cancer and Other Non Infectious Syndromes (8:00 am Start) (RT3)

*Cornelis J. M. Melief*, Leiden University Medical Center & ISA Pharmaceuticals BV, Netherlands
Session Chair

**Gerald P. Linette**, University of Pennsylvania, USA
Dendritic-Based Targeting of Tumor Neoantigens

**Jan David Beck**, BioNTech SE, Germany
Combining RNA-encoded Interleukin-2 with Antibodies Overcomes Resistance in MHC Class I-deficient Cancer

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

**Megan L. Burger**, Massachusetts Institute of Technology, USA
Short Talk: Antigen Dominance Hierarchies Shape Anti-tumor T Cell Phenotypes and Immunotherapy Response

**Ann-Jay Tong**, Genentech, Inc., USA
Short Talk: Molecular Determinants of Effective Neoantigen-specific T Cell Responses Following Vaccination

**Anna Morena D’Alise**, Nouscom Srl, Italy
Short Talk: Viral Vectored Vaccines Targeting Tumor Neoantigens Elicit Potent and Effective Anti-tumor Immune Response

**Najia Arshad**, Yale University, USA
Short Talk: Discovery of Immunogenic, Tumor-Associated Peptides Presented by Major Histocompatibility Complex Class I in a Myeloproliferative Neoplasm Cell Line

**David A. Braun**, Dana-Farber Cancer Institute, USA
Short Talk: A Personalized Neoantigen Vaccination Incorporating Locally Delivered Ipilimumab Induces Tumor-specific Immunity in Renal Cell Carcinoma

Checkpoints in Oncology—Treatment Effectiveness, Include CAR T, States of Immune Exhaustion in I O, and Combo Approaches (8:00 am Start) (RB1)
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Maria E. Suarez-Almazor, University of Texas MD Anderson Cancer Center, USA  
Remote Presentation: Immune-related Adverse Events with Checkpoint Inhibitors*

*Charles G. Drake, Janssen, USA  
Talk Title to be Announced

Arlene H. Sharpe, Harvard Medical School, USA  
Defining Regulators of Immunity to Infections and Tumors using in vivo CRISPR Screens

Alex C. McPherson, University of Pittsburgh, USA  
Short Talk: Exploring the Mechanisms of how Commensal Bacteria Colonize Gut-distal Melanoma Tumors and Impact Immune Checkpoint Inhibitor Efficacy

Chun Wai Wong, University of Manchester, UK  
Short Talk: Inhibition of PARP14 Restores Response to Anti-PD1 Immune Checkpoint Inhibition

Novel Combinatorial Approaches (5:00 pm Start) (RT3)  
*Gerald P. Linette, University of Pennsylvania, USA  
Session Chair

David E. Avigan, Beth Israel Deaconess Medical Center, USA  
Integrating a Personalized Cancer Vaccine with Cellular Immunotherapy

Ravi Uppaluri, BWH, USA  
Neoadjuvant PD1 Therapy

Brooke Huisman, MIT, USA  
Short Talk: Characterizing the Peptide Repertoire of HLA-E and Natural Killer Cell Receptors via Yeast Display

Marcus Rosenberg, Yale University, USA  
Short Talk: Epigenetic Regulation of Endogenous Retroelement Expression Modulates Anti-cancer Immune Responses

Christianne Groeneveldt, Leiden University Medical Center, Netherlands  
Short Talk: Repurposing Reovirus-specific T Cells as Antitumor Effector Cells

Checkpoints Insights from Infectious Diseases and Environmental Triggers (5:00 pm Start) (RB1)  
*Georg Lauer, Massachusetts General Hospital, USA  
Checkpoint Signaling and Phenotype in Chronic Viral Infections

*Alice O. Kamphorst, Icahn School of Medicine at Mount Sinai, USA  
Strength of CD28 Costimulation Directs Self-Renewal and Differentiation of TCF-1+ PD-1+ CD8 T Cells

Susan E. McClory, University of Pennsylvania/CHOP, USA  
Short Talk: Trib1 Inhibits Viral-specific T Cell Responses during Chronic Infection by Promoting Terminal Exhaustion

Panel Discussion: Targeting Checkpoints in Human Disease: Gaps for Translation and Opportunities Ahead (6:00 pm Start) (RB1)

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