industry's leading immuno-oncology annual meeting

Cambridge Healthtech Institute's 7th Annual

August 5-9, 2019 | Boston, MA | Westin Boston Waterfront

Immuno-Oncology
SUMMIT
Powering Next Generation Targeted Immunotherapies

675+
Immuno-Oncology
Thought Leaders

175+
Cutting-Edge
Presentations

46%
of Delegates are
Executives/Directors

72%
of Attendees from
Pharma & Biotech

15
Innovative
Conference Programs

Featured Speakers

Michael Woo
Head, Immuno-Oncology, Business Development, Novartis

Pamela Carroll
Senior Vice President, Immuno-Oncology, Genocea

Jianda Yuan
Senior Director, Translational Oncology, Merck

Tara Arvedson
Director, Oncology Research, Amgen

Rakesh Dixit
Vice President, R&D, MedImmune

Litao Zhang
Vice President, Leads Discovery, Bristol-Myers Squibb

Cokey Nguyen
Senior Director, Oncology R&D, Pfizer

Catherine Sabatos-Peyton
Director, Exploratory Immuno-Oncology, Novartis

Jon Wigginton
Senior Vice President, CMO, MacroGenics

Click Here to Register Online
Immuno-OncologySummit.com
JOIN OVER 675 IO THOUGHT LEADERS at industry’s leading Immuno-Oncology event and learn about the latest research in a comprehensive 12-track program, network with decision makers and build lasting collaborations with an international mix of delegates, and gain actionable solutions to drive your organization’s next-generation immunotherapy programs.
WHY ATTEND CHI’S IMMUNO-ONCOLOGY SUMMIT?

NETWORK with 675+ IO thought leaders from 28 countries and 400 companies

LEARN the latest developments in immuno-oncology from 175+ scientific presentations and 40+ posters

CUSTOMIZE your comprehensive 5-day program by selecting from 12 tracks, 2 training seminars, partnering forum and 4 courses

CONNECT at the industry’s leading Immuno-Oncology meeting, with 72% of delegates from biotech and pharma

COLLABORATE and build lasting business relationships with IO decision-makers: 46% of delegates are executive/director level

INNOVATE your projects with technology solutions from 40+ exhibitors and 20+ technical presentations

BRAINSTORM actionable solutions at the expertly-facilitated roundtable discussions

FOCUS on your agenda by track hopping between concurrent tracks

SHOWCASE your research by presenting a scientific poster

REGISTER ONLINE
Immuno-OncologySummit.com
SPONSORSHIP & EXHIBIT OPPORTUNITIES

COMPREHENSIVE SPONSORSHIP PACKAGES allow you to achieve your objectives before, during, and long after the event. Signing on earlier will allow you to maximize exposure to hard-to-reach decision-makers.

SPONSORED PRESENTATIONS
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Showcase your solutions to a guaranteed, targeted audience. Package includes a 15 or 30-minute podium presentation on the scientific agenda, exhibit space, branding, full conference registrations, use of the event mailing list and more.

LUNCHEON PRESENTATIONS
Opportunity includes a 30-minute podium presentation in the main session room. Lunch will be served to all delegates in attendance. A limited number of presentations are available for sponsorship and they will sell out quickly. Sign on early to secure your talk!

INVITATION-ONLY DINNERS / HOSPITALITY SUITES
Select specific delegates from the pre-registration list to attend a private function at an upscale restaurant or a reception at the hotel. From extending invitations, to venue to suggestions, CHI will deliver your prospects and help you make the most of this invaluable experience.

EXHIBIT
Exhibitors will enjoy facilitated networking opportunities with qualified delegates, making it the perfect platform to launch a new product, collect feedback, and generate new leads. Exhibit space sells out quickly, so reserve yours today!

ADDITIONAL BRANDING & PROMOTIONAL OPPORTUNITIES INCLUDE:
- Floor Standing Meter Boards
- Badge Lanyards
- Exhibit Hall Reception
- Conference Tote Bags
- Hotel Room Keys
- Program Guide Advertisement

FOR SPONSORSHIP & EXHIBIT INFORMATION, PLEASE CONTACT:
Rod Eymael
Manager, Business Development
250 First Avenue, Suite 300, Needham, MA 02494
781-247-6286 | reymael@healthtech.com

2018 Attendee Demographics

DELEGATE TITLE
- 46% Executive + Director
- 22% Scientist/Technologist
- 16% Sales & Marketing
- 10% Professor
- 9% Manager
- 1% Assistant

LOCATION
- USA
  - 77%
- Europe
  - 11%
- Asia
  - 8%
- Rest of World
  - 2%
- USA BREAKDOWN
  - East Coast
    - 63%
  - West Coast
    - 26%
  - Midwest
    - 11%

COMPANY TYPE
- 72% Biotech & Pharma
- 13% Healthcare
- 9% Academic & Govt
- 2% Services
- 2% Societies
- 1% Financial
- 1% Other
2019 DISTINGUISHED SPEAKERS

A Division of Cambridge Innovation Institute

2019 DISTINGUISHED SPEAKERS & SAVE up to $650!

Register by April 12

AUGUST 5-6

- Immunomodulatory Therapeutic Antibodies for Cancer
- Combination Immunotherapy
- Immuno-Oncology Biomarkers
- Adoptive Cell Therapy

AUGUST 6-7

- Bispecific Antibodies for Cancer Immunotherapy
- Preclinical and Translational Immuno-Oncology
- Informatics for Cancer Immunotherapeutics
- Oncolytic Virus Immunotherapy

AUGUST 8-9

- Next-Generation Immunotherapies
- Emerging Immuno-Oncology Targets
- Neoantigen Targeted Therapies
- Personalized Cancer Vaccines

HOTEL & TRAVEL

REGISTRATION INFORMATION

CLICK HERE TO REGISTER ONLINE
ImmuNo-OncologySummit.com

2019 DISTINGUISHED SPEAKERS

Daniel Abate-Daga, PhD
Assistant Member, Immunology Program, H. Lee Moffitt Cancer Center

Michael Aberman, MD
President, CEO, Quintis Therapeutics, Inc.

Andrew Allen, MD, PhD
President and CEO, Gritstone Oncology

Rodabe Amaria, MD
Assistant Professor, Melanoma Medical Oncology, MD Anderson Cancer Center

David E. Anderson, PhD
CSO, VBI Vaccines

Thomas Lars Andreassen, PhD
CSO and Co-Founder, Torque Therapeutics

Philip Arlen, MD
President & CEO, Precision Biologics

Tara Arvedson, PhD
Director, Oncology Research, Amgen

Roger R. Beerli, PhD
CSO, NBE-Therapeutics AG

John Bell, PhD
Senior Scientist, Center for Innovative Cancer Research, Ottawa Hospital Research Institute

Jay A. Berzofsky, MD, PhD
Chief, Vaccine Branch, Center for Cancer Research, National Cancer Institute

Marijo Bilusic, MD, PhD
Associate Research Physician, Program Director, NIH Hematology Oncology Fellowship, National Cancer Institute, National Institutes of Health

Jeroen H. Blokhuis, PhD
Director, Business Development, Partnerships, Parker Institute for Cancer Immunotherapy

Genevieve Boland, MD, PhD
Assistant Professor, Surgery, Director, Melanoma Surgery Program, Massachusetts General Hospital

Adrian Bot, MD, PhD
Vice President, Translational Sciences, Kite, a Gilead Company

Pamela Carroll, PhD
Senior Vice President, Immunooncology, Genocea Biosciences

Manel Cascallo, PhD
CEO, VCN Bioscience

Saso Cemerski, PhD
Senior Director, Translation Immunology, Cue Biopharma

Preet M. Chaudhary, MD, PhD
Professor and Chief of Hematology and Director of Blood and Marrow Transplant, Jane Anne Noah Division of Hematology, University of Southern California Keck School of Medicine

Brian Champion, PhD
CSO, Pioxsix Therapeutics

Virna Cortez-Retamozo, PhD
Lab Head, Senior Scientist, Oncology-Pharmacology, Sanofi

Ildiko Csiki, MD, PhD
Chief Medical Officer, Sensei Biotherapeutics

Michael A. Curran, PhD
Associate Professor, Immunology, Scientific Director, ORBIT Platform, The University of Texas MD Anderson Cancer Center

Stephen Curtis, PhD
Managing Director, MPM Capital

John Desjarlais, PhD
Senior Vice President, Research, CSX, Xencor

Scott M. DeWire, PhD
Global Head, Business Development and Licensing, Cancer Immunology, Boehringer Ingelheim Pharmaceuticals, Inc.

Robert O. Dillman, MD
CMO, AVIVTA Biomedical

Rakesh Dixit, PhD, DABT
Vice President, R&D, Global Head, Biologics Safety Assessment, MedImmune

Stephen Doberstein, PhD
Senior Vice President, R&D and Chief Research and Development Officer, Nektar Therapeutics

Bob DuBridge, PhD
Executive Vice President, Research & CTO, Maverick Therapeutics

Jessie English, PhD
CSO, Tilos Therapeutics

Denise Faustman, MD, PhD
Associate Professor & Director, Immunobiology Lab, Massachusetts General Hospital, Harvard Medical School

David J. Fontana, PhD
Global Program Leader, JCAR017, Juno Therapeutics, a Gritstone Therapeutics

Christopher J. Harvey, PhD
Director of Preclinical Sciences and JTX-2011 Scientific Lead, Jounce Therapeutics

William Hastings, PhD
Investigator III, Exploratory Immuno-Oncology, Novartis Institutes for BioMedical Research

Cara Haymaker, PhD
Assistant Professor, Director, Oncology Research and Immuno-Monitoring Core (ORION), Department of Translational Molecular Pathology, University of Texas MD Anderson Cancer Center

Christopher R. Heery, MD
CMO, Bavarian Nordic

Christopher Helsen, PhD
Director, R&D, Triumvira Therapeutics

Fred R. Hirsch, MD, PhD
Professor, Medicine, Icahn School of Medicine at Mount Sinai; Executive Director, Clinical Research Institute for Lung Cancer, Mount Sinai Health Care

Eric Holland, MD, PhD
Director, Solid Tumor Translational Research, Fred Hutchinson Cancer Research Center

Jinny Huynh, PhD
CSO, AIVITA Biomedical

Jana Ingel, MD, PhD
Senior Vice President, R&D, Immunology, Genentech

Jeronimo Ituarte, PhD
Vice President, Translational Sciences, Kite, a Gilead Company

Jordi Martin-Frutos, MD, PhD
Global Head, Cell Based Therapeutics, Janssen Biotech

Sara Meltzer, MD
Assistant Professor, Medicine, Icahn School of Medicine at Mount Sinai

Jeff Miller, MD, PhD
Vice President, Research, MD Anderson Cancer Center

Judith Feucht, PhD
Research Fellow, Laboratory for Gene Transfer and Gene Expression, Memorial Sloan Kettering Cancer Center

Sofia Gameiro, PharmD, PhD
Head, Immunomodulation Group, Laboratory of Tumor Immunology and Biology, NCI, NIH

Christian Gieffers, PhD
Vice President, Early Drug Development, Apogenix AG

Joseph C. Glorioso, PhD
Professor, Microbiology and Molecular Genetics, University of Pittsburgh School of Medicine

Stefan Glegeck, MD, PhD, FRCP
Professor of Medicine, Vice President, GMA Early Assets, Celgene Corporation

Joel Goldstein, PhD
Senior Director, R&D, Celldex Therapeutics

Paola Grandi, PhD
CSO, Cold Genesys

Jijie Gu, PhD
Director, Immunology Target Validation & Lead Discovery, Research Fellow, Biologics Research, AbbVie

John Gustofson
Managing Director, AbbVie Ventures

Samir Hanash MD, PhD
Director, McCombs Institute for Cancer Early Detection and Treatment, MD Anderson Cancer Center

Brent Hanks, MD, PhD
Assistant Professor, Medicine, Assistant Professor, Pharmacology and Cancer Biology, Duke Cancer Institute, Duke University School of Medicine

Christopher Haynie, PhD
Director, Translational Research, Fred Hutchinson Cancer Research Center
2019 DISTINGUISHED SPEAKERS

Caron Jacobson, MD  
Medical Director, Immune Effector Cell Therapy Program, Dana Farber Cancer Institute

Russell W. Jenkins, MD, PhD  
Assistant Professor, Dept. of Medicine, Center for Cancer Research, Massachusetts General Hospital

Thomas Jensen  
CEO, Intomics

Xiaomo Jiang, PhD  
Investigator, Immuno-Oncology, Novartis Institutes for BioMedical Research

Maria Jure-Kunkel, PhD  
Head, Late Stage Oncology, Translational Medicine, Genmab

Maria Karasarides, PhD  
Executive Director, Immuno-Oncology Global Development, Regeneron Pharmaceuticals

Noriyuki Kasahara, MD, PhD  
Professor in Residence, Alvera L. Kan Endowed Chair, Noriyuki Kasahara, MD, PhD

Yisrael Katz, MD  
CMO, Calviri; Center for Innovations in Medicine, Arizona Biodesign Institute

Howard Kaufman, PhD  
CMO, Replimune

Balveen Kaur, PhD  
Professor, Vice-Chair Research, John P. and Katherine G. McSovern Endowed Chair, Smith Department of Neurosurgery, University of Texas

Christopher Kemball, PhD  
Scientist, Biochemical & Cellular Pharmacology, Genentech

John M. Kirkwood, MD  
Usher Professor of Medicine, Dermatology and Translational Science, Co-Leader, Melanoma and Skin Cancer Program, UPMC Hillman Cancer Center

David Kim, MD  
Co-Founder & Executive Chairman, IGNITE Immunotherapy

Keith Knutson, PhD  
Professor, Immunology, Director, Immunology & Immunotherapy Program, Mayo Clinic

Tania Konny, PhD  
Assistant Professor, Pharmaceutical Sciences, Northeastern University

Arthur Krieg, MD  
Founder & CEO, Checkmate Pharmaceuticals

Doron Levy, PhD  
Professor, Department of Mathematics, University of Maryland

Charlene Liao, PhD  
President and CEO, Immune-Onc Therapeutics

Wei Lin, PhD  
Senior Vice President, Oncology Development, Nektar Therapeutics

Bolan Linghu, PhD  
Principal Scientist, Oncology Bioinformatics, AstraZeneca

Paul Macklin, PhD  
Associate Professor, Intelligent Systems Engineering, Indiana University

Ravi Madan, MD  
Clinical Director, Genitourinary Malignancies Branch, National Cancer Institute

Kathleen M. Mahoney, MD, PhD  
Clinical Instructor, Beth Israel Deaconess Medical Center; Research Fellow, Dana-Farber Cancer Institute

Kellie Malloy  
Chief Clinical Development Officer, OncoSec

Junko Matsuizaki, PhD  
Assistant Professor, Oncology, Director, Immune Analysis Program, Mayo Clinic

Kathryn McCabe, PhD  
Senior Director, Business Development, Emerging Technology and Innovation, Eli Lilly and Company

Carolyn Edwards, PhD  
Principal Scientist, Crescendo Biologics

Lance D. Miller, PhD  
Associate Professor, Cancer Biology, Director, Breast Cancer Center of Excellence; Co-Director, Cancer Genomics Shared Resource, Wake Forest Baptist Comprehensive Cancer Center

Patrice M. Milos, PhD  
Co-Founder/President and CEO, Medley Genomics, Inc.

Greg Motz, PhD  
Director, Immunopharmacology, Unum Therapeutics

Philipp Müller, PhD  
Principal Scientist, Cancer Immunology, Boehringer Ingelheim

Matthew Mulvey, PhD  
CEO, BeneVir Biopharm, Inc.

Viswanathan Muthusamy, PhD  
Director, Center for Precision Cancer Modeling, Yale University

Anton Neschadim, PhD, MBA  
President & CEO, ImmunoBiochem Corporation

Coke Nguyen, PhD  
Senior Director, Oncology R&D, Pfizer

Olivier Nolan-Stevaux, PhD  
Principal Scientist, Oncology-Immunology Research, Amgen

Kerri-Ann Norton, PhD  
Assistant Professor, Computer Science Program, Department of Science, Mathematics, and Computing, Bard College

Marcelo Pasquini, MD, MS  
Senior Scientific Director; CIBMTR Clinical Trials Support; Associate Professor of Medicine, Medical College of Wisconsin

Sari Pesonen, PhD  
Associate Professor, Department of Biostatistics, Harvard T.H. Chan School of Public Health

John Quackenbush, PhD  
Henry Pickering Walcott Professor of Computational Biology and Bioinformatics; Chair, Department of Biostatistics, Harvard T.H. Chan School of Public Health

Christophe Queva, PhD  
CSO, Oncorusc

Samuel D. Rabkin, PhD  
Professor, Neurosurgery, Massachusetts General Hospital and Harvard Medical School

Andreas Raue  
Director, Research, Merrimack Pharmaceuticals, Inc.

Carsten Reinhardt, MD, PhD  
Managing Director, CMO, Immatics Biotechnologies

Nadeem Riaz, MD  
Associate Director, Immunogenomics and Precision Oncology Platform, Radiation Oncology, Memorial Sloan Kettering Cancer Center

John Rossi  
Director, Translational Medicine, Kite Pharma

Marco Ruella, MD  
Assistant Professor of Medicine and Scientific Director, Lymphoma Program, Division of Hematology and Oncology and Center for Cellular Immunotherapies, University of Pennsylvania

Stephen J. Russell, MD, PhD  
CEO, Vyriad, Inc.
2019 DISTINGUISHED SPEAKERS

Catherine Sabatos-Peyton, PhD
Director, Exploratory Immuno-Oncology, Novartis

Sam Saibil, MD, PhD
Translational Research Fellow, Tumour Immunotherapy Program, Princess Margaret Cancer Centre

Shahram Salek-Ardakani, PhD
Senior Director, Cancer Immunology, Pfizer

Niranjan V. Sardesai, PhD
Co-Founder, CEO & President, Geneos Therapeutics

Elisa Scarselli
Chief Scientific Officer, Nouscom AG

Stephen P. Schoenberger, PhD
Co-Director, San Diego Center for Precision Immunotherapy, Professor, La Jolla Institute for Allergy and Immunology

Maria Paola Serra, PhD
Senior Scientist, Pathology, AstraZeneca

Donald R. Shaffer, PhD
Director, Head of Discovery, Jounce Therapeutics

Aiman Shalabi, PharmD
Vice President, R&D, Cell and Gene Therapies, GlaxoSmithKline

Setareh Shamsi, MD, PhD
Global Consultant Oncology Drug Development

Fiona Sharp, PhD
Investigator III, Exploratory Immuno-Oncology, Novartis Institutes for BioMedical Research

John-William Sidhom, MSE, MD/PhD Candidate
Bloomberg-Kimmel Institute for Cancer Immunotherapy, Department of Biomedical Engineering, Johns Hopkins University School of Medicine

Alexandre Simonin, PhD
Director, mAb Discovery, Numab Innovation AG

Dimitris Skokos, PhD
Director, Immune & Inflammatory Diseases, Regeneron Pharmaceuticals

Eric Smith, PhD
Director, Bispecific Antibodies, Regeneron Pharmaceuticals

Eric Smith, MD, PhD
Director of Translational Development, Cellular Therapies Center, Memorial Sloan Kettering Cancer Center

Qinghua Song, PhD
Director, Biostatistics, Kite, a Gilead Company

Stefani Spranger, PhD
Assistant Professor, Biology, Koch Institute for Integrative Cancer Research, MIT

Pramod Srivastava, MD, PhD
Director, Carole and Ray Neag Comprehensive Cancer Center & Professor of Immunology and Medicine, University of Connecticut School of Medicine

Masataka Suzuki, PhD
Assistant Professor, Center for Cell & Gene Therapy, Dept. of Medicine, Baylor College of Medicine

Raymond Tesi, MD
CEO/CMO, Innune Bio

Christopher Thanos, PhD
CEO, Co-founder, Actym Therapeutics, Inc.

Mark Throsby, PhD
Executive Vice President & CSO, Merus NV

Bob Uger, PhD
CSO, Trilliam Therapeutics, Inc.

Wim van Scootenh, PhD
CSO, TeneoBio

Alexandra-Chloé Villani, PhD
Associate Scientist, Broad Institute of MIT and Harvard

Nathaniel Wang, PhD
Head of R&D, Synthetic Genomics, Inc.

Kevin R. Webster, PhD
Senior Vice President, eFFECTOR Therapeutics

Andrew Weinberg, PhD
Chief, Laboratory of Basic Immunology, Providence Health & Services

Danny Wells, PhD
Lead Bioinformatics Scientist, Parker Institute for Cancer Immunotherapy

Theresa Whiteside, PhD
Professor, Pathology, Immunology & Otolaryngology, Hillman Cancer Center, University of Pittsburgh School of Medicine

Chan Whiting, PhD
Senior Vice President, R&D, Tempest Therapeutics

Michael Woo, MBA
Head, Search & Evaluation, Immunology, Bristol-Myers Squibb

Yong-Guang Yang, MD, PhD
Professor, Columbia Center for Translational Immunology, Columbia University College of Physicians and Surgeons

Xin Yu, PhD
Scientist, Immuno-Oncology, Amgen

Jianda Yuan, MD, PhD
Senior Director, Translational Oncology, Merck

Simge G. Yüz
Scientist, NMI Natural and Medical Sciences Institute at the University of Tübingen

Liao Zhang, PhD
Vice President, Leads Discovery and Optimization, Bristol-Myers Squibb
**PLENARY KEYNOTES**

**TUESDAY, AUGUST 6, 2019 | 4:15 - 5:30 PM**

**PANEL DISCUSSION**

**Next-Generation Immunotherapies**

CHI'S IMMUNO-ONCOLOGY SUMMIT brings you the latest advances in immunotherapy every year. This panel of industry thought leaders will discuss the technology advances and implementation strategies for next-generation immunotherapies, including emerging immunotherapy combinations, bispecific antibodies, oncolytic virotherapy, adoptive cell therapy, personalized vaccines and neoantigen targeted therapies, small molecules and ADCs, cytokines, and innate immunity targeted therapies.

**MODERATOR**

Pamela Carroll, PhD  
Senior Vice President, Immuno-Oncology, Genocea Biosciences

**PANELISTS**

- Rakesh Dixit  
  PhD, DABT, Vice President, R&D; Global Head, Biologics Safety Assessment, MedImmune
- Tara Arvedson, PhD  
  Director, Oncology Research, Amgen
- Stephen Doberstein, PhD  
  Senior Vice President, R&D and Chief Research and Development Officer, Nektar Therapeutics
- Raymond Tesi, MD  
  CEO/CMO, INmune Bio
- David Kirn, MD  
  Co-Founder & Executive Chairman, IGNITE Immunotherapy

**THURSDAY, AUGUST 8, 2019 | 8:25 - 9:30 AM**

**PANEL DISCUSSION**

**Partnering and Licensing in Immuno-Oncology**

BIG PHARMA AND BIOTECH are under pressure to compete in the booming Immuno-Oncology market and to capitalize on new technologies and innovations to bring next-generation immunotherapies to the patients. This insider panel will share what they look for in a partner or investment, and discuss opportunities for collaboration or in-licensing of novel immunotherapies, IO targets or biomarkers, and potential combination therapies.

**MODERATOR**

Jeroen H. Blokhuis, PhD  
Director, Business Development, Partnerships, Parker Institute for Cancer Immunotherapy

**PANELISTS**

- Michael Woo, MBA  
  Head, Search & Evaluation, Immuno-Oncology, Business Development & Licensing, Novartis Institutes for BioMedical Research, Inc.
- Kathryn McCabe, PhD  
  Senior Director, Business Development, Emerging Technology and Innovation, Eli Lilly and Company
- Scott M. DeWire, PhD  
  Global Head, Business Development and Licensing, Cancer Immunology, Boehringer Ingelheim Pharmaceuticals, Inc.
- Philip Arlen, MD  
  President & CEO, Precision Biologics
- Stephen Doberstein, PhD  
  Senior Vice President, R&D and Chief Research and Development Officer, Nektar Therapeutics
SHORT COURSE

WEDNESDAY, AUGUST 7 | 6:30-9:30 PM

DEVELOPMENT OF BIOASSAYS FOR CHECKPOINT IMMUNOTHERAPY AND OTHER IMMUNO-ONCOLOGY LEADS

Instructor:
Sofie Pattijn, CTO, ImmunXperts

ABOUT THIS COURSE:
During the last few years, significant advancement has been made in the clinical application of cancer immunotherapies. Molecules directed against immune checkpoints and other agonists show great promise for treatment of a variety of malignancies. Early evaluation of the effectiveness of candidate therapeutics and combination therapies can be done using in vitro bioassays with primary mouse or human immune cells. These can be used to evaluate the functionality of check-point blockers, the effect of molecules on macrophages and myeloid derived suppressor cells and regulatory T cells.

TOPICS TO BE COVERED INCLUDE:
• Developing a functional bioassay from scratch
• Handling primary immune cells
• What do the data tell us?
• Challenges and pitfalls
• Examples and case studies

SOFIE PATTIJN (CTO and founder, ImmunXperts) has over 20 years of experience in the field of immunogenicity assessment (vaccines and biotherapeutics) and in vitro assay development. She has extensive hands-on lab experience and has managed and coached several In Vitro teams over the last decade. From 2008 till 2013 she was Head of the In Vitro Immunogenicity group at AlgoNomics (Ghent, Belgium) and Lonza Applied Protein Services (Cambridge, UK). Prior to that, she worked at Innogenetics, Belgium for over 15 years.

PRESENT A POSTER AND SAVE $50!

Share your Data and Discover the Latest Advances in Immuno-Oncology Research in the Exhibit Hall

Cambridge Healthtech Institute encourages attendees to gain further exposure by presenting their work in the poster sessions. To secure a poster board and inclusion in the conference materials, your abstract must be submitted, approved and your registration paid in full by July 12, 2019.
CAMBRIDGE HEALTHTECH INSTITUTE Training Seminars offer real-life case studies, problems encountered and solutions applied, along with extensive coverage of the academic theory and background. Each Training Seminar offers a mix of formal lecture and interactive discussions and activities to maximize the learning experience. These Training Seminars are led by experienced instructors who will focus on content applicable to your current research and provide important guidance for those new to their fields.

TS1 | MONDAY, AUGUST 5, 8:30 AM - 5:00 PM | TUESDAY, AUGUST 6, 8:30 AM - 12:00 PM

INTRODUCTION TO CANCER IMMUNOTHERAPY DISCOVERY AND DEVELOPMENT

This course will cover the recent advances in cancer immunotherapy discovery and development. Immune checkpoint inhibitors and CAR T therapies have recently gained regulatory approval in the US and the EU. TILs- and TCR-based therapies, as well as cancer vaccines are areas of great promise. Combination therapies are contributing to the clinical progress where single therapies fail. Advances in high throughput sequencing and immunogenomics aid in identifying novel tumor antigens, improving effector molecules and vaccines, and predicting clinical outcomes.

Instructor:
Dina Schneider, PhD, Associate Director, Translational Research, Lentigen Technology, a Miltenyi Biotec Company

TS2 | TUESDAY, AUGUST 6, 1:30 PM - 5:30 PM | WEDNESDAY, AUGUST 7, 8:30 AM - 5:45 PM

INTRODUCTION TO IMMUNOLOGY FOR DRUG DISCOVERY SCIENTISTS

This 1.5 day seminar will cover the fundamentals of human immunology for an audience of scientists across different backgrounds working in pharmaceutical and biotech organizations in programs related to immunotherapy. The course will cover a historical perspective, basic mechanisms, fundamental concepts and practical approaches to developing therapeutics and their combinations to modulate the immune system. Additionally, the class will offer perspectives on how immune responses can be monitored by assessment of biomarkers and modulated through biopharmaceutical intervention. Through group activities, attendees will actively review immunological concepts as well as design functional immunological assays and read-outs.

Instructors:
Masha Fridkis-Hareli, MSc, PhD, Founder and President, ATR, LLC
Tatiana Novobrantseva, PhD, Co-Founder, Head of Research and Development, Verseau Therapeutics

Though CHI encourages track hopping between conference programs, we ask that Training Seminars not be disturbed once they have begun. In the interest of maintaining the highest quality learning environment for Training Seminar attendees, and because seminars are conducted differently than conference programming, we ask that attendees commit to attending the entire program, and not engage in track hopping, as to not disturb the hands-on style instruction being offered to the other participants.
IMMUNO-ONCOLOGY INVESTING AND PARTNERING FORUM

Partnering, Funding & Investment to Advance Immuno-Oncology Therapeutics

EARLY AND LATE-STAGE INVESTORS JOIN FUNDRAISING CEOS AND RESEARCH ENTREPRENEURS to encourage partnering and investment, and to ultimately accelerate immuno-oncology therapies to market. This Forum will provide ample opportunity for both investors and CEOs to interact through pre-scheduled 1:1 meetings, as well as interactive panels presented by pharma business development and the VC/investment community.

AUGUST 8, 2019

7:45 Registration and Morning Coffee

8:25 Organizer’s Welcome Remarks

8:30 PLENARY PANEL DISCUSSION: Partnering and Licensing in Immuno-Oncology

Big pharma and biotech are under pressure to compete in the booming Immuno-Oncology market and to capitalize on new technologies and innovations to bring next-generation immunotherapies to the patients. This insider panel will share what they look for in a partner or investment and discuss opportunities for collaboration or in-licensing of novel immunotherapies, IO targets or biomarkers, and potential combination therapies.

Moderator: Jeroen H. Blokhuys, PhD, Director, Business Development, Partnerships, Parker Institute for Cancer Immunotherapy
Panelists: Michael Woo, MBA, Head, Search & Evaluation, Immuno-Oncology, Business Development & Licensing, Novartis Institutes for BioMedical Research, Inc.
Kathryn McCabe, PhD, Senior Director, Business Development, Emerging Technology and Innovation, Eli Lilly and Company
Scott M. DeWire, PhD, Global Head, Business Development and Licensing, Cancer Immunology, Boehringer Ingelheim Pharmaceuticals, Inc.
Philip Arlen, MD, President & CEO, Precision Biologics

9:30 Networking Coffee Break in the Exhibit Hall

10:15 PANEL DISCUSSION: Corporate Venture Capital for Oncology and Immuno-Oncology

In this panel discussion, we will hear from venture capitalists representing arms of pharma companies. What are the benefits of working with a corporate venture capital entity vs private or angel? What are pharma and biotech venture capitalists looking for in a startup company?
Panelist: John Gustofson, Managing Director, AbbVie Ventures

11:15 Targets and Biomarkers

With record numbers of immunotherapies in active development, the importance of targets such as the tumor microenvironment is becoming clear. How do you determine what to target? Once you have a target, how do you deliver therapies effectively? This session will preview next-generation products and companies.

Session Speakers: Michael Aberman, MD, President, CEO, Quentis Therapeutics, Inc.
Christopher Thanos, PhD, CEO, Cofounder, Actym Therapeutics, Inc.
Anton Neschadim, PhD, MBA, President & CEO, Immunobiochem Corporation

12:15 Enjoy Lunch on Your Own

The smaller, more intimate – but well focused – partnering forum was much more effective for us than most of the larger conferences with thousands in attendance.
– CEO, Siva Therapeutics, Inc.

1:30 PANEL DISCUSSION: Investing in Immuno-Oncology

In this panel discussion, private, public and strategic investors will discuss their investment strategies. Potential topics of discussion include: What does it take to get an immuno-oncology company funded? What are the benefits and risks of business models in devices, pharmaceuticals, diagnostics and information technology? What are today’s deal terms and valuations? What are the best exit strategies?

Panelists: Stephen Curtis, PhD, Managing Director, MPM Capital
Alexis Ji, PhD, Partner, Illumina Ventures
Shaan C. Gandhi, MD, DPhil, Principal, Longwood Fund

2:30 Networking Refreshment Break

3:15 Novel Therapeutics and Diagnostics for Cancer Immunotherapy

In this session, we will hear from companies on the cutting edge. Novel drugs are being developed and commercialized, and new pathways for cancer diagnostics are being discovered and targeted. Innovative technology is yielding benefits in
development of diagnostics and treatments. Hear from leading companies on their approaches.

Session Speakers: Stephen J. Russell, MD, PhD, CEO, Vyriad, Inc.
Charlene Liao, PhD, President and CEO, Immune-Onc Therapeutics

4:15 Start-Up Showcase
The Immuno-Oncology Investing & Partnering Forum’s 2nd Annual Start-Up Showcase offers the stage to young immuno-oncology companies to pitch their drug, device, diagnostic, or software to an audience of investors, CEOs, and executives in the field. Please view the event website for a full list of this year’s presenters.

5:15 Close of Immuno-Oncology Investing & Partnering Forum
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MONDAY-TUESDAY | AUGUST 5-6 | 7TH ANNUAL
IMMUNOMODULATORY THERAPEUTIC ANTIBODIES FOR CANCER
Emerging Targets, Combinations, and Antibody Engineering for Next-Generation Immunotherapies

MONDAY, AUGUST 5

7:30 am Registration Open and Morning Coffee

CYTOKINES AS EMERGING IMMUNOTHERAPY TARGETS

8:25 Chairperson’s Opening Remarks

Dimitris Skokos, PhD, Director, Immune & Inflammatory Diseases, Regeneron Pharmaceuticals

8:30 Locking the Latency Cage: Anti-LAP Antibodies as a Novel Approach to Targeting TGFβ

Jessie English, PhD, CSO, Tilos Therapeutics

TGFβ is a major immunosuppressive cytokine co-opted by tumors to evade the immune system and is implicated in resistance to checkpoint inhibitors. Latency associated peptide (LAP) ensconces TGFβ, acting as a latency cage and major control mechanism for TGFβ activity. We have developed anti-LAP antibodies with preclinical data supporting therapeutic utility in oncology.

9:00 Targeting Soluble TNF to Improve Efficacy of Combination Immunotherapy

Raymond Tesi, MD, CEO/CMO, Inmune Bio

A new and fast-growing patient population in cancer is patients resistant to CPI. Combination therapy, a standard with chemotherapy, will become the standard in immunotherapy. Combination immunotherapy ideally combines drugs with different targets. An ideal target is soluble TNF of the TME. Soluble TNF increases MDSC population, promotes metastasis and EMT. Combination therapy targeting soluble TNF with CPI will improve CPI efficacy and reverse resistance to CPI in selected patients.

9:30 TNFR2 Agonism Induces Co-Stimulation of T Cells, Robust Anti-Tumor Activity and Immune Memory

Andreas Raue, Director, Research, Merrimack Pharmaceuticals, Inc.

TNFR2 has been implicated as a novel target for cancer immunotherapy. While it has been linked to enhanced suppressive activity of regulatory T (Treg) cells in autoimmune diseases, the effect of TNFR2-targeted therapy in cancer remains unclear. Here we present data from a novel agonistic monoclonal anti-TNFR2 antibody that is being developed as a potential novel immunotherapy option for cancer patients.

10:00 Coffee Break

EMERGING IMMUNOMODULATORY TARGETS FOR COMBINATION WITH CHECKPOINT INHIBITORS

10:30 KEYNOTE PRESENTATION: Tandem Immunotherapy Targeting PD-1 and GITR Achieves Synergy

Dimitris Skokos, PhD, Director, Immune & Inflammatory Diseases, Regeneron Pharmaceuticals

Immune checkpoint inhibitor therapies bolster the antitumor activity of CD8+ T lymphocytes. We used single-cell analysis of tumor-infiltrating lymphocytes to probe the mechanisms responsible for the synergy of PD-1 blocking and GITR agonist antibodies in enhancing tumor control in mouse cancer models. This combination immunotherapy resulted in a synergistic increase in memory precursor effector T cells that depended on availability of specific costimulatory pathways. These results provide a mechanistic rationale for conducting further clinical trials of combined anti-GITR and anti-PD-1 immunotherapy in human cancer.

11:00 Preclinical and Clinical Rationale for Combination of the ICOS Agonist Antibody Vopratelimab and CTLA-4 Inhibition

Christopher J. Harvey, PhD, Director of Preclinical Sciences and JTX-2011 Scientific Lead, Jounce Therapeutics

JTX-2011 (vopratelimab) is an agonist antibody targeting ICOS that selectively activates primed CD4 T effector cells. Vopratelimab is currently being tested as a monotherapy or in combination with either PD-1 or CTLA-4 in the Phase 1/2 ICONIC trial. This presentation will focus on both the preclinical data that informed combination selection and the reverse translational data from the ICONIC study that is being used to support ongoing clinical development.

11:30 Epitope Identification and Clinical Immune Monitoring in Gene Therapy and Immune Oncology Programs

Emilee Knowlton, PhD, Immunology Sales Specialist, Sales, ProImmune, Inc.

Epitope discovery is a crucial element in the development of vaccine candidates and drug therapeutics. In the immune-oncology space, identifying neoepitopes and tumor-associated antigens provide new targets for cancer diagnostics and enable the tracking of patient responses to treatment. ProImmune provides industry-leading tools for antigen characterization, epitope mapping and immune monitoring. In this presentation, case studies will be shared that detail how ProImmune's integrated platform has identified novel epitopes in the immune-oncology field.

12:00 pm Luncheon Presentation (Sponsorship Opportunity Available) or Enjoy Lunch on Your Own

12:30 Session Break

1:25 Chairperson’s Remarks

Dimitris Skokos, PhD, Director, Immune & Inflammatory Diseases, Regeneron Pharmaceuticals
## NEOADJUVANT IMMUNOTHERAPY

### 4:00 Neoadjuvant Immunotherapy in Solid Tumors

**Rodabe Amaria, MD, Assistant Professor, Melanoma Medical Oncology, MD Anderson Cancer Center**

This presentation will cover the currently available data on recent clinical trials of neoadjuvant immunotherapy in melanoma and other solid tumors; also, rationale for neoadjuvant immunotherapy, focus on expected response rates, toxicity concerns and potential surgical complications.

### 4:30 New Studies in Melanoma: A Better Way to Get Faster and More Mechanistic Data

**John M. Kirkwood, MD, Usher Professor of Medicine, Dermatology and Translational Science, Co-Leader, Melanoma and Skin Cancer Program, UPMC Hillman Cancer Center**

Neoadjuvant therapy, in which treatment precedes definitive surgery for high-risk operable melanoma, has been pursued for nearly 20 years. The neoadjuvant evaluation of the first immunotherapeutic agent, interferon alfa-2b, first demonstrated the immunological effects of that agent given prior to surgery, utilizing the tissue biopsy at outset and at definitive surgery in 2006. The evaluation of anti-CTLA4 blocking antibody ipilimumab, and ipilimumab combined with IFN, as well as anti-PD1 therapy pembrolizumab and nivolumab in other combinations have now shown efficacy in terms of clinical and pathological response, as well as new insights into mechanisms of these agents and combinations. BRAF inhibitors and MEK inhibitors have also shown promising impact in the neoadjuvant setting—and neoadjuvant therapy has become critical to the development and understanding of new combinations for adjuvant therapy of melanoma, given the proliferation of active agents for which effects upon tumor in the neoadjuvant setting are important to decision-making for new Phase III trials and optimization of melanoma therapy.

### 5:00 Close of Day

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### TUESDAY, AUGUST 6

7:30 am Registration Open and Morning Coffee

**TARGETING INNATE IMMUNITY TO INCREASE RESPONSE TO CHECKPOINT MODULATORS**

8:25 Chairperson’s Remarks

**Michael Wichroski, PhD, Senior Principal Scientist, Immuno-Oncology, Bristol-Myers Squibb**

8:30 Preclinical Characterization of BMS-986299, a First-in-Class NLRP3 Agonist with Potent Antitumor Activity, Alone and in Combination with Checkpoint Blockade

**Michael Wichroski, PhD, Senior Principal Scientist, Immuno-Oncology, Bristol-Myers Squibb**

Immune checkpoint inhibitors (CPI) targeting adaptive immunity have significantly improved patient outcomes in many tumor types, but other approaches are needed to extend clinical benefit to more patients. Targeting innate immunity to provide broader activation of the immune system may be one approach to complement CPI activity. Here, we present the pre-clinical evaluation of BMS-986299, a first-in-class, NLRP3 inflammasome agonist, which shows promising combination potential with CPI.

9:00 KEYNOTE PRESENTATION: Induction of Durable Regression in PD-1 Refractory Melanoma Following Intratumoral Injection of a CpG-A TLR9 Agonist, CMP-001 in Combination with Systemic Pembrolizumab

**Arthur Krieg, MD, Founder & CSO, Checkmate Pharmaceuticals**

Checkpoint inhibitor therapies such as anti-PD-1 antibodies can induce dramatic regression of “hot” tumors where the immune system already has been activated against the tumor but are generally ineffective against “cold” tumors. We hypothesized that modification of the tumor microenvironment by intratumoral injection of a Toll-like receptor 9 (TLR9) agonist CpG-A oligodeoxynucleotide would convert “cold” tumors into “hot” tumors, resulting in an increased response rate to anti-PD-1 therapy. In human clinical trials we have achieved durable tumor regression in patients with PD-1-refractory advanced melanoma.
9:30 **Sponsored Presentation (Opportunity Available)**

10:00 **Grand Opening Coffee Break in the Exhibit Hall with Poster Viewing**

10:55 **Chairperson’s Remarks**
Michael Wichroski, PhD, Senior Principal Scientist, Immuno-Oncology, Bristol-Myers Squibb

11:00 **Assessing the Impact of Intratumoral Immune Modulation in Metastatic Melanoma**
Cara Haymaker, PhD, Assistant Professor, Director, Oncology Research and Immuno-Monitoring Core (ORION), Department of Translational Molecular Pathology, University of Texas MD Anderson Cancer Center
The use of innate immune modulators to improve response to checkpoint blockade holds tremendous promise for patients with solid tumors. Intratumoral administration of these agents provides a direct activation of the target innate cell(s) that could improve antigen-presentation and subsequent anti-tumor T-cell activation. This study will demonstrate how the use of longitudinal tissue and blood collections is key to understanding both response and resistance mechanisms.

11:30 **Bempegaldesleukin (NKTR-214): Accessing the IL-2 Pathway for Immuno-Oncology**
Wei Lin, PhD, Senior Vice President, Oncology Development, Nektar Therapeutics
Bempegaldesleukin is an IL-2 receptor pathway agonist that stimulates rapid proliferation and activation of effector T cells, increased T cell infiltration of the tumor and sustained signaling that is maintained with successive treatment cycles without significantly over-activating the immune system. Bempegaldesleukin is being evaluated in combination with the checkpoint inhibitor, nivolumab, in a broad clinical program. Preliminary clinical data in melanoma and urothelial carcinoma has demonstrated a deepening of responses over time with a favorable safety profile.

12:00 pm **Close of Immunomodulatory Therapeutic Antibodies for Cancer**

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MONDAY, AUGUST 5

7:30 am Registration Open and Morning Coffee

COMBINATION STRATEGIES TO INCREASE RESPONSE TO CHECKPOINT MODULATORS

8:25 Chairperson’s Opening Remarks
Rakesh Dixit, PhD, DABT, Vice President, R&D; Global Head, Biologics Safety Assessment, Medimmune

8:30 KEYNOTE PRESENTATION: Immunotherapy Combinations: Challenges and Opportunities
Rakesh Dixit, PhD, DABT, Vice President, R&D; Global Head, Biologics Safety Assessment, Medimmune

Immunotherapy, incorporating immune checkpoint inhibitors (ICI), has revolutionized the treatment of many deadly cancers for many cancer patients in the last decade. But the majority of the cancer patients have not reaped the benefits of the current immunotherapy agents because of the tumor-induced immune suppression and intrinsic aging-related weakened immune system. Of nearly 2,000 or more immunotherapy-centric combination trials, the combinations of ICIs with chemotherapy, radiation, NK cell antagonists, cytokines, cancer vaccines, oncolytic viruses, etc., have shown some ability to transform cold tumors into hot tumors with impressive efficacy in some cancers. However, the challenges remain with regard to the selection, including the MOA-based combinations, dosing, schedules, and personalized biomarkers for different tumor types. The presentation will provide a comprehensive overview of the immunotherapy combinations, patient selection and biomarker-based strategies to enhance the value of immunotherapy combinations, including how to minimize toxicities and enhanced overall survival.

9:00 Next-Generation Immune Checkpoints – Deciphering Key Roles in the TME
Catherine Sabatino-Peyton, PhD, Director, Exploratory Immuno-Oncology, Novartis

The success of PD-1 pathway inhibitors has led to rapid expansion of clinical trials in immuno-oncology, including multiple trials exploring partner pathways to enhance responses and durability and to tackle nodes of resistance. Next-generation checkpoint inhibitors including TIM-3 and LAG-3 have broad expression profiles, and preclinical research reveals novel and critical mechanisms of action for these pathways. Translational data from clinical trials also informs understanding of novel mechanisms.

9:30 Immunotherapy Combinations: Lessons Learned and Future Outlook
Maria Karasarides, PhD, Executive Director, Immuno-Oncology Global Development, Regeneron Pharmaceuticals

This presentation will cover: 1) biological mechanisms driving tumor susceptibility to α-PD1 based immunotherapy combinations, 2) learning from early phase clinical trials investigating α-PD1 based combination treatments, 3) strategies for achieving maximal T cell responses with tumor antigen-directed immunotherapies, and 4) future outlook: turning roadblocks into insights.

10:00 Coffee Break

COMBINING IMMUNOTHERAPY MODALITIES

10:30 VSV-GP-Driven Immune Modulation
David Fontana, Head, Strategic Alliance & JCAR017 Program Lead, Juno Therapeutics

VSV-GP, a very potent and rapidly replicating oncolytic virus, is capable of inducing strong anti-tumor immunity in “cold” tumors by increasing immune cell infiltration/activation within infected tumors and creating a T-cell-inflamed tumor environment that empowers the immune system to control tumor growth. Therapeutic combinations with checkpoint inhibitors like α-PD1 or SMAC mimetics further enhance the anti-tumor activity of VSV-GP.

11:00 Turbocharging Efficacy: Combinatorial Approaches with CD19 CAR Ts
Catherine Sabatino-Peyton, PhD, Director, Exploratory Immuno-Oncology, Novartis

CD19 CAR Ts have demonstrated notable activity in DLBCL, CLL, ALL and other hematological malignancies with high overall response rates and durable CRs. However, a portion of patients either do not respond or their responses are not durable. Learnings from non-responders or CAR-T relapses are providing data into the multitude of potential resistance/suppressive mechanisms. This presentation will review combination approaches being evaluated to overcoming resistance in CAR T to improve outcomes in NHL and provide insights for solid tumor approaches and the next wave of targets.

11:30 Session Break

12:00 pm Luncheon Presentation (Opportunity Available)

12:30 Session Break
COMBINING IMMUNOTHERAPY WITH OTHER CANCER THERAPIES

1:25 Chairperson's Remarks
Rakesh Dixit, PhD, DABT, Vice President, R&D, Global Head, Biologics Safety Assessment, MedImmune

1:30 Why Are We So Late in Treatment of Breast Cancer Using ICI?
Stefan Glueck, MD, PhD, FRCP, Professor of Medicine, Vice President, GMA Early Assets, Celgene Corporation

Positive studies have led to the US FDA approval of several immune checkpoint inhibitors but none to date are approved in breast cancer (BrCa). Moreover, PD-1/PD-L1, MSI high (and dMMR), MBT are the currently “best” predictive markers for IO therapy. BrCa actually has some of these markers positive only in subsets and less frequently expressed than most other tumors, e.g. malignant melanoma or non-small cell lung cancer and others. To improve the potential efficacy of ICI in breast cancer, the addition of chemotherapy was one of the strategies. A large RCT in breast cancer was reported at ESMO 2018 and more are underway. We will discuss the mechanism of action and its impact on BrCa.

2:00 KEYNOTE PRESENTATION: Cooperative Immune-Mediated Mechanisms of the HDAC Inhibitor Entinostat, an IL-15 Superagonist, and a Therapeutic Cancer Vaccine
Sofia Gamarro, PharmD, PhD, Head, Immunomodulation Group, Laboratory of Tumor Immunology and Biology, NCI, NIH

Immunotherapy aimed at alleviating immunosuppression while promoting immune effector function may increase clinical responses for patients with solid carcinomas. Here, we demonstrate that the class I HDAC inhibitor entinostat enhances the anti-tumor efficacy of an IL-15 superagonist plus vaccine in murine carcinoma models, by promoting antigen-specific responses, enhanced infiltration of activated CD8+ T cells with maximal granzyme B, reduction of Tregs in the tumor, and decreased expression of the checkpoint VISTA on multiple immune subsets.

2:30 CX3CR1+CD8+ T Cells Are Responsible for the Clinical Benefit of Chemoimmunotherapy

in Metastatic Melanoma Patients after Disease Progression on PD-1 Blockade
Yiyi Yan, MD, PhD, Assistant Professor, Medicine and Oncology, Division of Medical Oncology, Mayo Clinic, Rochester, MN

In metastatic melanoma patients who have failed anti-PD-1 therapy, the chemo-immunotherapy combination showed favorable clinical outcomes and an acceptable toxicity profile. CX3CR1+ CD8+ effector T cells are responsible for the clinical benefit of CIT. This novel therapy-responsive population underlies the key cellular and molecular immunoregulatory mechanisms of chemotherapy. It serves as a meaningful marker to measure these collaborative effects and to develop the optimal chemo-immunotherapy combination strategy.

3:00 Breakout Discussion Groups and Refreshment Break

BIOMARKERS TO GUIDE COMBINATION IMMUNOTHERAPY

4:00 TMB/GEF Dual Biomarker Strategy for Personalized Checkpoint Blockade Combination Immunotherapy
Jianda Yuan, MD, PhD, Senior Director, Translational Oncology, Merck

Immune checkpoint blockade therapies are revolutionizing the standard cancer treatment. Despite the current success of these therapies, not all patients respond to immunotherapy. Combination approaches are the keys to improving clinical response. Tumor mutational burden (TMB) and gene expression profile (GEP) are emerging biomarkers predicting patient response. Dual TMB/GEF biomarkers allow us to understand novel translational biomarkers to stratify patients effectively for personalized cancer immunotherapy.

4:30 Is There a Role for Biomarkers in This Era of Combination Immunotherapy?
Kathleen M. Mahoney, MD, PhD, Clinical Instructor, Beth Israel Deaconess Medical Center; Research Fellow, Dana-Farber Cancer Institute

Combinations with PD-1 immune checkpoints such as chemotherapy, ipilimumab or VEGF receptor tyrosine kinase inhibitor, can improve response rates and overall survival in some tumors. In the upcoming years, the mechanisms of PD-1 resistant cancer found in patients will be molded by the selective pressures of these therapies. Many clinical trials have investigated the toxicity and efficacy of combining PD-1 pathway blockade with other therapies. Yet few randomized Phase II studies involving immune checkpoints have been designed to develop predictive biomarkers for these therapies. Biomarker-driven early phase trials are needed for designing Phase III trials to prospectively validate (protein or gene signature-based) biomarkers for monotherapy or combination immunotherapy, if the pendulum is to swing back toward the development of personalized therapies with fewer toxicities.

5:00 Close of Day

TUESDAY, AUGUST 6

7:30 am Registration Open and Morning Coffee

TARGETING INNATE IMMUNITY TO INCREASE RESPONSE TO CHECKPOINT MODULATORS

8:25 Chairperson's Remarks
Michael Wichroski, PhD, Senior Principal Scientist, Immuno-Oncology, Bristol-Myers Squibb

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12:00 pm Close of Combination Immunotherapy
PREDICTIVE BIOMARKERS FOR IMMUNO-ONCOLOGY

10:30 Predictive Biomarkers for Immunotherapy in Non-Small Lung Cancer

Fred R. Hirsch, MD, PhD, Professor, Medicine, Icahn School of Medicine at Mount Sinai; Executive Director, Clinical Institute for Lung Cancer, Mount Sinai Health Care

Immunotherapy for patients with lung cancer is promising and about 20-40% of patients with advanced NSCLC will benefit from these treatments. However, a challenge is how to select the patients who will benefit. PD-L1 IHC is the assay used in clinical trials for selecting the patients and depending on cut-off for "positive" and "negative" tumors, the assay has demonstrated predictive value, but is not perfect. In order to compare the different PD-L1 assays' performance, the Blueprint Project was undertaken, and showed that three assays (SP263, Dako 28-8 and Dako 22C3) performed very similar, while SP142 performed differently. The Blueprint Project will be discussed as well as the role of tumor mutation burden (TMB)'s predictive value for outcome of immunotherapy. Also, some future potential biomarkers will be discussed.

11:00 Possible Use of Immunoprofiling to Stratify or Direct Combination Immunotherapy

Bernard A. Fox, PhD, Chief, Laboratory of Molecular and Tumor Immunology, Providence Health & Services; CEO, Ubivac

The benefits of multiplex immunohistochemistry assays for tissue analysis are numerous. High-level multiplexing, whole slide imaging, workflow compatibility, and spatial analysis are all requirements for effective multiplex IHC solutions. Ultivue's

9:00 KEYNOTE PRESENTATION: Circulating Exosomes and Their Cargo as a Source of Tumor Antigens

Samir Hanash, MD, PhD, Director, McCombs Institute for Cancer Early Detection and Treatment, MD Anderson Cancer Center

We have investigated circulating exosomes and their cargo as a source of antigens associated with the immune response in pancreatic ductal adenocarcinoma and lung cancer using in-depth mass spectrometry resulting in the identification of a large repertoire of tumor antigens that induce antibody response together with exosome hallmark proteins. The relevance of these antigens as diagnostic or predictive markers, and the role of exosomes in inducing inhibition of serum-mediated complement-dependent cytotoxicity towards cancer cells will be presented.

9:30 Blood-Based Biomarkers of Response and Immune-Related Adverse Events During Immune Checkpoint Blockade

Genevieve Boland, MD, PhD, Assistant Professor, Surgery, Director, Melanoma Surgery Program, Massachusetts General Hospital

Immune checkpoint inhibitors (ICI) enhance anti-tumor immune responses and have unique but acceptable toxicities. The mechanism of ICI response can create immune targeting of self-antigens causing immune-related adverse effects (irAEs). Blood-based analysis allows interrogation of multiple sites of treatment and toxicity simultaneously. We are utilizing blood-based biomarkers to predict and define irAEs to allow maximal treatment without undermining shared mechanisms of irAEs and clinical responses.

10:00 Coffee Break

8:25 Chairperson's Opening Remarks

Theresa Whiteside, PhD, Professor, Pathology, Immunology & Otolaryngology, Hillman Cancer Center, University of Pittsburgh School of Medicine

Theresa Whiteside, PhD, Professor, Pathology, Immunology & Otolaryngology, Hillman Cancer Center, University of Pittsburgh School of Medicine

Tumor-derived exosomes in plasma of cancer patients are emerging as promising non-invasive correlates of cancer progression or response to therapy. To study the impact of melanoma cell-derived exosomes (MTEX) on human immune cells and melanoma progression, we isolated MTEX from total exosomes in plasma by immune capture with Abs. MTEX were highly enriched in immunosuppressive receptors/ligands. Non-MTEX (non-malignant cell-derived exosomes) were enriched in immunostimulatory cargo proteins. The ratio of stimulatory/suppressive cargo components in subsets of circulating exosomes in melanoma determines the exosome capability to modulate immune cell responses and impact disease. Plasma-derived exosomes in patients with cancer emerge not only as surrogates of the tumor but also as biomarkers of immune competence and potentially as biomarkers of response to immunotherapies.

7:30 am Registration Open and Morning Coffee
inSituPlex® technology addresses each of these needs to enable researchers to unmask the true biology of tissue samples.

12:00 pm Luncheon Presentation: Multimodal Flow Cytometry Analysis of Immunomodulatory Receptors in Matched Tumor and Blood Biospecimens

12:30 Session Break

**GENOMIC BIOMARKERS IN IMMUNOTHERAPY DEVELOPMENT**

1:25 Chairperson’s Remarks
Theresa Whiteside, PhD, Professor, Pathology, Immunology & Otolaryngology, Hillman Cancer Center, University of Pittsburgh School of Medicine

1:30 The Cancer Genome’s Influence on Immunotherapy
Nadeem Riaz, MD, Associate Director, Immunogenomics and Precision Oncology Platform, Radiation Oncology, Memorial Sloan Kettering Cancer Center

We will review data showing the importance of tumor mutation burden in predicting outcomes to checkpoint blockade therapy. We will subsequently discuss emerging genetic features associated with response to therapy including microsatellite instability, HLA genotype, tumor clonality, and neo-antigen modeling among others.

2:00 Harnessing Immune Gene Signatures for Patient Prognosis and Discovery of Tumor Immune Evasion Tactics
Lance D. Miller, PhD, Associate Professor, Cancer Biology, Director, Breast Cancer Center of Excellence; Co-Director, Cancer Genomics Shared Resource, Wake Forest Baptist Comprehensive Cancer Center
Within the global transcriptome of solid tumors are gene signatures that reflect the relative abundance of tumor-infiltrating leukocytes. These immune gene signatures correlate with patient outcomes and can be leveraged within a statistical framework to explore tumor-immune interactions. In this talk, I will discuss the prognostic interplay between immune gene signatures and tumor mutational burden in breast cancer and describe early results of a pan-tumor bioinformatics screen to identify novel mechanisms of tumor immune evasion.

2:30 Talk Title to be Announced
Speaker to be Announced, Strata Oncology

3:00 Breakout Discussion Groups and Refreshment Break

**BIOMARKERS TO GUIDE COMBINATION IMMUNOTHERAPY**

4:00 KEYNOTE PRESENTATION: TMB/GEP Dual Biomarker Strategy for Personalized Checkpoint Blockade Combination Immunotherapy
Jianda Yuan, MD, PhD, Senior Director, Translational Oncology, Merck

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Kathleen M. Mahoney, MD, PhD, Clinical Instructor, Beth Israel Deaconess Medical Center; Research Fellow, Dana-Farber Cancer Institute

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5:00 Biomarkers in Immuno-Oncology and Transitioning Them to an IVD - Opportunities and Challenges
Neeraj Adya, PhD, Director, Pharmacodiagnostics, Bristol-Myers Squibb

Precision medicine continues to transform treatment paradigms through development of new biomarkers and interpretation of clinical data. Immuno-oncology biomarkers, such as PD-L1, and emerging ones, such as TMB and GEP may help optimize treatment decisions, individually or in combination. The advancement of increasingly complex biomarkers also brings a need for advanced diagnostic tools. We will discuss biomarkers and their transition to an IVD in the evolving field of pharmacodiagnostics.

5:30 Close of Day

**TUESDAY, AUGUST 6**

7:30 am Registration Open and Morning Coffee

**TUMOR IMMUNE MICROENVIRONMENT CHARACTERIZATION**

8:25 Chairperson’s Remarks
Shahram Salek-Ardakani, PhD, Senior Director, Cancer Immunology, Pfizer

8:30 Image Mass Cytometry to Characterize the Tumor Immune Microenvironment
Maria Paola Serra, PhD, Senior Scientist, Pathology, AstraZeneca

Image Mass Cytometry (IMC) is a novel technique for tissue imaging that enables simultaneous quantification of more than 30 biomarkers with subcellular resolution, preserving cell morphology. This large panel applied to cancer samples allows delineation of cell subpopulations, cell-cell interactions and the localization of immune cell infiltrates to evaluate host response. IMC analysis can be performed in parallel with conventional mass spectrometry imaging.
9:00 Single Cell Analyses Reveal Important Regulatory Mechanism in Cancer Immunotherapy
Xin Yu, PhD, Scientist, Immuno-Oncology, Amgen

Checkpoint inhibitor-based immunotherapies (such as anti-PD1) have achieved impressive success in treating different types of tumors. However, only a subset of patients derives clinical benefit. Given that tumor-infiltrating lymphocytes are highly heterogeneous, which might contribute to diverse responses to different cancer immunotherapies, we performed single-cell RNA sequencing analysis to characterize immune cells inside colorectal carcinoma, adjacent normal mucosa and peripheral blood. Our analyses identified a distinct BHLHe40+ Th1-like CD4 T cell subset that was preferentially enriched in tumors of microsatellite-instable (MSI) patients, which might explain their favorable response rates to immune-checkpoint blockade. Furthermore, our data identified potential novel regulatory molecules such as IGFLR1 for several T cell subsets inside colorectal tumors. These discoveries will shed light on the development of effective immunotherapeutic strategies.

9:30 Automation Meets Cell Separation: Primary Cell Isolation for Immuno-Oncology Assays
Lotta Räty, Product Manager, Cell Separation Automation, Marketing, Miltenyi Biotec GmbH

Conclusive and relevant assay results depend on reliable sample processing, including cell separation and tumor dissociation. We have developed flexible automated solutions for primary cell isolation from various starting materials to ensure the best fit for every drug discovery program.

9:45 Presentation to be Announced

10:00 Grand Opening Coffee Break in the Exhibit Hall with Poster Viewing

10:55 Chairperson’s Remarks
Shahram Salek-Ardakani, PhD, Senior Director, Cancer Immunology, Pfizer

11:00 The Role of Tumor-Resident Phagocytic Cells for Anti-Tumor Immunity
Stefani Spranger, PhD, Assistant Professor, Biology, Koch Institute for Integrative Cancer Research, MIT

11:30 Dynamic Analysis of Human Natural Killer Cell Response at Single-Cell Resolution in B-Cell Non-Hodgkin Lymphoma
Tania Konry, PhD, Assistant Professor, Pharmaceutical Sciences, Northeastern University

Natural Killer (NK) cells are phenotypically and functionally diverse lymphocytes that recognize and kill cancer cells. To correlate genetic signatures with functional anti-lymphoma activity, we developed novel microfluidic technology to characterize functional heterogeneity in cytolysis of primary cells from b-NHL patients. Taken together, our combined genetic and microfluidic analysis demonstrate b-NHL cell sensitivity to primary and therapeutic NK cell-based cytotoxicity, associated with significant heterogeneity in the dynamic interaction at single cell level.

12:00 pm Close of Immuno-Oncology Biomarkers
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CONFERENCE PROGRAMS

AUGUST 5-6

■ Immunomodulatory Therapeutic Antibodies for Cancer
■ Combination Immunotherapy
■ Immuno-Oncology Biomarkers
■ Adoptive Cell Therapy

AUGUST 6-7

■ Bispecific Antibodies for Cancer Immunotherapy
■ Preclinical and Translational Immuno-Oncology
■ Informatics for Cancer Immunotherapies
■ Oncolytic Virus Immunotherapy

AUGUST 8-9

■ Next-Generation Immunotherapies
■ Emerging Immuno-Oncology Targets
■ Neoantigen Targeted Therapies
■ Personalized Cancer Vaccines

HOTEL & TRAVEL

REGISTRATION INFORMATION

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MONDAY-TUESDAY | AUGUST 5-6 | 6th ANNUAL

ADOPTIVE CELL THERAPY - ACT 2

Engineering the Second Generation of CAR Ts, NKs, TCRs, and TILs

MONDAY, AUGUST 5

7:30 am Registration Open and Morning Coffee

ACT 2: TARGETING THE TUMOR

8:25 Chairperson’s Opening Remarks
Eric Smith, MD, PhD, Director of Translational Development, Cellular Therapeutics Center, Memorial Sloan Kettering Cancer Center

8:30 KEYNOTE PRESENTATION: Tumor Immune Microenvironment and Pre-Treatment Tumor Burden Influence Clinical Efficacy of Anti-CD19 CAR T Cells in Large B Cell Lymphomas
Adrian Bot, MD, PhD, Vice President, Translational Sciences, Kite, a Gilead Company

To date, there are two approved CAR T cell interventions, both applicable to a range of B cell malignancies. We gathered showing that while anti-CD19 CAR T cells can be effective across large cell lymphomas with a broad range of characteristics including those with poor prognostic markers routinely utilized in clinic (c-myc, bcl-2 and bcl-6). Nevertheless, an immunologically involved tumor biology in conjunction with reduced pre-treatment tumor burden, may facilitate durable clinical responses. Such data point to strategies to overcome hurdles in front of CAR T cell therapies by building new features into CAR products and by optimizing clinical protocols.

9:00 Advances in CAR T Cell Therapy for Multiple Myeloma, Present and Future
Eric Smith, MD, PhD, Director of Translational Development, Cellular Therapeutics Center, Memorial Sloan Kettering Cancer Center

Early results with BCMA targeted CAR T cell therapy by our group and others appear promising in multiply relapsed or refractory MM. Preclinical studies of novel CAR design and rational combination therapies may lead the way to further enhance the dramatic efficacy for patients with limited other options.

9:30 Overcoming Resistance to CAR T Therapy for Hematologic Malignancies
Marco Ruella, MD, Assistant Professor of Medicine and Scientific Director, Lymphoma Program, Division of Hematology and Oncology and Center for Cellular Immunotherapies, University of Pennsylvania

Adoptive T cell therapies and in particular chimeric antigen receptor T cells (CAR T) are leading to significant responses in cancer patients, in particular B-cell leukemias and lymphomas. However, a significant subset of patients still does not respond or eventually relapse after this therapy. In his talk, Dr. Ruella will highlight recent finding in the pathogenesis of relapse after CAR T19 and discuss novel therapeutic approaches aimed to increase CAR T feasibility and efficacy.

10:00 Coffee Break

10:30 Clinical Predictors of T Cell Fitness for CAR T Cell Manufacturing and Efficacy in Multiple Myeloma Using RShiny, FlowType, Citrus and Spade
Iulian Pruteanu-Malinici, PhD, Investigator III, Lab Head, Immuno-Oncology, Novartis

11:00 TALEN-Mediated Gene Editing of CAR T-Cells for Improved Adoptive Cell Therapies
Laurent Poirat, PhD, Vice President, Immunology, Cellectis

Despite early success of CD19-targeted CAR T-cell therapy in acute lymphoblastic leukemia (ALL), recent clinical results in other diseases show that extending this success to more patients and in other diseases will require additional cellular features. We will discuss our strategy focused on allogenic CAR T-cells and TALEN-based gene editing to extend the applicability of CAR T-cells.

11:30 Bruteforcing Immune Oncology
Sponsored by Charles River Immuno-Engineering
Jacob Glanville, PhD, Co-Founder, CSO, Chairman, Distributed Bio

A decade of iterative improvement in rational antibody repertoire design resulted in antibody libraries that are > 1000x larger than previously possible. We review the practical consequences of this enhanced diversity on antibody discovery against challenging oncology targets, discovery of GPCR antagonists, personalized anti-cancer antibodies, immune-checkpoint inhibitors; PD1 case study where we have generated > 6500 unique anti-PD1 antibodies, including picomolar binders, mouse/cyno/human triple cross-reactive epitopes, antagonists, agonists, and saturated epitope coverage of the target.

12:00 pm Luncheon Presentation (Sponsorship Opportunity Available) or Enjoy Lunch on Your Own

12:30 Session Break

ACT 2: THERAPEUTIC T-CELLS

1:25 Chairperson’s Remarks
Christopher Helsen, PhD, Director, R&D, Triumvirra

1:30 Altering T Cell Metabolism to Improve the Efficacy of Adoptive Cell Therapies
Sam Saibil, MD, PhD, Translational Research Fellow, Tumour Immunotherapy Program, Princess Margaret Cancer Centre

Memory T cells are superior mediators of adoptive cell therapy (ACT) compared with effector T cells due to increased persistence in vivo. Underpinning this survival is a shift in cellular metabolism away from aerobic glycolysis towards fatty acid oxidation (FAO).
We have identified an agonist of the peroxisome proliferator activated receptors alpha and delta that shifts T cell metabolism to FAO and results in improved efficacy of ACT in preclinical models.

2:00 A Rare Population of Tumor Antigen-Specific CD4+CD8+ Double-Positive αβ T Lymphocytes Uniquely Provide CD8-independent TCR Genes for Engineering Therapeutic T Cells
Junko Matsuizaki, PhD, Assistant Professor, Oncology; Director, Immune Analysis Shared Resource, Roswell Park Comprehensive Cancer Center
High affinity TCR gene is required for manufacturing a potent therapeutic T-cell product by gene engineering. However, most of naturally occurring tumor antigen-specific TCR is of low affinity. Here we discovered naturally occurring high-affinity tumor antigen-specific TCR gene from CD4+CD8+ T cells in peripheral blood of an ovarian cancer patient. Our study demonstrates that the TCR gene is a promising for effective and safe adoptive T-cell therapy in cancer patients.

2:30 Pre-Clinical Evaluation of a CD19-Directed TAC T Cell Therapy Candidate for First-in-Human Clinical Trials
Christopher Helsen, PhD, Director, R&D. Triumviria
Triumviria develops a CD19-targeted TAC-T cell product and generated preclinical data in preparation of a Phase I/II clinical trial. The data show that CD19-directed TAC-T cells selectively eliminate CD19-positive cancer cells in vitro and in vivo in multiple models of hematological malignancies. These in vivo effects correlate with an initial expansion of T cells and suggest the presence of long-term memory T cells in tumor re-challenge experiments.

3:00 Breakout Discussion Groups and Refreshment Break

4:00 Calibration of CAR Activation Potential Directs Alternative T Cell Fates and Therapeutic Potency
Judith Feucht, PhD, Research Fellow, Laboratory for Gene Transfer and Gene Expression, Memorial Sloan Kettering Cancer Center
We hypothesized that excessive signal strength arising from redundancy of combined CD3ζ and CD28 signaling in 1928z CARs might foster terminal T cell differentiation and exhaustion. To differentially reprogram T cell function and differentiation, we calibrated the activation potential of CD28-based CARs by mutating CD3ζ ITIMs. We demonstrate that the number and position of ITIMs in 1928z CAR T cells influence functional, phenotypic and transcriptional programs, resulting in profound effects on therapeutic potency.

4:30 KEYNOTE PRESENTATION: Novel Luciferase-Based Assays for Determining the Expression of CAR T Cells and Cytotoxicity of Adoptive Cell Therapies
Preet M. Chaudhary, MD, PhD, Professor and Chief of Hematology and Director of Blood and Marrow Transplant, Jane Anne Nohl Division of Hematology, University of Southern California Keck School of Medicine
The talk will describe novel non-radioactive marine luciferase-based assays (Topanga and Matador Assays) for detection of CAR T cells and for measuring the cytotoxicity of CAR T cells and other forms of adoptive cell therapies.

5:00 Close of Day

TUESDAY, AUGUST 6

7:30 am Registration Open and Morning Coffee

ACT 2: ENHANCING CAR CONSTRUCTS

8:25 Chairperson’s Remarks
Michael C. Milone, MD, PhD, Associate Professor, Pathology and Laboratory Medicine, Perelman School of Medicine, University of Pennsylvania

8:30 Improving CAR T Cell Therapy through Reverse Engineering from Nature’s Designs
Michael C. Milone, MD, PhD, Associate Professor, Pathology and Laboratory Medicine, Perelman School of Medicine, University of Pennsylvania
Chimeric antigen receptors (CARs) based upon a single chimeric molecule bearing an antigen binding domain linked in cis to the cytoplasmic domains of CD3ζ and costimulatory receptors CD28 or 4-1BB provide a potent method for engineering T cell cytotoxicity towards tumors. While effective, most natural immunoreceptors utilize a multichain design where the ligand binding and signaling activities are contained within different polypeptide chains.

We will describe a simple, alternative approach to constructing a chimeric immunoreceptor based with a killer immunoglobulin-like receptor (KIR) with DAP12. This novel design is capable of inducing regression of tumors in which second generation CD3ζ-based CARs show limited activity supporting a benefit to evaluating alternative CAR designs that reflect natural immunoreceptor structure.

9:00 Unraveling the CAR T Cell Signaling Circuitry
Daniel Abate-Daga, PhD, Assistant Member, Immunology Program, H. Lee Moffitt Cancer Center
Chimeric antigen receptor (CAR) T cells have revolutionized the treatment of blood cancers. Despite major advances, receptor optimization relies largely on empirical testing. To provide new tools for the rational design of next-generation CARs, we conducted a structure-function analysis of variations of an anti-PSMA CAR, which displayed different antitumor efficacy. This strategy unveiled previously unknown phosphorylation sites with direct relevance to CAR function and identified new parameters that affect their performance.

9:30 The Functional Capacity of Immune Cells as Measured by Single Cell Proteomics Is Predictive of Clinical Outcome in IO
Will Singleterry, PhD, Director, Business Development, IsoPlexis
Using single cell proteomics to measure the functional capacity or “fitness” of immune cells has correlated with and been predictive of clinical outcome in CAR T, TIL, Cancer Vaccine and Checkpoint Inhibitor therapy. This talk will review several of these data sets and discuss applications of IsoPlexis’ single cell technology.

9:45 Sponsored Presentation (Opportunity Available)

10:00 Grand Opening Coffee Break in the Exhibit Hall with Poster Viewing

11:00 BOXR: A T-Cell Therapy Solution to the Challenges of the Solid Tumor Microenvironment
Greg Motz, PhD, Director, Immunopharmacology, Unum Therapeutics
A key challenge facing T-cell therapy in solid tumors is immunosuppression in the tumor microenvironment. Unum has developed the BOXR technology (Bolt-On Chimeric Receptor) as a T-cell platform that enables engineered T-cells to overcome specific mechanisms of TME immunosuppression that include metabolic competition, immunosuppressive cell types (Treg, MDSC), and exhaustion due to chronic stimulation.
11:30 PANEL DISCUSSION: ACT2: Translation from Preclinical to Clinical Proof of Concept
This panel shares insights for discovering new target spaces, engineering novel antigen receptors, and validating leads for promising cancer-beating patient-centric immunotherapies
Moderator: Michael C. Milone, MD, PhD, Associate Professor, Pathology and Laboratory Medicine, Perelman School of Medicine, University of Pennsylvania
Panelists: Session Speakers

School of Medicine, University of Pennsylvania
Panelists: Session Speakers

12:00 pm Close of Adoptive Cell Therapy – ACT 2
BISPECIFIC ANTIBODIES FOR CANCER IMMUNOTHERAPY

TUESDAY, AUGUST 6

12:00 pm Registration

T CELL ENGAGING BISPECIFIC ANTIBODIES

1:25 Chairperson’s Opening Remarks
Tara Arvedson, PhD, Director, Oncology Research, Amgen

1:30 KEYNOTE PRESENTATION: Bispecific T Cell Engaging Molecules: Mechanism of Action and Clinical Activity
Tara Arvedson, PhD, Director, Oncology Research, Amgen

Bispecific T cell engaging molecules have demonstrated clinical benefit in hematological malignancies and solid tumors. This presentation will provide an update on the latest clinical results along with recent work evaluating the mechanism of action of T cell engager molecules.

2:00 T Cell Engaging Bispecific Antibodies
Cokey Nguyen, PhD, Senior Director, Oncology Research, Amgen

2:30 Recruiting, Expanding, and Activating T Cells with Bispecific Antibodies and Optimized Cytokines
John Desjarlais, PhD, Senior Vice President, Research, CSO, Xencor

Xencor has applied its XmAb bispecific technology platform to create multiple novel modalities for T cell derepression and activation. These include dual checkpoint inhibitors such as a PD1 x CTLA4 bispecific antibody, and a CTLA4 x LAG3 bispecific antibody that combines productively with anti-PD1 for triple checkpoint blockade. We have also discovered a highly active PD1 x ICOS bispecific antibody that productively combines checkpoint blockade and costimulation into a single molecule. Finally, we have utilized our heterodimeric Fc domain to create a novel long-acting IL15/IL15Rα-Fc format for immunotherapy.

3:00 WuXiBody™, an Innovative and Versatile Bispecific Antibody Format Opens a New Era for Therapeutic Antibody Development
Jing Li, Senior Vice President, Discovery, WuXi Biologics

Bispecific antibodies are a growing area of biotherapeutics but with many development challenges. Many of the new platforms have limitations in yield, purity, stability, solubility, half-life, and immunogenicity. Thus, a one-size-fits-all solution is still desired. Aiming to solve those issues, WuXi Biologics has generated WuXiBody™, a flexible, proprietary bispecific antibody format that can reduce the development time by 6-18 months and can decrease cost of goods by 90%.

3:30 Refreshment Break in the Exhibit Hall with Poster Viewing

4:15 PLENARY KEYNOTE SESSION
(See page 8 for details)

5:30 Welcome Reception in the Exhibit Hall with Poster Viewing

WEDNESDAY, AUGUST 7

7:30 am Registration Open and Morning Coffee

BISPECIFIC ANTIBODIES FOR COMBINATION IMMUNOTHERAPY

8:25 Chairperson’s Remarks
John Desjarlais, PhD, Senior Vice President, Research, CSO, Xencor

8:30 Unleash the Potential of Multi-Specific Antibodies to Fight Cancer
Jjie Gu, PhD, Director, Immunology Target Validation & Lead Discovery, Research Fellow, Biologics Research, AbbVie

Bispecific and multi-specific antibodies are able to achieve novel therapeutic concepts to fight cancer, such as conditionally activated biologics, redirected T cell engager and synergistic checkpoint modulators, otherwise impossible using conventional monoclonal antibodies or their combination. To be able to achieve this, careful selection of a right format to match target biology for desired efficacy and safety, and careful selection of a right molecule to enable clinical development are essential.

9:00 Coordinate Targeting of Innate and Adaptive Immunity for Cancer Immunotherapy
Jon Wigginton, MD, Senior Vice President, Clinical Development & CMO, MacroGenics

9:30 Development of a Novel Bispecific Immune Modulating Antibody Targeting PD-L1 and CD27
Joel Goldstein, PhD, Senior Director, R&D, Celldex Therapeutics

Development & CMO, MacroGenics

CDX-527, a tetravalent human anti-CD27/PD-L1 IgG1 bsAb, was developed as a novel approach to immunotherapy of cancers. Combining CD27 costimulation with PD-1/PD-L1 blockade in a bsAb provided greater immune activating properties than combining the individual mAbs due to enhanced CD27 activation by crosslinking through PD-L1 in addition to Fc receptors. A pilot study in cynomolgus macaques identified no PK, PD or safety issues. Development activities in preparation of a clinical trial with CDX-527 have been initiated.
10:00 Model Aided Drug Invention: 
*In Silico* Differentiation in I/O and 
Predicting Optimal Drug 
Properties in OA 
John Burke, PhD, Co-Founder, President and CEO, 
Applied BioMath, LLC 
Model Aided Drug Invention is a mathematical 
modeling and engineering approach to translational medicine that quantitatively integrates knowledge about therapeutics with an understanding of its mechanism of action in the context of human disease mechanisms. Two case studies will explore integrating mathematical modeling to predict optimal drug properties targeting PD-1 and TIM3 in immunoncology for bispecific biologics and fixed dose combinations and determining best in class properties for targeted anabolic growth factor to arthritic joints.

10:30 Coffee Break in the Exhibit Hall with Poster Viewing 

11:30 DuoBody-PD-L1x4-1BB Combines Checkpoint Blockade with Conditional 4-1BB Co-Stimulation to Promote Antigen-Specific T Cell Stimulation and Proliferation 
Maria Jure-Kunkel, PhD, Head, Late Stage Oncology Translational Medicine, Genmab 
DuoBody-PD-L1x4-1BB (GEN1046) is a bispecific antibody that induces conditional activation of T cells through 4-1BB stimulation which is dependent on simultaneous binding to PD-L1. In addition, the PD-L1-specific arm of DuoBody-PD-L1x4-1BB functions as a classical immune checkpoint inhibitor by blocking the PD-1/PD-L1 axis, also in the absence of 4-1BB binding. DuoBody-PD-L1x4-1BB is being jointly developed by Genmab and BioNTech for the treatment of multiple solid tumors. 

12:00 pm A Novel, Monovalent Multi-Specific Antibody-Based Molecule that Simultaneously Modulates PD-L1 and 4-1BB Exhibits Potent Anti-Tumoral Activity in vivo 
Alexandre Simonin, PhD, Director, mAb Discovery, Numab Innovation AG 
The combined immunomodulation of PD-L1/PD-1 and 4-1BB is considered a promising strategy for the treatment of multiple solid tumors, but such combination therapies have not yet translated into durable clinical success, because 4-1BB-agonistic antibodies are either intolerable at effective doses or ineffective, despite tolerability. To eliminate this safety/efficacy tradeoff, we engineered a novel, monovalent Fc-less trispecific molecule targeting PD-L1, 4-1BB and serum albumin allowing a conditional 4-1BB agonism upon drug-mediated formation of an immunological synapse between PD-L1+ cells and 4-1BB+ cells, restricting costimulation of 4-1BB+ cells to the tumor microenvironment. Efficacy of the molecule to costimulate T cells was demonstrated in vitro as well as its ability to slow tumor growth and enhanced intratumoral CD8+ T cell activation in vivo.

12:30 pm Luncheon Presentation (Sponsorship Opportunity Available) or Enjoy Lunch on Your Own 

1:00 Session Break 

2:00 KEYNOTE PRESENTATION: 
Development of Novel Fully Human Bispecific Antibodies for Oncology 
Eric Smith, PhD, Director, Bispecific Antibodies, Regeneron Pharmaceuticals, Inc. 

2:30 COBRAs – Development of a Potent, 
Conditionally Active Bispecific T Cell Engager Platform 
Bob DuBridge, PhD, Executive Vice President, Research & CTO, Maverick Therapeutics 
T cell engaging bispecific antibodies have demonstrated potent cytotoxicity against cancer cells. This potency can engender off-tumor, on-target toxicity when targeting solid tumors. Maverick Therapeutics has developed a bispecific platform called COBRA™, which includes two active tumor targeting domains and inactive T cell engaging domains, that become active within the tumor microenvironment. This presentation will demonstrate the efficacy of these molecules against human tumor cells in vitro and in vivo.

2:45 Targeting T Cell Agonists to the Tumor Environment with Multi-Specific Human Heavy Chain Antibodies 
Wim van Schoten, PhD, CSO, TeneoBio 
Hetero-multivalent antibodies targeting agonists on T cells in conjunction with tumor-associated antigens may yield therapeutics with superior biological activities and safety profiles. TeneoBio’s discovery platform utilizes VH domains of fully human heavy chain antibodies (UniAbs) to develop bi-, tri-, or tetravalent antibodies. Data from different assay types show that multivalent UniAbs can be engineered to display superior tumor cell cytotoxicity through multiple mechanisms of action.

3:00 Sponsored Presentation (Opportunity Available) 

3:30 Refreshment Break in the Exhibit Hall with Poster Viewing 

4:15 MCLA-158 and MCLA-145: Unbiased Functional Screening Unlocks the Therapeutic Potential of Bispecific Antibodies 
Mark Throsby, PhD, Executive Vice President & CSO, Merus NV 
The Merus Biclonics® technology leverages the natural human IgG1 format to enable high throughput functional screening for the discovery of bispecific antibodies with exceptional drug properties. Preclinical data from two clinical pipeline candidates, MCLA-158 that potently targets tumor formation, and MCLA-145 that recruits and supercharges tumor-infiltrating lymphocytes (TILS), will be discussed to highlight the power of the approach.

4:45 TCR Bispecific Molecules: TCR-Based T Cell Engaging Receptors for the Treatment of Cancer 
Carsten Reinhardt, MD, PhD, Managing Director, CMO, Immatics Biotechnologies 
T cell receptor (TCR)-based immunotherapy is emerging as a promising treatment modality for malignant diseases. Immatics’ XCEPTOR® platform generates TCRs highly specific for mass spectrometry-validated tumor antigens. These TCRs are further engineered as high-affinity binders into our proprietary bispecific TCR® scaffold comprising a T cell-engaging antibody for potent redirection and activation of T cells. Extensive optimization of the TCR® platform has resulted in highly stable molecules with extended serum half-life.

5:45 Close of Bispecific Antibodies for Cancer Immunotherapy
5:45 Dinner Short Course Registration

6:30 Dinner Short Course: Development of Bioassays for Checkpoint Immunotherapy and Other Immuno-Oncology Leads*

*Separate registration required; see page 9 for details.
TUESDAY, AUGUST 6

12:00 pm Registration

CHARACTERIZATION OF RESPONSE AND RESISTANCE TO IMMUNOTHERAPY

1:25 Chairperson’s Opening Remarks
Shahram Salek-Ardakani, PhD, Senior Director, Cancer Immunology, Pfizer

2:00 Mechanisms of Resistance to Anti-CD19 CAR T Therapy
John Rossi, Director, Translational Medicine, Kite Pharma
Limited data has been published describing mechanisms of resistance to CAR T cell therapy. The well-annotated ZUMA-1 clinical trial serves as a benchmark to address outstanding questions. Translational research focusing on the association between CAR T cell product attributes, tumor immune microenvironment and resistance will be presented.

2:30 Characterization of Immune Checkpoint Response and Resistance via Genetic, Transcriptomic, and Epigenetic Analyses
Genevieve Boland, MD, PhD, Assistant Professor, Surgery, Director, Melanoma Surgery Program, Massachusetts General Hospital
Immune checkpoint inhibitors (ICI) have revolutionized treatment for numerous cancer types. However, a significant fraction of patients fails to exhibit a sustainable clinical response. Previous approaches focused on genomic and transcriptomic profiling, yielding promising insights into the mechanisms underlying ICI resistance. The goal here is to discuss epigenomic profiling in parallel with transcriptomic and genomic analyses to confirm existing ICI resistance mechanisms and uncover novel pathways involved in ICI resistance.

3:00 Automated and Decentralized CAR-T Cell Manufacture
Boro Dropulic, PhD, CSO, General Manager, Lentigen Technology, Inc., a Miltenyi Biotec company
Adoptive cell therapy with autologous CAR-T cells has induced remarkable responses in patients with treatment-refractory B cell malignancies. However, limitations exist with commercial CAR-T centralized production. Automation promises to address these issues. Multiple clinical centers are successfully manufacturing CAR-T cells within their institutions. Clinical results shown a high rate of complete remissions upon reaching a threshold dose, with toxicities generally not exceeding grade 2. A decentralized manufacturing network is being established globally.

3:15 Sponsored Presentation (Opportunity Available)

3:30 Refreshment Break in the Exhibit Hall with Poster Viewing

1:30 KEYNOTE PRESENTATION: Defining T Cell States Associated with Response to Combination Immunotherapy
Shahram Salek-Ardakani, PhD, Senior Director, Cancer Immunology, Pfizer
It has remained unclear how simultaneous blockade of PD-1 and co-stimulation of OX40 and 4-1BB receptors synergize for potent T cell-driven anti-tumor efficacy. Using high-dimensional analysis we examined the dynamics of effector CD4 and CD8 T cells responses in the tumor microenvironment (TME) in response to anti-PD-1/OX40/4-1BB treatment. Single-cell profiling of TME revealed distinct CD4+ cells associated with anti-tumor efficacy. Besides exhausted and activated T cells, we identified T cell states with distinct phenotypic, molecular, and functional signatures that were highly predictive of response and survival upon combination immunotherapy. Our findings provide insight into T cell states and biomarkers that underlie the synergy between OX40/OX40 and PD-1 blockade.

4:15 PLENARY KEYNOTE SESSION
(See page 8 for details)

5:30 Welcome Reception in the Exhibit Hall with Poster Viewing

WEDNESDAY, AUGUST 7

7:30 am Registration Open and Morning Coffee

CELLULAR MODELS FOR IMMUNOTHERAPY DEVELOPMENT

8:25 Chairperson’s Remarks
Litao Zhang, PhD, Vice President, Leads Discovery and Optimization, Bristol-Myers Squibb

8:30 KEYNOTE PRESENTATION: Dissecting the Tumor Microenvironment Using Multiplex Gene Profiling and Cellular Immune-Phenotyping
Litao Zhang, PhD, Vice President, Leads Discovery and Optimization, Bristol-Myers Squibb
Here we will describe and discuss several IO translational models that are regulated by distinct signaling pathways in the tumor microenvironment (TME). Using gene expression and cellular immune-phenotyping profiling as orthogonal and complementary approaches, we uncover network signaling relationships that
play a key role in the TME and its critical role in primary and secondary resistance in IO therapy.

9:00 Utilizing 3D Human Immune-Tumor Cell Co-Cultures to Study Immune Oncology Therapies
William Hastings, PhD, Investigator III, Exploratory Immuno-Oncology, Novartis Institutes for BioMedical Research
To model tumor-immune cell interactions in vitro we have developed a human co-culture model utilizing PBMCs and tumor cell spheroids. We have used this model to probe an unknown mechanism of tumor cell suppression of immune cells. Small molecule and genetic (CRISPR) knockdowns were used to show inhibition of this pathway leads to increased anti-tumor immunity. We observed modulation of IFN signaling in the tumor by this pathway.

9:30 In vitro CD34-Derived Human Dendritic Cells Provide a Physiologically Relevant System to Evaluate the Potency of Protein Therapeutics That Drive Dendritic Cell Differentiation
Christopher Kemball, PhD, Scientist, Biochemical & Cellular Pharmacology, Genentech
Anti-tumor immunity may be enhanced by therapeutic agents that promote dendritic cell expansion and differentiation, leading to increased antigen presentation and T cell priming. Recent studies identified methods that enable efficient generation of human DCs in vitro from CD34+ progenitor cells; these CD34-derived DCs closely resemble primary human blood DCs. Using this approach, we characterized the activity of a panel of protein therapeutics targeting an antigen expressed by DC progenitors. We evaluated the potency of these agents to drive differentiation of CD141+CLEC9A+ CDC1-like DCs (thought to be important for promoting tumor-specific CD8 T cell responses) and compared this readout with alternative in vitro functional assays that measure receptor-mediated signaling and proliferation of cancer cell lines. Altogether we demonstrate the utility of primary human-derived DCs as a more physiologically relevant in vitro system to interrogate the function of protein therapeutics, which could improve translational studies for cancer immunotherapy.

10:00 Lessons Learned From Newly Emergent Humanized Mouse Models for Immune-Oncology
Paula Miliani de Marval, Research Associate Director, Charles River
Given the recent success of cancer immunotherapies, well characterized models are needed to enable drug discovery efforts. The hCD34+ or hPBMC humanized mouse models or the newly developed hPD1 or CTLA-4 knock in mice offer unique tools to assess the anti-tumor response to immune-checkpoint inhibitors in animals bearing a “humanized” immune environment. In this presentation we will discuss the lessons learned from the use of these preclinical models to evaluate human-specific immunotherapies.

10:30 Coffee Break in the Exhibit Hall with Poster Viewing

11:30 Patient-Derived Microtumors for Functional Compound Testing and Therapeutic Response Prediction
Simge G. Yüz, Scientist, NMI Natural and Medical Sciences Institute at the University of Tübingen
Fast and effective functional platforms predicting a patient’s response towards individual treatment after surgery are largely unavailable. We have developed a versatile test encompassing patient-derived 3D microtumors (PDMs) and immune cells (including TILs and TAMs) to assess individual responses towards standard-of-care and investigational mono- and combo-treatment approaches for precision oncology assessment and compound efficacy testing.

10:00-10:30 Ex vivo Profiling of PD-1 Blockade Using Organotypic Tumor Spheroids
Russell W. Jenkins, MD, PhD, Assistant Professor, Medicine, Center for Cancer Research, Massachusetts General Hospital
Ex vivo systems that incorporate features of the tumor microenvironment and model the dynamic response to PD-1 blockade may facilitate efforts in precision immuno-oncology. We have developed a system for ex vivo profiling of PD-1 blockade using 3D microfluidic culture of murine- and patient-derived organotypic tumor spheroids (MDOTS/PDOTS) using established murine models as well as clinically relevant patient specimens.

12:30 Luncheon Presentation: Capturing Drug-Induced Modulation of the TME Using a Personalized Ex Vivo Histoculture Approach
Mark Paris, PhD, Director, Translational Applications, BioPharma Business Development, Mitra Biotech, Inc.
Delineation of the intra-tumor microenvironment in a dynamic, spatio-temporal setting is critical for investigating the activity and efficacy of candidate oncology drugs. The majority of solid cancers contain unorganized, highly-complex microenvironment wherein a dysregulated phenotypic impacts treatment outcomes at a personalized level. We have developed and validated a fully human ex-vivo platform technology (CAOnscript™) using patient material (tumor, autologous ligands and immune cells) to explore the mechanism of and predict efficacy for clinically-directed compound.

DEVELOPING CLINICALLY RELEVANT MOUSE MODELS FOR IMMUNO-ONCOLOGY

1:00 Session Break

1:55 Chairperson’s Remarks
Fiona Sharp, PhD, Investigator III, Exploratory Immuno-Oncology, Novartis Institutes for BioMedical Research

2:00 Exploring Checkpoint Biology in Syngeneic Mouse Models
Fiona Sharp, PhD, Investigator III, Exploratory Immuno-Oncology, Novartis Institutes for BioMedical Research
The role of checkpoint proteins in regulating anti-tumor immunity has by now been well established for multiple proteins, including PD-1/PD-L1, LAG-3 and TIM-3. While the cellular and ligand interaction targets for some of these proteins are well defined, our knowledge of these aspects of TIM-3 requires further investigation. Gaining better insight into the key players in TIM-3 biology is central to enhancing the efficacy of this target in the clinic. Our studies have been focused on further exploring the key immune cells involved in TIM-3 controlled anti-tumor immune responses using syngeneic mouse models.

2:30 Using Humanized Mouse Models to Evaluate Cell Engagers
Vimta Cortez-Retamozo, PhD, Lab Head, Senior Scientist, Oncology-Pharmacology, Sanofi
3:00 Presentation to be Announced
Sponsored by Syngene

3:30 Refreshment Break in the Exhibit Hall with Poster Viewing

4:15 In vivo Mechanisms Regulating the Activity of BiTE T Cell Engager Molecules in Immuno-Competent Mice
Olivier Nolan-Stevaux, PhD, Principal Scientist, Amgen Research

Despite clinical validation of bispecific T cell engager (BiTE®) molecules against hematological malignancies, the parameters governing their in vivo efficacy remain poorly understood. Here, a new mouse model (huCD3 mouse) in which a human/mouse chimeric CD3ε receptor was engineered into the CD3ε locus is presented. Using syngeneic tumor models, the importance of drug exposure, tumor-infiltrating T cells and immune checkpoints for BiTE® activity in vivo are evaluated.

4:45 Immuno-Competent Mouse Models of Glioma for Preclinical Trials
Eric Holland, MD, PhD, Director, Solid Tumor Translational Research, Fred Hutchinson Cancer Research Center

We have used the RCAS/tva system to generate gliomas in immune competent mice, which mimic the low T cell and high macrophage/microglia environment of human gliomas. The creation of bilateral tumors allows studying the abscopal effect where one side is treated with radiation or oncolytic viruses, and the other is engineered with luciferase expression providing non-invasive readout of viable tumor cell number. We find that the immune system can be trained to recognize untreated tumor areas and that macrophages play a significant role in that response.

5:15 Development and Characterization of a Novel Syngeneic Melanoma Model
Viswanathan Muthusamy, PhD, Director, Center for Precision Cancer Modeling, Yale University

Human melanomas are relatively immunogenic compared to other malignancies. A high somatic mutation burden resulting in immune system recognizable neoantigens result in antitumor responses. A genetically engineered mouse model-derived mouse melanoma line of the genotype: BrafV600E/wt, Pten-/-, Cdkn2a-/- was irradiated with UVB to generate a mutagenized cell line exhibiting a high somatic mutation burden. Compared to the parental cell line, YUMMER1.7 (Yale University Mouse Melanoma Exposed to Radiation) regresses after a brief period of growth when transplanted in low numbers in C57BL/6 wild type mice. This regression phenotype is dependent on T cells as YUMMER1.7 tumors grow significantly faster in immunodeficient Rag1-/-mice and in mice in depleted of CD4 and CD8 T cells. Interestingly, transplantation of higher cell numbers of YUMMER1.7 can overcome regression and result in tumors that grow without effective rejection. Mice that have previously rejected YUMMER1.7 tumors develop immunity against higher doses of YUMMER1.7 tumor challenge. In addition, escaping YUMMER1.7 tumors are sensitive to anti-CTLA-4 and anti-PD-1 therapy, establishing a new model for the evaluation of immune checkpoint inhibition and antitumor immune responses.

5:45 pm Close of Preclinical and Translational Immuno-Oncology

5:45 Dinner Short Course Registration

6:30 Dinner Short Course: Development of Bioassays for Checkpoint Immunotherapy and Other Immuno-Oncology Leads* *Separate registration required; see page 9 for details.
INFORMATICS FOR CANCER IMMUNOTHERAPIES

TUESDAY-WEDNESDAY | AUGUST 6-7 | INAUGURAL

Data Analytics in a Dynamic Landscape

TUESDAY, AUGUST 6

12:00 pm Registration

ONCOLOGY DATA MANAGEMENT & ANALYTICAL TOOLS

1:25 Chairperson’s Opening Remarks

Doron Levy, PhD, Professor, Department of Mathematics, University of Maryland

1:30 Integrating Oncology Data for Models of Cancer Dynamics

Doron Levy, PhD, Professor, Department of Mathematics, University of Maryland

In this presentation, we will overview recent techniques for modeling the dynamics of cancer progression and the evolution of drug resistance. We will demonstrate how oncology data can be integrated into such models and focus on some of the questions that can be potentially answered using these novel techniques.

2:00 High-Throughput Cancer Hypothesis Testing with an Integrated PhysiCell-EMEWS Workflow

Paul Macklin, PhD, Associate Professor, Intelligent Systems Engineering, Indiana University

We will present advances in simulating cancer-immune contact interactions, and how learning-guided exploration of these models on high-performance computing (HPC) resources can guide therapeutic design. We will use high-throughput model exploration to understand the impact of biological and clinical constraints on treatments, while also ranking the importance of physical mechanisms. This is an ongoing collaboration between Indiana University, Argonne National Lab, and the University of Vermont Medical Center.

2:30 Relevance of Patient Tumor Heterogeneity Defined by Robust Data Analytics

Patrice M. Milos, PhD, Co-Founder/President and CEO, Medley Genomics, Inc.

Immunotherapies show promising results in some patients; however, it is difficult to predict whether immunotherapy will be effective for a particular patient. This challenge results from the fact that tumors are highly heterogeneous, with a tumor from a patient containing a mixture of cancerous cells with different complements of mutations. Medley Genomics’ novel data analytics and software platform describe this diverse, heterogeneous mixture of tumor cells and their unique molecular underpinnings. With these insights, we have the opportunity to improve understanding of immunotherapy response.

3:00 Network Biology and Complex Bioinformatics Enable Significant Novel Findings in Drug Development

Eske Rygaard-Hjalsted, MSc, Vice President, Sales, Marketing and BD, Intomics

The presentation will highlight how the application of complex bioinformatics and interpretation in a systems biology context can significantly improve the overall understanding of biology and lead to much higher success rates in pharma drug development and precision medicine. Proprietary tools that are applied in Intomics projects and a case study on development of a multi-marker signature of drug response in oncology with an accuracy of more than 80% will be presented.

3:30 Refreshment Break in the Exhibit Hall with Poster Viewing

WEDNESDAY, AUGUST 7

7:30 am Registration Open and Morning Coffee

DATA GUIDES NOVEL IMMUNOTHERAPEUTIC STRATEGIES

8:25 Chairperson’s Remarks

Qinghua Song, PhD, Director, Biostatistics, Kite, a Gilead Company

8:30 Bioinformatics Accelerates Cancer Immunotherapy

Boyan Linghu, PhD, Principal Scientist, Oncology Bioinformatics, AstraZeneca

Bioinformatics methodologies play an important role in all aspects of cancer immunotherapy development. We will highlight several methodologies to advance IO drug discovery, such as transcriptome-profiling based gene signatures, integrating electronic health records and cancer genomics, and AI applications.

9:00 Machine Learning in CAR T-Cell Therapy

Qinghua Song, PhD, Director, Biostatistics, Kite, a Gilead Company

We share some practical machine learning methods and experiences in translational medical science projects, where the focus is to understand and improve the efficacy and safety of the CAR T-Cell therapy.

9:30 The Role of Macrophage Differentiation in Triple-Negative Breast Cancer: A Multiscale Computational Modeling Approach

Kerri-Ann Norton, PhD, Assistant Professor, Computer Science Program, Department of Science, Mathematics, and Computing, Bard College

Triple-negative breast cancer (TNBC) progression is influenced by interactions between the breast tumor and immune system. To understand these interactions, a computational agent-based model of breast cancer progression was developed, including interactions with stromal macrophages, cancer stem cells, cancer
progenitor cells, and tumor vasculature. We investigate the interactions between macrophages that get recruited and differentiate and make predictions as to which therapeutic targets would most reduce tumor growth.

10:00 Sponsored Presentation (Opportunity Available)

10:30 Coffee Break in the Exhibit Hall with Poster Viewing

11:30 DeepTCR: A Deep Learning Framework for Revealing Structural Concepts within TCR Repertoire

John-William Sidhom, MSE, MD/PhD Candidate, Bloomberg-Kimmel Institute for Cancer Immunotherapy, Department of Biomedical Engineering, Johns Hopkins University School of Medicine

Deep learning algorithms have been utilized to achieve excellent performance in pattern-recognition tasks, such as in image and vocal recognition. The ability to learn complex patterns in data has tremendous implications in the genomics world, where sequence motifs become learned features that can be used to predict functionality, guiding our understanding of disease and basic biology. We present DeepTCR, a broad collection of unsupervised deep learning methods able to uncover structure in highly complex and large TCR sequencing data. We demonstrate its ability across multiple scientific examples, including learning antigen-specific motifs to viral and tumor-specific epitopes and understanding immunotherapy-related shaping of repertoire.

12:00 pm Single Cell Genomics – Using a Finer Lens to Unravel Features of Human Immunity

Alexandra-Chloé Villani, PhD, Associate Scientist, Broad Institute of MIT and Harvard

Single-cell genomics analyses now provide an unbiased, data-driven way of systematically detecting cellular states and subtypes and can reveal diverse facets of cellular identity. Such an approach, which forms the basis for constructing a comprehensive human immune cell atlas, will be discussed at the meeting. Collectively, our revised cell taxonomy will enable more accurate functional and developmental analyses, as well as immune monitoring in health and disease.

12:30 Luncheon Presentation to be Announced

Shawn Levy, PhD, CSO, Genomics, Discovery Life Sciences

1:00 Session Break

DATA GUIDES CLINICAL TRIALS & PATIENT SELECTION

1:55 Chairperson’s Remarks

Hans Bitter, PhD, Vice President, Data Sciences, bluebird bio

2:00 CD19 Chimeric Antigen Receptor Therapy for Refractory Aggressive B-Cell Lymphoma

Caron Jacobson, MD, Medical Director, Immune Effector Cell Therapy Program, Dana Farber Cancer Institute

I will be discussing the clinical data to date of second generation anti-CD19 CAR T cells in aggressive B cell non-Hodgkin lymphomas, comparing the three constructs most advanced in clinical development. I will also discuss ongoing unmet needs in the field and approaches to meet them, including toxicity mitigation strategies, mechanisms of resistance, and the issues of time and cost with autologous CAR T-cell products.

2:30 Integrating Genomic and Immunologic Data to Accelerate Translational Discovery at the Parker Institute for Cancer Immunotherapy

Darrel Wells, PhD, Lead Bioinformatics Scientist, Parker Institute for Cancer Immunotherapy

Immunotherapy is rapidly changing how we treat both solid and hematologic malignancies, and combinations of these therapies are quickly becoming the norm. For any given treatment strategy, only a subset of patients will respond, and an emerging challenge is how to effectively identify the right treatment strategy for each patient. This challenge is compounded by a concomitant explosion in the amount of data collected from each patient, from high dimensional single cell measurements to whole exome tumor sequencing. In this talk, I will discuss translational research at the Parker Institute, and how we are integrating multiple molecular and clinical data types characterize the tumor-immune phenotype of each patient.

3:00 Patient Outcomes Tracking through Registries: Understanding the Role in Adoptive Cell Therapies, Present and Future

Marcelo Pasquini, MD, MS, Senior Scientific Director, CIBMTR Clinical Trials Support; Associate Professor of Medicine, Medical College of Wisconsin

CIBMTR is partnering with Be The Match BioTherapies® to drive standardization across the cell therapy industry, including the registration and tracking of patient outcomes of adoptive cell therapies worldwide. We’ve built a Cellular Therapy Registry that accurately captures the nature, sequence and effects of modern cellular therapies, including CAR-T cells. From this vantage point, we have a unique window into the ACT industry, and evidence showing how such a database can be utilized to advance both academic research and industry R&D.

3:30 Refreshment Break in the Exhibit Hall with Poster Viewing

4:15 Decoding Human Immune System: Real Life Implications for Drug Development

Setareh Shamsili, MD, PhD, Global Consultant Oncology Drug Development BiInvent International AB

The recent convergence of technological advances in biomedical research, computer sciences, artificial intelligence and machine learning, are enabling generation and analysis of unprecedented scales of data. This presentation will focus on advances in decoding the human immune system and how these data are being used to transform drug development.

4:45 KEYNOTE PRESENTATION: QTL Discovery of Immune Infiltration Variants

John Quackenbush, PhD, Henry Pickering Walcott Professor of Computational Biology and Bioinformatics; Chair, Department of Biostatistics, Harvard T.H. Chan School of Public Health
5:15 PANEL DISCUSSION: Breaking Down Immuno-Oncology Data Silos
The dynamic data sets from cancer progression, immune response, and patient therapy are each computationally complex. How then can they be integrated to provide actionable IO drug discovery? Panelists discuss promising computational tools from modeling to artificial intelligence that are shaping and defining the intersection of data and immuno-oncology.
Moderator: Hans Bitter, PhD, Vice President, Data Sciences, bluebird bio
Panelists: Caron Jacobson, MD, Medical Director, Immune Effector Cell Therapy Program, Dana Farber Cancer Institute
Danny Wells, PhD, Lead Bioinformatics Scientist, Parker Institute for Cancer Immunotherapy
Marcelo Pasquini, MD, MS, Senior Scientific Director, CIBMTR Clinical Trials Support; Associate Professor of Medicine, Medical College of Wisconsin
Setareh Shamsili, MD, PhD, Global Consultant Oncology Drug Development BioInvent International AB
John Quackenbush, PhD, Henry Pickering Walcott Professor of Computational Biology and Bioinformatics, Chair, Department of Biostatistics, Harvard T.H. Chan School of Public Health

5:45 pm Close of Informatics for Cancer Immunotherapies

5:45 Dinner Short Course Registration

6:30 Dinner Short Course: Development of Bioassays for Checkpoint Immunotherapy and Other Immuno-Oncology Leads*
*Separate registration required; see page 9 for details.
TUESDAY, AUGUST 6

12:00 pm Registration

LATEST UPDATES AND FUTURE DIRECTIONS IN ONCOLYTIC VIROThERAPY

1:25 Chairperson’s Opening Remarks
Paola Grandi, PhD, CSO, Cold Genesys

1:30 KEYNOTE PRESENTATION: Treatment of Glioma Using Tumor-Targeted Oncolytic HSV Armed with Immunomodulatory Genes
Joseph C. Glorioso, PhD, Professor, Microbiology and Molecular Genetics, University of Pittsburgh School of Medicine

Glioblastoma multiforme (GBM) is a deadly form of brain cancer that is resistant to the standard of care. A robust, tumor targeted oncolytic herpes simplex virus (oHSV) will be described that has been armed with immunomodulatory genes that partially overcome the immune-suppressive tumor microenvironment and promote the development of anti-tumor immunity.

2:00 KEYNOTE PRESENTATION: Directed Evolution & Radical Design Approaches to the Design & Engineering of Optimized Oncolytic Virus Therapeutics for IV Delivery (IGV-101)
David Kim, MD, Co-Founder & Executive Chairman, IGNITE Immunotherapy

Hurdles to efficacy and safety of oncolytic viruses include IV delivery, anti-viral immunity, transgene carrying capacity, intratumoral spread and tumor resistance mechanisms. Opportunities include direct oncolytic activity plus induction of anti-cancer immunity. We will present data on the directed evolution and rational design platform approaches that IGNITE Immunotherapy has applied in the design and engineering of next-generation oncolytic viruses. Data from a lead IND candidate will be presented.

2:30 Creating an Immunotherapeutic Battleship to Overcome Tumor Heterogeneity
John Bell, PhD, Senior Scientist, Center for Innovative Cancer Research, Ottawa Hospital Research Institute

3:00 An Integrated Approach to Managing Immunogenicity Risk and Optimum Protein Design
Emilee Knowlton, PhD, Immunology and Optimum Protein Design Sales Specialist, Sales, ProImmune, Inc.

ProImmune offers mutational activity mapping for optimal protein design, DC-T/T cell proliferation assays for characterization of antigen presentation; HLA-peptide binding assays to characterize individual epitopes and undiluted whole blood cytokine storm assays.

3:30 Refreshment Break in the Exhibit Hall with Poster Viewing

5:30 Welcome Reception in the Exhibit Hall with Poster Viewing
9:30 Combinatorial Treatment with Oncolytic Adenovirotherapy and CAR T-Cell Therapy for Solid Tumor Treatment
Masataka Suzuki, PhD, Assistant Professor, Center for Cell & Gene Therapy, Department of Medicine, Baylor College of Medicine
In solid tumors, CAR T-cells must overcome the challenges of the immunosuppressive tumor microenvironment. We hypothesized that pre-treating tumors with our binary oncolytic adenovirus (CaD) that produces local oncolysis and expresses immunostimulatory molecules would enhance the antitumor activity of HER2-specific CAR T-cells, which alone are insufficient to cure solid tumors. Our results suggest that local treatment of our “all-in-one” vector can systemically enhance adoptive T cell responses to cancer cells.

10:00 Sponsored Presentation (Opportunity Available)

10:30 Coffee Break in the Exhibit Hall with Poster Viewing

11:30 MEK Inhibition Enhances Oncolytic Virus Immunotherapy Through Increased Tumor Cell Killing and T Cell Activation
Howard Kaufman, PhD, CMO, Replimune
Talimogene laherparepvec (T-VEC) is a herpes simplex type 1 oncolytic virus, and tremetinib is a MEK inhibitor approved for treatment of melanoma. We observed that the combination of T-VEC and trametinib resulted in enhanced melanoma cell death in vitro. Further, combination treatment resulted in delayed tumor growth and improved survival in mouse models. Tumor regression was dependent on activated CD8+ T cells and Baf3+ dendritic cells. These data support clinical development of combination oncolytic viruses, MEK inhibitors, and checkpoint blockade in patients with melanoma.

12:00 pm T-Sign Virus Approach to Cancer Gene Therapy – Driving the Tumor Cells to Express Combinations of Biological Therapeutics within the Tumor Microenvironment
Brian Champion, PhD, CSO, Psioxus Therapeutics
Endadenotucirev is an Ad11p/Ad3 chimeric adenovirus with potent and selective anti-tumor activity, with a blood stability profile that enables systemic dosing. It has been administered intravenously to over 100 cancer patients. Tumor-Specific Immuno-Gene Therapy (T-Sign) gene therapy vectors are modified viruses that retain all the functional properties of adenovirucirev, while also mediating the expression of therapeutic transgenes. Each T-Sign virus is designed to target a different immunological phenotype of tumor.

12:30 Luncheon Presentation (Sponsorship Opportunity Available) or Enjoy Lunch on Your Own

1:00 Session Break

IMPROVING OV POTENCY AND EFFICACY

1:55 Chairperson’s Remarks
Matthew Mulvey, PhD, CEO, BeneVir Biopharm, Inc.

2:00 Enhancing Oncolytic HSV Therapy
Balveen Kaur, PhD, Professor, Vice-Chair Research, John P. and Katherine G. McGovern Endowed Chair, Smith Department of Neurosurgery, University of Texas
Here we will report the ability of a PTENa expressing oncolytic herpesvirus, to eradicate cancer and its ability to abrogate PD-L1 expression in infected tumor cells, thus priming an adaptive immune response and overcoming tumor immune escape. A single dose of HSV-P10 resulted in long term survivors that rejected subsequent tumor challenge. Our findings implicate HSV-P10 as an oncolytic and immune stimulating therapeutic for anticancer therapy.

2:30 Novel Micro-RNA Attenuated Oncolytic HSV Virus with Combinatorial Immune Payloads for the Treatment of Metastatic Cancer
Christophe Queva, PhD, CSO, Oncorus
Oncorus is developing the next generation HSV-based oncolytic virus with enhanced potency for tumor cell killing and recruitment of the immune system. Our innovative miR-attenuation strategy enables robust viral replication in tumor cells, while preventing replication in healthy tissue. Oncorus’ oHSV are armed with multiple immunomodulatory payloads to synergistically increase recruitment and effector function of immune cells, thus harnessing the full potential of OVs to evoke an abscopal immune response.

3:00 Systemic OV Therapy Using Voyager-V1
Stephen J. Russell, MD, PhD, CEO, Vynord, Inc.
Voyager-V1 is an oncolytic rhabdovirus designed for systemic cancer therapy and engineered to target immunosuppressive tumors where it mediates inflammatory tumor cell killing. Proinflammatory and anticancer activities of a single intravenous infusion of Voyager-V1 have already been confirmed in ongoing phase 1 clinical trials. Also, noninvasive tracking of the infection in patients treated with virus alone, or with virus-drug combination therapies, is being used to guide its further clinical development.

3:30 Refreshment Break in the Exhibit Hall with Poster Viewing

4:15 Retroviral Replicating Vectors for Conditionally Oncolytic Immunotherapy: Clinical Update and Translational Pipeline
Noriyuki Kasahara, MD, PhD, Alvera L. Kan Endowed Chair, Professor in Residence, Departments of Neurosurgery and Radiation Oncology, University of California

4:45 PeptiCRAd - A Novel Personalized Oncolytic Vaccine Platform
Sanj Posenon, PhD, Vice President, Scientific and Clinical Development, Valo Therapeutics
PeptiCRAd ™ is a patented oncolytic vaccine platform combining strong immune adjuvant (live oncolytic virus) and tumor epitopes to enable a robust anti-tumor immune response against tumor antigens. Technology allows rapid adaptation to changing tumor epitopes and multiple tumor targets without the need to manipulate the viral backbone. Induction of tumor-specific CD8+ T-cell response linked to tumor growth control was demonstrated in humanized mouse models. Phase 1 trial is planned for Q4/2019.

5:15 Oncolytic Adenoviruses Expressing Hyaluronidase: Evidence of Clinical Activity in Different Tumor Indications
Manel Cascallo, PhD, CEO, VCN Bioscience
VCN Biosciences has developed different oncolytic adenoviruses expressing hyaluronidase: VCN-01 is a first-in-class virus clinically tested in different clinical trials in pancreatic cancer, retinoblastoma and head & neck adenocarcinoma. To date it has demonstrated a good safety profile and its ability to modify tumor matrix favoring therapies accessibility and immune infiltration. VCN-11 is a next generation hyaluronidase-expressing adenovirus able to evade anti-adenovirus neutralizing antibodies showing promising preclinical data.

5:45 pm Close of Oncolytic Virus Immunotherapy

5:45 Dinner Short Course Registration
6:30 Dinner Short Course: Development of Bioassays for Checkpoint Immunotherapy and Other Immuno-Oncology Leads*

*Separate registration required; see page 9 for details.
THURSDAY, AUGUST 8

7:45 am Registration Open and Morning Coffee

8:30 PLENARY PANEL DISCUSSION: Partnering and Licensing in Immuno-Oncology
(See page 8 for details)

9:30 Coffee Break in the Exhibit Hall. Last chance for poster viewing.

PROTEIN ENGINEERING FOR NEXT-GENERATION IMMUNOTHERAPIES

10:10 Chairperson’s Opening Remarks
Stephen Dobberstein, PhD, Senior Vice President, R&D and Chief Research and Development Officer, Nektar Therapeutics

10:15 CUE-101, a Novel Fc Fusion Protein for Selective Targeting and Expansion of Anti-Tumor T Cells for Treatment of HPV-Driven Malignancies
Saso Generski, PhD, Senior Director, Translational Immunology, Cue Biopharma

CUE BioPharma’s ImmunoSTATs are proprietary biologics that incorporate, in a single molecular framework, the key signals needed to selectively modulate antigen-specific T cells: namely, the HLA-peptide complex to target the TCR along with relevant co-stimulatory/co-inhibitory signals, dependent upon the disease indication. The protein framework of ImmunoSTATs is based on an Ab Fc backbone and is extremely modular and flexible, which permits for targeting of diverse patient populations and different diseases. The lead clinical candidate CUE-101 is comprised of HLA-A*0201 bound to a peptide epitope derived from the HPV16 E7 protein (amino acid residues 11-20) along with affinity-attenuated human interleukin-2 (IL-2) to selectively activate and expand HPV16 E711-20-specific CD8+ T cells for HPV-driven malignancies, such as head and neck cancer and cervical cancer.

10:45 HERA-CD40L: A Unique Hexavalent CD40 Agonist for Cancer Immunotherapy
Christian Gieffers, PhD, Vice President, Early Drug Development, Apogenix AG

The hexavalent HERA-CD40L is a member of a novel class of TNFR superfamily agonists having the natural ligand conformation in common. The biological in vitro and in vivo activities of HERA-CD40L – determined by immune cell activation, repolarization of M2 macrophages and anti-tumor efficacy in mouse models – demonstrated superiority over other agonistic formats like bivalent antibodies without requiring crosslinking events. Therefore, HERA-CD40L is an excellent candidate for further development into a next-generation CD40 agonistic immuno-oncology drug.

11:15 CB307, a Novel T Cell Enhancing Humabody Therapeutic for PSMA-Positive Tumors
Carolyn Edwards, PhD, Principal Scientist, Crescendo Biologics

CB307 is an extended bispecific Humabody VH targeting CD137 and prostate specific membrane antigen (PSMA). The design of CB307 enables agonism of CD137 selectively in the presence of PSMA positive tumor cells enabling tumor-selective T cell activation while minimizing systemic toxicity.

11:45 Sponsored Presentation (Opportunity Available)

12:15 pm Luncheon Presentation (Sponsorship Opportunity Available) or Enjoy Lunch on Your Own

12:45 Session Break

THURSDAY-FRIDAY | AUGUST 8-9 | INAUGURAL NEXT-GENERATION IMMUNOTHERAPIES
Engineering Next-Gen Biotherapeutics in Immuno-Oncology

ENGINEERING CYTOKINE THERAPEUTICS

1:45 KEYNOTE PRESENTATION: Cytokine Engineering for Immuno-Oncology Using Polymer Conjugation
Stephen Dobberstein, PhD, Senior Vice President, R&D and Chief Research and Development Officer, Nektar Therapeutics

Many of the pathways critical for immune system engagement are driven by binding of cytokines and other ligands to their cognate receptors. However, cytokines act at very short range for brief periods in a context-dependent manner, and therefore have poor properties for use as systemic medicines. Application of advanced polymer conjugation can alter the pharmacokinetic and pharmacodynamic properties to optimize their use as anti-tumor medicines. This talk will describe several methods of optimizing cytokines such as IL-2 and IL-15 for medicinal applications.

2:15 Intratumoral Anchoring of Immunomodulators Potentiates Systemic Immunotherapy
K. Dane Wittrup, PhD, Carbon P. Dubbs Professor, Chemical Engineering and Biological Engineering, Massachusetts Institute of Technology

Cytokines are plagued by high toxicity and narrow therapeutic windows due to systemic exposure and activation. We have engineered collagen-binding cytokines that are efficiently retained following intratumoral administration and find that persistent local activation unexpectedly leads to improved tumor control at contralateral and metastatic sites, likely...
due to improved T cell priming in the tumor draining lymph node. This approach shows strong promise for potentiating multiple systemic immunotherapies.

2:45 Sponsored Presentation (Opportunity Available)

3:15 Refreshment Break

3:45 KEYNOTE PRESENTATION: Immuno-cytokine Strategies in Prostate Cancer
Ravi Madan, MD, Clinical Director, Genitourinary Malignancies Branch, National Cancer Institute
To this point immunotherapy has yielded minimal benefits in prostate cancer beyond sipuleucel-T and immune checkpoint inhibitors in small subsets of patients. New strategies are required to augment immune responses in men with advanced prostate cancer. Immuno-cytokines may have pleiotropic effects in the tumor microenvironment and has the potential to enhance clinical outcomes in prostate cancer.

4:15 Deep-Primed™ Immune Cell Therapeutics
Thomas Lars Andreason, PhD, CSO and Co-Founder, Torque Therapeutics

4:45 Intratumoral Cytokine Therapy; Regaining Anti-Tumor Immune Responses with IL-12
Kellie Malloy, Chief Clinical Development Officer, OncoSec
Checkpoint inhibitors (CPIs), while transforming cancer immunology, have not improved responses for the majority of patients. Researchers are exploring intratumoral cytokines for CPI resistant patients. Intratumoral cytokines avoid toxicities commonly associated with intravenous cytokine administration, while enabling a whole-body immune response.

4:45 Intratumoral Cytokine Therapy; Regaining Anti-Tumor Immune Responses with IL-12
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Intratumoral modalities include gene therapy via plasmid-based electroporation (EP), viral and RNA platforms. Plasmid-based EP is advantageous because it can transfect millions of tumor cells with relevant genes.

5:15 Close of Day

FRIDAY, AUGUST 9

8:30 am Breakout Discussion Groups with Continental Breakfast (See website for details)

SMALL MOLECULES AND ADCs FOR EMERGING IMMUNOTHERAPY TARGETS
9:30 Chairperson’s Remarks
Roger R. Beerli, PhD, CSO, NBE-Therapeutics AG

9:35 Novel Immune-Stimulatory ADCs (iADCs) for Effective Targeting of Solid Tumors
Roger R. Beerli, PhD, CSO, NBE-Therapeutics AG
This presentation will cover: 1) exploring site-specific conjugates with ultra-potent anthracycline toxins; 2) discovering immune-oncology function of NBE’s iADCs; and 3) reviewing preclinical validation of a ROR1 targeting iADC.

10:05 TPST-1120 Antagonism of PPARα Metabolic Checkpoint Suppresses Tumor Growth and Stimulates Anti-Tumor Immunity
Chan Whiting, PhD, Senior Vice President, R&D, Tempest Therapeutics
Tumors evolve fatty acid oxidation (FAO) metabolism to promote their own survival and to suppress tumor-specific immunity. Peroxisome proliferator-activated receptor alpha (PPARα) is the principal transcription factor that regulates the expression of FAO genes. TPST 1120 induces direct tumor cytotoxicity and generates potent anti-tumor immunity. Preclinical studies indicate TPST-1120 confers anti-tumor efficacy as a monotherapy and augments response when combined with anti-cancer agents including anti-PD1 therapy. A Phase 1/1b open-label, dose-escalation and dose-expansion study of TPST-1120 as a single agent or in combination with systemic anti-cancer therapies is initiated.

10:35 Tomivosertib (eFT508), a Potent and Highly Selective Inhibitor of MNK1 and MNK2, Enhances Checkpoint Inhibitor and CAR T Cell Activity through Modulating T Cell Differentiation
Kevin R. Webster, PhD, Senior Vice President, eFFECTOR Therapeutics
Tomivosertib is a potent, highly selective inhibitor of MNK1/2 that biases T cell differentiation towards TSCM and TCM populations through regulating mTOR signaling. Tomivosertib treatment of T cells yields increased memory populations in vitro and in vivo while maintaining or increasing T cell proliferation, interferon-γ production and cytotoxic function. Combination of tomivosertib with checkpoint inhibitors or CAR T cell therapy delivers improved efficacy consistent with increased memory T cell function.

11:05 Small Molecule Approaches to Enhancing Immunity in the Tumor Microenvironment
David Wustrow, PhD, Senior Vice President, Drug Discovery and Preclinical Development, FLX Bio, Inc.
Tumors negatively modulate the immune system through a variety of mechanisms. Studies have revealed that regulatory T cells (Treg), myeloid derived suppressor cells (MDSCs) and T cell anergy can play important roles in suppressing the immune response to cancer cells in the tumor microenvironment. This talk will highlight FLX’s platform to identify and develop small molecules which target mechanisms of tumor immune suppression.

11:35 am Close of Conference
THURSDAY, AUGUST 8

7:45 am Registration Open and Morning Coffee

8:30 PLENARY PANEL DISCUSSION: Partnering and Licensing in Immuno-Oncology
(See page 8 for details)

9:30 Coffee Break in the Exhibit Hall. Last chance for poster viewing.

NEOANTIGEN TARGETED THERAPIES

10:10 Chairperson’s Opening Remarks
Andrew Allen, MD, PhD, President and CEO, Gritstone Oncology

10:15 Preliminary First-in-Human Data with a Novel MAB, NEO 201, Targeting a Novel Neoantigen in Solid Tumors
Philip Arlen, MD, President & CEO, Precision Biologics
NEO-201 was developed from a cancer vaccine derived from an immunogenic component of a cell membrane preparation derived from pooled surgical tumor specimens. NEO-201 demonstrated the ability to bind to wide variety of human epithelial carcinomas but did not react with the normal epithelial tissue. In addition, it has demonstrated tumor destruction but did not react with the normal epithelial tissue. NEO-201 is currently in Phase I clinical trials in refractory solid tumors commenced in early 2019.

10:45 KEYNOTE PRESENTATION: Driving T Cell Responses to Neoantigens - The Importance of Priming and Accurate Target Selection
Andrew Allen, MD, PhD, President and CEO, Gritstone Oncology
Tumor neoantigens (NeoAg) are a key class of tumor-specific T cell antigens which can drive a therapeutic immune response. To harness them therapeutically, we must first accurately identify trueNeoAg from a typically large pool of DNA mutations, the large majority of which are not processed and presented on the tumor cell surface. Then we must prime and boost a potent and polyfunctional naïve T cell response against these antigens.

11:15 Synthetic DNA-Based Neoantigen Targeted Delivery to Address a Wide-Range of Neoantigenic Payloads
Nirajan Y. Sardesai, PhD, Co-Founder, CEO & President, Genesio Therapeutics
Tumor neoantigen targeting has emerged as a viable approach for treating cancer and a considerable attention has focused on improved prediction, prioritization, and/or down-selection, and validation of the neoantigenic targets. Beyond prediction and selection algorithms, neoantigen delivery platforms and platform capacity, manufacturability, and potency are important considerations to drive immune responses in vivo. This presentation will discuss the plasmid DNA platform for development of neoantigen targeted personalized cancer immunotherapy.

11:45 Sponsored Presentation (Opportunity Available)

12:15 pm Luncheon Presentation (Sponsorship Opportunity Available) or Enjoy Lunch on Your Own

12:45 Session Break

TARGETING INNATE IMMUNITY

THURSDAY-FRIDAY | AUGUST 8-9 | 3RD ANNUAL
EMERGING IMMUNO-ONCOLOGY TARGETS
Novel Targets and Pathways for Cancer Immunotherapy and Combinations

1:40 Chairperson’s Remarks
Michael A. Curran, PhD, Associate Professor, Immunology, Scientific Director, ORBIT Platform, The University of Texas MD Anderson Cancer Center

1:45 Novel, High-Potency STING Agonists Regress Immunotherapy-Resistant Cancers
Michael A. Curran, PhD, Associate Professor, Immunology, Scientific Director, ORBIT Platform, The University of Texas MD Anderson Cancer Center
Working with MD Anderson’s Institute for Applied Cancer Science (IACS), we have developed novel, highly potent agonists of the Stimulator of Interferon Genes (STING) pathway. Not only do these STING agonists outperform existing agents in murine syngeneic melanoma models, but they also synergize with T cell immune checkpoint blockade to treat multifocal pancreatic cancer which responds poorly, if at all, to weaker agonists.

2:15 Targeting the Innate Immune Checkpoint CD47 with TTI-621
Bob Uger, PhD, CSO, Trillium Therapeutics, Inc.
CD47 binds to SIRPs on the surface of macrophages and delivers a “do not eat” signal that suppresses phagocytosis. There is strong evidence that many tumors upregulate cell surface expression of CD47 to escape macrophage-mediated immune surveillance. Trillium Therapeutics is developing TTI-621, a soluble SIRPα IgG1 Fc fusion protein to neutralize the suppressive effects of CD47 and promote the eradication of tumor cells by host macrophages.

2:45 Sponsored Presentation (Opportunity Available)

3:15 Refreshment Break
3:45 KEYNOTE PRESENTATION: TNFR2 Antagonism for Cancer: The Value of Treg and Tumor Elimination and Teffector Proliferation
Denise Faustman, MD, PhD, Associate Professor & Director, Immunobiology Lab, Massachusetts General Hospital, Harvard Medical School
Ligation of LILRB2 on myeloid cells, via its endogenous
signal that inhibits stimulation of an immune response. We have generated a panel of monoclonal antibodies that bind specifically to LILRB2, but not other LILR family members, and can block binding of LILRB2 to MHC I molecules reprogramming macrophages to promote anti-tumor immunity.

5:15 Close of Day

FRIDAY, AUGUST 9
8:30 am Breakout Discussion Groups with Continental Breakfast (See website for details)
9:30 Opening Remarks
9:35 Novel Immune-Stimulatory ADCs (iADCs) for Effective Targeting of Solid Tumors
Roger R. Beerli, PhD, CSO, NBE-Therapeutics AG
This presentation will cover: 1) exploring site-specific conjugates with ultra-potent anthracycline toxins; 2) discovering immune-oncology function of NBE’s iADCs; and 3) reviewing preclinical validation of a ROR1 targeting ADC.

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Tomivosertib is a potent, highly selective inhibitor of MNK1/2 that biases T cell differentiation towards TSCM and TCM populations through regulating mTOR signaling. Tomivosertib treatment of T cells yields increased memory populations in vitro and in vivo while maintaining or increasing T cell proliferation, interferon-γ production and cytotoxic function. Combination of tomivosertib with checkpoint inhibitors or CAR T cell therapy delivers improved efficacy consistent with increased memory T cell function.

10:35 Tomivosertib (eFT508), a Potent and Highly Selective Inhibitor of MNK1 and MNK2, Enhances Checkpoint Inhibitor and CAR T Cell Activity through Modulating T Cell Differentiation
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11:05 Small Molecule Approaches to Enhancing Immunity in the Tumor Microenvironment
David Wustrow, PhD, Senior Vice President, Drug Discovery and Preclinical Development, FLX Bio, Inc.
Tumors negatively modulate the immune system through a variety of mechanisms. Studies have revealed that regulatory T cells (Treg), myeloid derived suppressor cells (MDSC) and T cell anergy can play important roles in suppressing the immune response to cancer cells in the tumor microenvironment. This talk will highlight FLX’s platform to identify and develop small molecules which target mechanisms of tumor immune suppression.

11:35 am Close of Conference
THURSDAY, AUGUST 8

7:45 am Registration Open and Morning Coffee

8:30 PLENARY PANEL DISCUSSION: Partnering and Licensing in Immuno-Oncology
(See page 8 for details)

9:30 Coffee Break in the Exhibit Hall. Last chance for poster viewing.

NEOANTIGEN TARGETED THERAPIES

10:10 Chairperson’s Opening Remarks
Stephen Doberstein, PhD, Senior Vice President, R&D and Chief Research and Development Officer, Nektar Therapeutics

10:15 Preliminary First-in-Human Data with a Novel MAB, NEO 201, Targeting a Novel Neoantigen in Solid Tumors
Philip Arlen, MD, President & CEO, Precision Biologics

NEOANTIGEN TARGETED THERAPIES

10:45 KEYNOTE PRESENTATION: Driving T Cell Responses to Neoantigens - The Importance of Priming and Accurate Target Selection
Andrew Allen, MD, PhD, President and CEO, Gritstone Oncology
Tumor neoantigens (NeoAg) are a key class of tumor-specific T cell antigens which can drive a therapeutic immune response. To harness them therapeutically, we must first accurately identify true NeoAg from a typically large pool of DNA mutations, the large majority of which are not processed and presented on the tumor cell surface. Then we must prime and boost a potent and polyfunctional naïve T cell response against these antigens.

11:15 Synthetic DNA-Based Neoantigen Targeted Delivery to Address a Wide-Range of Neoantigenic Payloads
Niranjan Y. Sardesai, PhD, Co-Founder, CEO & President, Gritstone Oncology

11:45 Sponsored Presentation (Opportunity Available)

12:15 pm Luncheon Presentation (Sponsorship Opportunity Available) or Enjoy Lunch on Your Own

12:45 Session Break

THURSDAY-FRIDAY | AUGUST 8-9 | 4TH ANNUAL
NEOANTIGEN TARGETED THERAPIES
Personalized Cancer Immunotherapy in the Genomic Era

NEOANTIGEN SELECTION AND TARGETING

1:40 How to Identify a Good Tumor Rejection Mediating Neoepitope
Pranav Srinivas, MD, PhD, Director, Carole and Ray Neag Comprehensive Cancer Center & Professor of Immunology and Medicine, University of Connecticut School of Medicine
It is relatively straightforward to identify the somatic mutations in individual cancers. However, an overwhelming majority of these mutations do not lead to generation of neoepitopes that can be recognized by the immune system in a manner that an effective anti-tumor immune response can be generated. I shall present new results on the rules for identification of true anti-cancer neoepitopes.

2:15 A Universal Early Cancer Screen Using a Blood-Based 40K Frameshift Peptide Array
Yisrael Katz, MD, CMO, Calviri; Center for Innovations in Medicine, Arizona Biodesign Institute
Our group has invented a 40K peptide array representing all potential immunogenic frameshift antigens produced by cancer cells. The assay is serologic, requiring <1mL of blood, no tissue or sequencing, and simultaneously interprets a diagnostic signature for multiple early-stage cancers with high accuracy. Cost is substantially lower than DNA-based technologies and results are obtained in a few hours. In multiple stage I and pre-stage I (blood collected 0-6 months prior to a cancer diagnosis) breast cancer and melanoma cohorts, accuracy of the test ranged from 85%-99%, representing an unparalleled improvement over existing screening modalities. This technology represents a major leap in the world of immuno-oncology and early cancer diagnostics, as it enables a single study to simultaneously and rapidly
detect pre-clinical disease in multiple cancer types with high accuracy and low cost. Furthermore, the reactive frameshift peptide signatures can be directly translated into targets for therapeutic cancer vaccines, define MSI status, and predict response or adverse event risk to immunotherapy.

2:45 Sponsored Presentation (Opportunity Available)

3:15 Refreshment Break

3:45 Identifying and Characterizing Neoantigens for Optimized Immunotherapies Pamela Carroll, PhD, Senior Vice President, Immuno-Oncology, Genocea Biosciences

Genocea's ATLASTM platform is a powerful tool that screens all candidate neoantigens for pre-existing patient-specific CD4+ or CD8+ stimulatory and inhibitory responses in an HLA agnostic assessment. Excluding inhibitory peptides that may suppress tumor immunity, accelerate tumor progression and mediate patient response to immune checkpoint blockade therapies could enable best-in-class immunotherapies. Genocea is applying ATLASTM in its two lead programs: GEN-009, a neoantigen vaccine currently being evaluated in Phase 1/2a clinical trials, and GEN-011, a personalized non-engineered T cell therapy program that targets multiple neoantigens.

4:15 KEYNOTE PRESENTATION: Functional Identification and Therapeutic Targeting of Cancer Neoantigens

Stephen P. Schoenberger, PhD, Co-Director, San Diego Center for Precision Immunotherapy; Professor, La Jolla Institute for Allergy and Immunology

This presentation will describe a novel approach developed to identify the subset of expressed cancer mutations that can be recognized by a patient’s own immune system and which can form the basis for personalized immunotherapy by either vaccination or adoptive cellular therapy.

4:45 ASPH, A Focal Point for Broad Impact in Immuno-Oncology

Ildiko Csiki, MD, PhD, CMO, Sensei Biotherapeutics

Sensei Bio is pioneering therapeutic targeting of a novel and untapped tumor-specific antigen (TSA) called ASPH, a TSA with high prevalence in 20+ cancer types, both solid tumors and hematological malignancies; significant role in driving cancer cell proliferation and evading cancer detection by the immune system; over-expressed at 70% + prevalence in cancer; developing cell therapies and cancer vaccines along with companion diagnostic for patient selection. Sensei Bio also has a proprietary differentiated technology called SPIRIT platform which identifies immunodominant epitopes, activating T-and B-cells. By engineering antigen expression in an immunogenically optimized presentation, therapeutic candidates activate 3 arms of the immune system and induce cellular immunity associated with tumor growth inhibition.

5:15 Close of Day

FRIDAY, AUGUST 9

8:30 am Breakout Discussion Groups with Continental Breakfast (See website for details)

PERSONALIZED VACCINES FOR IMMUNOTHERAPY

9:30 Chairperson’s Remarks

Nathaniel Wang, PhD, Head of R&D, Synthetic Genomics, Inc.

9:35 Immunogenic Intensification – An Emerging Strategy to Enhance Cancer Immunotherapy

Manjo Bilusic, MD, PhD, Associate Research Physician, Program Director, NIH Hematology Oncology Fellowship, National Cancer Institute, National Institutes of Health

Preclinical studies have demonstrated that the combination of cancer vaccines and checkpoint inhibitors has synergistic effects. Cancer vaccines activate T cells, direct them to the tumor and increase PD-L1 expression within the tumor microenvironment. Vaccines should enhance immune response and, with concurrent blockade of inhibitory pathways, could also achieve optimal antitumor effects. Combinations of cancer vaccines and immune checkpoint inhibitors are currently being studied in clinical trials. Early results suggest that it is possible to combine immune agents with manageable side effects, while inducing anti-tumor activity in some patients. Combinations of cancer vaccine and immune checkpoint inhibitor may prove of significant added therapeutic benefit by immunogenic intensification.

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Elisa Scarselli, CSO, Nousecom AG

Nousecom developed Gorilla Adenovirus vectored vaccines (GAdVs) with the capacity to encode multiple neoantigens. Experiments in murine cancer models demonstrated that GAd vaccination is very effective in early therapeutic settings, while it is not able to control tumor growth in the presence of high tumor burden. In this setting, the combination of GAd vaccine and anti-PD-1 broadens the repertoire of intra-tumor T cells and cures more animals than anti-PD-1 monotherapy.

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Nathaniel Wang, PhD, Head of R&D, Synthetic Genomics, Inc.

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11:05 Key Learnings from Bringing a Fully Personalized Cancer Neoantigen Vaccine into the Clinic

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11:35 am Close of Conference
**PERSONALIZED CANCER VACCINES**

**THURSDAY, AUGUST 8**

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PERSONALIZED VACCINES

10:10 Chairperson’s Opening Remarks
Jay A. Berzofsky, MD, PhD, Chief, Vaccine Branch, Center for Cancer Research, National Cancer Institute

10:15 Th17 T Helper Cell Vaccines for Treatment and Prevention of Cancer
Keith Knutson, PhD, Professor, Immunology, Director, Immunology & Immunotherapy Program, Mayo Clinic

In ovarian cancer (OC), IL-17-producing T cells (Th17s) predict improved survival. We developed a method whereby autologous dendritic cells can be programmed to induce Th17 responses to OC antigens. In both preclinical and clinical vaccination studies, results demonstrate that durable tumor immunity.

10:45 KEYNOTE PRESENTATION: Autologous Dendritic Cell Vaccines for Prostate and HER2-Expressing Cancers
Jay A. Berzofsky, MD, PhD, Chief, Vaccine Branch, Center for Cancer Research, National Cancer Institute

We have developed several cancer vaccines based on use of autologous dendritic cells (DCs) presenting the vaccine antigen. One vaccine targets prostate cancer with peptide epitopes from the prostate cancer antigen TARP; modified by epitope enhancement to improve immunogenicity. The second targets tumors expressing HER2, including breast, colon, ovarian, gastric, prostate, lung, and others, using an adenovirus expressing part of HER2 to transduce the DCs. The strategy is designed to bypass poor DC maturation in cancer patients by maturing the DCs ex vivo, and in the case of the Ad-HER2, to avoid neutralization by anti-adenovirus antibodies. Factors that promote DC efficacy have also been analyzed. Both vaccines show promise in early clinical trials.

11:15 Use of Enveloped Virus-Like Particles (eVLPs) in Immuno-Oncology
David E. Anderson, PhD, CSO, VBI Vaccines

The talk will summarize the strong potency observed thus far in a Phase I/IIa trial with VBI-1901, an eVLP-based vaccine against glioblastoma. New preclinical data will highlight the ability to express a variety of immunomodulatory molecules on the surface of eVLPs to further enhance potency and shape anti-tumor immunity.

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Register by April 12 & SAVE up to $650!

PERSONALIZED CANCER VACCINES

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11:35 am Close of Conference
HOTEL & TRAVEL INFORMATION

Conference Venue and Host Hotel:
Westin Boston Waterfront
425 Summer Street
Boston, MA 02210
617.532.4600

Discounted Room Rate:
$269 s/d

Discount Cut-off Date:
July 8, 2019

For more information, visit immuno-oncologysummit.com/hotel-travel