Cambridge Healthtech Institute's

10th Annual

Connecting the Immunotherapy Community to Drive Innovation and Collaboration

Immuno-Oncology SUMMIT

IN-PERSON • VIRTUAL
FLEXIBLE REGISTRATION

OCTOBER 12-14, 2022 SEAPORT HOTEL | BOSTON, MA

TABLE OF CONTENTS

Conference Programs

Wed, Oct 12 & Thu AM, Oct 13

- Bispecific Antibodies for Cancer Immunotherapy
- Advances in CAR T Therapy
- Preclinical & Translational Immuno-Oncology
- Combination Immunotherapies for Cancer

Thu PM, Oct 13 & Fri Oct 14

- Emerging Technologies for IO Targeting and Discovery
- Emerging Cell-Based Immunotherapies
- Overcoming Resistance to IO Therapy

Final Weeks to Register!

Plenary Keynote Panelists

Uciane Scarlett
Principal
MPM Capital

Mohammed Asmal
Entrepreneur-in-Residence
OrbiMed Advisors LLC

Anthony J Coyle, PhD
President, R&D, Repertoire Immune Medicines

David R Kaufman, MD, PhD
Partner, Third Rock Ventures LLC

Keynote Speakers

Prasad Adusumilli
Memorial Sloan-Kettering Cancer Center

Roger Kamm
Massachusetts Institute of Technology

Maria Karasarides
Bristol Myers Squibb

Nicolas Sabarth
Boehringer Ingelheim

Adam Schoenfeld
Memorial Sloan Kettering Cancer Center

Zhen Su
Marengo Therapeutics

Nathan D. Trinklein, PhD
Rondo Therapeutics

Organized by Cambridge Healthtech Institute

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- Overcoming Resistance to IO Therapy — View

10th Annual About the Event

Over the past 10 years, CHI's Immuno-Oncology Summit has become the leading annual meeting focusing on the latest applied research, providing comprehensive and in-depth coverage across all modalities and stages in the pipeline. Every year, we assemble an international mix of thought leaders and decision makers from industry and academia to bring you the latest developments in immuno-oncology, while providing access to a comprehensive 3-day program and extensive networking opportunities that CHI's IO Summit provides.

Flexible Registration Policy

Seamlessly switch between in-person and/or virtual registration

Select an in-person or virtual option, and you have the flexibility to switch your preferred event experience at any time leading up to the conference. Simply contact us, and we will either charge you the difference for upgrading to in-person or credit back the price for transferring to virtual. Our flexible registration is designed to take the uncertainties out of these uncertain times.

Register with Confidence

Your Safety is Our Top Priority

To ensure maximum safety, CHI has instituted mandatory health and safety protocols for all attendees, exhibitors, speakers, and staff who attend in person. Attendees who cannot participate because of this policy, or due to travel restrictions, are encouraged to participate using our highly praised virtual event platform. Our virtual events are designed to provide you with an in-person experience at your convenience, anywhere, anytime. We are actively following news and recommendations around COVID-19 and the Omicron variant. These protocols are subject to change as we continue to learn more.

All in-person attendees *must*: Have a negative COVID-19 test result from an FDA-authorized over-the-counter antigen test within 24 hours prior to arriving at the event. You will be asked about your results at registration.

CHI *recommends* all attendees:

Have an updated COVID-19 vaccination and wear a mask in public spaces at the event.

SPONSORSHIP & EXHIBIT OPPORTUNITIES

Premier Sponsorship

Receive a 30-minute thought-leadership spot, top logo recognition and exclusive branding opportunities with this comprehensive and customizable package. Premier sponsors select from a list of exclusive promo items, such as high-quality tote bags and event badge lanyards – or from options such as 1:1 meetings and a VIP dinner. Other benefits include an 8'x10' exhibit space, additional main-conference registrations, targeted lead lists pre- and post-event, and much more.

Corporate Sponsorship – Presentation

Speak to a targeted audience in your focus area! Thought-leadership spots are available to corporate sponsors in 15- and 30-minute increments. Package includes branding on website and agenda brochure, complimentary registrations, 8'x10' exhibit space, cooperative marketing support and more.

Corporate Sponsorship – One-to-One Meetings

CHI will set up 6-8 in-person meetings during the conference, based on your selections from the advance registration list. Our staff will handle invites, confirmations and reminders, and walk the guest over to the meeting area. This package also includes a meeting space at the venue, complimentary main-conference registrations, branding, an 8'x10' exhibit space, and more.

Corporate Sponsorship – Invitation-Only VIP Dinner

Create a unique event within the conference with a VIP dinner package. Select your top prospects from the advance registration list, and CHI will book a private room at a local upscale restaurant for 10-12 guests - plus your staff. Transportation provided. AV equipment included upon request. Other benefits include complimentary main-conference registrations, branding, an 8'x10' exhibit space, and more.

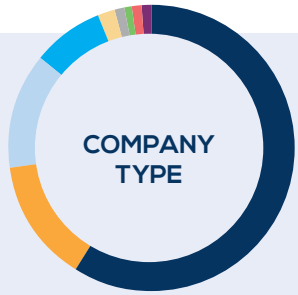
Corporate Support – Booth and Branding

This entry-level package provides an 8'x10' exhibit space, main-conference and exhibit-hall registrations, and logo branding on website and online event platform. Corporate Support sponsors also get the benefits of a virtual landing page and unlimited networking.

For additional sponsorship & exhibit information, please contact:

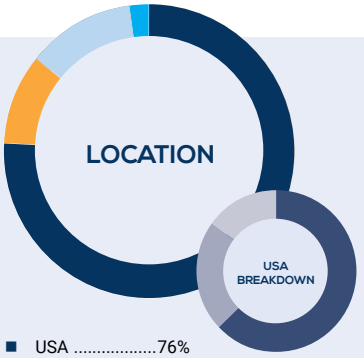
Rod Eymael
Manager, Business Development
781-247-6286 | reymael@healthtech.com

2021 Attendee Demographics



- Biotech 59%
- Pharma 14%
- Healthcare 13%
- Academic 8%
- Services 2%
- CRO 1%
- Financial 1%
- Government 1%
- Societies 1%

- Scientist/Technologist 23%
- Sales & Marketing 22%
- Executive 21%
- Director 14%
- Professor 10%
- Manager 7%
- Assistant 3%



- USA 76%
- Europe 10%
- Asia 12%
- Rest of World ..2%

- East Coast..... 63%
- West Coast 22%
- Midwest 15%

PLENARY KEYNOTE SESSION

THURSDAY, OCTOBER 13

PLENARY PANEL DISCUSSION

11:35 Plenary Keynote Introduction *(Sponsorship Opportunity Available)*

11:45 PANEL DISCUSSION: Investing in Immuno-Oncology – Past, Present, and Future

Moderator: Mary Ann Brown, Executive Director, Conferences, Cambridge Healthtech Institute

As defined, an investment is the dedication of an asset to attain an increase in value over a period of time which requires a sacrifice of some present asset, such as time, money, or effort. Big pharma and biotech are under pressure to invest in the booming immuno-oncology market and to capitalize on new technologies and innovations to bring next-generation immunotherapies to patients – who are the ultimate investors.




Panelists:
Uciane Scarlett, PhD, Principal, MPM Capital
Mohammed Asmal, Entrepreneur-in-Residence, OrbiMed Advisors LLC
Anthony J Coyle, PhD, President, R&D, Repertoire Immune Medicines
David R Kaufman, MD, PhD, Partner, Third Rock Ventures LLC



CORPORATE SPONSORS

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WEDNESDAY, OCTOBER 12

7:30 am Registration and Morning Coffee (Plaza Foyer)

ROOM LOCATION: Plaza Ballroom A

IMPROVING THE THERAPEUTIC INDEX OF T CELL ENGAGERS

8:30 Welcome by Conference Organizer
Kent Simmons, Senior Conference Director, Cambridge Healthtech Institute

8:35 Chairperson's Remarks
Marjolein van Egmond, PhD, Professor, Oncology and Inflammation, Amsterdam UMC

8:40 Strategies to Limit Cytokine Release
Javier Chaparro-Riggers, PhD, Executive Director, BioMedicine Design, Pfizer Inc.
T cell engaging biologics is a class of novel and promising immune-oncology compounds acting by leveraging the immune system to eradicate cancer. Cytokine release syndrome (CRS), the most common toxicity observed, is a cascade of immunological events initiated by the synchronous release of cytokines from overactivated T cells. Here we will describe different strategies to limit CRS.

9:10 Enabling Selective Activity of CD28 and TGFbR2 Bispecific Antibodies through *cis* or *trans* Avidity Engineering
Gregory L. Moore, PhD, Senior Director, Protein Engineering, Xencor, Inc.
Bispecific antibodies can enable therapeutic modalities inaccessible by traditional mAbs. Generally, the two targets can be engaged in *trans* (bridging two cells) or in *cis* (on the same cell). We engineered B7H3 x CD28 and PDL1 x CD28 bispecifics that provide CD28 costimulation only in the presence of their respective targets (*trans*) and PD1 x TGFbR2 and CD5 x TGFbR2 bispecifics that block TGFbR2 selectively on target-positive T cells (*cis*).

9:40 KEYNOTE PRESENTATION: Novel Bispecific Strategies for Treating Solid Tumors
Nathan D. Trinklein, PhD, Co-Founder and President, Rondo Therapeutics
T cell-engaging bispecific antibodies targeting CD3 have successfully exploited the first signal in T cell receptor activation to treat liquid tumors, significantly expanding the treatment options for these cancers. In this presentation, I will review new bispecific antibody-based approaches for overcoming the immunosuppressive tumor microenvironment, engaging additional classes of immune effector cells, targeting tumor cells with greater specificity, and developing combination strategies for the treatment of solid tumors.

10:10 Networking Coffee Break & Breakout Discussions (Plaza Foyer)
Engage in in-depth discussions with industry experts and your peers about the progress, trends and challenges you face in your research!
Breakout discussion groups play an integral role in networking with potential collaborators. They provide an opportunity to share examples from your work, vet ideas with peers, and be part of a group problem-solving endeavor. Grab a cup of coffee and gather with colleagues during the discussion of your choice. Please visit the Breakout Discussion page on the conference website for a complete listing of topics and descriptions.

BREAKOUT DISCUSSION #2: Affinity Designs of the Two Arms of Bispecific Antibodies- IN-PERSON ONLY
Hui Zou, PhD, CSO, Phanes Therapeutics, Inc.

BREAKOUT DISCUSSION #3: Challenges and Future Directions for Current CD3 Engagers -IN-PERSON ONLY
Alexandre Simonin, PhD, Director, mAb Discovery, Numab Therapeutics AG

AGONIST BISPECIFICS

10:55 Including Neutrophils in Anti-Cancer Therapy – Targeting the IgA Fc Receptor Is the Way Forward
Marjolein van Egmond, PhD, Professor, Oncology and Inflammation, Amsterdam UMC
Antibody-based immunotherapy is a promising strategy in cancer treatment. IgG eliminates tumor cells through NK cell-mediated ADCC and macrophage-mediated antibody-dependent phagocytosis. Neutrophils have been largely overlooked as potential effector cells because IgG ineffectively recruits neutrophils. By contrast, IgA potently activates neutrophils and induces migration through FcaRI. IgA has however poorer half-life and does not activate NK cells. Bispecific antibodies targeting FcaRI combine best of both worlds, and will be discussed.

11:25 Development of Agonistic Multi-Specific Antibodies – Characterization of Novel, Selective Therapeutics
Alexandre Simonin, PhD, Director, mAb Discovery, Numab Therapeutics AG
Numab's MATCH platform supports the development of multi-specific therapeutics with improved efficacy and safety profiles. An update on NM21-1480, our scMATCH3 PD-L1/4-1BB, currently in Phase I clinical testing, is presented. The presentation focuses on the importance of affinity, valency, and epitope selection to optimally address target biology. Also, the design and preclinical proof-of-concept data on T cell redirecting multi-specifics against MSLN and ROR1, in combination with NM21-1480, will be discussed.

ROOM CHANGE FOR THIS TALK TO SEAPORT BALLROOM A

11:55 The *in vitro* Measure of Avidity between Tumor & Effector Cells Predicts Optimal *in vivo* Response
Will Singleterry, Commercial Director - Immuno-Oncology, Cell Avidity, LUMICKS
- We present data discussing how increased specific avidity, those TCR's with strongest antigen binding with the lowest background, correlate with improved TCR function *in vitro* and *in vivo*.
- How CAR T and TCR T avidity is significantly more correlative to *in vivo* outcome than either cytotoxicity assays or IFN-g release.
- Methods for using cell avidity to screen constructs and more reliably select lead candidates

12:25 pm Transition to Lunch

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

1:00 Session Break

TARGETING AND DELIVERY STRATEGIES

1:30 Chairperson's Remarks
Raymond Yu, PhD, Director, Preclinical Evaluation, NovaRock Biotherapeutics

1:35 IgG-Like Anti-TAA/Anti-CD47 Bispecific Antibodies to Treat Solid Tumors
Hui Zou, PhD, CSO, Phanes Therapeutics, Inc.
Anti-CD47/anti-TAA bispecific antibodies with IgG1-Fc are developed to achieve strengthened potency by recruiting both NK cells and macrophages, broaden tumor-killing spectrum by targeting both CD47 and TAA, and potentially achieve durable efficacy by increasing neoantigen presentation and T cell activation. These IgG-

like antibodies are assembled using Phane's PACboy and SPECpair technology platforms to retain mAb-like physicochemical and pharmacokinetic properties and are fit for platform in the conventional mAb manufacturing process.

2:05 Overcoming the Developability Challenges of CD3-Containing Bispecific Antibodies

Amy King, Principal Scientist, Biomedicine Design, Pfizer Inc.

Bispecific molecules targeting CD3 and tumor-associated antigens are attractive therapeutics because they harness the power of T cells to destroy tumor cells. While T cell retargeting bispecifics are promising cancer therapies, their complex format could pose developability challenges including poor thermal stability, non-specific binding, clipping, and chemical liabilities that can be improved through rational design/engineering campaigns. Process challenges are mitigated and impurities are well-characterized to enable manufacturability.

2:35 Sponsored Presentation *(Opportunity Available)*

ROOM CHANGE: Plaza Ballroom A

2:35 Engineering Bispecific Antibody Targets for Novel Therapy in Immune Oncology

Teng Peng, Senior Technique Application Manager, Technique Application, ACROBiosystems

Advances in antibody engineering through decades of research have revolutionized and realized the promises of immune oncology therapies. Currently 8 BsAbs have been approved as therapeutics. The explosion in the number of BsAb candidates in the R & D pipelines is exciting and will herald a new era of target therapeutics. ACROBiosystems will stand by you in the journey of BsAbs development providing high-quality products especially the variety of CD3 proteins.

3:05 Grand Opening Refreshment Break in the Exhibit Hall with Poster Viewing (Plaza Ballroom BC)

3:45 Harnessing a Bispecific Antibody that Selectively Depletes Tregs in the Tumor Microenvironment

Daniel Pereira, PhD, CSO, Invenra

INV322 is a next-generation Treg depleter. Using Invenra's SNIPER B-Body technology, this novel human IgG1 bispecific antibody is designed to capitalize on avidity to deplete Tregs specifically in the tumor microenvironment. With respect to MOA, INV322 blocks both targets and elicits ADCC. We will show preclinical data supportive of its therapeutic potential. IND-enabling activities are underway.

MULTISPECIFIC BIOTHERAPEUTICS

4:15 An Automated Platform for High-Throughput Engineering of Next-Generation Multi-Specific Antibody Therapeutics

Norbert Furtmann, PhD, Head, Computational & High-Throughput Protein Engineering, Large Molecule Research, Sanofi

Our novel, automated, high-throughput engineering platform enables the fast generation of large panels of multi-specific variants (up to 10,000) giving rise to large data sets (more than 100,000 data points). Herein we demonstrate how our platform is utilized for the optimization of next-generation biologics.

4:45 Multi-Receptor Targeting of Glioblastoma

Waldemar Debinski, MD, PhD, Professor, Cancer Biology, Wake Forest University

Glioblastoma (GBM) is a heterogeneous, incurable primary brain tumor. IL-13RA2, EphA2, EphA3, and EphB2 plasma membrane receptors are over-expressed in GBM, but not in normal brain. We have pursued the novel idea of targeting all four receptors with one pharmaceutical agent based on an IgG-Fc scaffold with natural ligands. We have successfully produced drug conjugates with various chemotherapeutics/toxins that are highly effective *in vitro* and *in vivo*.

5:15 Welcome Reception in the Exhibit Hall with Poster Viewing (Plaza Ballroom BC)

6:15 Close of Day

THURSDAY, OCTOBER 13

8:00 am Registration and Morning Coffee (Plaza Foyer)

NOVEL STRUCTURES AND FORMATS

ROOM LOCATION: Plaza Ballroom A

8:25 Chairperson's Remarks

Mattias Levin, PhD, Senior Scientist, Alligator Bioscience AB

8:30 PD-L1/PD-L2 Dual-Specific Antibody with Effector Function

Michael A. Curran, PhD, Founder and SAB Chairman, Immunogenesis; Associate Professor, Immunology, MD Anderson Cancer Center

We created novel fully-human dual-specific antibodies that both block both PD-L1 and PD-L2 with high affinity and target PD-Ligand cells for depletion via ADCC and ADCP. The lead antibody outperforms PD-1 blockade across both "hot" and "cold" cancers through a unique combination of stromal depletion, complete PD-1 circuit blockade, and direct anti-tumor cytolysis. These antibodies appear safe in both mice and primates and will enter Phase I in 2022.

9:00 Patient-Derived Siglec-6-Targeting Antibodies Engineered for T Cell-Recruitment Potently and Selectively Kill Leukemia Cells

Christoph Rader, PhD, Professor, Immunology and Microbiology, UF Scripps Biomedical Research, University of Florida

Allogeneic hematopoietic stem cell transplantation (alloHSCT) can cure chronic lymphocytic leukemia (CLL). Using a target agnostic phage display approach that was based on a post-alloHSCT antibody library, we discovered CLL patient-derived monoclonal antibodies (mAbs) targeting Siglec-6. The mAbs were engineered into various Siglec-6 × CD3 bispecific antibody formats which successfully lysed CLL cell lines *in vitro* and *in vivo* and primary CLL cells *ex vivo*, while sparing healthy B cells.

9:30 Development of a Novel Multivalent T-cell Engager for Selective Killing of Tumor Cells for the Treatment of Solid Tumors

Priya Ganesan, PhD, Scientist, Oncology, Amgen

T-cell engagers (TCE) have been effective in hematologic cancers but have shown limited efficacy in solid tumors because of on-target, off-tumor toxicities or cytokine release syndrome that limits the therapeutic window for the antibody. We developed a novel TCE using our unique discovery platform which shows selective bivalent antigen binding to target tumor cells overexpressing target antigen while avoiding normal tissues expressing low levels of target.

10:00 Coffee Break in the Exhibit Hall with Poster Viewing (Plaza Ballroom BC)

10:30 Bispecific Tumor Antigen Conditional Agonistic Antibodies in Immuno-Oncology

Mattias Levin, PhD, Senior Scientist, Alligator Bioscience AB

Neo-X-Prime is a platform based on bispecific conditional CD40 agonistic antibodies that target TAAs expressed at high densities, where the lead program, ATOR-4066, targets CD40 and CEA. We have demonstrated that Neo-X-Prime bsAbs enable a novel mode of action involving delivery of tumor antigens to DCs and increased priming of tumor-specific T cells, which results in increased anti-tumor efficacy compared to monoclonal antibodies.

11:00 A Highly Potent and Safe CD137 Bispecific Antibody Platform for Development of Solid Tumor Therapeutics

Raymond Yu, PhD, Director, Preclinical Evaluation, NovaRock Biotherapeutics

First-generation CD137 agonists haven't reached desirable clinical outcomes due to hepatotoxicity and/or poor efficacy. With "fit-for-purpose" design, NovaRock developed a CD137 bispecific platform to activate the co-stimulatory pathway through TAA-mediated receptor clustering. These bispecific antibodies reprogram the tumor microenvironment to elicit potent anti-tumor effects without detectable toxicity and long-lasting immunological memory. Additionally, these antibodies have been optimized to facilitate development and manufacturing. The lead antibody is currently in IND-enabling stage.

11:30 Transition to Plenary Session

PLENARY KEYNOTE SESSION

ROOM LOCATION: Plaza Ballroom A

11:35 Harmonization of Immuno-Oncology with Precision Medicine: Innovative Biomarker Strategy for the Next Wave of Immuno-Oncology Therapeutics

Zhen Su, MD, MBA, CEO, Marengo Therapeutics

We have been exploring the science of patients' immune systems to re-conceptualize how we can harness them to fight cancer. We have made significant investments in R&D, honing our focus on mechanisms and molecules that will lead to transformative innovations in cancer care. We will review the most recent advancements of biomarker strategies for IO development and its impact on patient segmentation as we develop tailored treatment regiments.

12:05 pm Transition to Networking Lunch

12:15 Networking Lunch

12:45 Transition to Plenary Panel Discussion with Dessert & Coffee

PLENARY PANEL DISCUSSION

ROOM LOCATION: Plaza Ballroom A

1:00 PANEL DISCUSSION: Investing in Immuno-Oncology – Past, Present, and Future





Moderator: Mary Ann Brown, Executive Director, Conferences, Cambridge Healthtech Institute

As defined, an investment is the dedication of an asset to attain an increase in value over a period of time which requires a sacrifice of some present asset, such as time, money, or effort. Big pharma and biotech are under pressure to invest in the booming immuno-oncology market and to capitalize on new technologies and innovations to bring next-generation immunotherapies to patients – who are the ultimate investors.

Panelists:
Mohammed Asmal, MD, PhD, Entrepreneur-in-Residence, OrbiMed Advisors LLC
Anthony J Coyle, PhD, President, R&D, Repertoire Immune Medicines
David R Kaufman, MD, PhD, Partner, Third Rock Ventures LLC
Uciane Scarlett, PhD, Principal, MPM Capital

1:40 Close of Bispecific Antibodies for Cancer Immunotherapy Conference

WEDNESDAY, OCTOBER 12

7:30 am Registration and Morning Coffee (Plaza Foyer)

RECENT ADVANCES IN CAR T THERAPY

ROOM LOCATION: Seaport Ballroom A

8:30 Welcome by Conference Organizer
Mary Ann Brown, Executive Director, Conferences, Cambridge Healthtech Institute

8:35 Chairperson's Remarks
Paul D. Rennert, PhD, President & CSO, Aleta Biotherapeutics

8:40 FEATURED PRESENTATION: CARPOOL: A Library-Based Platform to Rapidly Identify Next-Generation Chimeric Antigen Receptors
Michael E. Birnbaum, PhD, Assistant Professor, Biological Engineering, Massachusetts Institute of Technology
CAR intracellular domains are key to converting antigen recognition into anti-tumor effector functions. Despite the many possible domain combinations that could be utilized, almost all CARs currently rely upon a small number of signaling domains. To address this, we developed a high-throughput screening platform to enable optimization of CAR signaling for anti-tumor functions. Our strategy identifies CARs with novel signaling domain combinations that can produce clinically desirable phenotypes.

9:10 Enhancing CAR T Cell Therapy through Engineered Receptors and Cytokines
Michael C. Milone, MD, PhD, Associate Professor, Pathology & Lab Medicine, University of Pennsylvania

9:40 Overcoming Resistance and Muti-Antigen Targeting
Paul D. Rennert, PhD, President & CSO, Aleta Biotherapeutics
Aleta's CAR T Engagers (CTEs) address critical issues in cell therapy, including target antigen density and loss, CAR T persistence and fitness, and immunosuppression. Each program presents a bespoke solution for specific clinical needs: relapses in lymphoma and MM, dual-antigen targeting in AML and Her2-positive solid tumors, triple antigen targeting for CNS cancers. We will update several of these programs at the conference.

10:10 Networking Coffee Break & Breakout Discussions (Plaza Foyer)
Engage in in-depth discussions with industry experts and your peers about the progress, trends and challenges you face in your research!
Breakout discussion groups play an integral role in networking with potential collaborators. They provide an opportunity to share examples from your work, vet ideas with peers, and be part of a group problem-solving endeavor. Grab a cup of coffee and gather with colleagues during the discussion of your choice. Please visit the Breakout Discussion page on the conference website for a complete listing of topics and descriptions.

BREAKOUT DISCUSSION #1: Emerging Cellular Therapies and Institutions Readiness -IN-PERSON ONLY
Doaa Ayoubi, PhD, Director, Investigational Drug Services, New York University

LESSONS LEARNT

10:55 Development of Yescarta
Rhine R. Shen, PhD, Senior Director, Kite a Gilead Co.
Adoptive CAR T cell therapies have delivered profound clinical responses in patients with haematologic malignancies. The Ph 3 randomized Zuma-7 study in second-line R/R large B cell lymphoma has demonstrated superiority for Axi-cel in comparison to standard of care in event-free survival. This session will review current translational findings for Axi-cel function in association with product attributes and pre-treatment tumor characteristics.

11:25 Emerging Cellular Therapies and Institutions Readiness
Doaa Ayoubi, PhD, Director, Investigational Drug Services, New York University

ROOM CHANGE FOR THIS TALK TO SEAPORT BALLROOM A

11:55 The *in vitro* Measure of Avidity between Tumor & Effector Cells Predicts Optimal *in vivo* Response
Will Singleterry, Commercial Director - Immuno-Oncology, Cell Avidity, LUMICKS
- We present data discussing how increased specific avidity, those TCR's with strongest antigen binding with the lowest background, correlate with improved TCR function *in vitro* and *in vivo*.
- How CAR T and TCR T avidity is significantly more correlative to *in vivo* outcome than either cytotoxicity assays or IFN-g release.
- Methods for using cell avidity to screen constructs and more reliably select lead candidates

12:25 pm Transition to Lunch

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

1:00 Session Break

TARGETING SOLID TUMORS

1:30 Chairperson's Remarks
Mitchell Ho, PhD, Senior Investigator; Deputy Chief, Laboratory of Molecular Biology; Director, Antibody Engineering Program, National Cancer Institute (NCI), National Institutes of Health

1:35 Advances in Solid Tumor Cell Therapy
Prasad Adusumilli, MD, FACS, FCCP, Deputy Chief and Associate Attending, Thoracic Surgery; Director, Mesothelioma Program; Head, Solid Tumors Cell Therapy, Cellular Therapeutics Center (CTC), Memorial Sloan-Kettering Cancer Center; Associate Professor, Cardiothoracic Surgery, Weill Cornell Medical Center
Our laboratory has developed, optimized, and translated mesothelin-targeted CAR T cell therapy to patients with mesothelioma, and metastatic breast and lung cancers. We further translated strategies to overcome barriers to successfully translating CAR T cell therapy for solid tumors. One such strategy already in clinic is combination immunotherapy of CAR T cells and checkpoint blockade agents or PD1 dominant-negative receptor within the CAR T cell.

2:05 Highly Active CAR T Cells Containing an Fv That Binds to a Juxta-Membrane Non-Shed Region of Mesothelin
Ira H. Pastan, PhD, Co-Chief, Head & Distinguished Investigator, Molecular Biology, National Cancer Institute (NCI), National Institutes of Health
Mesothelin is shed from cells by the action of proteases. mAb15B6 binds to the protease-sensitive region of mesothelin, inhibits mesothelin shedding, and makes a very active CAR T cell that is superior in activity in mouse tumor models to CAR T cells made with mAb SS1 that binds to a distal epitope. mAb 15B6 is humanized and ready for clinical development.

ROOM CHANGE: Plaza Ballroom A

2:35 Engineering Bispecific Antibody Targets for Novel Therapy in Immune Oncology

Teng Peng, Senior Technique Application Manager, Technique Application, ACROBiosystems

Advances in antibody engineering through decades of research have revolutionized and realized the promises of immune oncology therapies. Currently 8 BsAbs have been approved as therapeutics. The explosion in the number of BsAb candidates in the R & D pipelines is exciting and will herald a new era of target therapeutics. ACROBiosystems will stand by you in the journey of BsAbs development providing high-quality products especially the variety of CD3 proteins.

3:05 Grand Opening Refreshment Break in the Exhibit Hall with Poster Viewing (Plaza Ballroom BC)

3:45 Target Selection for Solid Tumors

Roisin O'Cearbhaill, MD, Memorial Sloan Kettering Cancer Center

Cellular therapies have led to unprecedented clinical success in hematologic malignancies, but it has been a challenge to replicate this in the solid tumor arena. This presentation will focus on some of the unique challenges in solid tumors, with an emphasis on optimal target selection.

4:15 GPC2 and GPC1 as New Targets for CAR T Immunotherapy

Mitchell Ho, PhD, Senior Investigator; Deputy Chief, Laboratory of Molecular Biology; Director, Antibody Engineering Program, National Cancer Institute (NCI), National Institutes of Health

My group has characterized GPC3 as a liver cancer target for antibody and cell based immunotherapies in the past decade. In the present talk, I will discuss our recent research on GPC2 and GPC1 as new tumor targets and engineering of CAR T cells to treat solid tumors such as neuroblastoma and pancreatic cancer. I will also describe new strategies including nanobody technology to improve efficacy of CAR T cells.

4:45 Advanced Discovery Platform for Accelerated Discovery and Development of Pharmacologically Calibrated CAR T Cells for Multiple Solid Tumors.

Farzad Haerizadeh, PhD, CSO, Bio4T2

Bio4t2 develops advanced Chimeric Antigen Receptor T cell (CAR T) therapies to treat patients with solid tumors. Our differentiated platform for accelerated discovery and development of pharmacologically calibrated CAR T cells (and other immune cell therapies) and our current pipeline will be introduced. The preclinical data and the progress toward clinical studies for our first-in-class CAR T therapy against a novel tumor target will be described.

5:15 Welcome Reception in the Exhibit Hall with Poster Viewing (Plaza Ballroom BC)

6:15 Close of Day

THURSDAY, OCTOBER 13

8:00 am Registration and Morning Coffee (Plaza Foyer)

ADVANCES IN CAR T THERAPY, OFF-THE-SHELF APPROACHES

ROOM LOCATION: Seaport Ballroom A

8:25 Chairperson's Opening Remarks

Xianxin Hua, MD, PhD, Professor, Cancer Biology, University of Pennsylvania

8:30 Potent Suppression of Neuroendocrine Tumors and Gastrointestinal Cancers by CDH17CAR T Cells Without Toxicity to Normal Tissues

Xianxin Hua, MD, PhD, Professor, Cancer Biology, University of Pennsylvania

Chimeric antigen receptor (CAR) T cells are remarkably efficient for treating leukemia, but not yet developed for gastrointestinal cancers (GICs) and neuroendocrine tumors (NETs). We discovered that a nanobody VHH1 specifically bound tumor cells by targeting CDH17, a cell surface adhesion protein, and found that CDH17CAR Ts eradicated multiple types of GI cancers and NETs, but do not attack the normal cells in multiple preclinical solid tumor models.

9:00 Immune Restoring (IR) CAR T Cells Targeting Carbonic Anhydrase IX (CAIX) Display Superior Antitumor Activity and Reverse Immunosuppressive TME in a Humanized ccRCC Orthotopic Mouse Model

Yufei Wang, PhD, Research Fellow, Cancer Immunology & Virology, Dana Farber Cancer Institute

Chimeric Antigen Receptor (CAR) T cell therapy is a new type of "living drug" that has proven to be a powerful immunotherapy for hematologic malignancies. However, this success has not yet been transferred to solid tumors. My talk will focus on how to translate CAR T cell therapy to solid tumors, especially ccRCC. I will also discuss the application of humanized mouse model in immunotherapy assessment.

ROOM LOCATION: Plaza Ballroom A

9:30 Development of a Novel Multivalent T-cell Engager for Selective Killing of Tumor Cells for the Treatment of Solid Tumors

Priya Ganesan, PhD, Scientist, Oncology, Amgen

T-cell engagers (TCE) have been effective in hematologic cancers but have shown limited efficacy in solid tumors because of on-target, off-tumor toxicities or cytokine release syndrome that limits the therapeutic window for the antibody. We developed a novel TCE using our unique discovery platform which shows selective bivalent antigen binding to target tumor cells overexpressing target antigen while avoiding normal tissues expressing low levels of target.

10:00 Coffee Break in the Exhibit Hall with Poster Viewing (Plaza Ballroom BC)

10:30 Off-the-Shelf Allogeneic EBV CAR T Cells

Jakob Dupont, MD, Global Head, R&D, Atara Biotherapeutics

Allogeneic T cells have qualities that make them an ideal platform for treating disease. Evolution of CAR T designs and next-generation armoring technologies to overcome the hostile tumor microenvironment will be explored, including the promise of a platform that doesn't require HLA or TCR gene editing and safety, expansion, and persistence implications.

11:00 The Future of Stem Cell Therapy: Hypoimmune Cell Products

Sonja Schrepfer, PhD, Senior Vice President & Head, Hypoimmune Platform, Sana Biotechnology, Inc.

Induced pluripotent stem cells (iPSCs) hold great potential as therapies to repair damaged tissue or replace cell types missing due to genetic defects. However, even iPSCs derived from a patient can mutate in culture, causing immune rejection when they are re-transplanted. Being able to control immune rejection is key to using iPSCs as theraputics. The end goal, for safety and efficiency, is a gene-engineered, hypoimmunogenic, universal cell product.

11:30 Transition to Plenary Session

PLENARY KEYNOTE SESSION

ROOM LOCATION: Plaza Ballroom A

11:35 Harmonization of Immuno-Oncology with Precision Medicine: Innovative Biomarker Strategy for the Next Wave of Immuno-Oncology Therapeutics

Zhen Su, MD, MBA, CEO, Marengo Therapeutics

We have been exploring the science of patients' immune systems to re-conceptualize how we can harness them to fight cancer. We have made significant investments in R&D, honing our focus on mechanisms and molecules that will lead to transformative innovations in cancer care. We will review the most recent advancements of biomarker strategies for IO development and its impact on patient segmentation as we develop tailored treatment regiments.

12:05 pm Transition to Networking Lunch

12:15 Networking Lunch

12:45 Transition to Plenary Panel Discussion with Dessert & Coffee

PLENARY PANEL DISCUSSION

ROOM LOCATION: Plaza Ballroom A

1:00 PANEL DISCUSSION: Investing in Immuno-Oncology – Past, Present, and Future





Moderator: Mary Ann Brown, Executive Director, Conferences, Cambridge Healthtech Institute

As defined, an investment is the dedication of an asset to attain an increase in value over a period of time which requires a sacrifice of some present asset, such as time, money, or effort. Big pharma and biotech are under pressure to invest in the booming immuno-oncology market and to capitalize on new technologies and innovations to bring next-generation immunotherapies to patients – who are the ultimate investors.

Panelists:
Mohammed Asmal, MD, PhD, Entrepreneur-in-Residence, OrbiMed Advisors LLC
Anthony J Coyle, PhD, President, R&D, Repertoire Immune Medicines
David R Kaufman, MD, PhD, Partner, Third Rock Ventures LLC
Uciane Scarlett, PhD, Principal, MPM Capital

1:40 Close of Advances in CAR T Therapy Conference

WEDNESDAY, OCTOBER 12

7:30 am Registration and Morning Coffee (Plaza Foyer)

TRANSLATIONAL STRATEGIES IN IMMUNO-ONCOLOGY

ROOM LOCATION: Seaport Ballroom B

8:30 Welcome by Conference Organizer
Virginia Maxwell, Senior Associate Producer, Cambridge Healthtech Institute

8:35 Chairperson's Remarks
Marc Pelletier, Senior Principal Scientist, Translational Immune Oncology, Novartis Institutes for BioMedical Research

8:40 A Blood miRNA-Based Complementary Diagnostic Predicts Immunotherapy Efficacy in Advanced Stage NSCLC with High PD-L1 Expression
Timothy Rajakumar, MD, PhD, Medical Director, Hummingbird Diagnostics GmbH
Patients with late-stage non-small cell lung cancer (NSCLC) and high levels of PD-L1 expression are eligible for treatment with immunotherapy; however, there is debate about which of these patients require chemotherapy in addition. Using a cohort of 334 immunotherapy treated, stage IV NSCLC patients, we have defined a novel blood-based biomarker indicative of response to immunotherapy and of predictive value as a complementary diagnostic for late-stage lung cancer treatment decisions.

ROOM LOCATION: Seaport Ballroom B

9:10 Taking Immuno-Oncology beyond Checkpoint Blockade with TGFb Inhibition
Marc Pelletier, Senior Principal Scientist, Translational Immune Oncology, Novartis Institutes for BioMedical Research
There are many recent publications highlighting TGFb pathway activity in the context of chemo and immune therapy resistance. TGFb is a pleiotropic signaling molecule that impacts many cells within the tumor microenvironment. Several groups are moving forward with TGFb antagonists in clinical trials, but substantial clinical impact has remained elusive. I will discuss Novartis' work on this target in preclinical models and in clinical trials.

9:40 Dose Response Profile of IGM-2323, a CD20xCD3 IgM Bispecific T Cell Engager, in Translational Models Supports Phase II Dose Selection in Non-Hodgkin's Lymphoma
Maya Kotturi, PhD, Senior Director, PD and Biomarkers, IGM Bioscience
IGM-2323 is an engineered, high-affinity, high-avidity, bispecific, anti-CD20 IgM antibody TCE that is currently being studied as a monotherapy in a Phase II clinical trial for relapsed/refractory non-Hodgkin's lymphoma. We characterized the concentration versus response relationship of IGM-2323 and compared with bispecific IgG TCEs, and built a mechanistic binding model based on preclinical data to aid in prediction of an optimal dose of IGM-2323 in the clinic.

10:10 Networking Coffee Break & Breakout Discussions (Plaza Foyer)
Engage in in-depth discussions with industry experts and your peers about the progress, trends and challenges you face in your research!
Breakout discussion groups play an integral role in networking with potential collaborators. They provide an opportunity to share examples from your work, vet ideas with peers, and be part of a group problem-solving endeavor. Grab a cup of coffee and gather with colleagues during the discussion of your choice. Please visit the Breakout Discussion page on the conference website for a complete listing of topics and descriptions.

TRANSLATIONAL STRATEGIES IN IMMUNO-ONCOLOGY (CONT.)

10:55 Multiplexed Perfused Tumor Microenvironment for Evaluation of Immune Checkpoint Inhibitors
Jeffrey Borenstein, PhD, Laboratory Technical Staff, Draper Laboratory
Immune checkpoint inhibitors show promise for increasing survival for many cancers, but response varies widely between patients and tumor types, highlighting an urgent need for more predictive preclinical models. We present a high throughput perfused tumor microenvironment system capable of testing immunotherapy efficacy with biopsied human tumor fragments or spheroids. Integration of perfusion and circulating immune cells provide a platform suitable for applications across cancer drug discovery and precision medicine.

11:25 Induction of Tertiary Lymphoid Structures in Non-Small Cell Lung Cancer Improves B and T Cell Anti-Tumor Immunity
Tullia C. Bruno, PhD, Assistant Professor, Immunology, University of Pittsburgh & Hillman Cancer Center
Our studies in NSCLC have included investigation of human cancer for unique factors that promote or inhibit TLS formation paired with a physiologically relevant, carcinogen (NNK) induced murine model of lung cancer that forms TLS. Specifically, we utilized multispectral imaging (Vectra Polaris) paired with spatial transcriptomics (Nanostring Digital Spatial Profiler) to interrogate TLS in NSCLC patients.

ROOM LOCATION: Seaport Ballroom B

11:55 The Power of Specificity Screening in End-to-End Antibody Candidate Selection charles river
Ed McGowan, Director of Advanced Modalities, Charles River
Kickstarting therapeutic development by connecting innovation and outsourcing expertise reverberates far beyond lead selection, affecting the entire development pipeline, up to and including regulatory approval. We will look at the role cell microarray screening can play in an integrated antibody candidate selection process. Cell microarray screening of monomeric and heterodimeric plasma membrane proteins together with tethered secreted proteins expressed in human cells enables rapid discovery of primary receptors as well as potential off-targets for a variety of biotherapeutics including antibodies and related molecules. Case studies will demonstrate the power of the technology for identifying novel, druggable targets as well as for IND-enabling specificity screening and safety assessment.

12:25 pm Transition to Lunch

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

1:00 Session Break

GENETICALLY-MODIFIED MODELS

1:30 Chairperson's Remarks
Xiling Shen, PhD, Associate Professor, Biomedical Engineering, Duke University; CEO, Xilis, Inc.

1:35 Gene Editing and Development of Next-Generation Cell Therapy
Sidi Chen, PhD, Assistant Professor, Department of Genetics and Systems Biology Institute, Yale University; Member, Yale Cancer Center and the Yale Stem Cell Center
Chimeric antigen receptor (CAR) T cell-based immunotherapy for cancer and immunological diseases has made great strides, but it still faces multiple hurdles. Finding the right molecular targets to engineer T cells toward a desired function has broad implications for the armamentarium of T cell-centered therapies. Here, we developed a dead-guide RNA (dgRNA)-based CRISPR activation screen in primary CD8+ T cells and identified gain-of-function (GOF) targets for CAR T engineering.

2:05 Human Knock-in Mice for Selecting Next-Generation Immune Checkpoint Inhibitors

Emily Frazier, BS, Associate Scientist, Kineta, Inc.

New immunotherapeutics brought remarkable benefits for cancer patients over the last decade. Due to the poor translation of *in vitro* results to human therapy, *in vivo* human knock-in mouse models have shown significant utility for future developments in the field of immunotherapy. *In vivo* human knock-in mouse models allow studying tumor efficacy, analyzing immunological responses, testing drug combinations, and assessing PK/PD of novel therapeutics.

2:35 The Use of Model-Informed Drug Discovery and Development for the Design of Biotherapeutics in Immuno-Oncology

John Burke, PhD, Co-Founder, President, and CEO, Applied BioMath

Computational tools are increasingly used to aid in the design of biotherapeutics. This presentation will discuss three case studies where Model-informed Drug Discovery and Development was used to:

- Predict systemic cytokine exposure in human after IV administration of an oncolytic myxoma virus
- Model GITR-mediated T-cell dynamics in Mouse Tumor Micro Environment
- Provides Insight into Inter-mouse Variability of Anti-CTLA4 Response

3:05 Grand Opening Refreshment Break in the Exhibit Hall with Poster Viewing (Plaza Ballroom BC)

ADVANCING PRECISION IMMUNO-ONCOLOGY

3:45 Patient-Derived Micro-Organospheres for Precision Immuno-Oncology Diagnostics and Drug Development

Xiling Shen, PhD, Associate Professor, Biomedical Engineering, Duke University; CEO, Xilis, Inc.

We used droplet emulsion microfluidics to generate thousands of micro-organospheres (MOS) from low-volume patient tissues. A clinical study demonstrated MOS reliably predicted tumor drug response within 14 days. MOS capture original tumor stromal and immune content, providing a clinical assay for testing immuno-oncology (IO) therapies such as checkpoint blockade, bispecific antibodies, and T cell therapies on patient tumors.

4:15 Suboptimal Antigen Encounter Directs CD8+ T Cell Exit from Tumor Microenvironments

Amanda Lund, PhD, Associate Professor, Ronald O. Perelman Department of Dermatology Associate Professor, Department of Pathology, NYU Langone Health

Anti-tumor immunity depends upon functional, activated CD8 T cells, however, the mechanisms that license their accumulation in tumors remain incompletely understood. We explore the role of antigen encounters in tumor microenvironments on CD8 T cell function and migratory potential. We demonstrate that high-affinity antigens are necessary for retention, while suboptimal or no antigen encounter renders CD8 T cells susceptible to lymphatic-derived gradients that direct their exit from tumors and limit immunotherapy.

4:45 KEYNOTE PRESENTATION: Patient-Specific Model for Immunotherapies

Roger Kamm, PhD, Cecil and Ida Green Distinguished Professor of Mechanical and Biological Engineering, Departments of Mechanical Engineering and Biological Engineering, Massachusetts Institute of Technology

Despite the tremendous success of immunotherapy harnessing the patient's own immune system to treat cancer, selecting an effective personalized therapeutic strategy remains a challenge. *In vitro* models based on patient-derived cells show promise but have not yet reached clinical use. This presentation will describe one approach utilizing patient-derived tumor and immune cells to address this critical need.

5:15 Welcome Reception in the Exhibit Hall with Poster Viewing (Plaza Ballroom BC)

6:15 Close of Day

THURSDAY, OCTOBER 13

8:00 am Registration and Morning Coffee (Plaza Foyer)

PREDICTIVE PRECLINICAL MODELS

ROOM LOCATION: Seaport Ballroom B

8:25 Chairperson's Remarks

Justin M. Balko, PharmD, PhD, Associate Professor, Departments of Medicine and Pathology, Microbiology, and Immunology, Vanderbilt University Medical Center

8:30 Faster and More Predictive Immunotherapy Development with HUB Organoids

Robert Vries, PhD, CEO, HUB Organoids

9:00 Engineered Microphysiological Systems for Testing Effectiveness of Cell-Based Cancer Immunotherapies

Marco Campisi, PhD, Research Fellow, Dana Farber Cancer Institute

Adoptive immune cell therapies and CAR T and CAR NK cell therapies have proven challenging in solid tumors due to immune cell exclusion and exhaustion and the presence of vascular barriers. Testing next-generation immune therapies requires more sophisticated
ex vivo
models. We developed a 3-dimensional microphysiological TME model using microfluidic technology, comprising cell line tumor spheroids and vascular models embedded in ECM-like hydrogels, to perform preclinical studies on cell therapies.

9:30 Comprehensive Model Organisms Services

Hua Wei, Vice President, Industrial Business Department, Shanghai Model Organisms Center (USA), LLC

Founded in 2000, Shanghai Model Organisms Center Inc. (SMOC) is a leading company in Asia to offer high-quality animal models and related services to global customers with its highly efficient and reliable technology platforms. Committed to gene editing and disease fighting, SMOC has dedicated to developing a comprehensive product portfolio like GEM models and off-the-shelf products.

9:45 Mapping the TME Using the AstroPath Platform for Biomarker Development

Joel C. Sunshine, MD, PhD, Assistant Professor, Dermatology, Pathology and Biomedical Engineering, Johns Hopkins School of Medicine

Using the architecture for the Hubble telescope, we have recently developed a platform which allows for multiplex immunofluorescence (mIF) histopathologic maps at single cell resolution across whole slides named 'AstroPath.' This technology is applied to the whole slide mIF mapping of samples from pre- and on-treatment samples from patients treated with immune checkpoint inhibitors (ICIs), enabling the development of biomarkers of response and resistance to ICIs.

10:00 Coffee Break in the Exhibit Hall with Poster Viewing (Plaza Ballroom BC)

MECHANISMS OF RESPONSE AND RESISTANCE

10:30 Cytotoxic T Cells Specific for Alpha-Myosin Drive Immunotherapy-Related Myocarditis

Justin M. Balko, PharmD, PhD, Associate Professor, Departments of Medicine and Pathology, Microbiology, and Immunology, Vanderbilt University Medical Center

Immune-related adverse events, particularly severe toxicities such as myocarditis, are major challenges to immune checkpoint inhibitor (ICI) utility in anti-cancer therapy. The pathogenesis of ICI-myocarditis is poorly understood. In this presentation, I will discuss murine models and human correlatives that describe the putative causal relationship between CD8 T cells autoreactive against alpha myosin and ICI-induced myocarditis.

11:00 Overcoming Resistance to Chimeric Antigen Receptor T Cell Therapy

Guido Ghilardi, MD, Ruella Lab, Perelman Center for Advanced Medicine, University of Pennsylvania

CAR T cell therapy represents a potential cure for B cell malignancies. However, the majority of CAR T cell-treated patients are destined to relapse. Several pitfalls have been associated with CAR T cell treatment failure, including pre-infusion barriers, tumor intrinsic factors, the immunosuppressive tumor microenvironment, and the characteristics of the product. In this talk, he will discuss the most recent advancement in the field and new strategies to overcome them.

11:30 Transition to Plenary Session

PLENARY KEYNOTE SESSION

ROOM LOCATION: Plaza Ballroom A

11:35 Harmonization of Immuno-Oncology with Precision Medicine: Innovative Biomarker Strategy for the Next Wave of Immuno-Oncology Therapeutics

Zhen Su, MD, MBA, CEO, Marengo Therapeutics

We have been exploring the science of patients' immune systems to re-conceptualize how we can harness them to fight cancer. We have made significant investments in R&D, honing our focus on mechanisms and molecules that will lead to transformative innovations in cancer care. We will review the most recent advancements of biomarker strategies for IO development and its impact on patient segmentation as we develop tailored treatment regiments.

12:05 pm Transition to Networking Lunch

12:15 Networking Lunch

12:45 Transition to Plenary Panel Discussion with Dessert & Coffee

PLENARY PANEL DISCUSSION

ROOM LOCATION: Plaza Ballroom A

1:00 PANEL DISCUSSION: Investing in Immuno-Oncology – Past, Present, and Future





Moderator: Mary Ann Brown, Executive Director, Conferences, Cambridge Healthtech Institute

As defined, an investment is the dedication of an asset to attain an increase in value over a period of time which requires a sacrifice of some present asset, such as time, money, or effort. Big pharma and biotech are under pressure to invest in the booming immuno-oncology market and to capitalize on new technologies and innovations to bring next-generation immunotherapies to patients – who are the ultimate investors.

Panelists:
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Anthony J Coyle, PhD, President, R&D, Repertoire Immune Medicines
David R Kaufman, MD, PhD, Partner, Third Rock Ventures LLC
Uciane Scarlett, PhD, Principal, MPM Capital

1:40 Close of Preclinical and Translational Immuno-Oncology Conference

WEDNESDAY, OCTOBER 12

7:30 am Registration and Morning Coffee (Plaza Foyer)

STRATEGIES FOR EARLY DEVELOPMENT

ROOM LOCATION: Seaport Ballroom C

8:30 Welcome by Conference Organizer
Phillips Kuhl, President, Cambridge Healthtech Institute

8:35 Chairperson's Remarks
Stephanie Casey Parks, PhD, Senior Scientist, Department of Oncology, Amgen

8:40 PANEL DISCUSSION: Understanding Tumor-Mediated Immune Evasion to Develop Biomarkers toward Rational Immunotherapeutic Combinations
Nicholas DeVito, MD, Department of Medical Oncology, Duke University School of Medicine

Immunotherapies have led to impressive outcomes in multiple cancer types, however, most patients relapse or do not initially respond, and biomarkers of resistance are needed to design rational combinations. Oncogenic programs, namely those associated with mesenchymal transformation, alter the microenvironment to promote immune evasion and therapeutic resistance. A mechanistic understanding of these pathways linked to biomarker and therapeutic development promises to usher in a new era of precision immuno-oncology.

ROOM LOCATION: Seaport Ballroom B

9:10 Taking Immuno-Oncology beyond Checkpoint Blockade with TGFb Inhibition
Marc Pelletier, Senior Principal Scientist, Translational Immune Oncology, Novartis Institutes for BioMedical Research

There are many recent publications highlighting TGFb pathway activity in the context of chemo and immune therapy resistance. TGFb is a pleiotropic signaling molecule that impacts many cells within the tumor microenvironment. Several groups are moving forward with TGFb antagonists in clinical trials, but substantial clinical impact has remained elusive. I will discuss Novartis' work on this target in preclinical models and in clinical trials.

9:40 Preclinical Models to Evaluate Next-Generation I/O Therapies
Stephanie Casey Parks, PhD, Senior Scientist, Department of Oncology, Amgen

Syngeneic and humanized mouse models are used to evaluate efficacy and MOA of next generation I/O therapies. Ongoing work aims to build preclinical models that recapitulate the biology needed to evaluate rational combination strategies.

10:10 Networking Coffee Break & Breakout Discussions (Plaza Foyer)

Engage in in-depth discussions with industry experts and your peers about the progress, trends and challenges you face in your research!
Breakout discussion groups play an integral role in networking with potential collaborators. They provide an opportunity to share examples from your work, vet ideas with peers, and be part of a group problem-solving endeavor. Grab a cup of coffee and gather with colleagues during the discussion of your choice. Please visit the Breakout Discussion page on the conference website for a complete listing of topics and descriptions.

COMBINATIONS WITH CHECKPOINT INHIBITORS

10:55 Pembrolizumab-Based Combinations for the Treatment of Cancer
Scot W. Ebbinghaus, Vice President, Clinical Research, MSD

11:25 Promising Early Clinical Efficacy in Immune Cold Tumors with NT-I7 in Combination with Pembrolizumab
Byung Ha Lee, PhD, SVP, NeoImmuneTech Inc

NT-I7, a long acting IL-7, has shown promising early anti-tumor activity in two immune-cold tumor types. In MSS CRC, where pembro had 0% ORR, 3 PR/iPR were observed in 17 evaluable pts treated with NT-I7+pembro, for an iORR of 18%. Furthermore response was also observed in pancreatic cancer, where pembro also had 0% ORR, despite short follow-up. Responses, once occurred, are durable and continue to deepen over time.

ROOM LOCATION: Seaport Ballroom B

11:55 The Power of Specificity Screening in End-to-End Antibody Candidate Selection charles river

Ed McGowan, Director of Advanced Modalities, Charles River

Kickstarting therapeutic development by connecting innovation and outsourcing expertise reverberates far beyond lead selection, affecting the entire development pipeline, up to and including regulatory approval. We will look at the role cell microarray screening can play in an integrated antibody candidate selection process. Cell microarray screening of monomeric and heterodimeric plasma membrane proteins together with tethered secreted proteins expressed in human cells enables rapid discovery of primary receptors as well as potential off-targets for a variety of biotherapeutics including antibodies and related molecules. Case studies will demonstrate the power of the technology for identifying novel, druggable targets as well as for IND-enabling specificity screening and safety assessment.

12:25 pm Transition to Lunch

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

1:00 Session Break

COMBINATIONS WITH CHECKPOINT INHIBITORS (CONT.)

ROOM LOCATION: Seaport Ballroom A

1:35 Advances in Solid Tumor Cell Therapy
Prasad Adusumilli, MD, FACS, FCCP, Deputy Chief and Associate Attending, Thoracic Surgery; Director, Mesothelioma Program; Head, Solid Tumors Cell Therapy, Cellular Therapeutics Center (CTC), Memorial Sloan-Kettering Cancer Center; Associate Professor, Cardiothoracic Surgery, Weill Cornell Medical Center

Our laboratory has developed, optimized, and translated mesothelin-targeted CAR T cell therapy to patients with mesothelioma, and metastatic breast and lung cancers. We further translated strategies to overcome barriers to successfully translating CAR T cell therapy for solid tumors. One such strategy already in clinic is combination immunotherapy of CAR T cells and checkpoint blockade agents or PD1 dominant-negative receptor within the CAR T cell.

2:05 A New Food Group in Immuno-Oncology – Combination Approaches with the Anti-Cytokine Antibody SRF388 to Reverse Tumor Immune Suppression
Jonathan A Hill, PhD, VP Biology, Biology, Surface Oncology

2:35 Pharmacodynamic Immune Responses in Single Agent and Combination Checkpoint Blockade
Alexander Huang, MD, Assistant Professor, Medicine, University of Pennsylvania School of Medicine

Combination checkpoint blockade with αPD1 and αCTLA4 (αCTLA4 doublet) has demonstrated a 58% response rate, but a 59% grade 3 or 4 toxicity. By using single-cell RNA sequencing to study the pharmacodynamic dynamic immune responses of single agent and combination checkpoint blockade, we begin to deconvolute the mechanisms behind clinical efficacy and immune toxicity.

3:05 Grand Opening Refreshment Break in the Exhibit Hall with Poster Viewing (Plaza Ballroom BC)

ROOM LOCATION: Seaport Ballroom C

3:45 Reqorsa Gene Therapy in Combination with Immune Checkpoint Inhibitors

Mark S. Berger, CMO, Clinical Developpment, Genprex, Inc.

Genprex's Chief Medical Officer, Mark S. Berger, M.D., will be presenting on the company's lead drug candidate, REQORSA Immunogene Therapy in combination with immune checkpoint inhibitors for non-small cell lung cancer. An overview of preclinical studies showing that REQORSA is synergistic when combined with anti-PD1 checkpoint inhibitors, including Merck's Keytruda, will be provided, and Genprex's clinical programs with REQORSA will be discussed.

4:15 Irreversible Electroporation (IRE) to Target Pancreatic Cancer Immune Environment and to Augment Combination Immunotherapy

Jayanth S. Shankara Narayanan, PhD, AssIstant Project Scientist & Manager, Flow Cytometry, University of California San Diego

IRE is a nonthermal ablation technique that is used clinically in selected patients with locally advanced pancreatic cancer, but most patients develop recurrent distant metastatic disease. Combining IRE with intratumoral Toll-like receptor-7 (TLR7) agonist (1V270) and systemic anti-programmed death-1 receptor (PD)-1 checkpoint blockade resulted in improved treatment responses. This combination also resulted in elimination of untreated concomitant distant tumors (abscopal effects), an effect not seen with IRE alone.

4:45 MICA/B Antibody Plus HDAC Inhibitor Promote Macrophage-Driven Immunity against Acute Myeloid Leukemia

Lucas Ferrari de Andrade, PhD, Department of Oncological Sciences, Precision Immunology Institute, Mount Sinai School of Medicine

Acute myeloid leukemia (AML) is characterized by poor clinical outcomes. We developed a monoclonal antibody (7C6) that retains a danger signal (MICA/B) on the surface of leukemia cells, which in turn are recognized by Fc receptors and phagocytosed by macrophages. 7C6 also synergizes with an epigenetic regulator to increase expression of MICA/B. 7C6+romidepsin promote antibody-dependent phagocytosis and inhibit AML in preclinical models. Therefore, 7C6+romidepsin have immunotherapeutic potential.

5:15 Welcome Reception in the Exhibit Hall with Poster Viewing (Plaza Ballroom BC)

6:15 Close of Day

THURSDAY, OCTOBER 13

8:00 am Registration and Morning Coffee (Plaza Foyer)

CLINICAL STRATEGIES AND CLINICAL RESULTS

ROOM LOCATION: Seaport Ballroom C

8:30 Strategies for Collaboration and Partnering for Combination IO Therapies

Llew Keltner, MD, CEO, Epistat

9:00 Challenges, Gaps, and Opportunities in Combination IO Therapies for Cancer

Laszlo G. Radvanyi, PhD, President & Scientific Director, Ontario Institute for Cancer Research

9:30 Clinical Biomarker Studies with an Enhanced Potency Oncolytic HSV Expressing an Anti-CTLA-4 Antibody as a Single Agent and Combined with Nivolumab in Patients with Advanced Solid Tumors Indicates Potent Immune Activation

Praveen Bommareddy, PhD, Director, Translational Research, Replimune

10:00 Coffee Break in the Exhibit Hall with Poster Viewing (Plaza Ballroom BC)

10:30 Synergy Is a Four-Letter-Word: The Value of Independent Action in Understanding Clinical Cancer Combination Benefits

Emmett Schmidt, MD, PhD, Vice President, External Collaborations, Oncology Early Development, Merck

11:00 IO-Based Combinations – Opportunities and Challenges

Halle Huihong Zhang, PhD, Exec Dir & Early Dev Program Lead, Oncology, Bristol Myers Squibb Co

11:30 Transition to Plenary Session

PLENARY KEYNOTE SESSION

ROOM LOCATION: Plaza Ballroom A

11:35 Harmonization of Immuno-Oncology with Precision Medicine: Innovative Biomarker Strategy for the Next Wave of Immuno-Oncology Therapeutics

Zhen Su, MD, MBA, CEO, Marengo Therapeutics

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12:45 Transition to Plenary Panel Discussion with Dessert & Coffee

PLENARY PANEL DISCUSSION

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1:00 PANEL DISCUSSION: Investing in Immuno-Oncology – Past, Present, and Future

Moderator: Mary Ann Brown, Executive Director, Conferences, Cambridge Healthtech Institute

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David R Kaufman, MD, PhD, Partner, Third Rock Ventures LLC
Uciane Scarlett, PhD, Principal, MPM Capital

1:40 Close of Conference

EMERGING TECHNOLOGIES FOR IO TARGETING AND DISCOVERY

Computational Discovery, New Targets, and Next-Generation Modalities

THURSDAY, OCTOBER 13

10:30 am Registration Open (Plaza Foyer)

PLENARY KEYNOTE SESSION

ROOM LOCATION: Plaza Ballroom A

11:35 Harmonization of Immuno-Oncology with Precision Medicine: Innovative Biomarker Strategy for the Next Wave of Immuno-Oncology Therapeutics

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David R Kaufman, MD, PhD, Partner, Third Rock Ventures LLC

Uciane Scarlett, PhD, Principal, MPM Capital

1:40 Session Break

NEW APPROACHES TO SOLID TUMOR TARGETING

2:00 Welcome by Conference Organizer

Kent Simmons, Senior Conference Director, Cambridge Healthtech Institute

2:05 Chairperson's Remarks

Dara Burdette, PhD, Senior Director, Discovery Research, Tempest Therapeutics

2:10 KEYNOTE PRESENTATION: Design and Optimization of a pHLA Directed T Cell Engager

Nicolas Sabarth, PhD, Principal Scientist II, Biotherapeutics Discovery, Boehringer Ingelheim

HLA/peptide complex directed (TCR mimic) T cell engagers enable targeting of tumor associated intracellular proteins and therefore broaden the cancer antigen space for T cell engagers. Potency and specificity are key attributes for the design of TCR mimic T cell engagers. Here, display technologies, pHLA-Fv structures, focused library design, and innovative bispecific formats were combined to optimize pharmacology enabling and specific T cell engagers.

2:40 Small Molecules Targeting the 3'-5' DNA Repair Exonuclease TREX1 Selectively Activate the STING Pathway and Induce Tumor-Specific Immunity

Dara Burdette, PhD, Senior Director, Discovery Research, Tempest Therapeutics

Tumor cells avoid immune recognition through inactivating STING. TREX1 is a DNA exonuclease that modulates cGAS/STING signaling and is induced in tumor cells due to genetic instability or therapeutic intervention. We developed picomolar TREX1 inhibitors. Lead molecules had anti-tumor activity in combination with doxorubicin and were cytotoxic in DNA repair-deficient tumor cells. TREX1 represents a novel target to combine activation of STING with inhibition of DNA repair in tumors.

ROOM LOCATION: Plaza Ballroom A

3:10 Implementing MOA-Reflective Cytotoxicity Assays Using Ready-to-Use KILR Target Cells from Screening to Lot Release

Jane Lamerdin, Vice President of R&D, R&D Department, Eurofins DiscoverX

Evaluation of Fc effector mechanisms of therapeutic antibodies is an important regulatory requirement. Eurofins DiscoverX's MOA-reflective KILR cytotoxicity assays enable precise quantitation of multiple effector-mediated MOA's including ADCP & ADCC applications. These dye-free, radioactivity-free assays measure direct target cell killing. Here we share phase-appropriate data for several KILR bioassay models demonstrating these assays are fit-for-purpose for screening, characterization, & relative potency applications in lot-release testing.

3:40 Refreshment Break in the Hall with Poster Viewing (Plaza Ballroom BC)

4:15 Human VH Domain Drug Conjugates as an Emerging Immunotherapy Modality

Zehua Sun, PhD, Principal Scientist, Abound Bio a Galapagos Company

We designed and generated six large (>1011 each) human VH and VL antibody domain libraries displayed on phage from which we selected a number of binders against cancer-related targets. The binders were highly effective against cancer models as CAR Ts and ADCs, and exhibited good developability. Some of the binders could be evaluated in human clinical trials.

NEXT-GENERATION ANTIBODY-DRUG CONJUGATES

4:45 ADCs Targeting Molecules on Pediatric Cancers

Kristopher R. Bosse, MD, Assistant Professor, Pediatrics, Children's Hospital of Philadelphia

The optimal immunotherapeutic strategy for pediatric solid tumors is unknown and new targets are needed. We identified glypican 2 (GPC2) as a MYCN-activated, differentially-expressed, cell surface oncoprotein in neuroblastoma and other cancers. To therapeutically leverage GPC2, we developed the fully human D3-GPC2-IgG1 and conjugated it to pyrrolobenzodiazepine (PBD) dimers to generate an antibody drug conjugate that safely induces specific and durable cytotoxicity in neuroblastoma and other cancer preclinical models.

5:15 Antibody-Drug Conjugates in Lung Cancer: State of the Current Therapeutic Landscape and Future Developments

Joshua E. Reuss, MD, Assistant Professor, Medicine, Georgetown Lombardi Comprehensive Cancer Center

Antibody-drug conjugates (ADCs) are an emerging class of therapeutics that combine target-specific capabilities of monoclonal antibodies (mAbs) with cytotoxicity chemotherapy. Technologic advancement incorporating humanized mAbs, customizable linkers, and payloads with cytotoxicity in the picomolar range have led to a rebirth of ADCs as an efficacious class of anti-cancer therapeutics. In this talk, we will provide an overview of ADCs that show promise in non-small cell lung cancer.

5:45 Close of Day

FRIDAY, OCTOBER 14

7:30 am Registration Open (Plaza Foyer)

8:00 Breakfast Breakout Discussion (Plaza Foyer)

Breakout Discussions are informal, moderated, small-group discussions, allowing participants to exchange ideas and experiences and develop future collaborations around a focused topic. Each discussion will be led by a facilitator who keeps the discussion on track and the group engaged. For in-person events, the facilitator will lead while sitting with delegates around a table. For virtual attendees, the format will be in an online networking platform. To get the most out of this format, please come prepared to share examples from your work, be a part of a collective problem-solving session, and participate in active idea sharing. Please visit the Breakout Discussion page on the conference website for a complete listing of topics and descriptions.

BREAKFAST BREAKOUT DISCUSSION: #8: Translating Novel IO Therapies into the Clinic - IN-PERSON ONLY

Edward (Ned) Patz, MD, CEO, Grid Therapeutics; Professor, Radiology, Duke University

COMPUTATIONAL TARGET DISCOVERY

ROOM LOCATION: Plaza Ballroom A

8:55 Chairperson's Remarks

Edward (Ned) Patz, MD, CEO, Grid Therapeutics; Professor, Radiology, Duke University

9:00 Indication Specific Tumor Evolution and Its Impact on Neoantigen Targeting and Biomarkers for Individualized Cancer Immunotherapies

Amy A. Lo, MD, MS, Senior Principal Scientist, Genentech

Individualized neoantigen-specific immunotherapy (iNeST) requires robustly expressed clonal neoantigens for efficacy, but tumor mutational heterogeneity, loss of neoantigen expression, and variable tissue sampling present challenges. We show that tumor type, multi-lesion sampling, neoantigen expression, and HLA allele retention are important factors for iNeST targeting and patient selection, and may also be important factors to consider in the development of biomarker strategies.

9:30 Single-Cell Dissection of Cancer Immunotherapy Response

Manolis Kellis, PhD, Professor, Computational Biology, Massachusetts Institute of Technology

Checkpoint immunotherapies have transformed the standard of care and outcomes for many cancers, but more than 60% of patients still do not experience a durable clinical response from these treatments. We used single cell and machine learning analysis to show that T-cell receptors are not the sole determining factor in Tconv vs. tTreg cell fate decisions, with conclusions offering new biomarker and novel combinatorial treatment options for checkpoint blockade immunotherapies.

10:00 Rapid Characterization of Antibody Therapies Targeting High-Value I-O Targets

Noah Ditto, Technical Product Manager, Carterra

In the highly competitive immune-oncology (I-O) space, effective identification and differentiation of potential therapeutics requires a detailed understanding of mechanism of action (MOA). To maximize the value of sophisticated antibody discovery technologies, MOA needs to be understood at the earliest stages of drug discovery. In these initial stages, candidate numbers can measure in the thousands and precious sample quantities are stretched thin across numerous discovery platforms. This talk will focus on a strategy of I-O therapeutic selection supported by high-throughput surface plasmon resonance (HT-SPR) to increase the potential for efficacious and commercially differentiated antibodies. By front loading characterization efforts in the discovery phase, this approach enables an evolving selection of therapeutic leads dependent on program objectives, biological discoveries, and commercial pressure.

10:30 Coffee Break in the Exhibit Hall with Last Chance for Poster Viewing (Plaza Ballroom BC)

B CELLS AS IMMUNOTHERAPY TARGETS

11:15 Engineered B Cells for Cancer Immunotherapy

Krishnan Viswanadhan, PharmD, President and COO, be Biopharma

The ability to engineer primary human B cells to differentiate into long-lived plasma cells and secrete *de novo* proteins permits the creation of novel plasma cell therapies for the next generation of immunotherapies. Efficient engineering is achieved using gene editing in combination with AAV DNA templates and results in site-specific gene insertion. Our results demonstrate a novel strategy for modifying human plasma cells to secrete therapeutic proteins.

11:45 TAC-001, a Toll-Like Receptor (TLR9) Agonist Antibody Conjugate Targeting B Cells, Promotes Anti-Tumor Immunity

Hong I. Wan, PhD, President, CEO and Co-Founder, Tallac Therapeutics, Inc.

Tallac Therapeutics focuses on novel therapeutics engaging both innate and adaptive anti-tumor immunity. TAC-001 is an antibody-oligonucleotide conjugate designed for targeted TLR9 activation in B cells. Systemic TAC-001 administration leads to robust single agent activity in checkpoint inhibitor resistant and refractory murine tumor models, accompanied by increased B cell infiltration, T cell effector functions, and modulation in myeloid cells within the tumor microenvironment. TAC-001 is in development for solid tumors.

12:15 pm Development of Novel Immuno-Oncology Targets from Host B Cells: The Other Side of Autoimmunity

Edward (Ned) Patz, MD, CEO, Grid Therapeutics; Professor, Radiology, Duke University

While the field of autoimmunity typically explores the "pathologic" effects of the immune system once tolerance is broken, there is no rationale to preclude autoimmunity from having a potentially beneficial phenotype. Since antibodies can initiate tumor rejection and drive anti-tumor immunity, we seek to discover novel targets and autoantibodies that are functional and help control cancer progression.

12:45 Transition to Lunch

12:50 Luncheon Presentation *(Sponsorship Opportunity Available)* **or Enjoy Lunch on Your Own**

1:20 Session Break

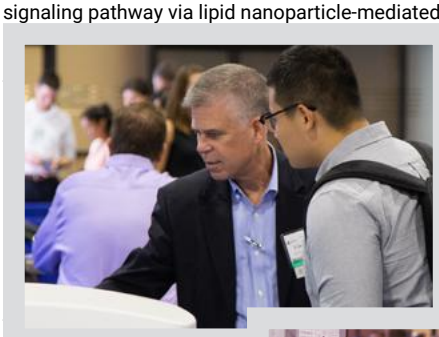
EMERGING IMMUNOTHERAPY TARGETS

2:00 Chairperson's Remarks
Thomas Schürpf, PhD, Senior Director, Tumor Biology, Parthenon Therapeutics

2:05 Engineered NK Cells for Immuno-Oncology
Jianzhu Chen, PhD, Professor, Biology, Koch Institute for Integrative Cancer Research, Massachusetts Institute of Technology
Compared to CAR T cells, CAR-NK cells offer some significant advantages, including i) better safety, such as minimal cytokine release syndrome, neurotoxicity and graft-versus-host disease, ii) multiple mechanisms for activating cytotoxic activity, and iii) high feasibility for "off-the-shelf" manufacturing. We are developing the next generation of CAR-NK cells by combining tumor-specific CAR, additional armors, and cytokine-induced memory-like NK cells, with a goal to achieve effective and durable anti-tumor response in patients.

2:35 FcγR Engagement Reprograms Neutrophils into Antigen Cross-Presenting Cells that Elicit Acquired Anti-Tumor Immunity
Tanya Mayadas, PhD, Professor, Pathology, Harvard Medical School; Senior Scientist, Brigham and Women's Hospital
T cell-based immunotherapy is a promising treatment for many cancers but has low rates of response and durability, challenges that may be overcome by increasing the number of tumor antigen-specific T cells. We have demonstrated that engaging FcγRIIIB on abundant blood neutrophils with an anti-FcγRIIIB-antigen conjugate reprograms them into potent antigen-presenting-cells (nAPCs) that promote robust T cell proliferation and function. We envision using nAPCs in new strategies to treat cancer.

3:05 Antibody Delivery to Disrupt Intracellular Signaling
James A. Van Deventer, PhD, Assistant Professor, Chemical and Biological Engineering, Tufts University
Antibodies and other macromolecules play critical roles in modern cancer treatments, but delivery challenges limit applications to extracellular and membrane-bound targets. Here, we describe the selective disruption of the STAT3 signaling pathway via lipid nanoparticle-mediated antibody delivery. Our findings



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4:05 Close of Summit

THURSDAY, OCTOBER 13

10:30 am Registration Open (Plaza Foyer)

PLENARY KEYNOTE SESSION

ROOM LOCATION: Plaza Ballroom A

11:35 Harmonization of Immuno-Oncology with Precision Medicine: Innovative Biomarker Strategy for the Next Wave of Immuno-Oncology Therapeutics

Zhen Su, MD, MBA, CEO, Marengo Therapeutics

We have been exploring the science of patients' immune systems to re-conceptualize how we can harness them to fight cancer. We have made significant investments in R&D, honing our focus on mechanisms and molecules that will lead to transformative innovations in cancer care. We will review the most recent advancements of biomarker strategies for IO development and its impact on patient segmentation as we develop tailored treatment regiments.

12:05 pm Transition to Networking Lunch

12:15 Networking Lunch

12:45 Transition to Plenary Panel Discussion with Dessert & Coffee

PLENARY PANEL DISCUSSION

ROOM LOCATION: Plaza Ballroom A

1:00 PANEL DISCUSSION: Investing in Immuno-Oncology – Past, Present, and Future





Moderator: Mary Ann Brown, Executive Director, Conferences, Cambridge Healthtech Institute

As defined, an investment is the dedication of an asset to attain an increase in value over a period of time which requires a sacrifice of some present asset, such as time, money, or effort. Big pharma and biotech are under pressure to invest in the booming immuno-oncology market and to capitalize on new technologies and innovations to bring next-generation immunotherapies to patients – who are the ultimate investors.

Panelists:
Mohammed Asmal, MD, PhD, Entrepreneur-in-Residence, OrbiMed Advisors LLC
Anthony J Coyle, PhD, President, R&D, Repertoire Immune Medicines
David R Kaufman, MD, PhD, Partner, Third Rock Ventures LLC
Uciane Scarlett, PhD, Principal, MPM Capital

1:40 Session Break

ADVANCES IN TILs AND TCRs

ROOM LOCATION: Seaport Ballroom B

2:00 Welcome by Conference Organizer

Phillips Kuhl, President, Cambridge Healthtech Institute

2:05 Chairperson's Opening Remarks

Rafael Cubas, PhD, Senior Director, Research, Research, Iovance Biotherapeutics

2:10 Progress in TILs

Allison Betof Warner, MD, PhD, Assistant Attending Physician, Memorial Sloan Kettering Cancer Center

Cellular therapy, particularly with CAR T cell technology, has dramatically improved outcomes for many patients with hematologic malignancies, but treatment of solid tumors has been more challenging. Advances in adoptive cell therapy with tumor-infiltrating lymphocytes (TIL) are now bringing the promise of cellular therapy to solid tumor histologies. This presentation will highlight advances in TIL technology, data on clinical efficacy, and areas for future development.

2:40 KEYNOTE PRESENTATION: Experience with TIL Therapy in Lung Cancer

Adam Schoenfeld, MD, Medical Oncologist, Memorial Sloan Kettering Cancer Center

Lifileucel (LN-144) and LN-145 are centrally manufactured autologous tumor-infiltrating lymphocyte (TIL) products. Lifileucel has achieved responses in 36% of heavily pre-treated patients with melanoma. Here, we will review the preliminary Phase 2 safety and efficacy results of autologous TIL (LN-145) monotherapy in patients with advanced, immune checkpoint inhibitor-treated, non-small cell lung cancer (NSCLC).

3:10 TCR Therapy in Sarcoma

Sandra P D'Angelo, Associate Attending Physician, Oncology, Memorial Sloan Kettering Cancer Centre

Engineered T cell receptor-based targeting NYESO-1 and MAGEA-4 have shown promise as treatment options for some patients with soft tissue sarcomas such as synovial sarcoma and myxoid round cell liposarcoma. There are ongoing efforts to understand the mechanisms of response and resistance in these patients, expanding applicability of this technology and optimizing and improving duration of response.

3:40 Refreshment Break in the Hall with Poster Viewing (Plaza Ballroom BC)

ADVANCES IN TILs AND TCRs

4:15 Next-Generation TIL Cell Therapies

Rafael Cubas, PhD, Senior Director, Research, Research, Iovance Biotherapeutics

IOV-4001 is currently in a Phase 1/2, first-in-human study investigating the safety and efficacy of IOV-4001 in patients with previously treated metastatic non-small cell lung cancer (NSCLC) or advanced melanoma. This is a first of various next generation approaches at Iovance to optimize TIL phenotype, function, persistence, trafficking and tumor reactivity.

4:45 Using CD39 and CD103 to Enrich for Tumor-Reactive CD8 TIL: Clinical Implications

Colin Thalhofer, PhD, Senior Research Scientist, R&D, AgonOx, Inc.

Tumor infiltrating lymphocytes (TILs) are phenotypically and functionally heterogeneous. Only a fraction recognizes tumor antigens and the rest are tumor non-reactive bystanders. AgonOx recently showed that sorting CD8+ TIL based on co-expression of CD103 and CD39 highly enriched for tumor-reactive T cells from a variety of tumor types. We hypothesize that enriching for tumor-reactive T cells will significantly improve the clinical efficacy of autologous TIL adoptive cell therapy (ACT).

5:15 TCR Ts Overcoming TME Hurdles by Switching Immunosuppression to T Cell Activation with Integrated Switch Receptor Technology

Dolores J. Schendel, PhD, CSO, TCR Discovery, Medigene AG

We have developed an integrated mechanism to interfere with PD1-mediated immune suppression by enhancing functions of TCR Ts that express a potent tumor-specific TCR with an integrated switch receptor, that uses the PD1 binding domain to interaction with PD-L1 but switches to activation of the T cells by 41BB signals inside the T cells.

5:45 Close of Day

FRIDAY, OCTOBER 14

7:30 am Registration Open (Plaza Foyer)

8:00 Breakfast Breakout Discussion (Plaza Foyer)
Engage in in-depth discussions with industry experts and your peers about the progress, trends and challenges you face in your research!
Breakout discussion groups play an integral role in networking with potential collaborators. They provide an opportunity to share examples from your work, vet ideas with peers, and be part of a group problem-solving endeavor. Grab a cup of coffee and gather with colleagues during the discussion of your choice. Please visit the Breakout Discussion page on the conference website for a complete listing of topics and descriptions.

BREAKFAST BREAKOUT DISCUSSION #6: Gamma Deltas and Emerging Cell-based Therapies - IN-PERSON ONLY
Lawrence Lamb, Jr., PhD, Executive Vice President & CSO, IN8Bio

GAMMA DELTAS

ROOM LOCATION: Seaport Ballroom B

8:55 Chairperson's Remarks
Lawrence Lamb, Jr., PhD, Executive Vice President & CSO, IN8Bio

9:00 Advances in Gamma Deltas
Lawrence Lamb, Jr., PhD, Executive Vice President & CSO, IN8Bio
There is increasing interest in gamma T cell therapies as a multifunctional approach to solid tumors due to deficiencies in otherwise successful therapies for hematologic malignancies. We will review anti-cancer aspects of gamma T cell biology, optimal conditions for effective anti-tumor efficacy gamma T cells, approaches that are currently being tested in patients, and standard-of-care combinations with gamma T cells that can create synergies with the potential for long-term success.

9:30 ADI-001: First-in-Class Allogeneic Gamma Delta CD20 CAR T Cells in Non-Hodgkin's Lymphoma
Francesco Galimi, PhD, Senior Vice President & CMO, Adicet Bio, Inc.
Gamma delta T cells are an attractive platform for off-the-shelf, allogeneic CAR T-cell therapy. ADI-001, the first CAR-engineered gamma delta T cell product to reach the clinic, consists of allogeneic peripheral blood Vd1 gamma T cells expressing a second-generation CAR directed against CD20. We will discuss available clinical data from the ongoing Phase I trial of ADI-001 in patients with Non-Hodgkin's Lymphoma.

10:00 Reprogramming Multicellular Circuits to Unleash Targeted Immune Responses
Livnat Jerby, PhD, Assistant Professor, Department of Genetics, Stanford University School of Medicine
Immune responses span interconnected regulatory modalities within and across cells. This talk will describe the latest developments in coupling CRISPR-based technologies, single-cell genomics, multiplexed imaging, and machine learning to uncover mechanisms controlling antigen-dependent and independent immune recognition and response. I will present recent findings, revealing intrinsic and extrinsic regulators of NK and T cell function and cellular/tissue immunogenicity, and describe massively parallel multiplexed systems for identifying immunomodulating interventions at scale.

10:30 Coffee Break in the Exhibit Hall with Last Chance for Poster Viewing (Plaza Ballroom BC)

GAMMA DELTAS, NKs AND MYELOID CELLS

11:15 ICT01: A First-in-Class Clinical Stage Anti-BTN3A Antibody with the Capacity to Harness the Vg9/Vd2 T Cells in Cancer
Aude De Gassart, PhD, Director, Preclinical Research, Imcheck Therapeutics
Vg9Vd2 T cells are attractive for cancer immunotherapy due to their cytolytic and pro-inflammatory properties and the positive correlation between tumor infiltration and good prognosis. ICT01, a novel anti-BTN3A mAb activating Vg9Vd2 T cells, is evaluated in Phase I/IIa clinical studies. ICT01 modulates anti-tumor immune response by activating Vg9Vd2 T cells and broadening the immune-response in the TME. We will discuss the immune modulatory capacity of ICT01 and next paths.

11:45 Arming of iPSC-Derived NK Cells Expressing a CD64 Fusion Receptor with Therapeutic Antibodies to Target Diverse Tumor Antigens
Bruce K. Walcheck, PhD, Professor, Veterinary & Biomedical Sciences, University of Minnesota Twin Cities
Natural killer (NK) lymphocytes can be targeted to malignant cells in an antigen specific manner by recognizing attached antibodies to induce antibody-dependent cell-mediated cytotoxicity (ADCC). We engineered iPSC-derived NK (iNK) cells to express the novel high-affinity fusion FcyR CD64/16 to enhance tumor antibody binding and ADCC potency. iNK CD64/16A cells can be armed with anti-tumor antibodies, cryopreserved, and thawed for immediate adoptive transfer for targeting assorted tumor antigens and malignancies.

12:15 pm Engineered Myeloid Cells for Solid Tumor Therapy
Daniel R Getts, PhD, CoFounder & CEO, Myeloid Therapeutics
The immunosuppressive tumor microenvironment (TME) of solid tumors is a barrier to cellular and immunotherapies. Myeloid cell-derived tumor associated macrophages (TAMs) accumulate in tumors but frequently are co-opted by tumors cells into supporting tumor growth. We developed the Activate, Target, Attack & Kill (ATAK) myeloid cell platform to engineer myeloid cells to recognize and phagocytize tumor cells as well as orchestrate a broad anti-tumor immune response against solid tumors.

12:45 Transition to Lunch

12:50 Luncheon Presentation *(Sponsorship Opportunity Available)* **or Enjoy Lunch on Your Own**

1:20 Session Break

ADVANCES IN CELL-BASED THERAPIES

2:00 Chairperson's Remarks
Leah Sibener, PhD, Co-Founder & Vice President, Therapeutic Discovery, 3T Biosciences, Inc.

2:05 Advances with TAC T Cells
Deyaa A Adib, CMO, Triumvira Immunologics USA, Inc.
Triumvira develops autologous and allogeneic T cell therapies engineered with the T cell Antigen Coupler (TAC) receptor that redirects T cells to the respective antigen on tumor cells and activates T cells by co-opting the endogenous T cell receptor complex independently of MHC. Preclinical models have shown tumor clearance with minimal toxicity.

2:35 A Functional Approach to Identifying and Engineering Highly-Potent and Specific TCRs for pHLA Targeting Therapies

Leah Sibener, PhD, Co-Founder & Vice President, Therapeutic Discovery, 3T Biosciences, Inc.

Peptide-HLA (pHLA)-targeting therapeutics have shown clinical success in treating solid tumors. However, challenges related to safety remain including the ability of therapeutics to discriminate between on- vs. off-target while maintaining high-potency. We developed a strategy that queries the TCR repertoire to identify active, sequence-distinct TCRs; uses 3T-TRACE, a high-diversity pHLA library, to map cross-reactivity; and exploits functional selections to simultaneously optimize for potency and specificity to accelerate therapeutic development.

3:05 Therapeutic SUPLEXA Cells – A Clinical Stage, Non-Engineered, Tumor Agnostic Cellular Therapy

Frank Borriello, PhD, Scientific Founder & CEO, Alloplex Biotherapeutics, Inc.

SUPLEXA therapeutic cells are comprised of activated autologous NK, NKT and T cells, which are capable of recognizing and killing a broad range of tumor cells. They are manufactured in a robust and cost effective 2-week *ex vivo* process beginning with patient-derived PBMC isolated from 50 mL of peripheral blood. A first-in-human clinical basket study is underway in Australia that includes patients with solid tumors and hematologic malignancies.

3:35 Close of Summit

THURSDAY, OCTOBER 13

10:30 am Registration Open (Plaza Foyer)

PLENARY KEYNOTE SESSION

ROOM LOCATION: Plaza Ballroom A

11:35 Harmonization of Immuno-Oncology with Precision Medicine: Innovative Biomarker Strategy for the Next Wave of Immuno-Oncology Therapeutics

Zhen Su, MD, MBA, CEO, Marengo Therapeutics

We have been exploring the science of patients' immune systems to re-conceptualize how we can harness them to fight cancer. We have made significant investments in R&D, honing our focus on mechanisms and molecules that will lead to transformative innovations in cancer care. We will review the most recent advancements of biomarker strategies for IO development and its impact on patient segmentation as we develop tailored treatment regiments.

12:05 pm Transition to Networking Lunch

12:15 Networking Lunch

12:45 Transition to Plenary Panel Discussion with Dessert & Coffee

PLENARY PANEL DISCUSSION

ROOM LOCATION: Plaza Ballroom A

1:00 PANEL DISCUSSION: Investing in Immuno-Oncology – Past, Present, and Future





Moderator: Mary Ann Brown, Executive Director, Conferences, Cambridge Healthtech Institute

As defined, an investment is the dedication of an asset to attain an increase in value over a period of time which requires a sacrifice of some present asset, such as time, money, or effort. Big pharma and biotech are under pressure to invest in the booming immuno-oncology market and to capitalize on new technologies and innovations to bring next-generation immunotherapies to patients – who are the ultimate investors.

Panelists:
Mohammed Asmal, MD, PhD, Entrepreneur-in-Residence, OrbiMed Advisors LLC
Anthony J Coyle, PhD, President, R&D, Repertoire Immune Medicines
David R Kaufman, MD, PhD, Partner, Third Rock Ventures LLC
Uciane Scarlett, PhD, Principal, MPM Capital

1:40 Session Break

TARGETING THE TUMOR MICROENVIRONMENT

ROOM LOCATION: Seaport Ballroom B

2:00 Welcome by Conference Organizer

Mary Ann Brown, Executive Director, Conferences, Cambridge Healthtech Institute

2:05 Chairperson's Opening Remarks

Muller Fabbri, MD, PhD, Associate Director, Center for Cancer & Immunology Research, Children's National Health System

2:10 FEATURED PRESENTATION: Extracellular microRNAs Orchestrate the Biology of the Tumor Microenvironment

Muller Fabbri, MD, PhD, Associate Director, Center for Cancer & Immunology Research, Children's National Health System

MicroRNAs are small non-coding RNAs regulating gene expression. They can participate in intercellular communication shuttled inside of extracellular vesicles and elicit a plethora of responses in the recipient cells, ultimately affecting the biology of the tumor microenvironment. This lecture will focus on the background that led to the discovery of the first "miRceptor", a protein-receptor for microRNAs, and the implications of this discovery for the biology and therapy of cancer.

2:40 Targeting Tumor-Associated Macrophages to Reverse Immunosuppression in the Tumor Microenvironment

Peter Probst, PhD, Senior Director, Immuno Oncology, OncoResponse Inc

A common basis for cancer immunotherapy treatment failure appears to be the suppressive tumor microenvironment (TME). We are investigating the B cell repertoire of immunotherapy responders to identify antibodies that can relieve immunosuppression in the TME. I will present data on OR2805, a clinical-stage anti-CD163 antibody, that relieves immunosuppression caused by macrophages, and preclinical characterization of LILRB2/ILT4 antibody that rescues T cells from macrophage-mediated suppression and induces anti-tumor responses.

ROOM LOCATION: Plaza Ballroom A

3:10 Implementing MOA-Reflective Cytotoxicity Assays Using Ready-to-Use KILR Target Cells from Screening to Lot Release

Jane Lamerdin, Vice President of R&D, R&D Department, Eurofins DiscoverX

Evaluation of Fc effector mechanisms of therapeutic antibodies is an important regulatory requirement. Eurofins DiscoverX's MOA-reflective KILR cytotoxicity assays enable precise quantitation of multiple effector-mediated MOA's including ADCP & ADCC applications. These dye-free, radioactivity-free assays measure direct target cell killing. Here we share phase-appropriate data for several KILR bioassay models demonstrating these assays are fit-for-purpose for screening, characterization, & relative potency applications in lot-release testing.

3:40 Refreshment Break in the Hall with Poster Viewing (Plaza Ballroom BC)

TARGETS FOR OVERCOMING IMMUNORESISTANCE

4:15 Modulation of the Tumor Microenvironment in 3D-Tumoroids Derived from Patients with Colorectal Cancer by Targeting the Oxidized Macrophage Migration Inhibitory Factor

Michael Thiele, PhD, Founder & CSO, Biology Research, OncoOne R&D GmbH

Targeting oxMIF, the disease-related isoform of MIF, enables the inhibition of MIF-mediated pro-tumorigenic effects. Anti-oxMIF antibody ON203 induced tumor cell killing and altered the tumor immune contexture towards an increased presence and activity of effector cells in patient-derived tumoroids. These findings confirm our *in vivo* efficacy models. ON203 has a high potential to become a new treatment option for cancer patients as standalone therapy or in combination with checkpoint inhibitors.

4:45 Overcoming Immunotherapy Resistance by Targeting Mucin 4 Expression in HER2+ in Breast Cancers

Roxana Schillaci, PhD, Principal Researcher, Lab of Molecular Mechanisms of Carcinogenesis, Instituto de Biologia y Medicina Experimental

Mucin 4 (MUC4), a transmembrane glycoprotein, shields trastuzumab epitope on HER2 molecule inducing resistance, and also it is a biomarker of poor disease-free survival in HER2+ breast cancer treated with trastuzumab. TNFα neutralization downregulates MUC4 expression sensitizes cells and tumors to trastuzumab and triggers an antitumor immune response. MUC4 expression is associated with immune desert HER2+ breast cancer.

5:15 KEYNOTE PRESENTATION: Overcoming Hallmarks of Immune Resistance: Do We Know What We're Looking For?
Vanessa M Lucey, PhD, Director, World Wide Medical Oncology, Early Assets & Biomarkers, Bristol Myers Squibb Co

5:45 Close of Day

FRIDAY, OCTOBER 14

7:30 am Registration Open (Plaza Foyer)

8:00 Breakfast Breakout Discussion (Plaza Foyer)
Engage in in-depth discussions with industry experts and your peers about the progress, trends and challenges you face in your research!
Breakout discussion groups play an integral role in networking with potential collaborators. They provide an opportunity to share examples from your work, vet ideas with peers, and be part of a group problem-solving endeavor. Grab a cup of coffee and gather with colleagues during the discussion of your choice. Please visit the Breakout Discussion page on the conference website for a complete listing of topics and descriptions.

BREAKFAST BREAKOUT DISCUSSION #7: Challenges in Immune Evasion through Antigen Presentation Defects - IN-PERSON ONLY
Xiaole Shirley Liu, PhD, CEO, GV20 Therapeutics
- What tumor types have prevalent mechanisms of antigen presentation defects?
- How to increase antigen presentation through MHC class I?
- How to increase antigen presentation through MHC class II?
- How to develop clinical biomarkers for tumors with antigen presentation defects?
- Why don't NK cells kill cancer cells with MHC Class I defects?

OPTIMIZING COMBINATORIAL APPROACHES

ROOM LOCATION: Plaza Ballroom A

8:55 Chairperson's Remarks
Maria Carmela (Marica) Speranza, PhD, Scientific Director, Immuno-Oncology & Combinations Research Unit, GlaxoSmithKline

9:00 Challenges in Immunotherapy Combinations
Maria Carmela (Marica) Speranza, PhD, Scientific Director, Immuno-Oncology & Combinations Research Unit, GlaxoSmithKline
More than a decade ago, a new class of immune therapy called immune checkpoint inhibitors (ICI) revolutionized cancer research. Since their debut, ICIs have achieved many successes but have also led to many challenges both in term of toxicity and efficacy. In this talk, we will discuss novel preclinical approaches that can guide the development of the next-generation of immune-oncology (IO) agents and the design of rational combination strategies.

9:30 Novel Immunotherapy Combinations in Head and Neck Cancers
Emrullah Yilmaz, MD, PhD, Clinical Assistant Professor of Medicine, Hematology & Oncology, Cleveland Clinic Foundation
Although there has been advancement in the treatment of head and neck cancers with immunotherapy in recurrent metastatic disease the response rates still remain low, especially in platinum-refractory head and neck cancers. So far, combination of radiation therapy and immune checkpoint inhibitors has also not been shown to be effective. I would like to discuss the novel immunotherapy combination strategies in head and neck cancer.

10:00 Rapid Characterization of Antibody Therapies Targeting High-Value I-O Targets
Noah Ditto, Technical Product Manager, Carterra
In the highly competitive immune-oncology (I-O) space, effective identification and differentiation of potential therapeutics requires a detailed understanding of mechanism of action (MOA). To maximize the value of sophisticated antibody discovery technologies, MOA needs to be understood at the earliest stages of drug discovery. In these initial stages, candidate numbers can measure in the thousands and precious sample quantities are stretched thin across numerous discovery platforms. This talk will focus on a strategy of I-O therapeutic selection supported by high-throughput surface plasmon resonance (HT-SPR) to increase the potential for efficacious and commercially differentiated antibodies. By front loading characterization efforts in the discovery phase, this approach enables an evolving selection of therapeutic leads dependent on program objectives, biological discoveries, and commercial pressure.

10:30 Coffee Break in the Exhibit Hall with Last Chance for Poster Viewing (Plaza Ballroom BC)

ELUCIDATION OF MECHANISMS OF RESISTANCE AND IMMUNE ESCAPE

ROOM LOCATION: Seaport Ballroom A

11:15 A Functional Genetic Screen Uncovers Regulators of Intratumoral Macrophage Function and Reveals CD24 as a Novel Target for Cancer Immunotherapy by Macrophages
Amira Barkal, MD, PhD, Resident Physician, Internal Medicine, Brigham & Women's Hospital, Harvard Medical School

11:45 ONCOS-102 Reinstates Response to PD1 Blockade in PD1 Refractory Melanoma
Erik Digman Wiklund, PhD, CEO, Targovax ASA
Oncolytic virotherapy ONCOS-102 demonstrated 35% ORR in a phase I trial in 20 patients in PD1 r/r melanoma. Following local delivery of ONCOS-102, systemic tumor responses were observed in >50% of patients, including 2 examples where a non-injected lesion completely disappeared. Tumor responses were associated with strong increase in T cell infiltration, which persisted and strengthened over time. Broad immuno-modulation was demonstrated by RNAseq gene expression analysis, confirming cellular IHC observations.

12:15 pm Targeting TBK1 to Overcome Resistance to Cancer Immunotherapy
Russell Jenkins, MD, PhD, Center for Cancer Research, Massachusetts General Hospital
TANK-binding kinase 1 (TBK1) is a versatile innate immune protein kinase nominated as a candidate immune evasion gene in a number of pooled genetic screens. Using genetic and pharmacologic tools across multiple experimental model systems, we have confirmed a role for TANK-binding kinase 1 (TBK1) as an immune evasion gene. Taken together, our results demonstrate that targeting TBK1 is a novel and effective strategy to overcome resistance to cancer immunotherapy.

12:45 Transition to Lunch

12:50 Luncheon Presentation *(Sponsorship Opportunity Available)* **or Enjoy Lunch on Your Own**

1:20 Session Break

TURNING UP THE HEAT ON NON-IMMUNOREACTIVE TUMORS

2:00 Chairperson's Remarks
Xiaole Shirley Liu, PhD, CEO, GV20 Therapeutics

2:05 Implications of Stem-Like CD8+ T Cell Reservoirs within Tumor-Draining Lymph Nodes
Kelli Connolly, PhD, PostDoc Associate, Immunobiology, Yale University
Patients with Kras-driven lung adenocarcinoma have benefited from T cell targeted immunotherapies, but response rates vary based on the presence of various genetic co-mutations. Importantly, the link between cancer genetics and the anti-tumor T cell response is not understood. Therefore, we generated mouse models of lung cancer harboring different mutations commonly found in human disease but expressing the same neoantigen, allowing us to determine the mechanisms behind this therapeutic disparity.

2:35 Novel NK Checkpoint Turns Cold Tumors into Hot Tumors
Xiaole Shirley Liu, PhD, CEO, GV20 Therapeutics
Antigen presentation defects in tumors are prevalent mechanisms of adaptive immune evasion and resistance to immune checkpoint blockade, but how these tumors escape NK cell attack is unknown. Using CRISPR screens, we discovered a novel NK checkpoint on cancer cells. An antibody that blocks this target enhances NK killing of cancer cells *in vitro*, and increases antigen presentation, tumor infiltrating lymphocytes, and NK-mediated cytotoxicity *in vivo*.

3:05 Turning "Cold" Tumors into "Hot" Tumors: Role for Chemokine Modulation in Advanced Colorectal Cancer
Sarbajit Mukherjee, Assistant Professor, Gastrointestinal Oncology, Roswell Park Cancer Institute
Colorectal cancer (CRC) is one of the most common cancers globally. Beyond MSI-H (Microsatellite Instability High) tumors, CRC is largely resistant to immune therapies and is considered "cold." In this talk, we will discuss chemokine modulation as a potential strategy to increase intratumoral CD8+ T cell infiltration in metastatic colorectal cancer, thereby turning it from a "cold" to a "hot" tumor.

3:35 Tumor-Targeted Delivery of Tetanus Toxoid by Attenuated Listeria is a Powerful Alternative to Neoantigen-Mediated Cancer Immunotherapy
Claudia Gravekamp, Associate Professor, Microbiology & Immunology, Albert Einstein College of Medicine

4:05 Close of Summit

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