Emerging Cell Therapies: Realizing the Vision of NextGen Cell Therapeutics (EK15)

January 25-27, 2021 • Virtual at your computer

Scientific Organizers: Kole T. Roybal, Alex Marson and Yvonne Y. Chen

Sponsored by AstraZeneca, BioLegend, Inc., BlueRock Therapeutics, Nektar Therapeutics, Novo Nordisk A/S and TCR² Therapeutics

MONDAY, JANUARY 25

Welcoming Remarks and Keynote Address (8am Denver/Mountain Time Start)
* Kole T. Roybal, University of California, San Francisco, USA
David Baker, University of Washington, USA
Computational Protein Design for Next-Generation Cellular Therapeutics

The Current State of Cellular Therapies for Cancer: Lessons from the Clinic (8:40am Denver/Mountain Time Start)
* Kole T. Roybal, University of California, San Francisco, USA
* Yvonne Y. Chen, University of California, Los Angeles, USA
David Edward Gilham, Celyad, Belgium
Next-Generation CART Approaches Exploiting Natural Killer Receptor Targeting
Marcela V. Maus, Harvard Medical School, USA
[NOT AVAILABLE ON DEMAND] New T Cell Therapeutics
Christine E. Brown, Beckman Research Institute, City of Hope, USA
CAR T Cells for the Treatment of Brain Malignancies
Isabelle Riviere, Memorial Sloan-Kettering Cancer Center, USA
Manufacturing Next-Generation Cellular Therapies
Barbra Sasu, Allogene Therapeutics, USA
Allogeneic CAR T Therapy for the Treatment of Cancer

Career Roundtable (12:30pm Denver/Mountain Time Start)
Darrell J. Irvine, Massachusetts Institute of Technology, USA
Marcela V. Maus, Harvard Medical School, USA
Jane L. Grogan, Graphite Bio, USA

Poster Session 1 (1:30pm Denver/Mountain Time Start)
New Approaches for Programming Cellular Therapeutics (3pm Denver/Mountain Time Start)
* Alex Marson, University of California, San Francisco, USA
Reprogramming Immune Cell Therapeutics with Non-Viral Gene Editing Approaches
Aaron M. Ring, Yale School of Medicine, USA
Engineered Cytokines for Cancer Immunotherapy
Dario Campana, National University of Singapore, Singapore
Expanding the Functional Capacity of Therapeutic Immune Cells
* Ahmad S. Khalil, Boston University, USA
Design of Eukaryotic Gene Regulatory Circuits
Romina Marone, 275.00
Short Talk: Elimination of Mouse B Cells by Non-Virally Engineered CAR19 Knock-In T Cells
Alessio David Nahmad, Tel Aviv University, Israel
Short Talk: Engineering B Cells in-vivo Elicits Potent Cellular and Serological Responses in Mice
Aditya Murthy, 275.00
Short Talk: Efficient Gene Knockout in Primary Myeloid Cells by Non-Viral Delivery of CRISPR-Cas9

Jonathan B. Gilbert, 275.00
Short Talk: Microfluidic Cell Squeezing Enables the Generation of Novel Cell Therapies for Diverse Clinical Applications
Owen J. L. Rackham, 275.00
Short Talk: Using Data-Driven Approaches to Develop Engineered Cell Therapies

TUESDAY, JANUARY 26

Next-Generation Cellular Therapeutics for Cancer (8am Denver/Mountain Time Start)
* Yvonne Y. Chen, University of California, Los Angeles, USA
[NOT AVAILABLE ON DEMAND] Enhancing T-Cell Therapies by Rational Biomolecular Engineering
Martin Pule, University College London, UK
T Cell Therapies with Engineered Control Systems
* Kole T. Roybal, University of California, San Francisco, USA
Control and Customization of Immune Cell Therapies for Cancer
Jane L. Grogan, Graphite Bio, USA
Development of Next-Generation T Cell Therapies
Timothy K. Lu, Massachusetts Institute of Technology, USA
Synthetic Biology Tools to Stimulate Anti-Tumor Immunity
Christopher Bourne, 150.00
Short Talk: Mechanisms of Adaptive T Cell Microphamacies
Rogelio A. Hernandez-Lopez, University of California San Francisco, USA
Short Talk: T Cell Circuits that Sense Antigen Density with an Ultrasensitive Threshold

Meet the Editors (11:30am Denver/Mountain Time Start)
Zeljko Durdevic, EMBO Press, Germany
Sara Hamilton, Cell Press, USA
Claudia G. Willmes, Cell Press, USA

Beyond Effector T Cell Therapeutics (3pm Denver/Mountain Time Start)
* Saar I. Gill, University of Pennsylvania, USA
Engineered Macrophage Therapies
Dan S. Kaufman, University of California, San Diego, USA
NK Cell Therapies for Cancer
Tal Danino, Columbia University, USA
Programming Bacteria as a Cancer Therapy
* Megan K. Leavings, University of British Columbia, Canada
NextGen Treg Therapies
Tara L. Deans, University of Utah, USA
Synthetic Biology Tools for the Development of Engineered Stem Cell Therapeutics
Tyler Hill, 150.00
Short Talk: Engraftment of Gene-Engineered Human Plasma Cells in Humanized Mice Shows Early Promise for the Feasibility of Novel Plasma Cell-Based Therapies

WEDNESDAY, JANUARY 27

Engineering Materials for Cellular Therapeutics (8am Denver/Mountain Time Start)

For the most up-to-date details, visit https://www.keystonesymposia.org.
Matthias Stephan, Fred Hutchinson Cancer Research Center, USA
Synthetic mRNA Nanocarriers for the in situ Programming of Disease-Specific Immune Cells

Darrell J. Irvine, Massachusetts Institute of Technology, USA
Endogenous Immunity Primed by Vaccine-Boosted CAR T Cell Therapy

Tatiana Segura, Duke University, USA
Biomaterials for Tissue Repair and Regulation of Inflammation

David J. Mooney, Harvard University, USA
Artificial APCs to Manufacture and Boost T Cell Therapies

Andy Tay, 275.00
Short Talk: High-Aspect Ratio Nano-Structures for Efficient, Minimally Perturbative and Transgene-Free Immuno-Transfection

Jesus Paez Mayorga, 150.00
Short Talk: Implantable Cell Therapy Platform With In Situ Pre-Vascularization and Localized Immunosuppression for Allogeneic Cell Transplantation

Gloria Delfanti, San Raffaele Scientific Institute, Italy
Dual Targeting of Cancer and Suppressive Myeloid Cells by Tumor-Redirected iNKT Cells and Antigen-Carrying Microparticles

Yvonne Y. Chen, University of California, Los Angeles, USA

Alex Marson, University of California, San Francisco, USA

Networking Lounge (1pm Denver/Mountain Time Start)

Immune Cell Biology: Implications for Cellular Immunotherapy (3pm Denver/Mountain Time Start)

Miriam Merad, Mount Sinai School of Medicine, USA
Myeloid Cell Contribution to Tumor Lesion Composition and Outcome

Andrea Schietinger, Memorial Sloan Kettering Cancer Center, USA
Regulation of T Cell Function in Tumors

Joseph C. Sun, Memorial Sloan Kettering Cancer Center, USA
NK Cells in Health and Disease

Debattama Sen, 275.00
Short Talk: Disrupting Enhancers within the Core Epigenetic Program of Exhaustion Improves CD8+ T Cell Responses and Enhances Tumor Control

Baris Avsaroglu, University of California, San Francisco, USA
Short Talk: Mapping Cellular Interactions between Cancer and Normal Cells via Synthetic Notch Ligand/Receptor Pairs

Micah Benson, 275.00
Short Talk: Unbiased Design of Engineered T Cell Therapies Using Functional CRISPR/Cas9 Screens

Nayara Leite, Harvard University, USA
Short Talk: Uncovering the Cell-Type Specificity in Human T1D Immune Activation Using iPSC-β Cells

Closing Remarks (5:45pm Denver/Mountain Time Start)
Kole T. Roybal, University of California, San Francisco, USA