CLINICAL APPLICATION OF CAR T CELLS

NOVEMBER 16-17, 2017

Memorial Sloan Kettering Cancer Center
Zuckerman Research Center
417 East 68th Street
New York, NY 10065

www.mskcc.org/cartcell
CLINICAL APPLICATION OF CAR T CELLS

Chimeric antigen receptor (CAR) T-cell (‘Living Drug’) immunotherapy is showing promising results in the treatment of cancers. Over the years, MSK has accumulated a breadth of knowledge about developing and translating these clinical trials from bench to bedside.

MSK faculty, along with national and international experts, will discuss the clinical and translational aspects of cell therapies (CARs, TCRs, NKs), both for hematologic malignancies and solid tumors.

EDUCATIONAL OBJECTIVES
1) To learn new developments in CAR T-cell therapy
2) To learn patient toxicity management
3) To learn patient clinical trial management algorithms

MAIN SESSIONS
- CARs for B-cell Malignancies
- Managing Toxicities
- The Ins and Outs of Manufacturing Engineered Cells
- CARs for Non-B cell Hematologic Malignancies
- Non-T cell Therapies
- Single-cell Technologies
- TCRs and BiTEs
- National Guidelines for CAR T-cell Therapy Programs
- CARs for Solid Tumors

BREAKOUT SESSIONS TOPICS
- Clinical and Operational Infrastructure of Engineered Cell Therapy
- Biomarkers and Bioassays for Cell Therapies

TARGET AUDIENCE
The target audience includes medical oncologists and oncology fellows in training, basic scientists, research fellows in training, nurses, clinical trial research staff, immunologists, and surgeons with an interest in tumor immunology and immunotherapy.

NETWORKING RECEPTION
Participants are invited to join the course faculty for a networking reception at Rockefeller University’s Weiss Cafe on November 16th.

Rockefeller University
1230 York Avenue, New York, NY
5:00-7:00 PM

CALL FOR ABSTRACTS
Participants are invited to submit an abstract for presentation at the course. Abstracts for the poster session will be selected on the basis of scientific merit and content quality.

Submission Deadline: October 30, 2017

Memorial Sloan Kettering Cancer Center is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.
COURSE FACULTY

MSK COURSE DIRECTOR

Prasad S. Adusumilli, MD
Member, Center for Cell Engineering and Center for Cellular Therapeutics
Deputy Chief, Thoracic Surgery Service

MSK COURSE CO-DIRECTORS

Renier J. Brentjens, MD, PhD
Director, Cellular Therapeutics Center
Associate Attending
Leukemia Service
Division of Hematologic Oncology
Department of Medicine

Michel Sadelain, MD, PhD
Director, Center for Cell Engineering
Member, Immunology Program
Member, Departments of Medicine and Pediatrics

MSK FACULTY

Kevin Curran, MD
Assistant Attending
Bone Marrow Transplant Service
Department of Pediatrics

Jeffrey Drebin, MD
Chairman Attending
Department of Surgery

Sergio Giralt, MD
Chief Attending
Adult Bone Marrow Transplant Service
Division of Hematologic Oncology
Department of Medicine

Philip Kantoff, MD
Chairman Attending
Department of Medicine

Christopher Klebanoff, MD
Assistant Attending
Breast Medicine Service
Division of Solid Tumor Oncology
Department of Medicine

Andrew Kung, MD, PhD
Chairman Attending
Department of Pediatrics

Elena Mead, MD
Assistant Attending
Critical Care Medicine Service
Department of Anesthesiology and
Critical Care Medicine

Roisin O’Cearbhaill, MD
Assistant Attending
Gynecologic Medical Oncology Service
Division of Solid Tumor Oncology
Department of Medicine

Lia Palomba, MD
Associate Attending
Lymphoma Service
Division of Hematologic Oncology
Department of Medicine

Jae Park, MD
Assistant Attending
Leukemia Service
Division of Hematologic Oncology
Department of Medicine

Miguel Perales, MD
Deputy Chief
Adult Bone Marrow Transplant Service
Division of Hematologic Oncology
Department of Medicine

Isabelle Riviere, PhD
Director, Cell Therapy and Cell Engineering Facility

Paul Sabbatini, MD
Deputy Physician-in-Chief for Clinical Research

Bianca Santomasso, MD, PhD
Instructor
Neurology Service
Department of Neurology

MSK FACULTY (Continued)

Craig Sauter, MD
Assistant Attending
Bone Marrow Transplant Service
Division of Hematologic Oncology
Department of Medicine

David Scheinberg, MD, PhD
Chair, Molecular Pharmacology Program
Director, Experimental Therapeutics Center

Eric Smith, MD, PhD
Assistant Attending
Myeloma Service
Division of Hematologic Oncology
Department of Medicine

Craig B. Thompson, MD
President and Chief Executive Officer

INVITED FACULTY (CME Session)

Joachim Aerts, MD, PhD
Professor, Department of Pulmonary Disease
Erasmus University Medical Center

Christopher Choi, PhD
Member, Center for Immunotherapy
Roswell Park Cancer Institute

Marco Davila, MD, PhD
Associate Member
Department of Blood and Marrow Transplantation
Moffitt Cancer Center

Gianpietro Dotti, MD
Professor, Department of Microbiology and Immunology
University of North Carolina

Rong Fan, PhD
Associate Professor
Biomedical Engineering
Yale University

Terry Fry, MD
Head, Hematologic Malignancies Section
National Cancer Institute

Saar Gill, MD, PhD
Assistant Professor
Department of Medicine
Hospital of the University of Pennsylvania

Stephen Gottschalk, MD
Chair, Department of Bone Marrow Transplantation and Cellular Immunotherapy
St. Jude Children’s Research Hospital

INVITED FACULTY (Non-CME Industry Session)

Yama Abassi, PhD
Vice President, Global Strategic
Business Development and Growth
ACEA Biosciences

Adria Carbo, PhD
Associate Director of Business Development
Adaptive Biotechnologies

Aaron Foster, MD
Vice President, Product Discovery
Bellicum Pharmaceuticals

Christopher Keir, MD, MS
Vice President
Global Head of Cell and Gene Medical Affairs
Novartis Pharmaceuticals Corporation

Hyam Levitsky, MD
Executive Vice President of Research and Chief Scientific Officer
Juno Therapeutics

Kimberly Metcalf, MBA, MHA
Vice President, Strategic Execution and Excellence
Kite Pharma
**DAY 1**
**Thursday, November 16, 2017**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session/Activity</th>
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<tbody>
<tr>
<td>8:00 AM</td>
<td>REGISTRATION &amp; BREAKFAST</td>
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<tr>
<td>8:45 AM</td>
<td><strong>Welcome &amp; Introduction</strong>&lt;br&gt;Prasad S. Adusumilli, MD</td>
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<td>8:50 AM</td>
<td><strong>Inaugural Remarks</strong>&lt;br&gt;Craig B. Thompson, MD</td>
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<tr>
<td>9:00 AM</td>
<td><strong>SESSION I</strong>&lt;br&gt;CARs for B-cell Malignancies</td>
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<td><strong>MODERATORS</strong>&lt;br&gt;Renier J. Brentjens, MD, PhD&lt;br&gt;Terry Fry, MD</td>
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<td>9:00 AM</td>
<td><strong>Clinical Trials for B-cell ALL: the MSK Experience</strong>&lt;br&gt;Jae Park, MD</td>
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<td>9:15 AM</td>
<td><strong>CD22 CAR T-cell Therapy</strong>&lt;br&gt;Terry Fry, MD</td>
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<td>9:30 AM</td>
<td><strong>CD19 CAR T-cell Therapy for Relapsed and Refractory B-cell NHL</strong>&lt;br&gt;Lia Palomba, MD</td>
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<td>9:45 AM</td>
<td><strong>Clinical Trials for B-cell NHL: the Moffitt Cancer Center Experience</strong>&lt;br&gt;Frederick Locke, MD</td>
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<td>10:00 AM</td>
<td>Discussion</td>
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<td>10:15 AM</td>
<td>BREAK</td>
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<tr>
<td>10:45 AM</td>
<td><strong>SESSION II</strong>&lt;br&gt;Managing Toxicities</td>
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<td><strong>MODERATORS</strong>&lt;br&gt;Marcela Maus, MD, PhD&lt;br&gt;Craig Sauter, MD</td>
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<tr>
<td>10:30 AM</td>
<td><strong>Neurotoxicity in CD19 CAR T-cell Clinical Trials</strong>&lt;br&gt;Bianca Santomasso, MD, PhD</td>
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<td>10:45 AM</td>
<td><strong>CAR T-cell Toxicity Management Algorithms</strong>&lt;br&gt;Marco Davila, MD, PhD</td>
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<td>11:00 AM</td>
<td><strong>ICU Management of CAR T-cell Patients: Evolving Changes</strong>&lt;br&gt;Elena Mead, MD</td>
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<td>11:15 AM</td>
<td>Discussion</td>
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<td><strong>SESSION III</strong>&lt;br&gt;The Ins and Outs of Manufacturing Engineered Cells</td>
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<td><strong>MODERATORS</strong>&lt;br&gt;Isabelle Riviere, PhD&lt;br&gt;Christopher Choi, PhD</td>
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<td>11:30 AM</td>
<td><strong>Evolution of CAR Manufacturing at MSK</strong>&lt;br&gt;Isabelle Riviere, PhD</td>
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<td>11:45 AM</td>
<td><strong>Establishing a GMP Facility for Cell Therapies</strong>&lt;br&gt;Christopher Choi, PhD</td>
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<td>12:00 PM</td>
<td>LUNCH BREAK</td>
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<td>1:00 PM</td>
<td><strong>SESSION IV</strong>&lt;br&gt;CARs for Non-B cell Hematologic Malignancies</td>
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<td><strong>MODERATORS</strong>&lt;br&gt;Katy Rezvani, MD, PhD&lt;br&gt;Frederick Locke, MD</td>
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<td>1:00 PM</td>
<td><strong>IL18 Armored CARs</strong>&lt;br&gt;Renier J. Brentjens, MD, PhD</td>
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<td>1:15 PM</td>
<td><strong>Combination of Ibrutinib and CD19 CARs for CLL</strong>&lt;br&gt;Marcela Maus, MD, PhD</td>
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<td>1:30 PM</td>
<td><strong>BCMA-targeted CAR T-cell Therapy</strong>&lt;br&gt;Eric Smith, MD, PhD</td>
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<td>1:45 PM</td>
<td>Discussion</td>
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<td>2:00 PM</td>
<td><strong>SESSION V</strong>&lt;br&gt;Non-T cell Therapies</td>
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<td><strong>MODERATORS</strong>&lt;br&gt;Gianpietro Dotti, MD&lt;br&gt;Jae Park, MD</td>
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<td>2:00 PM</td>
<td><strong>CAR-directed NK Cell Therapy</strong>&lt;br&gt;Katy Rezvani, MD, PhD</td>
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<td>2:15 PM</td>
<td><strong>Supercharged NK Cells for Cancer Therapy</strong>&lt;br&gt;Anahid Jewett, MPH, PhD</td>
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<td>2:30 PM</td>
<td><strong>Dendritic Cell-based Immunotherapy for Solid Tumors</strong>&lt;br&gt;Joachim Aerts, MD, PhD</td>
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<td>2:45 PM</td>
<td>Discussion</td>
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<td>3:00 PM</td>
<td>BREAK</td>
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<tr>
<td>3:15 PM</td>
<td><strong>SESSION VI</strong>&lt;br&gt;Single-cell Technologies</td>
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<td><strong>MODERATORS</strong>&lt;br&gt;Christopher Klebanoff, MD&lt;br&gt;Rong Fan, PhD</td>
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<td>3:15 PM</td>
<td><strong>Single-cell Analysis in Cell Therapy</strong>&lt;br&gt;Rong Fan, PhD</td>
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<td>3:30 PM</td>
<td><strong>T-cell Gene Editing</strong>&lt;br&gt;TBA</td>
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<td>3:45 PM</td>
<td>Optional Non-CME Industry Sessions&lt;br&gt;For more information: visit <a href="http://www.mskcc.org/cartcell">www.mskcc.org/cartcell</a></td>
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<td>5:00 PM</td>
<td><strong>Poster Presentations &amp; Networking Reception</strong>&lt;br&gt;Rockefeller University&lt;br&gt;1230 York Avenue, New York, NY&lt;br&gt;5:00-7:00 PM</td>
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8:15 am BREAKFAST

9:00 am Welcome Address

9:15 am Optional Non-CME Industry Sessions
For more information: visit www.mskcc.org/cartcell

SESSION VII
TCRs and BiTEs
MODERATORS: Stephen Gottschalk, MD
David Scheinberg, MD, PhD

10:45 am TCR Mimic Antibodies for Bispecific T-cell Engager Antibodies and CAR T cells
David Scheinberg, MD, PhD

11:00 am Adoptive Immunotherapy for Solid Cancers Using TCR Engineered T-cell Subsets
Christopher Klebanoff, MD

11:15 am Keynote Address:
Next Generation of TCR-based Immunotherapies
Philip Greenberg, MD

11:45 am Discussion

SESSION VIII
Panel Discussion
MODERATORS: Paul Sabbatini, MD
Prasad S. Adusumilli, MD

1:00 pm Rise of Immunotherapy in Oncology:
How we are Incorporating it in our Departments
Philip Kantoff, MD
Jeffrey Drebin, MD
Andrew Kung, MD, PhD

2:00 pm Next Generation of CAR-based Immunotherapies
Michel Sadelain, MD, PhD

SESSION IX
National Guidelines for CAR T-cell Therapy Programs
MODERATORS: Kevin Curran, MD
Helen Heslop, MD, DSc (Hon)

2:15 pm Foundation for Accreditation of Cellular Therapy (FACT) Guidelines
Helen Heslop, MD, DSc (Hon)

2:30 pm T-cell Collection, Production, and Delivery: Logistics & Regulation
Sarah Nikiforow, MD, PhD

2:45 pm CIBMTR Guidelines for Cellular Therapies
Miguel Perales, MD

2:55 pm Logistics of CAR T-cell Infusion
Kevin Curran, MD

3:05 pm Discussion

SESSION X
CARs for Solid Tumors
MODERATORS: Saar Gill, MD, PhD
Roisin O’Cearbhaill, MD

3:30 pm Dual Antigen-targeted CARs
Saar Gill, MD, PhD

3:45 pm HER2-specific CARs for Solid Tumors
Stephen Gottschalk, MD

4:00 pm Heparanase-expressing CAR T cells for Solid Tumor Therapy
Gianpietro Dotti, MD

4:15 pm Mesothelin-targeted CARs
Edmund Moon, MD

4:30 pm Combination Immunotherapeutic Approach for Solid Tumors
Prasad S. Adusumilli, MD

4:45 pm Concluding Remarks
Prasad S. Adusumilli, MD

5:00 pm ADJOURN

#MSKcartcellCME
REGISTRATION

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<tr>
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<th>EARLY*</th>
<th>GENERAL</th>
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<tr>
<td><strong>Academia Fees</strong></td>
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<tr>
<td>Physicians (MDs, PhDs, and DOs)</td>
<td>$500</td>
<td>$600</td>
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<tr>
<td>Residents, Fellows, Nurses, and Other Healthcare Providers</td>
<td>$200</td>
<td>$300</td>
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<tr>
<td><strong>Industry Fees</strong></td>
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<tr>
<td>All Members (any employee working for a commercial interest)</td>
<td>n/a</td>
<td>$1,500</td>
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*Early Registration Deadline 10/30/17

Register Online: www.mskcc.org/cartcell

REGISTRATION DETAILS
Registration includes continental breakfast, lunch, and refreshment breaks. Please contact cme@mskcc.org at least one week prior to the course if you have any special dietary needs.

- 30% Discounted Rate for MSK Alumni and MSK Alliance Members
  MSK offers a 30% discounted rate to all MSK Alumni and MSK Alliance members to attend a CME course. Please contact cme@mskcc.org for a promo code or more information.

- MSK Staff Registration
  Registration is complimentary for MSK staff. However, you must register online by visiting the course website, www.mskcc.org/cartcell.

**Industry Members** may attend CME activities for their own education. Marketing, sales, and promotion of products and services is strictly prohibited at MSK CME activities.

ACCREDITATION STATEMENT
MSK is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

AMA CREDIT DESIGNATION STATEMENT
MSK designates this live activity for a maximum of 10 AMA PRA Category 1 Credit(s)™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

FACULTY DISCLOSURE
It is the policy of MSK to make every effort to insure balance, independence, objectivity, and scientific rigor in all continuing medical education activities which it provides as an ACCME accredited provider. In accordance with ACCME guidelines and standards, all faculty participating in an activity provided by MSK are expected to disclose any significant financial interest or other relationship with the manufacturer(s) of any commercial product(s) and/or provider(s) of commercial services which are discussed by the faculty members in an educational presentation. As required by the ACCME, when an unlabeled use of a commercial product or an investigational use not yet approved for any purpose is discussed during an educational activity, MSK requires the speaker to disclose that the product is not labeled for the use under discussion or that the product is still investigational.