Thursday, May 9, 2019

2:00 pm    Tour Center for Advanced Cellular Therapies
Perelman Center for Advanced Medicine
Tour registration is closed; capacity has been reached.

3:30 pm    Check in
Irvine Auditorium

4:30 pm    Welcome
Irvine Main Auditorium
Amy Gutmann, PhD // University of Pennsylvania

4:35 pm    KEYNOTE ADDRESS
Irvine Main Auditorium
Cellular Immunotherapy of Cancer Targeting Unique Cancer Antigens
Steven A Rosenberg, MD, PhD // National Cancer Institute

5:35 pm    CAR T Cells: A 20-year overnight sensation
Carl H June, MD // Penn Medicine

6:05 pm    Cocktail Reception
Perelman Quadrangle

7:05 pm    Dinner Reception
The University of Pennsylvania Museum of Archaeology and Anthropology

Friday, May 10, 2019

7:30 am    Check-in and Breakfast
Irvine Auditorium and Perelman Quadrangle

8:30 am    Welcome
Irvine Main Auditorium
J Larry Jameson, MD, PhD // University of Pennsylvania
Madeline Bell // Children’s Hospital of Philadelphia
GENERAL SESSION 1: Current Application of CAR-T Cells - Matching to the Patient Journey  
Irvine Main Auditorium

**Moderator:** David L Porter, MD // Penn Medicine

**8:45 am**  Perspectives on Driving CARs Into Uncharted Territory  
Carl H June, MD // Penn Medicine

**8:50 am**  CD19 CAR T Cells: The first big success  
David Maloney, MD, PhD // Fred Hutchinson Cancer Research Center/Seattle Cancer Care Alliance // University of Washington

**9:05 am**  Anti-BCMA CAR T Cells for Multiple Myeloma  
James N Kochenderfer, MD // National Cancer Institute

**9:20 am**  Immunotherapy for Brain Tumors-Using CAR T-Cell Platform for Glioblastoma  
Donald O’Rourke, MD // Penn Medicine

**9:35 am**  Discussion

GENERAL SESSION 2: Improving the CAR-T Landscape: Toxicity management and increasing responses  
Irvine Main Auditorium

**Moderator:** Stephan A Grupp, MD, PhD // Children’s Hospital of Philadelphia

**9:45 am**  CAR T Cell Toxicity Management in Acute Leukemia  
Shannon L Maude, MD, PhD // Children’s Hospital of Philadelphia

**10:00 am**  CARTOX and Toxicity Management in Lymphoma  
Sattva S Neelapu, MD // The University of Texas MD Anderson Cancer Center

**10:15 am**  Next Generation CAR T Cell Therapy for Cancer  
Renier J Brentjens, MD, PhD // Memorial Sloan Kettering Cancer Center

**10:30 am**  Discussion

**Concurrent Sessions begin at 11:00 am – See pages following General Session listings**
GENERAL SESSION 3: Overcoming Resistance/Novel CAR Strategies
Irvine Main Auditorium

Moderator: Carl H June, MD // Penn Medicine

10:45 am  Proteomic Strategies for Identifying Resistance Mechanisms and Therapeutic Targets in Lymphoma
Megan S Lim, MD, PhD // Penn Medicine

11:00 am  Control of Cellular Immunotherapy
Travis S Young, PhD // California institute for Biomedical Research

11:15 am  T-cell Engineering for Cancer Applications—the University College London experience
Martin Pule, MB BCh, MRCP // University College London

11:30 am  Discussion

GENERAL SESSION 4: Gene Delivery and Editing for Better CARs
Irvine Main Auditorium

Moderator: Michael C Milone, MD, PhD // Penn Medicine

12:00 pm  Gene Editing in Lymphocytes for Novel Immune Applications
David J Rawlings, MD // Seattle Children’s Research Institute/Seattle Children’s Hospital/ University of Washington

12:15 pm  Engineering Human T Cell Circuitry with CRISPR
Alexander Marson, MD, PhD // University of California, San Francisco

12:30 pm  Genetic Engineering Using ARCUS Nucleases for Production of Fit-for-Purpose CAR T Cells
Bruce McCreedy, PhD // Precision Bioscience

12:45 pm  Discussion

1:00 pm  Lunch
Perelman Quadrangle
GENERAL SESSION 5: New Targets and Technologies Allogeneic and Treg CAR Ts
Irvine Main Auditorium

Moderator: Marco Ruella, MD // Penn Medicine

2:00 pm  The Battle Between Self and Non-Self: Treading the fine line with better T Cells
Carl H June, MD // Penn Medicine

2:15 pm  Expanding the Functionality of CAR T Cells Through Meditope Engineering
Christine Brown, PhD // City of Hope

2:30 pm  Vaccine Boosting CAR T Cells Through the Chimeric Antigen Receptor
Darrell J Irvine, PhD // Massachusetts Institute of Technology

2:45 pm  Discussion

GENERAL SESSION 6: Allogeneic CAR-Ts and NKs: The future is now?
Irvine Main Auditorium

Moderator: Stephen J Schuster, MD // Penn Medicine

3:00 pm  The Application of Off-the-Shelf CAR NK Cells in Cancer
Katy Rezvani, MD, PhD // The University of Texas MD Anderson Cancer Center

3:15 pm  Creating the Shift from Autologous to Allogeneic CAR T-cell Therapy
David Chang MD, PhD // Allogene Therapeutics

3:30 pm  Non-Gene Edited Approaches to CAR T-cell Therapy
David Gilham // Celyad

3:45 pm  Discussion
GENERAL SESSION 7: Globalization of CAR T Cell Therapies and the Ethics of Patient Access
Irvine Main Auditorium

4:00 pm  Moderator: Usman “Oz” Azam, MD // Tmunity Therapeutics
Panel: Ezekiel J Emanuel, MD, PhD // University of Pennsylvania
    Noelle V Frey, MD // Penn Medicine
    Kristen Harrington-Smith // Novartis
    Toni Liu // Cellular Biomedicine Group
    Shannon L Maude, MD, PhD // Children’s Hospital of Philadelphia

4:45 pm  Discussion

5:00 pm  Adjourn
CONCURRENT SESSIONS 11:00 am – 4:00 pm

Lunch 1:00 pm – 2:00 pm – Perelman Quadrangle

Concurrent Session: PEDS/BMT 1
Bodek Lounge – Houston Hall, first floor
Moderator – Timothy S Olson, MD, PhD

11:00 am  
SCT for Bone Marrow Failure  
Timothy S Olson, MD, PhD // Children’s Hospital of Philadelphia

11:15 am  
SCT for Immunodeficiency  
Nancy J Bunin, MD // Children’s Hospital of Philadelphia

11:30 am  
GVHD Biomarkers  
John E Levine, MD, MS // Icahn School of Medicine at Mount Sinai

11:45 am  
Discussion

Concurrent Session: PEDS/BMT 2
Bodek Lounge – Houston Hall, first floor
Moderator – Amanda DiNofia, MD, MSCE

12:00 pm  
Gene Edited SCT for SS and Thal  
Janet L Kwiatkowski, MD, MSCE // Children’s Hospital of Philadelphia

12:15 pm  
Anti-Viral Cell Therapy  
Michael Keller, MD // Children’s National Health System

12:30 pm  
CAR T Cells in Special Populations  
Amanda DiNofia, MD, MSCE // Children’s Hospital of Philadelphia

12:45 pm  
Discussion
Concurrent Session: Logistics of Cell Collection and Chain of Custody
Bodek Lounge – Houston Hall, first floor
Moderator – Nicole Alyse Aqui, MD

2:00 pm  Nuts and Bolts of Apheresis
Nicole Alyse Aqui, MD // Penn Medicine

2:15 pm  Processing Apheresis Cell Production from Collection to Send Off
Yongping Wang, MD, PhD // Children’s Hospital of Philadelphia

2:30 pm  Apheresis Product Heterogeneity in Solid Tumor T Cell Therapies
Raymond Luke // Adaptimune

2:45 pm  Discussion

Concurrent Session: Financial Implications for Health Systems
Bodek Lounge – Houston Hall, first floor
Moderator – Kevin B Mahoney, MBA

3:00 pm  Cancer Moonshot: How do we pay for the fuel?
Kevin B Mahoney, MBA // Penn Medicine

3:20 pm  The View from the Ground Floor: The cost of care for cellular therapy
Richard T Maziarz, MD // Oregon Health & Science University

3:40 pm  Discussion

Concurrent Session: Cell Manufacturing and Analytics
Hall of Flags – Houston Hall, ground floor
Moderator – Bruce L Levine, PhD

11:00 am  “Be All That You Can Be” – Getting T Cells Into Shape and When to Make the Cut
Bruce L Levine, PhD // Penn Medicine
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>11:15 am</td>
<td>T Cell Fitness&lt;br&gt;David M Barrett, MD, PhD // Children’s Hospital of Philadelphia</td>
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<tr>
<td>11:30 am</td>
<td>Strategies and Methodologies for Selecting and Implementing New Technologies for Cell Therapy Processes&lt;br&gt;Greg Russotti // Celgene</td>
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<td>11:45 am</td>
<td>Discussion</td>
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<tr>
<td>12:00 pm</td>
<td>Concurrent Session: Gene Therapy IND’s and Regulatory Considerations&lt;br&gt;Hall of Flags – Houston Hall, ground floor&lt;br&gt;<strong>Moderator</strong> – Anne Chew, PhD // Penn Medicine</td>
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<tr>
<td>12:00 pm</td>
<td>Approval of CD19-Directed CAR T cells: FDA licensure of new cell-based gene therapy products with a challenging safety profile&lt;br&gt;Roger J Kurlander, MD // FDA</td>
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<td>12:15 pm</td>
<td>CART IND Development in the Pharma Space&lt;br&gt;Christina Coughlin, MD, PhD // Tmunity</td>
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<tr>
<td>12:30 pm</td>
<td>Cellular Gene Therapies: Regulatory Challenges&lt;br&gt;Viera Muzithras // Celgene</td>
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<td>Concurrent Session: Unconventional CAR’s&lt;br&gt;Hall of Flags – Houston Hall, ground floor&lt;br&gt;<strong>Moderator</strong> – Michael C Milone, MD, PhD</td>
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<td>2:00 pm</td>
<td>CAAR’s, CAR Tregs, CAR Macs&lt;br&gt;Michael C Milone, MD, PhD // Penn Medicine</td>
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<td>New Targets and Technologies Allogeneic and Treg CAR-Ts&lt;br&gt;Megan Levings, PhD // BC Children's Hospital Research Institute</td>
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CAR-T AND THE RISE OF CELL CONCLON VALLEY
PHILADELPHIA

2:30 pm  Chimeric Antigen Receptor Macrophages for Cancer Immunotherapy
Michael Klichinsky, PharmD, PhD

2:45 pm  Discussion

Concurrent Session: Nursing Care - Adults
Amado Recital Hall - Irvine first floor
Moderator – Patricia Mangan, MSN, CRNP

11:00 am  Chronic Graft Versus Host Disease: An Unmet Clinical Need
Linda Perry, PA-C // Penn Medicine

12:00 pm  Patient Management from Identification Through Treatment
Elizabeth Weber, RN, BSN // Penn Medicine

2:00 pm  Managing Side Effects of CAR T-cell Therapy
Heather Difilippo, MSN, CRNP // Penn Medicine

3:00 pm  What’s Next? Multiple Myeloma CAR T-cell Therapy, Auto Transplant and Future Therapies
Patricia Mangan, MSN, CRNP // Penn Medicine

Concurrent Session: Nursing Care – Pediatric
Cafe 58 - Irvine Auditorium, first floor

2:00 pm-  Management and Future Directions for ALL
3:00 pm  Moderator- Laura Smith, MSN, CRNP // Children’s Hospital of Philadelphia

2:00 pm  Nursing Considerations and Management of Pediatric Patients Receiving CAR T-cell Therapy for ALL
Diane Baniewicz, MSN, CRNP // Children’s Hospital of Philadelphia

2:30 pm  Future Directions of CAR T-cell Therapy for Pediatric ALL Patients
Colleen Callahan, MSN, CRNP //Children’s Hospital of Philadelphia
3:00 pm - Special Considerations for Pediatric Populations
3:45 pm - Moderator: Anne Wohlschlaeger, MSN, CRNP //Children’s Hospital of Philadelphia

3:00 pm - Minor Donor Collections and Issues that Arise: Assent vs consent
Elizabeth A Worster, MSN, CRNP //Children’s Hospital of Philadelphia

3:20 pm - Ethical Issues in Pediatric BMT as Demonstrated by Two Unique Case Studies
Kimberly L Venella, MSN, CRNP //Children’s Hospital of Philadelphia

Evaluation and Post-Test
Please complete the post-test, and evaluation. In six months, you will receive an email asking you to complete an on-line survey which will evaluate changes in practice you have implemented based on the conference objectives.
OVERVIEW

CAR T represents a turning point in the history of human medicine, a genuine revolution in our approach to disease within the field of cellular therapy and transplant. The recent approval of chimeric antigen receptor (CAR) T cells offers even patients with highly chemo-refractory hematologic malignancies additional treatment options. World experts in CAR T-cellular therapy and hematopoietic stem cell transplantation (HSCT) have been assembled to discuss the development and implementation of this therapy and to weigh in on current applications, best practices, novel strategies and future developments for CAR T cells.

LEARNING OBJECTIVES

Upon completion of this course, participants should be able to:

• Identify current application of CAR T-cell therapy including: accurate patient selection, manufacture and treatment administration
• Implement guidelines for patient management of toxicities of CAR T-cell therapies including cytokinerelease syndrome
• List factors in overcoming resistance with novel CAR strategies
• Describe gene delivery and editing for CARs
• Identify the latest targets and technologies for CARs
• Identify the current status of globalization of CAR T-cell therapies and identify principles in ethics of patient access
• Describe current approaches in treatment and supportive care for hematopoietic stem cell transplantation (HSCT) in pediatric patients with nonmalignant conditions
• Identify the latest evidence based standards in nursing care resulting from the recent advances in cell therapy and transplant

WHO SHOULD ATTEND

These activities are intended for both adult and pediatric hematologist-oncologists, medical oncologists, hematologists, hematopathologists, immunologists, immunobiologists, transfusion medicine, researchers and other healthcare professionals interested in the latest advances in the use of CAR T-cell therapy. Fellows, nurses, nurse practitioners, physician assistants, and other healthcare professionals interested in the treatment of adult and pediatric patients with cellular therapies are also invited to attend.
Acknowledgement of Commercial Support

Penn’s Abramson Cancer Center, Children’s Hospital of Philadelphia and Penn’s Center for Cellular Immunotherapies gratefully acknowledge the following organizations for providing independent medical educational grants for this symposium:

Allogene Therapeutics
Celgene Corporation
Incyte
Novartis
Tmunity

Penn’s Abramson Cancer Center, Children’s Hospital of Philadelphia and Penn’s Center for Cellular Immunotherapies gratefully acknowledge these exhibiting organizations for their support:

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