

2021 **BioMAN** Summit

Technologies to Expand the Reach of Cell & Gene Therapies

Thursday, December 16, 2021

A Virtual Event
8:30 AM – 6:30 PM [EDT]

9:00 – 9:30 AM

Welcome

Anthony Sinskey

Professor of Microbiology | Faculty Director

MIT Department of Biology | MIT Center for Biomedical Innovation

Introduction

Stacy Springs

Senior Director of Program; Executive Director, Biomanufacturing Initiatives

MIT Center for Biomedical Innovation

Summit Framing

Jacqueline Wolfrum

Director, BioMAN; Co-director, Biomanufacturing@MIT-CBI

MIT Center for Biomedical Innovation

9:30 – 10:40 AM

Keynote Presentations

9:30 – 10:10 AM

Bruce Levine

Barbara and Edward Netter Professor in Cancer Gene Therapy

University of Pennsylvania

Engineering Genetically Enhanced T Cells for Clinical Applications

10:10 – 10:40 AM

Peter Marks

Director, Center for Biologics Evaluation and Research

United States Food and Drug Administration

Topic: Advancing the Development of Cell & Gene Therapies

10:40 – 11:00

Refreshment Break

11:00 – 3:00 PM

SESSION 1: Innovation in Cell and Gene Therapy Products

11:00 – 11:30 AM

David Schaffer

Hubbard Howe Jr. Distinguished Professor of Chemical and Biomolecular Engineering,

Bioengineering, and Molecular and Cell Biology and the Helen Wills Neuroscience Institute

University of California at Berkeley

Directed Evolution of New Adeno-Associated Viral Vectors for Clinical Gene Therapy

11:30 – 12:00 PM **Richard Anderson**
Senior Director, Manufacturing Science and Technology
Fate Therapeutics
Manufacturing of Next-Generation Cellular Immunotherapies using a Novel Induced Pluripotent Stem Cell Platform

12:00 – 12:30 PM **Giuseppe Ciaramella**
President & Chief Scientific Officer
Beam Therapeutics
Topic: Base Editing for the Treatment of Sickle-Cell Disease

12:30 – 1:30 PM **Lunch**

1:30 – 2:00 PM **Philip Lee**
Co-Founder and Chief Technology Officer
Senti Bio
The Potential of Gene Circuits and the Importance of Building Innovative Cell Therapy Manufacturing Capabilities

2:00 – 2:30 PM **Karen Miller**
Senior Vice President, Pipeline Research
AdaptImmune
Topic: HLA-independent TCR Therapies

2:30 – 3:15 PM **Konstantin Konstantinov**
Chief Technology Officer
Codiak BioSciences
Topic: Manufacture of Exosomes

3:15 – 3:35 PM **Refreshment Break**

3:20 – 5:15 PM **SESSION 2: Non-Viral Gene Delivery Strategies**

3:35 – 4:05 PM **Cullen Buie**
Associate Professor, Mechanical Engineering
MIT
Topic: Non-viral Delivery of Large Genomes for Cell Therapy

4:05 – 4:35 PM **Speaker TBD**
Sanofi
Topic: Examining Intracellular Trafficking of Nucleic Acid Containing Lipid Nanoparticles for Non-Viral Gene Delivery

4:35 - 4:45 PM

Closing Remarks

Stacy Springs

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9:10 – 10:40 AM

Session 3: Opportunities for Biomanufacturing in the Commonwealth

9:10 – 9:20 AM

Kenneth L. Turner

*President and Chief Executive Officer
Massachusetts Life Sciences Center*

Topic: Cell and Gene Therapy Manufacturing in the Commonwealth

9:20 – 9:50 AM

Ran Zheng

*Chief Executive Officer
Landmark Bio*

Topic: New Facilities for Cell and Gene Therapy Manufacturing

9:50 – 10:20 AM

Invited Presentation

10:20 – 10:40 AM

Refreshment Break

10:40 – 1:55 PM

Session 4: Gene Therapy Manufacturing

10:40 – 11:25 AM

Robert Kotin

*Professor
University of Massachusetts Medical Center*

Scalable Production of Recombinant Adeno-associated Virus Vectors in Sf9 Cells

11:25 – 11:55 PM

Wade Wang

*Scientist
BioMarin*

Topic: Analytics for Novel Gene Therapies

11:55 AM – 1:00 PM

Lunch

1:00 – 1:30 PM

Scott Manalis

David H. Koch (1962) Professor in Engineering

	MIT
	Topic: The Suspended Microchannel Resonator in AAV Production
1:30 – 2:00 PM	Richard Braatz <i>Edwin R. Gilliland Professor of Chemical Engineering</i> MIT
	Topic: Strategies for Continuous Production of AAVs
2:00 – 4:20 PM	Session 5: Cell Therapy Manufacturing
2:00 – 2:30 PM	Speaker TBD Sanofi
	Topic: Leveraging Automation to Improve Product Understanding and Cost of Goods for Cell and Gene Therapy
2:30 – 2:50 PM	Refreshment Break
2:50 – 3:20 PM	Krystyn Van Vliet <i>Michael (1949) and Sonja Koerner Professor of Materials Science and Engineering and Biological Engineering</i> MIT
	Topic: Making Cell Therapies Work for Patients: Defining and Driving Label-Free Critical Quality Attributes
3:20 – 3:50 PM	Rajeev Ram <i>Professor, Department of Electrical Engineering & Computer Science</i> MIT
	Michael Birnbaum <i>Professor, Department of Biological Engineering</i> MIT
	Topic: Microbioreactor Platform for CAR-T Manufacturing
3:50 – 4:20 PM	Jongyoon Han <i>Professor, Departments of Electrical Engineering & Computer Science & Biological Engineering</i> MIT
	Stacy Springs <i>Senior Director of Programs; Executive Director, Biomanufacturing Initiatives</i> MIT Center for Biomedical Innovation
	Topic: Adventitious Agent Detection in Cell Therapies

4:20 - 4:30 PM

Closing Remarks

Stacy Springs

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