

Preliminary Program
(December 07, 2023)

***Advancing Manufacture of Cell and
Gene Therapies VIII***

February 4 – 8, 2024
Loews Coronado Bay Hotel
Coronado, CA, USA

Conference Chairs:

Fernanda Masri
Cell & Gene Therapy Catapult, UK

Carolyn Yeago
CY Solutions LLC, USA

Gargi Maheshwari
BMS, USA

John Moscariello
BMS, USA



Engineering Conferences International

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Sunday, February 4, 2024

08:30 – 16:15	<p><u>Pre-Conference Workshop</u> Building a flexible manufacturing strategy to navigate turbulent global markets Chairs: Taby Ahsan, City of Hope, USA Anne-Lise Brondel, Kyowa Kirin, USA Veena Warikoo, AstraZeneca, USA</p>
14:30	Conference check-in
16:45 – 17:00	<p>Conference welcome Chairs: Fernanda Masri, Cell & Gene Therapy Catapult, United Kingdom Carolyn Yeago, CY Solutions LLC, USA Gargi Maheshwari, BMS, USA John Moscariello, BMS, USA</p> <p>ECI Technical Liaison: Barry Buckland, NIIMBL, USA</p>
17:00 – 18:00	<p><u>Fireside Chat</u> A recap of the last 2 years and outlook into the future of cell and gene therapies Moderator: Fernanda Masri, Cell & Gene Therapy Catapult, United Kingdom Panelists: Ran Zheng, Landmark Bio, USA Bryan Poltilove, BroadOak Capital Partners, USA Boro Dropulić, Caring Cross, USA</p>
18:00 – 18:30	Break
18:30 – 20:00	Dinner

Monday, February 5, 2024

07:00 – 08:30	Breakfast
	Session 1: Viral Vector and Gene Editing Platforms – Progress and Challenges in Process Development, Manufacturing, Product Characterization and Technology Landscape Chairs: Ying Jing, Sigilon Therapeutics, USA Tania Pereia Chilima, Independent Consultant, Switzerland
08:30 – 09:05	Keynote TBD Peter Abbink, Batavia Biosciences, Inc., USA
09:05 – 09:25	Continuous processing of viral gene therapy vectors Caryn Heldt, Michigan Technological University, USA
09:25 – 09:45	Leveraging a RNA-based lipid nanoparticle (LNP) gene writer system to generate Chimeric Antigen Receptor T cells (CAR-T) for in vitro and in vivo tumor activity Pooja Sabhachandani, Tessera Therapeutics, USA
09:45 – 10:20	Keynote TBD Bruno Figueroa, Sanofi, USA
10:20 – 10:40	Synthetic cell lines for recombinant AAV production Wei-Shou Hu, University of Minnesota, USA
10:40 – 12:25	Coffee Break
11:25 – 11:45	Enhancing rAAV biomanufacturing: Process intensification strategies for streamlined upstream and downstream processing António Roldão, iBET, Portugal
11:45 – 12:20	Keynote TBD Alina Venereo Sanchez, VVector Bio, Canada
12:20 – 12:40	Continuous rAAV vector production using the baculovirus expression vector system John Joseph, Massachusetts Institute of Technology, USA
12:40 – 12:55	Panel Session
12:55 – 14:25	Lunch
	Session 2: Advances in Cell Therapy Manufacturing Technology to Enable Autologous and Allogeneic Applications Chairs: Bruno Marques, Century Therapeutics, USA Samin Akbari, Sartorius, USA
14:25 – 15:00	Keynote Fit for purpose, DMSO-free preservation of cellular therapies Alison Hubel, University of Minnesota, USA

Monday, February 5, 2024 (continued)

- 15:00 – 15:20 **High-density microbioreactor process designed for automated point-of-care manufacturing of CAR T cells**
Wei-Xiang Sin, Singapore-MIT Alliance for Research and Technology Centre (SMART), Singapore
- 15:20 – 15:40 **Scalable allogeneic CAR-T manufacturing: Perfusion optimization, multi-liter scale-up and automated harvesting in single-use stirred-tank bioreactors**
Pierre Springuel, University College London, United Kingdom
- 15:40 – 16:00 **Producing lpsc derived functional Cd8+ T-cells in scalable stirred tank bioreactors**
Liz Csaszar, Notch Therapeutics, Canada
- 16:00 – 16:20 **Assessing robust bioprocess design through modulation of process input variables in the expansion of human induced pluripotent stem cell aggregates in Vertical-Wheel(R) bioreactors**
Tiffany Dang, University of Calgary, Canada
- 16:20 – 17:05 Coffee Break
- 17:05 – 17:40 **Keynote**
Powerful characterization of cell therapies via whole and single-cell next-generation sequencing
Tom Brieva, Resilience, USA
- 17:40 – 18:00 **Optimizing the generation of hematopoietic progenitor cells from pluripotent stem cells in dynamic suspension culture**
Thristan Paulo Taberna, University of British Columbia, Canada,
- 18:00 – 18:20 **Combined Wnt activation and oxygen modulation enhance the manufacture and scale-up of pluripotent stem cell-derived cardiomyocytes in bioreactors**
Pedro Vicente, iBET, Portugal
- 18:20 – 18:40 **Towards a scalable, closed and automated platform for the production of cost-efficient allogeneic cell therapies: showcase of an exemplar iNK process**
Márcia F. Mata, Cell and Gene Therapy Catapult, United Kingdom
- 18:40 – 18:50 Break
- 18:50 – 19:50 **Poster Session** with refreshments & open bar (beer and wine)
- 19:50 Dinner on your own

Tuesday, February 6, 2024

07:00 – 08:30	Breakfast
	Session 2: Advances in Cell Therapy Manufacturing Technology to Enable Autologous and Allogeneic Applications (continued) Chairs: Bruno Marques, Century Therapeutics, USA Samin Akbari, Sartorius, USA
08:30 – 09:05	Keynote Bioprocessing of stem-cell derived allogeneic cell therapy products: enabling large-scale manufacturing Mats Åkesson, Novo Nordisk, Denmark
09:05 – 09:25	Stem cell-derived pancreatic Islet encapsulation technologies for immobilized culture and transplantation Corinne A. Hoesli, McGill University, Canada
09:25 – 09:45	Cell culture media-based cryo-formulations containing dimethyl sulfoxide minimize cryopreservation-induced cell damage in iPSC-derived effector cells Victoria Karakis, Century Therapeutics, USA
09:45 – 10:05	Effects of temperature fluctuations on cryopreserved human induced pluripotent stem cells Post-thaw viability and cryo-Raman observation Jun Okuda, Osaka University, Japan
10:05 – 10:20	Panel Session
10:20 – 11:05	Coffee Break
	Session 3: Digitization, Process Control, and Closed-system Automation in Cell and Gene Therapies Chairs: Arnaud Deladeriere, Triumvira Immunologics, Inc., Canada Stephen Balakirsky, Georgia Tech Research Institute, USA
11:05 – 11:40	Keynote TBD Ohad Karnieli, ADVA Biotechnology, Israel
11:40 – 12:00	Digital twin-enabled feedback-controlled bioreactors with integrated process analytics for biomanufacturing of cell therapies Bryan Wang, Georgia Institute of Technology, USA
12:00 – 12:35	Keynote TBD Tamara Laskowski, Lonza, USA
12:35 – 12:55	Scaling AAV viral vector production processes up to manufacturing scale utilizing dynadribe single-use bioreactors Paula Decaria, Thermo Fisher Scientific, USA
12:55 – 14:25	Lunch with Poster Session
14:25 – 14:45	Cell placement in culture vessel after seeding is CPP in induction culture of retina pigment epithelial cells derived from iPSC Masahiro Kino-oka, Osaka University, Japan

Tuesday, February 6, 2024 (continued)

14:45 – 15:20	Keynote Modular sensing, automation, and control for the production of cellular therapies Stephen Balakirsky, Georgia Tech Research Institute, USA
15:20 – 15:40	Towards in-silico scale-up of cell and gene therapy manufacturing Christian Witz, SimVantage, Austria
15:40 – 15:55	Panel Session
15:55 – 16:40	Coffee Break
	Session 4: In-Process and Analytical Control Strategies for Cell and Gene Therapies Chairs: Paula Alves, iBET, Portugal Tomas Kowski, Sana Biotechnology, USA
16:40 – 17:15	Keynote TBD Isabelle Riviere, Takeda, USA
17:15 – 17:35	Rapid noninvasive analytical tool for cell and gene therapy products Marc Taraban, University of Maryland, USA
17:35 – 17:55	Novel analytics for rapid adventitious agent detection in cell and gene therapy manufacturing Stacy Springs, Massachusetts Institute of Technology, USA
17:55 – 19:00	Break
19:00 – 23:00	Social event

Wednesday, February 7, 2024

07:00 – 08:30	Breakfast
	Session 4: In-Process and Analytical Control Strategies for Cell and Gene Therapies (continued) Chairs: Paula Alves, iBET, Portugal Tomas Kowski, Sana Biotechnology, USA
08:30 – 09:05	Keynote TBD Michael Bowen, AstraZeneca, USA
09:05 – 09:25	Tiered-characterization & release-testing of gene-edited iPSCs for engineered T cell therapy manufacturing Siemon Ng, Notch Therapeutics, Canada
09:25 – 10:00	Keynote Leveraging cell and gene therapy products' quality through a bioanalytics avenue Patricia Gomes-Alves, iBET, Portugal
10:00 – 10:20	Predicting and enhancing cardiac potential of iPSC-derived cardiac progenitor cells through integrated multi-omic analysis Aaron Simmons, University of Wisconsin-Madison, USA
10:20 – 11:05	Coffee Break
11:05 – 11:40	Keynote New methods and approaches for the analysis of new therapeutic modalities Sunny Zhou, Northeastern University, USA
11:40 – 12:00	Process analytical utility of Raman microscopy for cell therapy manufacturing James M. Piret, University of British Columbia, Canada
12:00 – 12:15	Panel Session
12:15 – 13:45	Lunch
13:45 – 14:15	Advancing Manufacture of Cell and Gene Therapies Award Lecture
14:15 – 14:45	Chris Hewitt Award Lecture
14:45 – 15:30	Coffee Break
	Session 5: Critical Early Decisions in Regulatory Strategies and Standards to Facilitate Product Development Chairs: Taby Ahsan, City of Hope, USA Eytan Abraham, Resilience, USA
15:30 – 16:05	Keynote TBD Lili Wang, NIST, USA

Wednesday, February 7, 2024 (continued)

16:05 – 16:40	Keynote TBD Doris Snow, Resilience, USA
16:40 – 17:15	Keynote TBD Kimberly Benton, Dark Horse Consulting, USA
17:15 – 17:20	Workshop output Anne-Lise Brondel, Kyowa Kirin, USA and Taby Ahsan, City of Hope, USA
17:20 – 18:00	Panel Discussion
18:00 – 19:00	Break
19:00	Conference Banquet

Thursday, February 8, 2024

07:00	Breakfast and Departure
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