

# **Advancing Manufacture of Cell and Gene Therapies VII**

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**Monday, February 7, 2022**

- 07:30 – 09:00 Bites for Breakfast with Sponsors
- Advances in Viral Vector Manufacturing**  
***Sponsored by Pall Corporation***  
Chairs: Paula Alves, iBET, Portugal  
Sven Ansorge, ExCellThera, Canada
- 09:00 – 09:40 **Plenary Presentation**  
**Directed evolution of novel AAV vectors for clinical gene therapy...1**  
David Schaffer, University of California, Berkeley, USA
- 09:40 – 10:00 **Integrated end-to-end MVA viral vector production: Perfusion culture shows economical advantage over batch culture...2**  
Gwendal Gränicher, Max Planck Institute, Germany
- 10:00 – 10:20 **Process economics evaluation of Adeno-associated Viral Vector (AAV) manufacturing...3**  
Annabel Lyle, University College London, United Kingdom
- 10:20 – 10:40 **Developing a suspension transfection platform to produce adeno-associated viruses...4**  
Kory Blocker, University of Pennsylvania, USA
- 10:40 – 11:00 **Q&A Panel**
- 11:00 – 11:45 Coffee Break (*Sponsored by Mission Bio*)
- 11:45 – 12:05 **Scalable downstream purification of recombinant adeno-associated viral vectors...5**  
Sarah Blackmore, Pall, USA
- 12:05 – 12:25 **Industrialization of the GMP manufacture of exosome therapeutics and opportunities for further multifold process productivity increase...6**  
Konstantin Konstantinov, Codiak BioSciences, USA
- 12:25 – 13:05 **Q&A Panel**
- 13:05 – 14:40 Lunch & Networking (Pavilion)
- 14:40 – 15:00 **Considerations of manufacturability for AAV based gene therapy products for rare diseases...7**  
Nripen Singh, Passage Bio, USA
- 15:00 – 15:20 **Process development of a serum-free and scalable lentiviral vector manufacturing platform for cellular immunotherapies...8**  
Carme Ripoll Fiol, University College London, United Kingdom
- 15:20 – 15:40 **A dual platform revolutionizing gene therapy manufacturing...9**  
Tania Pereira Chilima, Univercells Technologies, Belgium
- 15:40 – 16:00 **Q&A Panel**

**Monday, February 7, 2022 (continued)**

16:00 – 16:20

**Poster snapshot presentations**

- 5 **An efficient microcarrier based Adeno-associated virus production method**  
Brian Ladd, KTH, Royal Institute of Technology, Sweden
  
- 8 **Enhancing rAAV production by HEK293 cells via metabolic profiling**  
Michela Pulix, University of Manchester, United Kingdom
  
- 12 **Continuous production of lentiviral vectors using a fixed-bed bioreactor**  
Dale Stibbs, University College London, United Kingdom

18:30 – 20:00

Dinner (Pavilion)

20:00 – 21:30

**Poster session and networking drinks**  
*(Sponsored by BioCentriq and Cytiva)*

## **Tuesday, February 8, 2022**

- 07:30 – 09:00 Bites for Breakfast with Sponsors
- Advances in Cell Therapy Manufacturing**  
***Sponsored by PBS Biotech***  
Chairs: Jo Mountford, University of Glasgow, United Kingdom  
Masahiro Kino-oka, Osaka University, Japan
- 09:00 – 09:40 **Plenary Presentation**  
**Disruptive technologies for cell therapy manufacturing...N/A**  
Jen Moody, Pall Biotech, Canada
- 09:40 – 10:00 **Scalable downstream process development and manufacturing in cGMP for human iPSC derived products...10**  
Sho Sato, Fujifilm Cellular Dynamics, USA
- 10:00 – 10:20 **Key drug product considerations for iPSC-derived NK cell therapies...11**  
Lavanya Peddada, Century therapeutics, USA
- 10:20 – 10:40 **Q&A Panel**
- 10:40 – 11:25 Coffee Break (***Sponsored by Fujifilm Cellular Dynamics***)
- 11:25 – 11:45 **Challenges and solutions for allogeneic cell therapy manufacturing...12**  
Brian Lee, PBS Biotech, Inc., USA
- 11:45 – 12:05 **Advanced manufacturing process design for Mesenchymal Stromal Cell therapies...13**  
Bryan Wang, Georgia Institute of Technology, USA
- 12:05 – 12:25 **Overcoming cell therapy manufacturing barriers through innovation and partnership...N/A**  
Rupa Pike, Thermo Fisher, USA (**Virtual**)
- 12:25 – 12:45 **Q&A Panel**
- 12:45 – 13:05 **Poster snapshot presentations**
- 17 **Developing an effective scale-down model for a suspension adapted Hek293t-derived lentiviral vector stable producer cell line**  
Hamza Patel, University College London, United Kingdom
- 22 **Towards an integrated bioprocess for scalable production and isolation of MSC-derived extracellular vesicles for cardiac repair**  
Marta Costa, iBET, ITQB-NOVA, Portugal
- 23 **Developmental lineage of human pluripotent stem cell-derived cardiac fibroblast affects their functional phenotype**  
Martha Floy, University of Wisconsin-Madison, USA
- 13:05 – 14:30 Lunch & Networking (Pavilion)

**Tuesday, February 8, 2022 (continued)**

**Gene Editing and Emerging Technologies**

Chairs: Ricardo Baptista, Procella Therapeutics AB, Sweden  
Krishanu Saha, University of Wisconsin, USA

- 14:30 – 14:50      **Extra cellular vesicles separation and biophysical characterization...14**  
Alois Jungbauer, University of Natural Resources and Life Sciences, Austria
- 14:50 – 15:10      **Process and analytical development challenges for the incorporation of  
gene edits into T cell therapies...N/A**  
Thomas Brieva, Tmunity Therapeutics, USA
- 15:10 – 15:30      **Development of autologous adipose derived mesenchymal stem cell  
therapy: Lessons learned from treating more than 250 patients...N/A**  
Allan Dietz, Mayo Clinic, USA
- 15:30 – 15:50      **Q&A Panel**
- 15:50 – 16:35      Coffee Break (*Sponsored by Halo Labs*)
- 16:35 – 16:55      **Journey to commercialization of a complex, biological ancillary material...15**  
Lili Belcastro, Bristol Myers Squibb, USA
- 16:55 – 17:15      **Virus-Free CRISPR CAR T cells induce solid tumor regression...16**  
Lauren Sarko, University of Wisconsin, USA
- 17:15 – 17:35      **Q&A Panel**
- 17:35 – 17:38      **Poster snapshot presentation**
- 1      **Manufacturing of gene-modified human mesenchymal stromal cells  
in microcarriers and agitated conditions**  
Pedro Silva Couto, University College London, United Kingdom
- 18:30 – 22:00      **Social event – Boat party**

**Wednesday, February 9, 2022**

- 07:30 – 09:00 Bites for Breakfast with Sponsors
- Analytics and Big Data**  
Chairs: Behnam Ahmadian Baghbaderani, Lonza, USA  
Boyan Yordanov, Scientific Technologies, United Kingdom
- 09:00 – 09:40 **Plenary Presentation**  
**Cell Therapy Analytics: Challenges and Opportunities...N/A**  
Somayeh Tarighat, Genentech, USA
- 09:40 – 10:00 **Integrated intracellular organization and reorganization of the human stem cell...N/A**  
Susanne Rafelski, Allen Institute, USA
- 10:00 – 10:20 **Digital path to Industry 4.0: The role of data sciences in the cell & gene therapy space...N/A**  
Marc-Olivier Baradez, Cell and Gene Therapy Catapult, United Kingdom (Virtual)
- 10:20 – 11:00 **Q&A Panel**
- 11:00 – 11:45 Coffee Break (*Sponsored by MaxCyte*)
- 11:45 – 12:05 **Assessing interaction networks within iPSC expansion bioprocessing to elucidate complexities of cellular phenotype and develop advanced process control strategies...17**  
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Mridul Dalmia, Rutgers University, USA
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- 12:45 – 13:05 **Poster snapshot presentations**
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Aaron Simmons, University of Wisconsin, USA
- 38 **Development of analytical assays for the characterization of gene circuit enabled cell therapies**  
Brett Kiedaisch, Senti Biosciences, USA
- 39 **Transitioning cell-based processes towards scalable production**  
Isobelle Espiritu, ViaCyte, Inc, USA
- 40 **Process development for improved Car-t production utilizing an automated perfusion stirred-tank bioreactor**  
Tiffany Hood, University College London, United Kingdom
- 13:05 – 14:20 Lunch & Networking (Pavilion)

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Andy Kah Ping Tay, NUS, Singapore (**Virtual**)
- The Future of Product Release**  
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Azadeh Golpour, AvroBio, USA
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**Single-cell Multi-omics for accelerated therapeutic characterization and release...N/A**  
Yan Zhang, Mission Bio, USA
- 15:40 – 16:00      **High resolution single cell profiling of human hematopoietic stem cell drug products...N/A**  
Luca Biasco, AvroBio, USA
- 16:00 – 16:20      **Scientific solutions for regulatory guidelines: Unlocking AAV product testing...20**  
Stuart Wright, Sartorius, United Kingdom
- 16:20 – 16:40      **Platform approaches to mRNA analytical testing methods...N/A**  
Amy Glekas, MilliporeSigma, USA
- 16:40 – 17:00      **Q&A Panel**
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- 17:45 – 18:05      **Applying new technology and approaches to the analytical challenge of assessing the empty full ratio for adeno associated virus...21**  
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**Thursday, February 10, 2022**

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