### 11th SPRING MEETING

**NORFOLK, VIRGINIA**  
**USA**  
**MARCH 14–16, 2022**

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**Viral Vectors & Vaccines**  
**Chaired By:**  
Otto-Wilhelm Merten, PhD  
Miltenyi Biotec Inc.  
J. Fraser Wright, PhD  
Stanford University

**Cellular Therapies**  
**Chaired By:**  
Martin A. Giedlin, PhD  
Senti Biosciences  
María Mercedes Segura, PhD  
ElevateBio

**Baculovirus Expression Technology**  
**Chaired By:**  
Dominic Esposito, PhD  
Frederick National Laboratory for Cancer Research  
António M. Roldão, PhD  
Instituto de Biologia Experimental e Tecnológica (iBET)

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### SUNDAY • MARCH 13, 2022

4:00 pm – 7:00 pm  
**Welcome Reception and Registration** in the Foyer, Fourth Floor

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### MONDAY • MARCH 14, 2022

7:00 am – 8:00 am  
**Registration and Breakfast** in the Foyer, Fourth Floor

8:00 am – 8:30 am  
**Meeting Overview** in Salon A/B/C, Fourth Floor

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| 8:30 am – 9:10 am | **Viral Vectors & Vaccines**  
Harnessing AAV Membrane-Associated Accessory Protein to Improve Vector Supply and Quality  
Kari Airenne, PhD  
Kuopio Center for Gene and Cell Therapy (KCT) |
| 8:30 am – 9:10 am | **Cellular Therapies**  
CAR-NK for Hepatocellular Carcinoma  
Dongfang Liu, PhD  
Rutgers-New Jersey Medical School (NJMS) |
| 9:10 am – 9:20 am | **Baculovirus Expression Technology**  
Influenza VLP Vaccine Production Done Better: The Perks of Innovating Upstream, Downstream, Storage, and Analytics  
António Roldão, PhD  
Instituto de Biologia Experimental e Tecnológica (iBET) |

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**Water Break**

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*All of the presentations and events shown in the program are included with your registration fee.  
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| 9:20 am – 10:00 am | Advances in Lentiviral Vector Design and Production Leading to Improved Purity, Potency, and the Generation of Stable Producer Cell Lines for CAR T-Cell Therapy  
Nicholas Clarkson, PhD  
Oxford BioMedica plc | Salon A/B/C, Fourth Floor                                                                      | Viral Vectors & Vaccines                                                                  |
|            |                                                                                             |                                               |                                                                        |
| 10:00 am – 10:30 am | Morning Break in the Exhibit Hall                                                            |                                               |                                                                        |
| 10:30 am – 11:00 am | Technology Workshop  
Paul D. Fraim Center for Excellence, Fourth Floor  
Mitlenyi Biotec  
De-Risking GMP Lentiviral Vector Manufacturing — Leveraging a Proven Platform Process | Salon G/H, Fourth Floor                                                                      | Baculovirus Expression Technology                                                              |
| 11:00 am – 11:30 am | Technology Workshop  
Salon A/B/C, Fourth Floor  
Thermo Fisher Scientific  
Viral Vector Seamless Solutions from Discovery to the Clinic | Salon A/B/C, Fourth Floor                                                                      |                                                                        |
| 11:30 am – 12:00 noon | Technology Workshop  
Paul D. Fraim Center for Excellence, Fourth Floor  
Avid Bioservices, Inc.  
Beyond the Service Offering of a CDMO | Paul D. Fraim Center for Excellence, Fourth Floor                                              |                                                                        |
| 12:00 noon – 1:30 pm | Lunch in the Exhibit Hall • (Poster Session from 1:00 – 1:30 pm) |                                               |                                                                        |
| 1:30 pm – 2:10 pm | Process Development for Newcastle Disease Virus-Vectored Vaccines in Serum-Free Vero Cell Suspension Cultures  
Amine A. Kamen, PhD  
McGill University                                           | Salon A/B/C, Fourth Floor                                                                      | Viral Vectors & Vaccines                                                                  |
| 2:10 pm – 2:20 pm | Water Break                                                                                 |                                               |                                                                        |
| 2:20 pm – 3:00 pm | Helper Virus-Free AAV Production Using Fully Stable Producer Cells  
Tobias Bonifert, PhD  
Cevec Pharmaceuticals GmbH                                      | Salon A/B/C, Fourth Floor                                                                      |                                                                        |
| 3:00 pm – 3:30 pm | Afternoon Break in the Exhibit Hall                                                           |                                               |                                                                        |
| 3:30 pm – 4:10 pm | NIST Update on Lentivirus and Adenovirus Reference Material Projects  
Jamie Almeida and Edward Kwee, PhD  
National Institute of Standards & Technology (NIST) | Salaon G/H, Fourth Floor                                                                      |                                                                        |
| 3:30 pm – 4:10 pm | CRISPR-Cas9 RNP Editing of Primary Cells via Electromechanical Transport Phenomena  
Ta-Chun Hang, PhD  
Kytopen Corp                                               | Paul D. Fraim Center for Excellence, Fourth Floor                                              | Baculovirus Expression Technology                                                              |

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| 4:20 pm – 5:00 pm  | **Viral Vectors & Vaccines**  
Recombinant AAV Vectors for In Vivo Gene Therapy — Reducing Immunogenicity Through Improved Vector Design and Manufacturing  
J. Fraser Wright, PhD  
Stanford University  
**Cellular Therapies**  
Model-Driven Design of Culture Media  
Sakis Mantalaris, PhD  
Georgia Institute of Technology  
**Baculovirus Expression Technology**  
A Baculovirus-Expressed Covid-19 Vaccine  
Nikolai Petrovsky, PhD  
Vaxine Pty Ltd | Salon A/B/C, Fourth Floor  
Paul D. Fraim Center for Excellence, Fourth Floor  
Salon G/H, Fourth Floor |
| 6:00 pm – 8:00 pm  | **Reception** in the Exhibit Hall                                                                 |                                    |
| 7:30 am – 8:30 am | **Breakfast** in the Exhibit Hall                                                                 |                                    |
| 8:30 am – 9:10 am  | **Viral Vectors & Vaccines**  
Auto-Regulation of the Adenoviral Major Late Promoter Enables Increased AAV Per Cell Productivity and Enhances Particle Infectivity  
Ryan Cawood, PhD  
OxGene, a WuXi Advanced Therapies company  
**Cellular Therapies**  
High-Throughput Characterization of Stability and Potency of Gene Therapy Hematopoietic Stem/ Progenitor Cell Products  
Mariana Loperfido, PhD  
AVROBIO  
**Baculovirus Expression Technology**  
Assessing the Biosafety Profiles of Sf-rhabdovirus and Its Caterpillar-Derived Progenitor  
Donald L. Jarvis, PhD  
University of Wyoming | Salon A/B/C, Fourth Floor  
Paul D. Fraim Center for Excellence, Fourth Floor  
Salon G/H, Fourth Floor |
| 9:10 am – 9:20 am  | **Water Break**                                                                                 |                                    |
| 9:20 am – 10:00 am | **Collaborative NIH Programs to Accelerate AAV Gene Therapy Clinical Trials**  
PJ Brooks, PhD  
National Institutes of Health (NIH)  
**Beyond Automation: The Future of Cell Therapy Manufacturing**  
John Paul Tomtishen, III  
Cellares Inc.  
**The MultiBac Platform in the University of Bristol COVID Emergency Response**  
Imre Berger, PhD  
University of Bristol |                                    |
| 10:00 am – 10:30 am | **Morning Break** in the Exhibit Hall                                                             |                                    |
| 10:30 am – 11:10 am | **Scalable and High-Yield Production of Extracellular Vesicles by Turbulence Stimulation for Regenerative Medicine: Proof-of-Concept in Five Animal Models**  
Amanda K.A. Silva, PharmD, PhD  
Université Paris Diderot  
**Working Effectively with a CDMO to Bring Innovative Cell Therapies to Clinic and to Market**  
Kenneth LeClair, PhD  
Lykan Bioscience  
**Polycistronic Baculovirus Co-Expression of Chaperones to Enhance Recombinant Protein Production in Insect Cells**  
Dominic Esposito, PhD  
Frederick National Laboratory for Cancer Research (FNLCR) |                                    |
| 11:10 am – 11:20 am | **Water Break**                                                                                 |                                    |
| 11:20 am – 12:00 noon | **A Streamlined Manufacturing Process for Lentiviral Vector Production**  
Aziza P. Manceur, PhD  
National Research Council Canada (NRC)  
**Characterization of Cellular Therapy Products**  
Saravanan Karumbayaram, PhD  
FDA CBER  
**Complex Complexes: Glycoproteins, Oligomericity, and Instability Oh My!**  
Carter A. Mitchell, PhD  
Kemp Proteins, LLC |                                    |

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### Free Afternoon with Recommended Group Activities

12:00 noon – 6:00 pm

Lunch on your own!

- Glass Blowing Workshop at the Chrysler Glass Studio
- Guided Walking Tour of the Historic Freemason Neighborhood
- Admission to *Nauticus* and the *Battleship Wisconsin* with a Guided Tour of the Hampton Roads Naval Museum
- Guided Bike Tour of the Elizabeth River Trail
- Local Food and Drinks Tour

See the registration desk to sign up for activities (first come, first served)!

6:00 pm – 9:00 pm

**Great Gatsby Jazz Banquet** at the *Hermitage Museum & Gardens* • Sponsored by BIA Separations

Shuttle transportation provided!

### WEDNESDAY - MARCH 16, 2022

7:30 am – 8:30 am

**Breakfast** in the Exhibit Hall

### 8:30 am – 9:00 am

**Technology Workshop**

- Salon A/B/C, Fourth Floor
- **Miltenyi Biotec**
- Automation of Cell Therapy Manufacturing Using the CliniMACS Prodigy

**Technology Workshop**

- Paul D. Fraim Center for Excellence, Fourth Floor
- **Lonza**
- Process Development Excellence to De-Risk and Accelerate Commercialization of Cell and Gene Therapies

### 9:00 am – 9:30 am

**Technology Workshop**

- Salon A/B/C, Fourth Floor
- **Myriade**
- VIDEOSDROP: Ideal Tool for Lentiviral Vector Bioproduction Follow-Up

**Technology Workshop**

- Paul D. Fraim Center for Excellence, Fourth Floor
- **Univercells Technologies**
- Intensified Viral Manufacturing With Integrated, Scalable Fixed-Bed Technology

**Technology Workshop**

- Salon G/H, Fourth Floor
- **CherryCircle Software, Inc. (QbDVision)**
- Digital Maturity for CMC Operations — Strategies & Successes

### 9:30 am – 10:00 am

**Technology Workshop**

- Salon A/B/C, Fourth Floor
- **Charles River**
- From Concept to Clinic: End-to-End Support of Cell and Gene Therapy Product Development

**Technology Workshop**

- Paul D. Fraim Center for Excellence, Fourth Floor
- **MilliporeSigma**
- A Rhabdovirus-Negative (SF-RVN®) Platform is a Safer BEVS Alternative for Production of Recombinant Protein and AAV

**Technology Workshop**

- Salon G/H, Fourth Floor
- **Thermo Fisher Scientific**
- Feeder-Free Expansion and Closed, Automated Wash and Concentration of Human NK Cells

### 10:00 am – 10:30 am

**Morning Break** in the Exhibit Hall

### 10:00 am – 10:30 am

**Viral Vectors & Vaccines**

- Salon A/B/C, Fourth Floor
- An Improved DNA Control Strategy for Engineered Exosomes
- **Michael Doherty**
- Codiak BioSciences

**Cellular Therapies**

- Paul D. Fraim Center for Excellence, Fourth Floor
- Development Considerations of Transitioning From Fresh to Cryopreserved Apheresis Starting Material for Autologous Cell and Gene Therapy
- **Craig Jones**
- bluebird bio Inc.

**Baculovirus Expression Technology**

- Salon G/H, Fourth Floor
- A Fast, Transient, and Baculovirus-Free Protein and VLP Production System in Insect Cells
- **Maren Schubert, PhD**
- Technical University Braunschweig

### 10:30 am – 11:10 am

**Water Break**

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  - CMC Considerations for Viral Vectors<br>  Anurag Sharma, PhD<br>  FDA CBER   |
|              | **Cellular Therapies**<br>Paul D. Fraim Center for Excellence, Fourth Floor
  - Development of an Improved Targeted, Non-Viral Ex Vivo Cell Manufacturing Process<br>  Ines Mende, PhD<br>  PACT pharma   |
|              | **Baculovirus Expression Technology**<br>Salon G/H, Fourth Floor
  - Analysis of Malaria-Mosquito Interaction Using the Baculovirus Expression System<br>  Jun Li, PhD<br>  Florida International University   |
| 12:00 noon – 1:30 pm | Lunch in the Exhibit Hall **(Poster Session from 1:00 – 1:30 pm)** |
| 1:30 pm – 2:10 pm  | **CMC Considerations for Viral Vectors**<br>  Anurag Sharma, PhD<br>  FDA CBER   |
|              | **Cellular Therapies**<br>Development of an Improved Targeted, Non-Viral Ex Vivo Cell Manufacturing Process<br>  Ines Mende, PhD<br>  PACT pharma   |
|              | **Baculovirus Expression Technology**<br>Analysis of Malaria-Mosquito Interaction Using the Baculovirus Expression System<br>  Jun Li, PhD<br>  Florida International University   |
| 2:10 pm – 2:20 pm | Water Break |
| 2:20 pm – 3:00 pm | **Cellular Therapies**<br>Process Development and Scale-Up for Gene Circuit Engineered CAR-NK Cell Manufacturing<br>  Travis Wood<br>  Senti Biosciences   |
|              | **Baculovirus Expression Technology**<br>Lac Inducible Baculovirus Expression Vector Optimization of Virion Capsid Protein Ratios Shows Adeno-Associated Virus Capsid Assembly is Not Entirely Stochastic and That Overabundance of VP1 and VP2 Affects Potency and Packaging of Genomes into the Capsid<br>  Jeffrey Morley Slack, PhD<br>  Voyager Therapeutics   |
| 3:00 pm – 3:30 pm | Afternoon Break in the Foyer, Fourth Floor |
| 3:30 pm – 4:10 pm | **CMC Considerations for Viral Vectors**<br>  Anurag Sharma, PhD<br>  FDA CBER   |
|              | **Cellular Therapies**<br>Accelerating Cell-Based Therapy Development with Microfluidic Immunoassay Technology<br>  James Sharkey<br>  Gyros US Inc.   |
|              | **Baculovirus Expression Technology**<br>A Synthetic Baculovirus Expression Vector for Recombinant AAV Production<br>  Christopher Nguyen, PhD<br>  Voyager Therapeutics   |
| 4:10 pm – 4:20 pm | Water Break |
| 4:20 pm – 5:00 pm | **Poster Finalist Presentations and Awards**<br>in the Paul D. Fraim Center for Excellence |
| 5:00 pm      | **Meeting Adjourns** |

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Due to circumstances beyond the control of meeting organizers, this program is subject to change without notice. REV 03/09/2022