MEETING SCHEDULE

	SUNDAY 26	MONDAY 27	TUESDAY 28	WEDNESDAY 29
08:30 - 09:00	Registration (open all day)			
09:00 - 09:30	ACADEMIC WORKSHOPS A, B and C	KEYNOTE LECTURE Botond Roska	KEYNOTE LECTURE Hildegard Büning	KEYNOTE LECTURE Raymond Deshais
09:30 - 10:00				
10:00 - 10:30		Poster Students Highlights	Selected Flash Presentations	Poster Prize TOP 10 Finalists Flash Presentations
10:30 - 11:00	SPONSORED SYMPOSIA	Coffee break at the Exhibition	Coffee break at the Exhibition	POSTER SESSION III & COFFEE BREAK
11:00 - 11:30		SCIENTIFIC SESSION Data, Data, Data; how to get it and how to use it	SCIENTIFIC SESSION Adaptive Manufacturing: Engineering Quality into your Process (Part I)	
11:30 - 12:00				SCIENTIFIC SESSION Adaptive Manufacturing:Eng Quality into Process (Part II)
12:00 - 12:30	Light Lunch			
12:30 - 13:00		Lunch		
13:00 - 13:30	ACADEMIC WORKSHOPS D, E and F			
13:30 - 14:00				
14:00 - 14:30		Dessert at the Exhibition		
14:30 - 15:00	SPONSORED SYMPOSIA	POSTER SESSION I	POSTER SESSION II	SCIENTIFIC SESSION Challenges and Marvels of Bioprocess Intensification (Part II)
15:00 - 15:30				
15:30 - 16:00				
16:00 - 16:30	Networking Activity	SCIENTIFIC SESSION Beyond Evolution	SCIENTIFIC SESSION Challenges and Marvels of Bioprocess Intensification (Part I)	KEYNOTE LECTURE Robert Deans
16:30 - 17:00	**OPENING SESSION**			
17:00 - 17:30	ESACT INNOVATION AWARD Lecture			**ESACT Medals - Poster Prize CLOSING CEREMONY**
17:30 - 18:00		Coffee break at Exhibition	Announcements	
18:00 - 18:30	SCIENTIFIC SESSION Bio breakthroughs	SCIENTIFIC SESSION Molecular Cell Surgery	NETWORKING ACTIVITY AND DINNER	Transfer to Congress Dinner
18:30 - 19:00				
19:00 - 19:30				CONGRESS DINNER
19:30 - 20:00	EXHIBITORS RECEPTION at the Exibhition	POSTER VIEWING plus DRINKS		
20:00 - 20:30				
20:30 - 21:00				
21:00 - 21:30				
21:30 - 22:00				
22:00 - 22:30				

WORKSHOP SESSIONS

PRE-CONFERENCE WORKSHOPS AND SYMPOSIA

SUNDAY 26TH JUNE · 9:00-10:30
Workshop A – AUDITORIUM VIII

AN ACADEMIA/INDUSTRY XCHANGE PROGRAM FOR EARLY CAREER SCIENTISTS, FOR THE BENEFIT OF ALL – IS THE FRONTIERS VISION FEASIBLE?

Organized by ESACT Frontiers

Speakers: Qasim Rafiq: Unversity College London; Stefanos Grammatikos, UCB

ESACT Frontiers mission is to provide opportunities for Early Career Scientists (ECSs) to personally and professionally develop whilst actively engaging in, influencing, and developing the animal cell technology community. In line with this, ESACT Frontiers are seeking to establish an Xchange program with a view to enabling ECSs to do secondments across academia and industry to experience different environments and increase their skill set, and ultimately benefit the entire ESACT community. To be successful in this, ESACT Frontiers needs your support! Please join us for an Xchange program brainstorming workshop where participants from all sectors and all levels of experience will be in mixed groups discussing topics such as desire for such a program from ECSs, desire from different sectors, funding, solutions to legalities, and benefits for those individuals and sectors involved.

Put yourself in different shoes for 90 minutes: those of an early career scientist, academic leader or industry executive. From this perspective, answer a series of questions as part of a team in order to help ESACT Frontiers determine the value and feasibility of an academia/industry Xchange program for those within 9 years of their most recent qualification. Join ESACT Frontiers, Qasim Rafiq and Stefanos Grammatikos for what is sure to be an interesting event.

SUNDAY 26TH JUNE · 9:00-10:30
Workshop B – AUDITORIUM II

ANALYTICAL STRATEGIES FOR IMPROVED PRODUCT CHARACTERIZATION & PROCESS UNDERSTANDING

Organized by: ACTIP – Animal Cell Technology Industrial Platfor

ACTIP welcomes you to this symposium dedicated to the latest trends in analytical strategies for products expressed in animal cells. Short introductory presentations will set the stage and provide insights into some of the concepts which shape the biologics industry today. The proposed topics will cover aspects such as, but not only, real-time product quality and process monitoring, application of multi-attribute methods during product and process development, platform and high-throughput methods to support accelerated programs and insights into regulatory aspects for product quality/stability. The presentations will be followed by a panel discussion which will allow symposium participants and experts to interact and exchange on this topic. ACTIP is an independent non-profit association of European companies/institutions engaged in the industrial use of animal cell technology for research, development and/or production of biopharmaceuticals, vaccines and other preventative or therapeutic approaches. Its main objectives are to bring animal cell technology experts together for networking, keeping up to date on cutting-edge developments and focus on technological and applied-oriented challenges for the industrial use of animal cell technology. ACTIP also interacts with ESACT for the promotion of animal cell technologies and to support early career scientists in this field.

WORKSHOP STRUCTURE AND SPEAKERS:

Chairs:	Erwin van Vliet (ACTIP, The Netherlands), Jonathan Bones (NIBRT, Ireland), Matthieu Stettler (Lonza, Switzerland)
9.00–9.15 h	**iConsensus IMI project creating a sensing platform for a biopharmaceutical cultivation process and high-throughput system** *Veronique Chotteau, KTH Royal Institute of Technology, Sweden*
9.15–9.30 h	**Development and application of optical sensors to monitor cell culture parameters** *Konstantin Bagnjuk, Rentschler Biopharma, Germany*
9.30–9.45 h	**Application of MS-based characterization workflows in biopharmaceutical development – Recent progress & Case studies** *Dan Bach Kristensen, Symphogen, Denmark*
9.45–10.00 h	**Characterization of key quality attributes of adeno associated virus (AAV) gene therapy products by LC-MS** *Felipe Guapo, National Institute of Bioprocessing Research and Training (NIBRT), Ireland*
10.00–10.15 h	**Bioanalytical tools for characterization of process samples of a rotavirus vaccine** *Sofia Carvalho, iBET, Portugal*
10.15–10.30 h	General discussion & Wrap up

SUNDAY 26TH JUNE · 9:00-10:30
Workshop C – AUDITORIUM III & IV

SINGLE CELL OMICS

Organized by Colin Clarke (NIBRT) and Antonio Roldão (iBET)

The study of cellular biology has been transformed over the last decade through advances in analytical technology such as next generation sequencing (NGS) and the development of new approaches for deep proteomics. While these analyses have greatly improved our understanding of cellular processes, to date the majority of this knowledge gained has been elucidated from the study of millions of pooled cells as a "bulk" sample. A critical drawback of this approach is that heterogeneity, a universal characteristic of all biological systems, is ignored. Bulk sample analysis provides only a "population average" limiting our understanding of complex systems, obscuring heterogeneity and in some cases describing an inferred cellular state in which very few cells (or none at all) may exist.

In recent years rapid technological advances in areas such as cell isolation methods using microfluidics or microwell devices, preparation of NGS libraries from ultra-low quantities of nucleic acids and innovative labelling strategies for MS-based proteomics have enabled the characterisation of DNA, RNA and proteins at single cell resolution. In particular, transcriptome analysis of single cells (scRNA-seq), has matured rapidly and the technique is now cost effective, highly accurate and capable of determining the distribution of expression levels in tens of thousands of single cells.

This workshop will focus on the application of single cell analysis for studies seeking to gain deep understanding of cell factories and cell therapies. The first part of the workshop will introduce participants to scRNA-seq experimental methods and data analyses, including examples of the successful application of single cell transcriptomics to cell factories and cell therapies. In the second part, participants will join working groups to discuss the opportunities and challenges related to the widespread application of the technology to enhance manufacturing of recombinant proteins, gene and cell therapies.

WORKSHOP STRUCTURE:

Section 1. Thematic presentations (15 min each + 5 min Q&A at the end).

- Presentation 1: Overview of experimental methods for single cell omics.
  - *Understanding of single cell libraries preparation (incl. QC, cell isolation methods, sequencing, …), assessing cost-benefit, and examples of applications for production of biopharmaceuticals.*
- Presentation 2: Bioinformatics analysis of single cell omics data.
  - *What are the stages one needs to go through for data analysis? What are the different platforms available?*

Section 2. Working groups (40 min).

- Working groups defined according to thematic lines.
  - Thematic 1: Recombinant protein.
  - Thematic 2: Gene therapy.
  - Thematic 3: Cell therapy.
- Topics/questions to address by each working group:
  - Where´s the high value in using single cell omics?
  - Single cell *vs* bulk omics – which approach is optimal?
  - Do you see value in creating working groups for better annotation of genomes for non-model organisms or creating a cell atlas?
  - What are the major barriers and limitations in using single cell omics? Is it the cost? Is it the lack of bioinformatic platforms? Other?

Section 3. Wrap-up (10 min).

- Summary of major outcomes from working groups activity:
  - Identification of key barriers.
  - Definition of pathways to move the field forward.
  - Tentative timeframe to solidify the field.

SUNDAY 26TH JUNE · 10:30-12:00
AUDITORIUM II
SARTORIUS SPONSORED SYMPOSIUM

SCALE DOWN OPTIMIZATION TO SCALE UP SUCCESS

The commercial success of monoclonal antibodies has paved the way for novel, personalized cell and gene therapies. But the cost and time required to manufacture these life-saving therapies limits their accessibility. To deliver big, pharmaceutical companies may need to start small. Adopting small-scale models that mimic current manufacturing best practices (i.e., inprocess control, quality-by-design, and integrated analytics) can help scale up results – faster.

Following short individual presentations, our distinguished speakers will gather for a panel discussion covering:

- The importance of scale-down models for cost control, process knowledge, and intensifying processes.
- How lessons learned from biopharma have shaped the cell and gene therapy industry, and what we can learn from them going forward.
- Leveraging new technologies (e.g., new PATs, MVDA) to optimize next-generation therapies and scale up.

Speakers:

- Bruno Marques, Head of Process & Product Development, Century Therapeutics.
- Rebeca Real, Upstream Scientist, Process Development, mAbxience.
- Tarik Senussi, Senior Director, Process, Formulation Development & MSAT, Gyroscope Therapeutics.
- Kevin McHugh, Technology Consultant, Sartorius.

SUNDAY 26TH JUNE · 10:30-12:00
AUDITORIUM III & IV
ADVANCED INSTRUMENTS LLC SPONSORED SYMPOSIUM

SECTION 1:

KEY CONSIDERATIONS FOR MANUFACTURING IN CELL AND GENE THERAPY

Speaker: Marta Rucka, PhD, Global Product Manager

Cell and gene therapy (CGT) is one of the most promising and faster growing sectors in biopharmaceutical industry. With the increasing popularity of gene editing and reprogramming of human cells, it is crucial to understand and recognise the differences between steps involved in process development (PD) and commercial manufacturing. The clinical manufacture of a CGT product is governed by stricter requirements vs PD and regulations as per Good Manufacturing Practices (GMP). However, as the cell line development (CLD) technologies continue to rapidly evolve, GMP regulations need to adopt accordingly to meet the demand and reflect the clinical risk profile of these innovate solutions. Importantly, the transfer of practises from PD to GMP-friendly settings can pose several challenges, which with the right planning can be easily avoided. A detailed analysis of the CLD workflow from single cell seeding, through the use of clinical grade reagents to risk and data management, can be extremely helpful in establishing a GMP-compliant manufacturing process early on. During this session we will discuss the following the key considerations for manufacturing of CGT including:

- Best strategies for single cell isolation and homogenous MCB generation.
- Improving CLD efficiency using the right instrumentation and clinical-grade reagents.
- Controlling osmolality to enhance yield, purity and efficiency of AAV Manufacture.

Key words: Cell line development, single cell seeding, clonal outgrowth, data management, GMP, viral vector production, cell and gene therapy, bioproduction, data management.

SECTION 2:

STREAMLINING THE FED-BATCH CLD PROCESS FOR EARLIER SELECTION OF CLONES VIA ICON TITER AND VCD ANALYSER AND INSTISHAKE CELL GROWTH SUPPLEMENTS

Speaker: Paul Butler, Senior Global Product Manager

The trend in Cell Line Development (CLD) isto screen and select clones earlier and with more confidence. At the fed batch stage of the CLD process, particularly in DW 96, 48 and 24 well plates, limited sample availability precludes some measurements from being taken (VCD and titer for example). The low speed of currently available cell counting technologies means that the time taken to analyse, outweighs the benefit of the data. In this talk we introduce the ICON analyser which rapidly measures small volume samples for titer and VCD and combines with confluence and clonality results within the STUDIUS data management platform to make secure, early decisions on best performing clones. Also, we will discuss how our InstiSHAKE supplements for the shaking cell culture and fed-batch stage, improve the outcomes for cell lines to ensure all candidates are considered in the search for best performers.

Key words: Cell line development, data management, shaking fed-batch, Deep Well plate, titer, VCD.

SUNDAY 26TH JUNE · 10:30-12:00
AUDITORIUM VIII
BERKELEY LIGHTS SPONSORED SYMPOSIUM

BERKELEY LIGHTS

ADVANCE AND AUTOMATE CELL PROFILING WITH BERKELEY LIGHTS TECHNOLOGY AND TOOLS TO ACCELERATE CELL LINE ENGINEERING AND DEVELOPMENT

Speakers: Rennos Fragkoudis, Edinburgh Genome Foundry Manager at The University of Edinburgh, Renee Tobias, Senior Director, Marketing Antibody Therapeutics at Berkeley Lights

Generation of stable CHO cell lines for biologics manufacturing is a resource-intensive process that can add months to therapeutic or reagent development timelines. Learn how advanced, automated cell profiling technologies like the Beacon. system are removing critical bottlenecks and providing valuable information on function and quality much earlier in the process.

WORKSHOP STRUCTURE

Rennos Fragkoudis from the Edinburgh Genome Foundry core research facility will present how their suite of cutting-edge computational tools and integrated automation technologies have facilitated projects in gene therapy, vaccine development and metabolic engineering. As the first of its kind in a European academic facility, EGF's investment in the Beacon system has provided their customers unparalleled access to state of the art technology to perform previously unworkable high throughput single cell screening experiments.

A panel discussion will follow on the role of advanced screening technologies, automation, and computational tools in accelerating cell line engineering and development projects across academia and industry.

SUNDAY 26TH JUNE · 13:00-14:30
WORKSHOP D – AUDITORIUM II

EFFECTIVE PARTNERSHIPS BETWEEN INDUSTRY, GOVERNMENT, AND ACADEMIA ON BIOPROCESS DEVELOPMENT

Organized by: Barry Buckland (UCL & BiologicB), Manuel Carrondo (iBET) and Carlos Guzman (HZI)

The aim of this workshop is to obtain an overview on diverse institutional ways of driving process development inputs to speed up biological innovations towards first-in-man, as well as improving reliability of manufacturing and reducing costs. Identify concepts and structures used, key success factors and diversity of partnerships and tools to achieve goals, amongst which training highly qualified professionals.

WORKSHOP STRUCTURE AND SPEAKERS:

There are two broad categories of organizations, from essentially public to essentially privately funded, and a spectrum in between.

The following institutions have agreed to participate in presentation and discussion:

- UK
  Catapult, Fernanda Masri
  UCL Vaccine HUB, Martina Micheletti
- EU
  ACTIP, Matthieu Stettler
  ITEM, Fraunhofer – Holger Zieher
  iBET & Genibet, Manuel Carrondo
  Transvac, Stefan Jungbluth
- USA
  CMAT, Krishnendu Roy
  NIIMBL, Kelvin Lee
  Resilience, Rahul Singhvi

Two sets of presentations (more "public" versus more "private") each one followed by discussion "oriented" by the organizers. Presentations of maximum 8 minutes each (goals, key structural/cultural approaches, core competences…).

Outcome – Key success factors, core needs, way forward…

SUNDAY 26TH JUNE · 13:00-14:30
WORKSHOP E – AUDITORIUM III & IV

EXTRACELLULAR VESICLES – FROM BASIC BIOLOGY TO PRODUCTION OF EVS AS NOVEL THERAPEUTICS

Organized by: Johannes Grillari (LBI for Traumatology/BOKU) and João Ferreira (NOVA Medical School)

Extracellular vesicles have raised a strong interest recently as novel biopharmaceuticals. Thereby, 2 different lines of research and development are crystallizing, on the one hand the use of EVs as therapeutics per se, and on the other their use as drug delivery vehicle. In regard to their use as complex biopharmaceutical, there is accumulating evidence for therapeutic activity in various disease models including stroke, myocardial infarction, osteoarthritis, or bone regeneration. They even have been used in a human graft versus host disease patient with extremely positive result. It is hypothesized that beneficial effects that were observed in clinical trials using e.g. mesenchymal stem cells (MSCs)

might well be due to the secretome of these MSCs as opposed to direct incorporation of allogeneically transplanted MSCs. Considering more than 500 ongoing clinical trials using MSC based therapies, we can envision an ever increasing necessity of production systems for EVs. Similarly, the use of EVs as drug delivery/targeting vehicles has by now produced promising results in animal models. In order to give key insights into this fast evolving field, we here apply for a symposium to be held at ESACT2022 in Lisbon, as we see a benefit for all experts in EV based biology and in animal cell culture technology to convene and discuss in order to boost and inspire the respective fields in the quest to produce, purify and finally bring EVs as novel biopharmaceuticals to the patients. Thereby, we will introduce the basic biology of EVs and their isolation and processing; insights into various production processes as well as therapeutic applications.

WORKSHOP STRUCTURE AND SPEAKERS:

- What is an EV?, Kenneth Witwer, John Hopkins.
- Cross-talks in aging and age associated diseases: from EV biology to application, Johannes Grillari.
- Loading of Proteins into Exosomes, João Ferreira.
- EV Production by turbulence stimulation and their application in healing of wounds, Amanda Silva Brun, CNRS.

SUNDAY 26TH JUNE · 13:00-14:30
WORKSHOP F – AUDITORIUM VIII

HOW TO DEVELOP PERFUSION PROCESSES?

Organized by: Veronique Chotteau (AdBIOPRO and KTH) and Yvonne Genzel (Max Planck Institute for Dynamics of Complex Technical Systems)

Perfusion processes have become a reality for biologics biomanufacturing. The leverage and intensification that this mode of operation brings, has attracted many biopharma's towards implementation at different levels, stretching from N-1 bioreactor only to fully integrated continuous USP-DSP.

The basic principle that medium renewal operated under this continuous mode brings nutrients and removes the by-products, is known from everybody but how to develop, optimize, integrate, characterise, scale-up these processes? Which strategy adopt for process development to achieve high intensification with low medium renewal and high product quality?

How much generic can a process be to fit different molecules? Which tools are needed for monitoring (PAT) and control? What is needed for a fair comparison between different modes in terms of yield, productivity, costs and time? How well do we know the effect of these processes on the cells, e.g. by omics, and what should be studied? How does the field tackle these questions today, and what is missing? What are the avenues needed for tomorrow? Compared to glycoproteins, how different are the challenges and approaches for other modalities, such as production of exosomes, viruses or viral vectors?

WORKSHOP STRUCTURE AND SPEAKERS:

In this workshop, these questions will address with talks from academia and industry and with that like to set the stage for a short discussion with the audience on these questions.

- Development of perfusion processes, Veronique Chotteau.
- Integrated continuous USP-DSP from small-scale to pilot-scale, Hubert Schwarz, KTH.
- Industrial perspective on monitoring and control of perfusion processes, Nandita Vishwanathan and Thomas Vuillemin, Merk.
- Transcriptomics as a tool to understand perfusion processes, Meeri Mäkinen, KTH.

- Evaluating end-to-end continuous bioprocesses from economic, environmental and PAT perspectives, Catarina Pereira Galo Neves, UCL.
- An integrated perfusion process for cell culture-based production of MVA virus for vaccination and gene therapy, Sven Göbel, Max Planck Institute for Dynamics of Complex Technical Systems
- Discussion and wrap-up.

SUNDAY 26TH JUNE · 14:30-16:00
AUDITORIUM II
CYTIVA SPONSORED SYMPOSIUM

FROM RESEARCH TO CLINIC: MODERN APPROACHES TO BIOPHARMA COMMERCIALIZATION

Moderator: Andreas Castan, Director Strategic Technologies, Cytiva

The journey from molecule discovery to manufacturing can be challenging and market success is heavily dependent on the swift creation of high-performing processes. Cell culture scientists drive this success by striving for scalable, robust processes that reach target titers and deliver consistent product quality profiles. They must also keep pace with accelerated development timelines, delivering a cost-effective solution to support a viable business case. During this session, seasoned experts will present case studies and hare their insights into overcoming obstacles.

WORKSHOP STRUCTURE AND SPEAKERS:

- Paula Ravnikar PhD, Global Technical Manager, Cytiva, will describe the path to establish a CHO-K1 cell line and cell line development process suitable for the biotherapeutic market.
- Véronique Chotteau, PhD, Assoc. Prof., Director of AdBIOPRO, will speak about the latest advances in the development of continuous biopharma production processes.
- TBC will present key success factors for the successful scaling of bioreactor processes including case studies.
- Artur Padzik, PhD, AAV production manager (or Magnus Gustafsson, PhD, Head of BD), Biovian, will present scaling strategies for gene therapy processes with recombinant adeno-associated virus (rAAV) from lab to production scale.

SUNDAY 26TH JUNE · 14:30-16:00
AUDITORIUM III & IV
MERCK SPONSORED SYMPOSIUM

SHAPING TOMORROW'S BIOPHARMA 4.0 TECHNOLOGIES, TOOLS AND COLLABORATION

The current paradigm shift and digital transformation in biomanufacturing will result in a facility of the future that is truly an ecosystem of intensified, connected & continuous processing seamlessly coupled with uninterrupted data acquisition and analysis. Together, this will make real-time lot release and lights-out manufacturing achievable to the ultimate benefit of patients around the globe, expanding access to affordable life-saving and life-enhancing biotherapeutics.

SECTION I:

WHICH INLINE PAT/QBD TOOL CAN CONTRIBUTE TO ACHIEVING YOUR BIOPROCESSING 4.0 STRATEGY?

Raman combined with chemometric modeling is a standard solution for inline, real-time monitoring of CPPs/CQAs. Improved production capacity and desired product quality can be achieved by controlling the monitored CPPs/CQAs within a specified design space.

Speaker: Fabien Caron Product Manager, Process Monitoring Solutions, Merck

SECTION II:

HOW CAN ADVANCED HIGH THROUGHPUT TECHNIQUES, ANALYTICAL METHODS, AND STATISTICAL TOOLS BE APPLIED TO DEVELOP OPTIMAL PERFUSION CELL CULTURE MEDIA?

Next-gen media optimization requires collecting and interpreting large amounts of data through testing large numbers of formulations, analyzing the samples for critical attributes, and using advanced statistical tools to interpret the results. In this talk we describe how we connect all these tools to improve perfusion media development capabilities.

Speaker: Jeremiah Riesberg, PhD R&D Senior Scientist, Cell Sciences and Development, Bioprocessing, Merck

SECTION III:

WHAT'S THE BEST APPROACH TO OPTIMIZE PROCESS YIELD WITH N-1 PERFUSION TECHNOLOGY AT EARLY AND LATE PHASE?

We will share real-world data from three approaches to N-1 perfusion fitted to the process, development phase, and ultimately to the program's goals.

Speaker: Céline Raymond, PhD Upstream Process Development Manager, Biologics & Viral Vectors CDMO, Merck.

SECTION IV:

A NEW HERO: NOVEL TECHNOLOGIES FOR VIRUS DETECTION IN BIOLOGICS TESTING

While uncommon, contamination events have devastating consequences on biological production in terms of patient supply and clean-up costs. Come and learn about novel methods that are at the forefront of detection of viral contamination and how these are likely to impact biosafety testing as the industry moves to continuous production.

Speaker: Alison Armstrong, PhD Global Head of Technical & Scientific Solutions, Contract Testing Services, Merck

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SUNDAY 26TH JUNE 14:30-16:00
AUDITORIUM VIII
BRISTOL MEYERS SQUIBB SPONSORED SYMPOSIUM

Bristol Myers Squibb™

ADVANCES IN BIOLOGICS, GENE THERAPY AND CELL THERAPY

- **Bioprocessing of Hypo-immune iPSC: Toward Cost-effective, High-quality Allogeneic Cell Therapies,** Bruno Marques, Executive Director, Process & Product Development, Century Therapeutics.
- **Viral Vectors to Maximize the Success of Gene and Cell Therapies,** Carol Knevelman, Vice-President, Head of Process Research & Development, Oxford Biomedica.
- **Product Development Across all Dimensions - Advances in Biologics, Gene Therapy and Cell Therapy in BMS,** Anurag Khetan, Executive Director, Global Upstream and Cell Line Development, Biologics Development, Bristol Myers Squibb.