OPENING SESSION
Chairpersons: Mikael Rørdam Andersen and Paula M Alves

O-001 THE INAUGURAL INNOVATION AWARD LECTURE
Chairpersons: Terry Papoutsakis and Hitto Kaufmann
CELL ENGINEERING – A SMALL STEP FOR THE BIOTECHNOLOGIST, A LEAP FOR THE APPLICATION?
Volker Sandig, ProBioGen, Berlin, Germany

SCIENTIFIC SESSIONS OPENING
Chairperson: Anne B Tolstrup

SESSION 1: CELL ENGINEERING, NOVEL TECHNOLOGIES AND THE USE OF OMICS
Chairpersons: Helene Fastrup Kildegaard and Kerstin Otte
Sponsored by Horizon Discovery

O-002 MAMMALIAN SYNTHETIC BIOLOGY: FOUNDATION AND THERAPEUTIC APPLICATIONS
Ron Weiss, Massachusetts Institute of Technology, Cambridge, MA, USA

O-003 A NEWLY IDENTIFIED SMALL RNA REGULATES NGNA SIALYLATION IN CHO CELLS
Simon Fischer 1, Anna Wippermann 1, Shumin Yang 3, Sven Mathias 4, Patrick Richter 2, Julia van der Meer 5, Eike Zimmermann 6, Ingo Gorr 7, Martin Gamer 2, Harald Bradl 7
1BPAD Cell Line Development, 2Early Stage Bioprocess Development, Boehringer Ingelheim, Germany, 3Process Science BIFI, Boehringer Ingelheim Fremont, CA, United States, 4University of Applied Sciences Biberach, Germany, 5Genedata AG, Basel, Switzerland, 6Analytical Sciences BIFI, Boehringer Ingelheim Fremont, CA, United States, 7BPAD Cell Culture Development, Boehringer Ingelheim, Germany

O-004 CHARACTERIZATION AND INACTIVATION OF ENDOGENOUS RETROVIRUSES IN CHO
Pierre-Olivier Duray 1, Sandra Bosshard 1, Emanuel Schmid-Siegert 2, Samuel Neuenschwander 2, Ghislaine Arlb 1, Philippe Lemercier 1, Flavien Buron 1, Jacqueline Masternak 1, Pierre-Alain Girod 1, Ioannis Xenarios 2, Nicolas Mermod 1
1LBTM, Université de Lausanne, 2Vital-it, Swiss Institute of Bioinformatic, Lausanne, 3Selexis SA, 4Swiss-prot, Swiss Institute of Bioinformatic, Geneva, 5Université de Lausanne, Lausanne, Switzerland

O-005 AN INNOVATIVE CRISPR/ASCPF1 SCREEN IN CHO CELLS
Valerie Schmieder 1, Neza Novak 1, Heena Dhiman 1, Martina Baumann 1, Gerald Klanert 1, Nicole Borth 2
1Austrian Centre of Industrial Biotechnology (ACIB), 2University of Natural Resources and Life Sciences, Vienna, Austria

EXHIBITORS RECEPTION
Monday 6th May 2019

09.00-10.30 Session 2: Cell Engineering, Novel Technologies and the Use of Omics
Chairpersons: Kerstin Otte and Simon Ausländer (ESACT Frontiers)
Sponsored by Horizon Discovery

09.00-09.20 O-006 Omics for High Cell Density and Shear Stress in Perfusion Processes
Veronique Chotteau1,2, Caijuan Zhan1,2, Gholamreza Bidkhori2, Magnus Lundqvist4, Leila Zamani6, Hubert Schwarz1,2, Ye Zhang1,2, Magdalena Malm1,2,4, Aman Mebrahtu4, Adil Mardinoglu1, Christopher Sellick6, Richard Turner8, Diane Hatton4, Raymond Field6, Paul Varley6, Johan Rockberg4,7
1Industrial Biotechnology – AdBiOPRO, Centre for Advanced Bioproduction by Continuous Processing, 2Wallenberg Centre for Protein Research, 3Protein Science, 4Industrial Biotechnology, KTH, Stockholm, Sweden, 5Biopharmaceutical Development, MedImmune, Cambridge, United Kingdom, 6Wallenberg Centre for Protein Research, KTH, Stockholm, Sweden

09.20-09.40 O-007 Characterisation of Bottlenecks in Current CHO Production Cell Lines
Sven Mathias1, Simon Fischer1, Anna Wippermann1, René Handrick1, Patrick Schulz2, Martin Gamer1, Kerstin Otte1
1Institute of Applied Biotechnology, University of Applied Sciences Biberach, 2Boehringer Ingelheim Pharma GmbH & Co KG, Biberach, Germany

09.40-09.55 O-008 Systematic Evaluation of Site-Specific Recombinant Gene Expression
Nuša Pristovšek1, Saranya Nallapareddy1, Lise Marie Grav1, Hooman Hefzi2,3, Nathan E. Lewis2,3, Peter Røgberg2, Henning Gram Hansen1, Gyun Min Lee1,4, Mikael Nordam Andersen2, Helene Fastrup Kildegaard1
1The Novo Nordisk Foundation Center for Biosustainability, Technical University of Denmark, Kgs. Lyngby, Denmark, 2Departments of Pediatrics and Bioengineering, 3The Novo Nordisk Foundation Center for Biosustainability, University of California, San Diego, United States, 4Department of Biological Sciences, KAIST, Daejeon, Korea, 5Department of Biotechnology and Biomedicine, Technical University of Denmark, Kgs. Lyngby, Denmark

09.55-10.10 O-009 Overcoming Cellular Heterogeneity During Cell Line Development
Leon Pybus1, Christopher Knowles1, Ellie Hawke1, Nicholas Barber1, Fay Saunders1
1Mammalian Cell Culture, Process Development, FUJIFILM Diosynth Biotechnologies, Billingham, United Kingdom

10.10-10.15 Poster Spotlight – P-136 Recombinant Human BMP-4 Production in BMP Receptor Knockout CHO Cells
Che Lin Kim1,2, Gyun Min Lee1,2
1DTU Biosustain, The Novo Nordisk Foundation Center for Biosustainability, Lyngby, Denmark, 2Biological Science, KAIST, Daejeon, Republic of Korea

10.15-10.20 Poster Spotlight – P-122 Analysis of Chromatin Accessibility in CHO Cells Using ATAC-Seq
Krishna Motheramgari1,2, Paul Kelly1, Niall Barron1, Colin Clarke1
1National Institute for Bioprocess Research and Training, 2National Institute for Cellular Biotechnology, Dublin City University, Dublin, Ireland

10.20-10.25 Poster Spotlight – P-114 CHO Genome Mining for Synthetic Promoter Design
Yusuf Johari1, Adam Brown1, Christina Alves2, Yizhou Zhou1, Chapman Wright2, Scott Estes3, Rashmi Kshirsagar1, David James1
1Chemical & Biological Engineering, University of Sheffield, Sheffield, United Kingdom, 2Cell Culture Development, Biogen Inc, MA, United States

10.25-10.30 Poster Spotlight – P-168 Metabolic Engineering to Reduce Growth Inhibitory Byproducts Formation
Bhanu Chandra Mulukutla1, Jeffrey Mitchell2, Lin Zhang2, Pamela Pegman2, Gregory Hiller1
1Cell Culture Process Development, 2Cell Line Development, Pfizer Inc, Andover, United States
10.30-11.00  COFFEE BREAK

11.00-12.30  SESSION 3: CELL CULTURE PROCESS CONTROLS AND ANALYTICS
Chairpersons: Matthieu Stettler and Adrian Haines
Sponsored by Hamilton Bonaduz AG

11.00-11.30  O-010  GLOBAL AMINO ACIDS METABOLIC PROFILING IN CHO CELLS WITH 13-C LABELING
Michael Betenbaugh¹, Harnish Mukesh Naik¹, Venkata Gayatri Dhara¹, Jacqueline Gonzalez², Brian McConnell², Franklin Swartzwelder¹, Maciek Antoniewicz²
¹Chemical & Biomolecular Engineering, Johns Hopkins University, Baltimore, ²Chemical & Biomolecular Engineering, University of Delaware, Newark, ³MilliporeSigma, St. Louis, United States

11.30-11.50  O-011  BEACON CLD PLATFORM, FROM SINGLE CELL PRODUCTIVITY TO SMALL BIOREACTOR
Iris Bodenmann¹, Amélie Mahé¹, Cédric Steimer¹, Valérie Le Fourn¹, Séverine Fagète¹, Pierre-Alain Girod¹
¹Selexis SA, Plan-les-Ouates, Switzerland

11.50-12.10  O-012  CLOSING THE LOOP ON CELL CULTURE ANALYZER VARIABILITY
Shawn M. Lawrence¹, Brandon D. Veres¹, Cassandra D. Murillo¹, Colin E. Orr¹
¹Preclinical Manufacturing and Process Development, Regeneron Pharmaceuticals, Inc., Tarrytown, NY, United States

12.10-12.15  POSTER SPOTLIGHT – P-414  EFFECTIVE BIOREACTOR PH CONTROL USING ONLY SPARGING GASES
Sen Xu¹, Linda Hoshan¹, Rubin Jiang¹, Joseph Moroney¹, Ashley Bui¹, Xiaolin Zhang¹, Ta-Chun Hang¹
¹Biologics Process Research & Development, Merck & Co., Inc., Kenilworth, NJ, United States

12.15-12.20  POSTER SPOTLIGHT – P-443  COMPARING DIFFERENT AT-LINE ANALYTICS FOR ONLINE RAMAN SPECTROSCOPY
Wenzel Wellenbeck¹, Alexander Woelke¹, Jens Traenkle¹, Jens Claßen¹, Steffen Kreye², Alexander Jockwer²
¹PAT,²USP, Bayer AG, Wuppertal, Germany

12.20-12.25  POSTER SPOTLIGHT – P-402  INVESTIGATING CHO SCALABILITY
Doug Marsh¹, Adrian Stacey², SinYee Yau-Rose², Jochen Scholz³, Steve Warr¹, Gary Finka¹
¹BPR, GSK, Stevenage, ²Sartorius Stedim Biotech GmbH, Royston, United Kingdom, ³Sartorius Stedim Biotech GmbH, Goettingen, Germany

12.25-12.30  POSTER SPOTLIGHT – P-435  PROCESS-INDUCED CELL-CYCLE SYNCHRONIZATION
Johannes Möller¹, Krathika Bhat¹, Ralf Pörtner¹, An-Ping Zeng¹, Uwe Jandt¹
¹Institute of Bioprocess and Biosystems Engineering, Hamburg University of Technology, Hamburg, Germany

12.30-13.30  LUNCH

13.30-15.00  POSTER SESSION 1 AND COFFEE
Presentation of odd number posters

15.00-16.30  SESSION 4: USE OF VIRAL- AND NON-VIRAL VECTORS FOR GENERATING NEW THERAPEUTIC PRODUCTS AND VACCINES
Chairpersons: Scott Estes and Anne B. Tolstrup

15.00-15.25  O-013  DEVELOPING PRODUCTIVE AND SCALABLE LENTIVIRAL VECTOR PRODUCTION PROCESSES
Lesley Chan, Vector Process Development, bluebird bio, USA
15.25-15.45  **O-014** ACCELERATED DEVELOPMENT OF PRODUCER CELL LINES FOR LV PRODUCTION

*Joana S Boura*¹, Laura JE Pearson¹, Louis Frost¹, Radmila Todoric¹, Alasdair Hood¹, Laura Dunne¹, Kyriacos A Mitrophanous¹, Hannah J Stewart¹

¹Oxford BioMedica, Oxford, United Kingdom

15.45-16.05  **O-015** HT OPTIMISATION OF SCALABLE TRANSFECTION CONDITIONS FOR AAV PRODUCTION

*Bethany Kerr*¹, Helen Young¹, Grace Young¹, Sam Stephen¹, Natasha Lethbridge¹, Kevin Bowes², Vera Lukashchuk², George Prout³, Philip Probert¹

¹CPI, Darlington, ²Cobra Biologics, Keele, United Kingdom

16.05-16.25  **O-016** ENABLING GENE AND CELL THERAPY: LENTIVIRAL VECTOR & CELL ENGINEERING

*Hélio Tomás¹ ², Ana Filipa Rodrigues¹ ², Ana Sofia Formas-Oliveira¹ ², Tiago Vaz¹ ², Mariana V Ferreira¹ ², Elisa T Cabral¹ ², Rodrigo Nogueira¹ ², Manuel JT Carrondo¹ ², Ana Sofia Coroadinha¹ ² ³*

¹IBET, Instituto de Biologia Experimental e Tecnológica, ²Instituto de Tecnologia Química e Biológica António Xavier, Universidade Nova de Lisboa, Oeiras, ³The Discoveries Centre for Regenerative and Precision Medicine, NOVA University Lisbon, Lisboa, Portugal

16.25-16.30  **POSTER SPOTLIGHT – P-206** UNDERSTANDING VIRUS-LIKE PARTICLE (VLP) GENERATION IN HEK 293 CULTURES

*Irene González-Domínguez¹, Eduard Puente-Massaguer¹, Laura Cervera¹, Francesc Gòdia¹*

¹Departament d'Enginyeria Química Biològica i Ambiental, Universitat Autònoma de Barcelona, Barcelona, Spain

16.30-17.00  **COFFEE BREAK**

17.00-17.30  **SESSION 5: USE OF VIRAL- AND NON-VIRAL VECTORS FOR GENERATING NEW THERAPEUTIC PRODUCTS AND VACCINES**

Chairpersons: Scott Estes and Anne B. Tolstrup

17.00-17.05  **POSTER SPOTLIGHT – P-223** A NOVEL TYPE OF DEFECTIVE INTERFERING PARTICLE FOR ANTIVIRAL THERAPY

*Marc Hein¹, Sascha Young Kupke¹, Dietmar Riedel¹, Timo Frensing¹ ², Pawel Zmora¹, Udo Reichl¹ ² ³*

¹Bioprocess Engineering, Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg, ²Facility for Transmission Electron Microscopy, Max Planck Institute for Biophysical Chemistry, Göttingen, ³Chair of Bioprocess Engineering, Otto von Guericke University, Magdeburg, Germany

17.05-17.30  **O-017** STRATEGIC PROCESS DEVELOPMENT ADDRESSING THE CHALLENGES AND OPPORTUNITIES IN BRINGING ADVANCED THERAPEUTICS TO MARKET

*Robert A. Baffi*, BioMarin, CA, USA

17.30-18.30  **KEYNOTE LECTURE 1:**

Chairpersons: Paula M Alves and Mikael Rørdam Andersen

BOTTOM-UP AND TOP-DOWN ENGINEERING OF STEM CELLS FATE FOR DISCOVERY AND THERAPY

*Peter W Zandstra*, University of British Columbia, Canada

18.30-20.00  **POSTER SESSION 2 AND DRINKS**
TUESDAY 7TH MAY 2019

09.00-10.30 SESSION 6: CELL CULTURE PROCESS ENGINEERING, PRODUCT QUALITY AND INTEGRATION WITH DOWNSTREAM PROCESSING

Chairpersons: Alan Dickson and Thomas Ryll
Sponsored by Fujifilm Irvine Scientific

09.00-09.30 O-019 HAPPY TOGETHER: THE BENEFITS AND APPLICATION OF A FULLY INTEGRATED BIOPROCESS

Jeff Salm¹, Raquel Orozco², Robert Kottmeier², Scott Godfrey³, Jon Coffman³, Rob Fahrner², Greg Hiller¹
¹Bioprocess R&D, Pfizer, Andover, MA, USA. ²Bioprocess R&D, Pfizer, Chesterfield, MO, USA. ³Process Science, Boehringer Ingelheim, Fremont, CA, USA

09.30-09.35 POSTER SPOTLIGHT – P-502 APPLICATION OF 2-COMPARTMENT SYSTEM TO STUDY LARGE-SCALE HETEROGENEITY

Katrin Paul¹, Bernd Mitic¹, Georg Scherfler¹, Christoph Herwig¹
¹Institute of Chemical Engineering, TU Wien, Vienna, Austria

09.35-09.40 POSTER SPOTLIGHT – P-602 ARE YOU FEEDING MORE CELLS THAN YOU THINK?

Jana Mahadevan¹, Delia Lyons³
¹MilliporeSigma, St. Louis, United States

09.40-09.45 POSTER SPOTLIGHT – P-543 CELL CULTURE PROCESS PARAMETERS FOR MODULATING MAB AFUCOSYLATION

Inn Yuk, Genentech, South San Francisco, United States

09.45-09.50 POSTER SPOTLIGHT – P-517 ACCOUNTING ENZYME REGULATION IN PROTEIN GLYCOSYLATION MODELS

Pavlos Kotidis¹, Joscari Jimenez del Val², Cleo Kontoravdi¹
¹Chemical Engineering, Imperial College London, London, United Kingdom, ²Chemical & Bioprocess Engineering, University College Dublin, Dublin, Ireland

09.50-10.10 O-020 HIGH-DENSITY PERFUSION: IMPROVEMENTS IN PRODUCTIVITY & PRODUCT QUALITY

Natalia Gomez¹, Jonathan Lull¹, Sherry Yang¹, Yan Wang¹, Xin Zhang¹, Agatha Wieczorek¹, Haly Raharimampioniona², Mike Pritchard¹, Diandra Martinez Cano¹, Michael Shearer¹, Chetan Goudar²
¹Amgen, Thousand Oaks, ²Amgen, Cambridge, United States

10.10-10.30 O-021 MAGNETIC BEAD PURIFICATION OF MAB FROM CHO CELL BROTH AT PILOT SCALE

Nils Brechmann¹,², Per-Olov Eriksson³, Kristofer Eriksson⁴, Sven Oscarsson³, Jos Buijs⁵, Atefeh Shokri¹,², Göran Hjälm¹, Véronique Chotteau¹,²
¹AdBIOPRO, VINNOVA Competence Centre for Advanced BioProduction by Continuous Processing, ²Cell Technology Group (CETEG), Dept. of Industrial Biotechnology, School of Engineering Sciences in Chemistry, Biotechnology and Health, KTH Royal Institute of Technology, Stockholm, ³PE Bioprocess Consulting AB, Strängnäs, ⁴Lab-on-a-Bead AB, Uppsala, ⁵Dept. of Organic Chemistry, Stockholm University, Stockholm, ⁶Dept. of Immunology, Genetics and Pathology, Uppsala University, Uppsala

10.30-11.00 COFFEE BREAK
11.00-12.30 SESSION 7: DEVELOPMENT OF CELL-BASED TECHNOLOGIES AND THERAPEUTICS
Chairpersons: Malin Parmar and Paulo Fernandes (ESACT Frontiers)
Sponsored by Kerry

11.00-11.30 O-022 BIOLOGY INSPIRED CELL THERAPY MANUFACTURING
Nick Timmins, BlueRock Therapeutics, USA

11.30-11.50 O-023 A FLEXIBLE 3D HUMAN HEPATIC CELL PLATFORM FOR MALARIA DRUG DISCOVERY
Francisca Arez1, Sofia Rebelo1, Diana Fontinha2, Daniel Simão3, Marta Machado3, Tatiana Martins1, Christoph Fischli1, Claude Deuray4, Manuel Carrondo1, Matthias Rottmann3, Thomas Spangenberg4, Catarina Brito1, Beatrice Greco6, Miguel Prudêncio7, Paula Alves1
1IBET, Instituto de Biologia Experimental e Tecnológica e Instituto de Tecnologia Química e Biológica António Xavier, Universidade Nova de Lisboa, Oeiras, Instituto de Medicina Molecular João Lobo Antunes, Faculdade de Medicina, Universidade de Lisboa, Lisbon, Portugal, 2Swiss TPH and University of Basel, Basel, Switzerland, 3Merck Global Health Institute, Ares Trading S.A., Route de La Verriere 6, CH-1267, Coinins, Switzerland, a subsidiary of Merck KGaA, Darmstadt, Germany

11.50-12.10 O-024 ENGINEERING OF EXOSOMES FOR TARGETED DELIVERY OF THERAPEUTIC MICRO-RNAS
Nikolas Zeh1, Helga Schneider1, Benjamin Weis1, Silke Wissing2, Nicole Faust2, Nicola Strempel2, Kerstin Otte1
1University of Applied Sciences Biberach, 2CEVEC Pharmaceuticals

12.10-12.15 POSTER SPOTLIGHT – P-327 BONE-MARROW EXPANDED MESENCHYMAL STROMAL CELLS FOR BONE GENERATION
Joaquim Vives1, Ruth Coll1, Núria Ribó2, Luciano Rodríguez1, Joan García1
1Banc de Sang i Teixits, Barcelona, Spain, 2Clinical Development, Banc de Sang i Teixits, Barcelona, Spain

12.15-12.20 POSTER SPOTLIGHT – P-308 GLYCOSYLATION VS RECEPTOR AFFINITY TO IMPROVE IFN4N ANTITUMOR ACTIVITY
Agustina Gugliotta1, Natalia Ceaglio1, Ricardo Kretje1, Marcos Oggero1
1Centro Biotecnológico del Litoral. Facultad de Bioquímica y Ciencias Biológicas, Universidad Nacional del Litoral, Santa Fe, Argentina

12.20-12.25 POSTER SPOTLIGHT – P-342 INDUSTRIALIZING IMMUNO-ONCOLOGY THERAPEUTIC DISCOVERY PLATFORMS
Betina Ricci1, Guido Capuccilli1, Carl Bruder1, Lukasz Gricman1, Chris Smith2, Karine Maillard3, Yang-Chieh Chou2, Christoph Freiberg1
1Biologics, GENEDATA, Basel, Switzerland, 2Biologics, GENEDATA, Boston, United States, 3Biologics, GENEDATA, London, United Kingdom, 4Biologics, GENEDATA, San Francisco, United States

12.25-12.30 POSTER SPOTLIGHT – P-339 EVALUATION OF HMSC-DERIVED EXTRACELLULAR VESICLES BY FTIR SPECTROSCOPY
Maria Pereira1, Luís Ramalhetet, Sandra Aleixo2, Cláudia Lobato da Silva1, Joaquim M.S. Cabral1, Cecília Calado2, Ana Fernandes-Platzgummer1
1Department of Bioengineering and iBB – Institute for Bioengineering and Biosciences, Instituto Superior Técnico, Universidade de Lisboa, 2ISEL-Instituto Superior de Engenharia de Lisboa, Instituto Politécnico de Lisboa, 3The Discoveries Center for Regenerative and Precision Medicine, Lisbon Campus, Instituto Superior Técnico, Universidade de Lisboa, Lisboa, Portugal

12.30-14.00 LUNCH AND ESACT GENERAL ASSEMBLY

14.00-15.30 POSTER SESSION 3 AND COFFEE
Presentation of even number posters

15.30-22.00 OUTING TO COPENHAGEN
**WEDNESDAY 8TH MAY 2019**

**SESSION 8: CELL CULTURE PROCESS CONTROLS AND ANALYTICS**

Chairpersons: Matthieu Stettler and Emma Petiot (ESACT Frontiers)
Sponsored by Hamilton Bonaduz AG

09.00-10.30  **O-025 DEVELOPMENT AND APPLICATION OF A MASS SPECTROMETRY BASED MULTI-ATTRIBUTE METHOD FOR PROTEIN THERAPEUTICS**

  Jette Wypych, Amgen, USA

09.30-09.50  **O-026 INTEGRATION OF PAT WITH INTENSIFIED PERFUSION PLATFORM DEVELOPMENT**

  Shawn Barrett, Sanofi, Framingham, United States

09.50-10.10  **O-027 BRINGING ART CLOSER TO SCIENCE: A QUALIFIED CART IDENTITY ASSAY**

  Stephie Leung¹, Betty Fan², Danylo Sirskyj¹, Spencer Hoover², Jessica Schwaber²

  ¹GE Healthcare Fast Trak Toronto, ²CCRM, Toronto, Canada

10.10-10.30  **O-028 CUSTOMISED PROCESS MODELS FOR CELL CULTURE PROCESSES**

  Harini Narayanan¹ Michael Sokolov¹², Alessandro Butté¹², Massimo Morbidelli¹²

  ¹Institute of Chemical and Bioengineering, ETH Zurich, ²DataHow AG, Zurich, Switzerland

10.30-11.00  **COFFEE BREAK**

**SESSION 9: DEVELOPMENT OF CELL-BASED TECHNOLOGIES AND THERAPEUTICS**

Chairpersons: Paula M Alves and Malin Parmar
Sponsored by Kerry

11.00-11.30  **O-029 CELL & VIRAL THERAPIES AND THE PROMISE TO SOLVE CURRENT MANUFACTURING CHALLENGES?**

  Uwe Gottschalk, Lonza AG, Switzerland

11.30-11.50  **O-030 A 3D KSHV LATENCY MODEL FOR IDENTIFICATION OF ANTIVIRAL COMPOUNDS**

  Tatyana Dubich¹, Anne Dittrich¹, Christoph Lipps¹, Tobias May¹, Marc Stadler¹, Thomas Schulze³, Dagmar Wirth¹

  ¹HELMHOLTZ CENTRE FOR INFECTION RESEARCH, ²Inscreenex GmbH, Braunschweig, ³Hannover Medical School, Hannover, Germany

11.50-12.10  **O-031 BONE BY DESIGN – VIA BIOASSEMBLIES OF CARTILAGE MICROTISSUE MODULES**

  Gabriella Nilsson Hall¹², Luis Mendes¹², Geris Liesbet²³, Frank Luyten¹², Ioannis Papantoniou¹²

  ¹²Skeletal Biology and Engineering Research Centre, ²Prometheus the division of Skeletal Tissue Engineering, KU Leuven, Leuven, ³Biomechanics Research Unit, Université de Liège, Liège, Belgium

12.10-12.20  **O-032 MAPPING STRUCTURE AND BIOLOGICAL FUNCTIONS WITHIN MESENCHYMAL BODIES**

  Sebastien Sart¹, Raphael Tomasi¹, Antoine Barizien¹, Gabriel Arseme², Ana Cumano³, Charles Baroud⁷

  ¹Physical Microfluidics and Bioengineering, Institut Pasteur, Paris, ²Laboratory of Hydrodynamics, Ecole Polytechnique, Palaiseau, ³Laboratory for Lymphopoiesis, Institut Pasteur, Paris, France
12.20-12.30  **O-033  IN VITRO MODELS TO DISCLOSE HUMAN CARDIAC PROGENITOR CELLS ACTION MODE**  
*Maria J. Sebastião* 1, 2, *Ivo Reis* 1, 2, *Itziar Palacios* 3, *Margarida Serra* 1, 2, *Patrícia Gomes-Alves* 1, 2, *Paula M Alves* 1, 2  
1IBET, Instituto de Biologia Experimental e Tecnológica, 2ITQB-NOVA, Instituto de Tecnologia Química e Biológica António Xavier, Universidade Nova de Lisboa, Oeiras, Portugal, 3Coretherapix, S.L.U. (Tigenix Group, Takeda), Tres Cantos, Spain

12.30-13.45  **LUNCH**

13.45-15.15  **SESSION 10: CELL CULTURE PROCESS ENGINEERING, PRODUCT QUALITY AND INTEGRATION WITH DOWNSTREAM PROCESSING**  
Chairpersons: Thomas Ryll and Alan Dickson  
Sponsored by Fujifilm Irvine Scientific

13.45-14.15  **O-034  MAKE PERFUSION GREAT AGAIN**  
*Jean-Marc Bielser*, Merck Group, Lausanne, Switzerland

14.15-14.35  **O-035  CONTINUOUS PROCESSING USING A CHEMOSTAT CULTURE**  
*Sarwat Khattak* 1, *Valerie Pferdeort* 1, *Tim Brantley* 1, *Kelly Wiltberger* 1, *Rashmi Kshirsagar* 2  
1Cell Culture Development, Biogen, RTP, 2Cell Culture Development, Biogen, Cambridge, United States

14.35-14.55  **O-036  INVESTIGATION OF MEDIA COMPONENTS ON PERFORMANCE OF CHO CELL CULTURES**  
*Ricardo Suarez Heredia* 1, 2, *Alexandros Kiparissides* 1, 2  
1Advanced Centre for Biochemical Engineering, 2Centre for Process Systems Engineering, University College London (UCL), London, United Kingdom

14.55-15.15  **O-037  OPTIMIZING CHO CELL CULTURE PROCESSES USING PREDICTIVE DIGITAL TWINS**  
1Insilico Biotechnology AG, Stuttgart, Germany

15.15-15.30  **SHORT COFFEE BREAK**

15.30-16.30  **KEYNOTE LECTURE 2:**  
Chairpersons: Mike Betenbaugh and Helene Fastrup Kildegaard  
**THE HUMAN SECRETOME PROJECT – GENERATION OF ALL HUMAN SECRETED PROTEINS IN MAMMALIAN CELL CULTURES**  
*Mathias Uhlen*, Science for Life Lab, Karolinska Institute and Royal Institute of Technology, Stockholm, Sweden.

16.30-17.00  **ESACT2019 CLOSING SESSION**  
ESACT Chairperson Mikael Rerdam Andersen  
Poster Committee Chairs: Ricardo Valdes-Bango Curell, ESACT Frontiers and Nüsa Pristovšek

17.30-19.00  **TRANSFER TO CONGRESS DINNER**

19.00-00.00  **CONGRESS DINNER AT LANGLEINIE PAVILLION**