Cell Culture Engineering XIII
Poster list

Posters are listed alphabetically by first name of the presenter. In nearly all cases, the presenter is the primary author. In a few cases, a poster is being presented by an attendee on behalf of a person who is not attending the conference. For all posters, the primary author is shown in the published abstract.

1. **Intercellular targeting and role of Bcl-xL in Chinese hamster ovary cells**
   Abasha Lewis, Johns Hopkins University, USA

2. **Pro-domain mutation leads to increased BMP-2 expression and reduced activity**
   Aileen J. Zhou, University of Toronto, Canada

3. **Polysaccharide derived from rakkyo is effective factor against freezing stress of mammalian cells**
   Akiko Ogawa, Suzuka National College of Technology, Japan

4. **Phase contrast microscopy image segmentation and analysis**
   Alain Garnier, Université Laval, Canada

5. **Metabolic characterization of recombinant Chinese hamster ovary (CHO) cells in batch culture**
   Alan J Dickson, University of Manchester, United Kingdom

6. **Volume distributions in CHO cell populations during adaptation to chemically defined medium**
   Alessandro Tona, National Institute of Standards and Technology, USA

7. **Application of microRNA for mammalian cells engineering**
   Aliaksandr Druza, Biotechnology Core Laboratory NIDDK, NIH, USA

8. **NMR-based metabolomics for cell culture engineering**
   Ana Teixeira, IBET/ITQB-UNL, Portugal

9. **Steady-state cultivation of Chinese hamster ovary cells for comparative physiological analyses**
   Andreas Maccani, ACIB - Austrian Centre of Industrial Biotechnology, Austria

10. **Development and implementation of a highly automated cell line development platform**
    Andrew Snowden, Amgen Inc., USA

11. **Implementation of automated miniature bioreactors for rapid process optimisation and development**
    Andrew Tait, TapBiosystems Ltd, United Kingdom

12. **Flux balance analysis (FBA) for quantifying CHO cell physiological response during a perfusion cultivation screening DOE study**
    Anke Mayer-Bartschmid, Bayer Pharma AG, Germany

13. **Mixing issues in cell culture bioreactors using microcarriers**
    Alvin Nienow, University of Birmingham, United Kingdom

14. **Glycosylation of monoclonal antibodies for clinical trials and translational cancer research**
    Angelo Perani, Ludwig Institute for Cancer Research, Australia
15. **Evaluation of an impedance-based probe to detect early cell death events**  
   Angelo Perani, Ludwig Institute for Cancer Research, Australia

16. **Modulating product quality through cell line and process modifications**  
   Anne Kantardjieff, Alexion Pharmaceuticals, USA

17. **Application of RNAi in bioprocessing to improve product quality and biologic functionality**  
   Anthony Rossomando, Alnylam Pharmaceuticals, USA

18. **BI-HEX® – optimising product quality attributes through host cell engineering and upstream process optimization**  
   Anurag Khetan, Boehringer Ingelheim Pharma GmbH & Co. KG, Germany

19. **Microengraving: An emerging technology for clonal selection of highly productive cell lines**  
   Barry C. Buckland, BiologicB LLC, USA

20. **Effect of a media reducing agent on monoclonal antibody assembly and glycosylation in NS0 cell culture**  
   Ben Dionne, University of Manitoba, Canada

21. **Impact of media on the phenotypic stability of antibody-producing cell lines**  
   Benjamin Wang, MedImmune, USA

22. **Adaptations of monoclonal antibody-producing CHO cell lines: Perspectives from genomics, transcriptome, glycomics and metabolomics**  
   Bernard Loo, Bioprocessing Technology Institute, Singapore

23. **Rational cell culture process development based on basic biochemical engineering principles**  
   Bert Frohlich, Shire Human Genetic Therapies, Inc., USA

24. **Physiology of metabolic shifts in cultured mammalian cells - a mechanistic analysis and a scheme for metabolic control**  
   Bhanu Chandra Mulukutla, University of Minnesota, USA

25. **Fundamentals of dielectric spectroscopy: applications to cell-based process monitoring**  
   Brandon Downey, Bend Research Inc. USA

26. **Manganese modulates mAb galactosylation in Chinese hamster ovary cells cultured in chemically defined medium**  
   Brent Grisim, Amgen Inc., USA

27. **A method for assessing cell lysis-mediated monoclonal antibody reduction in industrial cell culture processes**  
   Brian Horvath, Genentech Inc., USA

28. **NOVEL PNEUMATIC MIXING FOR SINGLE-USE BIOREACTOR APPLICATION: A COMPARATIVE ANALYSIS OF CONSISTENCY ACROSS SCALES**  
   Brian Lee, PBS Biotech, Inc., USA

29. **Development of new transient recombinant protein expression systems based on the infection of CHO cells by optimized baculovirus vectors**  
   Bruno Gaillet, Université Laval, Canada
30. **Regulating the ER stress response to improve protein production in recombinant CHO cells**  
Catherine Page, University of Manchester, United Kingdom

31. **Enhanced ADCC activity for an FC-containing protein produced in a GlcNAc T1 deficient CHO host**  
Cecilia Cooley, Pfizer, Inc., USA

32. **Development of a CHO-S transient expression system to rapidly generate preclinical material supply**  
Chanty Mariategue, Takeda California, Inc., USA

33. **Effect of growth medium exchange and dissolved oxygen concentration on the in vitro proliferation and metabolism of human mesenchymal stem cells: a quantitative approach**  
Chris Hewitt, Loughborough University, United Kingdom

34. **Rapid, large-scale manufacture of immunotherapeutics**  
Chris Warner, Keck Graduate Institute, USA

35. **Enhanced growth and productivity of CHO through RHSA media supplementation**  
Christopher Shen, Keck Graduate Institute, USA

36. **Leveraging on the success of cd- supplement to optimize your production**  
Claudia Berdugo, BD Biosciences, USA

37. **Effect of hydrodynamic conditions on expression of stress proteins, cell cycle and recombinant protein productivity**  
Claudia Berdugo, BD Biosciences, USA

38. **Advanced microscale bioreactor, AMBR™, for the rapid screening of biopharmaceutical producing cell lines**  
Clayton L. Casipit, OncoMed Pharmaceuticals, USA

39. **An in vitro model of vascular regeneration to advance cardiovascular regenerative medicine**  
Corinne Hoesli, Université Laval, Canada

40. **Evaluation of the ambr® micro reactor system**  
Craig Zupke, Amgen Inc., USA

41. **Insights into cell physiology phenomenon for multiple CHO batch processes using multivariate analysis and genetic algorithms for in-line dielectric spectroscopy and off-line bioprocess data streams**  
Dan Logan, Aber Instruments, United Kingdom

42. **On-line monitoring of the live cell concentration in disposable bioreactors**  
Dan Logan, Aber Instruments, United Kingdom

43. **Systematic development of a defined medium for the expansion of functional human keratinocytes**  
Imad Debbah, Université Laval, Canada

44. **The tubespin® bioreactor 600: Orbshake technology for mammalian cell cultivation in suspension**  
Dominique T. Monteil, École Polytechnique Fédérale de Lausanne, Switzerland
45. **Comparison of a traditional CHO amplification cell line development method for antibodies with the GPEX® (gene product expression) system**  
Dona York, Catalent Pharma Solutions, USA

46. **Screening cell culture conditions to reduce protease clipping in a fusion protein**  
Donald Olson, Eli Lilly, USA

47. **Characterizing hESC metabolism by systems biological approach**  
Dong-Yup Lee, National University of Singapore, Singapore

48. **Microline: A disposable approach to early phase clinical manufacturing**  
Ekta Mahajan, Genentech Inc., USA

49. **Protein expression in defined chromosomal loci of Sf9 insect cells: a valuable alternative to baculovirus infection**  
Fabiana Fernandes, IBET/ITQB-UNL, Portugal

50. **Optimisation of CHO transient transfections to obtain high titre antibody expression**  
Fay Saunders, UCB Celltech R&D, United Kingdom

51. **Evolution from the conventional stirred tank bioreactor vessel: cultivation of mammalian cell lines using a disposable gradient-free cell-trap bioreactor to achieve high cell growth potential without the use of external membrane device in perfusion mode**  
Frank Jing, Fogale Biotech, USA

52. **Development of a robust bioprocess for Ambrx’s mAb production**  
Frank Song, Ambrx, Inc., USA

53. **MALDI-TOF MS - a fast and simple tool for cell line identification and characterization of eukaryotic protein expression**  
Georg Schmid, F. Hoffmann-La Roche AG, Switzerland

54. **Large-scale experiences with the hipdog (high-end pH-controlled delivery of glucose) technology in CHO fed-batch culture**  
Gregory Hiller, Pfizer, Inc., USA

55. **Scale-up of 10L to 250L scale bioreactor for fed-batch process producing monoclonal antibody using CHO cell line in chemically defined medium**  
Grietsie Kuiken, Synthon B.V., The Netherlands

56. **Revisiting to the mechanism of rapamycin: Autophagy induction in recombinant CHO cells for enhanced antibody production**  
Gyun Min Lee, KAIST, Korea

57. **Constructs and methodologies for high-level transgene expression**  
Hal Alper, The University of Texas at Austin, USA

58. **Continuous improvement of commercial drug substance upstream process throughout product lifecycle: Robustness improvement**  
Hang Yuan, Biogen Idec, Inc., USA

59. **Rapid development and characterization of an HTST pasteurization process for commercially-used, soy hydrolysate-containing cell culture medium**  
Harmit Vora, BioMarin Pharmaceutical, USA
60. **Novel strategy for a high yielding mAb-producing CHO strain (overexpression of cysteine sulfinic acid decarboxylase [CSAD] caused beta-alanine biosynthesis and improved mAb yield)**
   Hisahiro Tabuchi, Chugai Pharmaceutical Co., LTD, Japan

61. **An analytical and cell culture platform for the development of a biosimilar**
   Holly Prentice, Momenta Pharmaceuticals, USA

62. **Implementation of 3l disposable reactors for use as a direct scale-up for cgmp manufacturing**
   Howard Clarke, CMC Biologics Inc., USA

63. **The effects of cell culture process and supplement on monoclonal antibody n-glycosylation**
   Hui-Chun Li, Development Center for Biotechnology, Taiwan

64. **Mining cell culture manufacturing data for enhancing process performance**
   Huong Le, University of Minnesota, USA

65. **Transcriptome dynamics of transgene expression and amplification in CHO cell line development**
   Huong Le, University of Minnesota, USA

66. **Understanding transcriptional enhancement in mAb producing CHO cells**
   Hussain Dahodwala, University at Albany, USA

67. **Engineering CHO cells and vectors for improved transgene integration and antibody production**
   Igor Fisch, Selexis SA, Switzerland

68. **Improved cell banking operations using disposables**
   Inn Yuk, Genentech Inc., USA

69. **Maximizing hemagglutinin yields in fed-batch cultures using a baculovirus expression vector system**
   Jamal Meghrous, Protein Sciences Corporation, USA

70. **Process characterization and validation for cell culture processes: challenges and opportunities**
   Janosch Rieger, Boehringer Ingelheim Pharma GmbH & Co. KG, Germany

71. **Process optimization and scale-up challenges in the development of a large-scale phase iii manufacturing process**
   Jason Goodrick, Genentech Inc., USA

72. **Utilizing a GFP tool to monitor efforts at improving GS-CHO cell line generation efficiency and productivity through highly stringent selection system**
   Jeffrey L Larson, Eli Lilly & Company, USA

73. **Dissecting the mechanisms of phenotypical instability in antibody production CHO cell lines**
   Jie Zhu, MedImmune, USA

74. **Mechanistic studies on the impact of PGAM1 and other key genes in glycolysis on energy metabolism and protein glycosylation in IgG producing Chinese hamster ovary (CHO) cells**
   Joaquina Mascarenhas, SAFC/Sigma Aldrich, USA
75. Impact of aeration strategies on fed-batch cell culture kinetics in a single-use 24-well bioreactor
   John Betts, University College London, United Kingdom

76. Analysis of the performance of eight commercially available recombinantly produced human insulin’s in MRC-5, MDCK and sp0/2 cell lines
   John F Menton, Sheffield Bioscience, USA

77. Comparison of the efficacy and toxicity of three commercially available recombinant trypsins against porcine trypsin in six different cell lines
   John F Menton, Sheffield Bioscience, USA

78. Upregulation of histone deacetylase (HDAC) activity is associated with long term expression instability in a BHK21 cell line during continuous perfusion culture
   John Thrift, Bayer HealthCare, USA

79. Development of the EPI-CHO transient expression system for improved mab production
   Jong Wei Wooh, Australian Institute for Bioengineering and Nanotechnology, Australia

80. Metabolic engineering of Chinese hamster ovary cells: Production and characterization of heparin
   Jong Youn Baik, University at Albany, USA

81. Effect of amino acid addition on cell growth of human hybrid F2N78 cells
   Joon Serk Seo, Inha University, Korea

82. Use of homologous recombination based genome editing for CHO cell line engineering
   Joshua Kapp, Horizon Discovery, United Kingdom

83. Understanding increased c-terminal lysine in a recombinant monoclonal antibody production using Chinese hamster ovary cells with chemically defined media
   Jun Luo, Genentech Inc., USA

84. Use of a robust CHO platform for expression of viral glycoproteins
   Jurgen Mullberg, Novartis V&D, USA

85. Comparison of performance-enhancing effects of supplementation with a complex feed system when applied to multiple CHO basal medias
   Karen A Benedict, Sheffield Bioscience, USA

86. Design of experiment (DOE) studies to evaluate process robustness in high density perfusion mammalian cell cultures
   Karthik P. Jayapal, Bayer Healthcare, USA

87. Scalability of the disposable Mobius® cellready stirred tank bioreactors
   Kathleen Thiel, EMD Millipore, USA

88. Exploring the transcriptome space of recombinant BHK cells through next generation sequencing
   Kathryn Johnson, University of Minnesota, USA

89. Evaluation of different quenching and extraction methods used for nucleotide / nucleotide sugar analysis
   Katrin Braasch, University of Manitoba, Canada
90. **CHOgenome.org – an online resource for the CHO genome**  
    Kelvin H. Lee, University of Delaware, USA

91. **Development pipeline debottlenecking for increased speed and throughput of therapeutic antibody opportunities**  
    Kevin Bailey, Regeneron Pharmaceuticals, Inc., USA

92. **A flow cytometry-based method for predicting expression stability in monoclonal antibody producing cell lines**  
    Kevin Smith, Janssen R&D, USA

93. **Mammalian cell biotechnology laboratory course at Keck Graduate Institute (KGI)**  
    KiriLynn Svay, Keck Graduate Institute, USA

94. **Development and application of an automated, multiwell plate based screening system for suspension cell culture**  
    Klaus Joeris, Roche Diagnostics GmbH, Germany

95. **Establishment of a novel gene amplification platform by ATR down-regulation in CHO cell lines**  
    Kyoungho Lee, Osaka University, Japan

96. **Importance of the end of run studies and real time monitoring for the evaluation of a microcarrier based cell culture perfusion process**  
    Lada Laenen, Genzyme, A Sanofi Company, Belgium

97. **Emerging role of Kaiser Raman in cell culture applications**  
    Larry West, Kaiser Optical Systems, USA

98. **Temporal optimization of VPA addition during transient expression in HEK293 cells increases final protein yield**  
    Laust Bruun Johnsen, Novo Nordisk A/S, Denmark

99. **Screening of animal-component-free media for the culture of CHO cells in shaken tubes and stirred-tank bioreactors**  
    Leda R. Castilho, Federal University of Rio de Janeiro, Brazil

100. **A systems biotechnology platform to optimise the expression of mAb sequence variants in CHO cells**  
    Leon P. Pybus, The University of Sheffield, United Kingdom

101. **Application of design space principles for the characterization of late stage cell culture processes**  
    Lia Tescione, Biogen Idec, Inc., USA

102. **Utilizing a GFP tool to monitor efforts at improving GS-CHO cell line generation efficiency and productivity through highly stringent selection system**  
    Lianchun Fan, Eli Lilly & Company, USA

103. **Targeting transformational production of biotherapeutics: Application of a process-development methodology leveraging coupled bioreactor monitoring and feedback tools and an automated aseptic sampling (AAS) system**  
    Lisa Graham, Bend Research Inc., USA
| 104. | **Impact of aeration on Chinese hamster ovary cells physiology and structure during batch culture**  
Lourdes Velez-Suberbie, University College London, United Kingdom |
| 105. | **Rapid production of gram-scale proteins and high titer viral vectors using a CGMP-compliant, scalable transient transfection system based on flow electroporation**  
Madhusudan V. Peshwa, MaxCyte, Inc., USA |
| 106. | **Clonal variability and chromosomal heterogeneity in Chinese hamster ovary cell lines**  
Mai Takahashi, The University of Tokushima, Japan |
| 107. | **Integrating functional genomics tools to survey retrovirus production in human cells**  
Manuel Carrondo, IBET/ITQB-UNL, Portugal |
| 108. | **Impact of bioreactor design on the performance of microcarrier cultures**  
Manuel Carrondo, IBET/ITQB, Portugal |
| 109. | **Development, qualification, and application of a scale-down bioreactor model to support a microcarrier-based perfusion cell culture commercial manufacturing process**  
Marcella Yu, Genzyme Corporation, USA |
| 110. | **Application of soft-sensors in pharmaceutical biotech production**  
Marco Jenzsch, Roche Pharma Biotech, Germany |
| 111. | **A powerful 3D culture strategy for integrating expansion and cryopreservation of human embryonic stem cells**  
Margarida Serra, IBET/ITQB-UNL, Portugal |
| 112. | **Bioengineering approaches for the development of robust processes for the production of IPSC-derived cardiomyocytes**  
Margarida Serra, IBET/ITQB-UNL, Portugal |
| 113. | **Novel human central nervous system 3D in vitro models: useful tools for preclinical evaluation of viral vectors**  
Margarida Serra, IBET/ITQB-UNL, Portugal |
| 114. | **Speed up process development and clinical manufacturing using disposable stirring tank reactors**  
Marie Zhu, Agensys/Astelas Inc, USA |
| 115. | **Engineering autophagy in CHO cells to increase protein production in fed-batch processes**  
Mario A. Jardon, University of British Columbia, Canada |
| 116. | **A kinetic-metabolic model for CHO cells**  
Mario Jolicoeur, Ecole Polytechnique de Montréal, Canada |
| 117. | **A novel method of grouping amino acids for media optimization**  
Mark C. Arjona, Irvine Scientific, USA |
| 118. | **A single medium formulation enables rapid CHO cell line process development**  
Mark J. Stramaglia, Life Technologies Corporation, USA |
| 119. | **Development of a global Roche cell culture platform: leveraging knowledge from two legacy platform processes**  
Martin Gawlitzek, Genentech Inc., USA |
120. Medium conditions influence the tertiary structure of the t-pa by reducing / oxidizing the cys182-cys313 disulfide bond
Masami Yokota, Astellas Pharma Inc., Japan

121. Suppression of antibody aggregation in CHO cell culture by trehalose addition
Masayoshi Onitsuka, The University of Tokushima, Japan

122. A semi-continuous fed-batch approach to increase volumetric productivity
Matthew Gagnon, Pfizer, Inc., USA

123. Technical transfer and validation of the cell culture process for the commercial production of a protein – a case study
Matthew Osborne, Eli Lilly & Co. Kinsale, Ireland

124. Microrna biogenesis in CHO cells: the impact of dicer and drosha mediated mirna processing on CHO cell phenotype
Matthias Hackl, BOKU University, Austria

125. Computational identification of microrna gene loci and precursor microrna sequences in CHO cell lines
Matthias Hackl, BOKU University, Austria

126. Mixing uniformity characterization of 15,000l mammalian cell culture bioreactor
Mei Shao, MedImmune, USA

127. Evaluation and characterization of the advanced microscale bioreactor (ambr) system for use in antibody cell line development
Melisa Carpio, Takeda San Francisco, USA

128. Toward online control of glycosylation in mAbs
Melissa M. St. Amand, University of Delaware, USA

129. The changing dielectric properties of CHO cells can be used to determine early apoptotic events in a bioprocess
Michael Butler, University of Manitoba, Canada

130. Phytoplankton extracts as media supplements support growth and productivity of recombinant CHO cells
Michael Butler, University of Manitoba, Canada

131. Use of live cell microscopy and image analysis to follow the temporal regulation of gene expression and potential applications to protein production in CHO cells
Michael Halter, National Institute of Standards and Technology, USA

132. A comparison of shear stress induced pluripotency in two-dimensional and three-dimensional embryonic stem cell cultures
Michael S. Kallos, University of Calgary, Canada

133. Molecular mechanism of antibody disulfide bond reduction in CHO cell culture processes
Michael W. Laird, Genentech Inc., USA

134. A novel strategy to reduce both lactic acid and ammonia production in animal cell culture
Nate W. Freund, Keck Graduate Institute, USA
135. Rapid large-scale production of novel influenza virus like particle vaccines using the Sf9 - baculovirus expression system
Nate W. Freund, Novavax, Inc, USA

136. Optimisation of the expansion and differentiation of embryonic stem cells on an automated microwell platform
Nathalie Moens, University College London, United Kingdom

137. The mammalian upr components ATF6 and erse can be used together to enhance production of ‘difficult to express’ proteins
Nathan West, University of Sheffield, United Kingdom

138. Distinct metabolic phases of an industrial CHO cell fed-batch process characterized by 13C flux analysis
Neil Templeton, Vanderbilt University, USA

139. Analysis of the secretome of Chinese hamster ovary (CHO) cells
Nicole Borth, BOKU University, Austria

140. CAP: A protein and vaccine production platform based on immortalized human amniocytes
Nicole Faust, Cevec Pharmaceuticals GmbH, Germany

141. Controlling high mannose glycan level and optimizing titer through a balanced modulation of cell culture process and medium changes
Nicole Le, Amgen Inc., USA

142. Control of polyplex mediated transfection of CHO cells
Olivia L. Mozley, The University of Sheffield, United Kingdom

143. The metabolic load of heterologous protein expression in CHO cells
Olivier Henry, Ecole Polytechnique de Montréal, Canada

144. Evaluation of cell metabolism as a high throughput indicator of the impact of medium components on autologous cellular immunotherapy
Pascal R Beauchesne, Dendreon Corporation, USA

145. Perfusion bioreactor culture of human liver cell spheroids for repeated-dose long-term drug testing
Paula Alves, IBET/ITQB-UNL, Portugal

146. Engineering the energy metabolism and lactate production in mammalian cells producing complex biopharmaceuticals: down-regulation of the warburg effect
Paula Alves, IBET/ITQB-UNL, Portugal

147. Implementation and performance of a high-throughput cell culture system for process development
Peter Harms, Genentech Inc., USA

148. Systems biology analysis of IgG1 producing CHO cells considering cellular compartments
Ralf Takors, Institute of Biochemical Engineering, Germany

149. Resolving process variability with an increased understanding of cell metabolism
Rashmi Kshirsagar, Biogen-IDEC, USA
150. Exchange flow and cell lateral migration in rotating cylindrical filters for animal cell perfusion culture: A CFD study
   Ricardo Medronho, Federal University of Rio de Janeiro, Brazil

151. The use of existing animal cell culture facilities to make insect cell culture expressed influenza vaccine
   Robert Boulanger, Protein Sciences Corporation, USA

152. The way to a design space for an animal cell culture process according to QBD
   Robert Puskeiler, Roche Diagnostics GmbH, Germany

153. The use of free light chain as a product quality indicator
   Robert Smith, EMD Millipore, USA

154. Analysis of the activation status of the PI3K/AKT and Ras/MAPK signalling pathways and their roles in the serum-free, suspension adaptation of CHO cells
   Robert Whitfield, The University of Sheffield, United Kingdom

155. Advance multivariate modeling: a comprehensive tool for IgG process development and manufacturing activities
   Ronald Eimers, MSD (Merck), The Netherlands

156. Application of single-use bioreactors for the rapid production of pre-clinical and clinical biopharmaceuticals
   Rüdiger Heidemann, Bayer HealthCare Pharmaceuticals, USA

157. Evaluation of long-term cryobag storage of mammalian cells for direct bioreactor inoculation
   Rüdiger Heidemann, Bayer HealthCare Pharmaceuticals, USA

158. Technology lifecycle management – increasing process performance and robustness by implementing new technologies in existing processes
   Salim Charaniya, Genentech Inc., USA

159. Cell line development tool box for expression: e.coli, CHO, insect cells
   Sam Ellis, Thomson Instrument Company, USA

160. Effect of endoplasmic reticulum stress modulators on protein secretion in recombinant cell lines
   Sarika Mehra, Indian Institute of Technology, India

161. Culture supplement for mammal-free medium
   Satoshi Terada, University of Fukui, Japan

162. Development of Raman spectroscopy based process monitoring and control technology
   Scott Estes, Biogen Idec, Inc., USA

163. Improvement of cell-freezing technologies and disposable bioreactors allow to perform fully closed usp process
   Sebastien Ribault, Merck Biodevelopment, France

164. Data fusion based assessment of raw materials in mammalian cell culture
   Seongkyu Yoon, University of Massachusetts Lowell, USA

165. Metabolic modeling of a cell culture process
   Shailendra Singh, MedImmune LLC, USA
Comparability studies of cell culture for monoclonal antibody production in minibioreactors and bench scale bioreactors
Shaunak D. Uplekar, University of Maryland Baltimore County, USA

Overcoming barriers to creating high concentration pH-neutral feed supplements for CHO fed batch cultures
Shawn Barrett, Life Technologies Corporation, USA

Challenges and opportunities in the production of a baculovirus/insect cell-derived recombinant protein antigen for cancer immunotherapy
Shue-Yuan Wang, Dendreon Corporation, USA

Insight on scaling-up serial propagation of mammalian cell on microcarriers through mechanistic modeling
Siguang Sui, University of Minnesota, USA

Cell line generation, manufacturing, release and characterization of recombinant antibody mixtures
Søren K. Rasmussen, Symphogen A/S, Denmark

Effects of high passage cultivation on CHO cells: A global analysis
Stefan Northoff, TeutoCell AG, Germany

RNA interference of coflin improves recombinant protein productivity in Chinese hamster ovary cells
Stephanie Hammond, University of Delaware, USA

Prototype testing of a novel single-use bioreactor system
Stephen Hsu, Keck Graduate Institute, USA

Scale-down studies of the effect of hydrodynamic forces on CHO cells; Implications for industrial production conditions
Steven Meier, Genentech Inc., USA

Overcoming antibody expression challenges by light chain engineering
Sujeewa D Wijesuriya, XOMA (US) LLC, USA

Development of in-process control strategies via integrated process characterization
Susan Abu-Absi, Bristol-Myers Squibb, USA

Differential effect of reduced culture temperature on the expression and biophysical properties of monoclonal antibody variants
Susan T. Sharfstein, University at Albany, USA

Quick resolution of the effect of storage conditions of a commercial medium on averting a potential failure of a phase iii monoclonal antibody production process
T. Craig Seamans, Merck & Co., Inc, USA

Upstream culture development and external technology transfer: case study for a phase iii monoclonal antibody production process
T. Craig Seamans, Merck Research Laboratories, USA

Detail analysis of chromosome rearrangements in CHO cells using bac-based physical map
Takeshi Omasa, The University of Tokushima, Japan
181. **Vial thaw investigation during tech transfer of a GS-CHO Ab process**  
Thomas Black, Eli Lilly S.A., Ireland

182. **Aspects of solid-liquid separation in pharmaceutical biotech production – characterisation, optimization and scale down of this process**  
Thorsten Kaiser, Roche Pharma Biotech, Germany

183. **Orbital shaken bioreactors in the field of cell cultivation**  
Tibor Anderlei, Adolf Kuhner AG, Switzerland

184. **Rapidly delivering the next generation of protein therapeutics, vaccines and reagents using design of experiment (DOE), quality by design initiatives and high-throughput technologies**  
Tiffany D Rau, Pall Corporation, USA

185. **Integrated continuous bioprocessing: union of process technologies enabling future processing flexibility**  
Timothy Johnson, Genzyme Corporation, USA

186. **Gene expression profiles in ATF4-overexpressing CHO cell line**  
Tomomi Tsutsui, The University of Tokushima, Japan

187. **Glycomics to investigate the impact of process changes on product quality in cell culture-based influenza vaccine production**  
Udo Reichl, Max Planck Institute for Dynamic of Complex Technical Systems, Germany

188. **CHO-engimirs: Growth enhancement by the miR-17-92 cluster in CHO cells**  
Vaibhav JadHAV, BOKU University, Austria

189. **Comparative metabolic flux analyses of cultivations with novel avian designer cell lines used for vaccine production**  
Verena Lohr, Max-Planck-Institute for Dynamics of Complex Technical Systems, Germany

190. **Development of a method to model the cell metabolism in varying environmental conditions based on extracellular component measurements**  
Veronique Chotteau, KTH, Sweden

191. **Very high CHO cell density by ATF or TFF external filter perfusion in wave bioreactor™**  
Veronique Chotteau, KTH, Sweden

192. **Microfluidic platform for rapid clonal selection of highly productive cell lines**  
Véronique Lecault, University of British Columbia, Canada

193. **Manufacturing flexibility: Concepts and approaches**  
WeiWei Hu, Biogen Idec, Inc., USA

194. **Characterization and selection of suspension cell lines for future viral vaccine production platforms**  
Wilfried A.M. Bakker, RIVM, The Netherlands

195. **13c-metabolic flux analysis reveals metabolic rewiring of CHO cell metabolism in the transition from growth phase to stationary phase**  
Woo Suk Ahn, University of Delaware, USA

196. **Efficient polymer-mediated transient gene expression in serum-free Sf9 cells in tubespin® bioreactors**  
Xiao Shen, École Polytechnique Fédérale de Lausanne, Switzerland
197. **Establishment of mammalian cell line suitable for producing recombinant protein using mutation induced by high energy beam radiation**
  Yasuhito Chida, University of Fukui, Japan

198. **Differential induction of autophagy in caspase-3/7 downregulating and Bcl-2 overexpressing rCHO cells upon nabu treatment**
  Yeon Jung Kim, KAIST, Korea

199. **Tricistronic vector for enhancing generation of high monoclonal antibody producing CHO cell lines**
  Yuansheng Yang, Bioprocessing Technology Institute, Singapore

200. **Multi-dimensional process modeling for characterization of a CHO fed-batch process**
  Yun Jiang, Swedish Orphan Biovitrum, Sweden

201. **Qualification of scale down bioreactors for validation of process changes in commercial production**
  Yuval Shimoni, Bayer HealthCare, USA

202. **Development of a scale-down model of the inactivated polio vaccine production process**
  Yvonne E. Thomassen, RIVM, The Netherlands

203. **A kinetic study of endogenous unfolded protein response and its applications in CHO production culture**
  Zhimei Du, Amgen Inc., USA

204. **A rationally integrated approach for fed-batch cell culture process optimization**
  Zhou Jiang, Life Technologies Corporation, USA

205. **Improving productivity of CHO cells cultures by enhancing energy metabolism during cell growth**
  Ziomara P. Gerdtzen, University of Chile, Chile

206. **Regulation of protein productivity by micrornas in CHO cells**
  Bernard Loo, Bioprocessing Technology Institute, Singapore