Cell Culture Engineering XIII
Poster list (to date – March 16, 2012)

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

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

11. **Glycosylation of monoclonal antibodies for clinical trials and translational cancer research**
    Angelo Perani, Ludwig Institute for Cancer Research, Australia

12. **Evaluation of an impedance-based probe to detect early cell death events**
    Angelo Perani, Ludwig Institute for Cancer Research, Australia

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

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

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

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

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

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

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

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

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

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

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

24. **Development of new transient recombinant protein expression systems based on the infection of CHO cells by optimized baculovirus vectors**
Bruno Gaillet, Université Laval, Canada

25. **A powerful 3D culture strategy for integrating expansion and cryopreservation of human embryonic stem cells**
Catarina Brito, IBET/ITQB-UNL, Portugal

26. **Bioengineering approaches for the development of robust processes for the production of IPSC-derived cardiomyocytes**
Catarina Brito, IBET/ITQB-UNL, Portugal

27. **Regulating the ER stress response to improve protein production in recombinant CHO cells**
Catherine Page, University of Manchester, United Kingdom

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

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

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

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

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

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

34. **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

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

36. **Cell culture platforms accelerate and streamline biotherapeutic development**
David (Xiaojian) Zhao, JS Biosciences, China

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

38. **The tubespin® bioreactor 600: Orbshake technology for mammalian cell cultivation in suspension**
Dominique T. Monteil, École Polytechnique Fédérale de Lausanne, Switzerland

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

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

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

42. **Microline: A disposable approach to phase 0 clinical manufacturing**
Ekta Mahajan, Genentech Inc., USA

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

44. **Evolution from the conventional stirred tank bioreactor vessel: cultivation of mammlian 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

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

46. **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

47. **Revolution in biopharmaceutical manufacture – XD® cell culture**
Gerben Zijlstra, DSM Biologics, The Netherlands

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

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

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

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

52. **Rapid development and characterization of an HTST pasteurization process for commercially-used, soy hydrolysate-containing cell culture medium**
Harmit Vora, BioMarin Pharmaceutical, USA

53. **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

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

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

56. **The effects of cell culture process and supplement on monoclonal antibody n-glycosylation**
Hui-Chun Li, CGMP Biopharmaceutical Pilot Plant Facility, Taiwan

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

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

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

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

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

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

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

64. **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

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

66. **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

67. **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

68. **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

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

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

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

72. **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

73. **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

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

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

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

77. **Evaluation of different quenching and extraction methods used for nucleotide / nucleotide sugar analysis**
Katrin Braasch, University of Manitoba, Canada

78. **CHOgenome.org – an online resource for the CHO genome**
Kelvin H. Lee, University of Delaware, USA

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

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

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

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

83. **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

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

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

86. **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

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

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

89. **Improving GS-CHO cell line generation efficiency and productivity through highly stringent selection system**
Lianchun Fan, Eli Lilly & Company, USA

90. **Impact of aeration on Chinese hamster ovary cells physiology and structure during batch culture**
Lourdes Velez-Suberbie, University College London, United Kingdom

91. **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

92. **Clonal variability and chromosomal heterogeneity in Chinese hamster ovary cell lines**
Mai Takahashi, The University of Tokushima, Japan

93. **Integrating functional genomics tools to survey retrovirus production in human cells**
Manuel Carrondo, IBET/ITQB-UNL, Portugal

94. **Impact of bioreactor design on the performance of microcarrier cultures**
Manuel Carrondo, IBET/ITQB, Portugal

95. **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

96. **Application of soft-sensors in pharmaceutical biotech production**
Marco Jenzsch, Roche Pharma Biotech, Germany

97. **Speed up process development and clinical manufacturing using disposable stirring tank reactors**
Marie Zhu, Agensys/Astelas Inc, USA

98. **Engineering autophagy in CHO cells to increase protein production in fed-batch processes**
Mario A. Jardon, University of British Columbia, Canada

99. **A kinetic-metabolic model for CHO cells**
Mario Jolicoeur, Ecole Polytechnique de Montréal, Canada

100. **A novel method of grouping amino acids for media optimization**
Mark C. Arjona, Irvine Scientific, USA

101. **A single medium formulation enables rapid CHO cell line process development**
Mark J. Stramaglia, Life Technologies Corporation, USA

102. **Development of a global Roche cell culture platform: leveraging knowledge from two legacy platform processes**
Martin Gawlitzek, Genentech Inc., USA

103. **Medium conditions influence the tertiary structure of the t-pa by reducing / oxidizing the cys182-cys313 disulfide bond**
Masami Yokota, Astellas Pharma Inc., Japan

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

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

106. **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

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

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

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

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

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

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

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

114. **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

115. **Technology lifecycle management – increasing process performance and robustness by implementing new technologies in existing processes**
Michael Pohlscheidt, Genentech Inc., USA

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

117. **A novel strategy to reduce both lactic acid and ammonia production in animal cell culture**
Nate W. Freund, Keck Graduate Institute, USA

118. **Rapid large-scale production of novel influenza virus like particle vaccines using the Sf9 - baculovirus expression system**
Nate W. Freund, Novavax, Inc, USA

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

120. **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

121. **The impact of bcl-2δ overexpression upon lactate metabolism in Chinese hamster ovary (CHO) cells**
Neil Templeton, Vanderbilt University, USA

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

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

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

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

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

127. **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

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

129. **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

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

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

132. **Resolving process variability with an increased understanding of cell metabolism**
Rashmi Kshirsagar, Biogen-IDEC, USA

133. **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

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

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

136. **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

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

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

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

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

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

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

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

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

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

146. **Metabolic modeling of a cell culture process**
Shailendra Singh, MedImmune LLC, USA

147. **Comparability studies of cell culture for monoclonal antibody production in minibioreactors and bench scale bioreactors**
Shaunak D. Uplekar, University of Maryland Baltimore County, USA

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

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

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

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

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

153. **RNA interference of cofilin improves recombinant protein productivity in Chinese hamster ovary cells**
Stephanie Hammond, University of Delaware, USA

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

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

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

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

158. **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

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

160. **Detail analysis of chromosome rearrangements in CHO cells using bac-based physical map**
Takeshi Omasa, The University of Tokushima, Japan

161. **Vial thaw investigation during tech transfer of a GS-CHO Ab process**
Thomas Black, Eli Lilly S.A., Ireland

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

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

164. **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

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

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

167. **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

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

169. **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

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

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

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

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

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

175. **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

176. **Efficient polymer-mediated transient gene expression in serum-free Sf9 cells in tubespin® bioreactors**
Xiao Shen, École Polytechnique Fédérale de Lausanne, Switzerland

177. **Establishment of mammalian cell line suitable for producing recombinant protein using mutation induced by high energy beam radiation**
Yasuhito Chida, University of Fukui, Japan

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

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

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

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

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

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

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

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