Program

Cell Culture Engineering XI

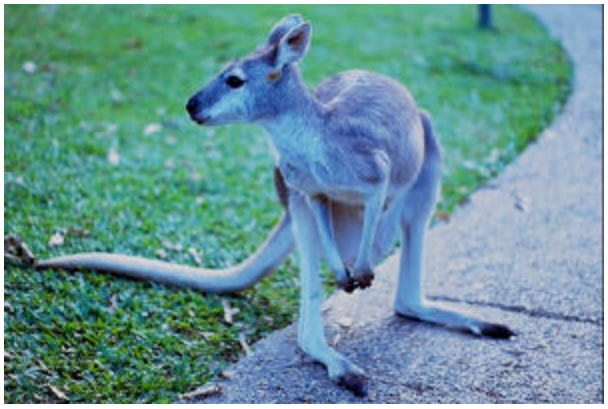
April 13 - 18, 2008

Hyatt Regency Coolum
Sunshine Coast, Queensland, Australia

Conference Chairs

Professor Peter P. Gray
AIBN, University of Queensland, Australia

Dr. Carole A. Heath
Amgen, USA



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Engineering Conferences International (ECI) is a not-for-profit global engineering conferences program, originally established in 1962, that provides opportunities for the exploration of problems and issues of concern to engineers and scientists from many disciplines.

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Martin Fussenegger Recipient of the 2008 Merck & Co. Award in Cell Culture Engineering

Engineering Conferences International (ECI), the Cell Culture Engineering (CCE) XI Conference, and Merck & Co. are proud to announce Professor Dr. Martin Fussenegger of ETH (Federal Institute of Technology) Zürich, Switzerland, as the winner of the 2008 Merck Cell Culture Engineering Award.

Dr. Fussenegger (http://www.fussenegger.ethz.ch/) is Professor of Biotechnology and Bioengineering, Director of the Institute for Chemical and Bioengineering, & Director of Studies in Biotechnology at ETH Zürich.

Professor Fussenegger's research has had a large impact on both fundamental and applied aspects of cell culture engineering. He has advanced numerous new and creative technologies that have profoundly impacted the practice of cell culture operations. In a short period of time, Professor Fussenegger conceived and reduced to practice pioneering applications of molecular biology to the solution of several important cell culture problems. His work has been published in high visibility journals and applied broadly to the practice of cell culture technology for biopharmaceuticals production.

He has also dedicated himself to the advancement of the field as a whole such as through this CCE conference series and also leadership within ESACT (the European Society for Animal Cell Technology). Collectively, his research and professional activities have established Professor Fussenegger as an international leader in the cell culture engineering field. His awards and recognitions include a 2002 Professorship Award by the Swiss National Science Foundation; the 2002 business award "Venture 2002" by McKinsey and ETH; the 2002 Swiss Commission of Technology and Innovation Award; the 2003 De Vigier Award, the most prestigious Swiss innovation award; and the 2004 Gaden Award by the journal Biotechnology & Bioengineering. In 2007, he was elected Fellow of the American Institute for Medical and Biological Engineering (AIMBE).

Over the years, he was appointed to Editorial Boards of many prestigious journals in the biotechnology field. He is the author of more than 165 publications and of several patents, and has developed extensive industrial interactions through consulting and company start-up activity. He has supervised 14 post-doctoral and 28 doctoral students in addition to a large number of diploma thesis students.

Professor Fussenegger will deliver the Award lecture during the 2010 CCE conference.

About the Merck Cell Culture Engineering Award

This prestigious Award is supported by Merck & Co., Inc. (http://www.merck.com/), a global research-driven pharmaceutical company. Established in 1891, Merck discovers, develops, manufactures and markets vaccines and medicines to address unmet medical needs. The Award is to recognize outstanding contributions to the field of Cell Culture Technology & Engineering, and significant service and dedication to the profession. The award was established in 2001, and is given bi-annually at the Cell Culture Engineering conference (ECI Conferences). Former recipients were: **Wei-Shou Hu** (2002), **Eleftherios T. Papoutsakis** (2004), and **W. Robert Arathoon** (2006).

Conference Sponsors

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Welcome from the CCE XI Chairs

April 2008

Welcome to Participants and Friends,

It is with great pleasure that we welcome you to the eleventh Cell Culture Engineering Conference, being held in Coolum on Australia's Sunshine Coast.

The ten preceding conferences in the series have played a major role in the successful development of the technologies that are now being applied to the rapidly expanding range of biopharmaceuticals finding applications in healthcare. These preceding conferences have set a particularly high standard, which we trust that we have been able to continue.

With over 260 participants (selected from well over 500 applicants), 46 oral presentations, 6 workshops, and 142 posters (selected from over 200 submissions), the meeting will offer ample opportunities to learn more about the many different aspects of cell culture.

Two common threads cut across essentially all of the sessions at this conference. The first is "faster, better, cheaper". It is usually understood that you cannot have all three at the same time but that doesn't stop scientists from trying. In recent years we've seen an increased focus on accelerating biopharmaceutical development, especially cell line development, and decreasing cost of goods while maintaining or improving product efficacy and safety. A few sessions address these goals directly. The second thread is "design", which includes concepts such as QbD and design space that are based on increased understanding of our products, cells, and processes and interactions among them. Several sessions address the latest strategies and tools for improving process design.

We would particularly like to thank the CCE Steering Committee for the trust that they showed in allowing us to hold this conference in Australia. We hope that you find the conference venue enjoyable and conducive to many productive discussions, and that you will be able to see some of the surrounding areas during the free time of the conference.

We would like to offer our sincere gratitude to all our session chairs, and poster and workshop organizers, whose diligent efforts have made the concept for this Conference come to life. Most importantly, we would like to thank our many sponsors, listed on the pages that follow. Without their generous support, such a Conference would not have been possible. Finally, we hope you will enjoy the Conference and participate to the fullest extent. Thank you for joining us.

Carole Heath, Amgen
Peter Gray, AIBN

Sunday, April 13, 2008

14:00 – 17:30	Registration
17:30 – 18:00	Conference Opening
18:00 – 19:00	**Keynote #1** **The Role of Noncoding RNA in Regulating Gene Expression in Mammalian Cells** John Mattick, University of Queensland, Australia
19:00 – 19:30	Buses to Beach
19:30 – 23:00	Dinner and Welcome Reception at the Beach

Monday, April 14, 2008

07:00 – 08:30	Breakfast
08:30 – 10:30	**Session I: Engineering Host Cells and Vectors** (sponsored by the Queensland Government) Session Chairs: Martin Fussenegger (ETH Zurich, Switzerland) and Martin Sinacore (Wyeth BioPharma, USA)
08:30 – 08:35	Opening Remarks
08:35 – 09:00	**Requirements for Predictable Protein Production: Exploiting Chromosomal Integration Sites by RMCE** Hansjörg Hauser, Helmholtz Centre for Infection Research, Germany
09:00 – 09:25	**Framework Selection for Improved Production of Antibodies in CHO** Laura C. Simmons, Genentech, USA
09:25 – 09:50	**Improvements of Recombinant Protein Expression and Stability in Stable Clones of Chinese Hamster Ovary Cells Using Hairpin RNA Interference Targeting to Dihydrofolate Reductase Gene** Suh-Chin (Samuel) Wu, National Tsing Hua University, Taiwan
09:50 – 10:15	**Interfering RNA for Enhanced Cell Performance** William E. Bentley, University of Maryland, USA
10:15 – 10:25	**Recombinant Protein Production and the Regulation of XBP-1 Signaling in CHO Cells (poster preview)** Sebastian C.Y. Ku, Bioprocessing Technology Institute, Singapore
10:25 – 10:30	Closing Remarks
10:30 – 11:00	**Poster Session I** (sponsored by SAFC) Coffee Break
11:00 – 13:00	**Session II: Accelerating Cell Line Development and Optimization** (sponsored by CSL) Session Chairs: Gyun Min Lee (KAIST, Korea) and Georg Schmid (Hoffmann-La Roche, Switzerland)
11:00 – 11:05	Opening Remarks
11:05 – 11:27	**Rapid Generation of High Productivity Cell Lines Using a Novel Double Selection Strategy and a Streamlined Cell Line Generation Platform** Amy Shen, Genentech, USA
11:27 – 11:49	**The Search for Desirable Cell Lines for Antibody Manufacturing** Alison Porter, Lonza, UK

Monday, April 14, 2008 (continued)

11:49 – 12:11	**Managing Cell Line Instability and Its Impact during Rapid Cell Line Development** Robin A. Heller-Harrison, Wyeth BioPharma, USA
12:11 – 12:33	**Characterizing Intra-Clonal Variation in Stable Antibody-Expressing CHO-K1 Transfectants** Warren Pilbrough, AIBN, University of Queensland, Australia
12:33 – 12:55	**Automation of GS-CHO Cell Line Development** Kristina Lindgren, AstraZeneca, Sweden
12:55 – 13:00	Closing Remarks
13:00 – 14:30	**Poster Session I** (sponsored by SAFC) Grazing Lunch
14:30 – 16:30	**Workshops I** **1A. Globalization of Cell Culture** (sponsored by Wyeth) Chairs: Liangzhi Xie (Sinocelltech, China) andMiranda Yap (BTI, Singapore) **1B. Cell Line Stability and Heterogeneity** (sponsored by Lilly) Chairs: Timothy Charlebois (Wyeth, USA) and Hansjoerg Hauser (Helmholtz Institute, Germany) **1C. Challenges during Production Process Scale-Up or Technology Transfer** (sponsored by Bristol-Myers Squibb) Chairs: Steven Lee (Bristol-Myers Squibb, USA) and Alvin Nienow (University of Birmingham, UK)
16:30 – 17:00	**Poster Session I** (sponsored by SAFC) Coffee Break
17:00 – 18:00	**Keynote #2** **Dissecting the Pathways of Developmentally Programmed and Stress-Induced Cell Death - Implications for Maximising Production of Drugs from Cell Cultures** Andreas Strasser, Walter and Eliza Hall Institute of Medical Research, Australia
18:00 – 20:00	**Session III: Novel Cell Lines for Transient and Stable Protein Expression – Options for Increasing Productivity** (sponsored by Amgen) David James (University of Sheffield, UK) and Elke Lullau (AstraZeneca, Sweden)
18:00 – 18:05	Opening Remarks
18:05 – 18:35	**Multiple Facets of Transient Expression Trials in HEK293 Cells: A Family Portrait** Sabine Geisse, Novartis, Switzerland

Monday, April 14, 2008 (continued)

18:35 – 18:55	**Characterization of Cell Physiology and Specific Productivity for CHO Cell Lines Producing Recombinant Monoclonal Antibodies** Susan T. Sharfstein, Rensselaer Polytechnic Institute, USA
18:55 – 19:15	**A New Human Cell Line for Proper Production of Recombinant Proteins Including Monoclonal Antibodies** Myung-Sam Cho, Celltrion, Korea
19:15 – 19:35	**Proof of Principle for Recombinant Protein Production: A Disposable 1000 Liter Orbital Shaken Bioreactor System for Mammalian Cell Culture** Sarah Wulhfard, Ecole Polytechnique Fédérale de Lausanne, Switzerland
19:35 – 19:55	**Enhancement of Transient Gene Expression and Culture Viability Using Chinese Hamster Ovary Cells Expressing BCL-XL** Brian Majors, Johns Hopkins University, USA
19:55 – 20:00	Closing Remarks
20:00 – 21:30	Dinner
21:30 – 23:00	**Poster Session I** (sponsored by SAFC) Social Hour

Tuesday, April 15, 2008

07:00 – 08:30	Breakfast
08:30 – 10:30	**Session IV: Cell Culture for Viral Production** Session Chairs: Amine Kamen (National Research Council, Canada) and John Aunins (Merck, USA)
08:30 – 08:35	Opening Remarks
08:35 – 09:05	**Measures and Models of Virus Growth and Infection Spread** John Yin, University of Wisconsin, USA
09:05 – 09:25	**Rational Strategies for Improving Cell Culture Based Production of Cold-Adapted Influenza Vaccine (CAIV) Strains of Flumist®** Kunal Aggarwal, MedImmune, USA
09:25 – 09:45	**Viral Vectors for the Treatment of Alcoholism: Gene Therapy Strategies, Vector Design and Production** Juan A. Asenjo, University of Chile, Chile
09:45 – 10:05	**Engineering to Increase Retroviral Vector Transduction Efficiency** James M. Piret, University of British Columbia, Canada
0:05 – 10:25	**Managing the Influence of a Complex Raw Material in Vaccine Manufacture** Shyamsundar Subramanian, Merck, USA
10:25 – 10:30	Closing Remarks
10:30 – 11:00	**Poster Session I** (sponsored by SAFC) Coffee Break
11:00 – 13:00	**Session V: Stem Cell Culture and Tissue Engineering** Session Chairs: Jamie Piret (University of British Columbia, Canada) and Timothy Allsopp (Stem Cell Sciences, UK)
11:00 – 11:04	Opening Remarks
11:04 – 11:32	**Kidney Regeneration – Prospects & Challenges** Melissa Little, Australian Stem Cell Centre, Australia
11:32 – 12:00	**Embryonic Stem Cells for the Large Scale GMP Manufacturing of Biological Products** Majid Mehtali, Vivalis, France
12:00 – 12:28	**3D Dynamic Model of Ex Vivo Megakaryopoiesis: Estimability Analysis and Temperature Effect** Alain Garnier, Universite Laval, Canada

Tuesday, April 15, 2008 (continued)

12:28 – 12:56	**Towards Culture Derived Platelet Production from Blood Stem Cells** William M. Miller, Northwestern University, USA
12:56 – 13:00	Closing Remarks
13:00 – 14:30	**Poster Session I** (sponsored by SAFC) Grazing Lunch
14:30 – 17:00	Open time for activities and poster viewing
17:00 – 18:00	**Keynote #3** **Genome Scale Modeling** Lars Nielsen, AIBN, University of Queensland, Australia
18:00 – 19:30	**Session VI: Systems Biology "-omics" in Process Productivity** Kelvin H. Lee (University of Delaware, USA) and Dana Andersen (Genentech, USA)
18:00 – 18:05	Opening Remarks
18:05 – 18:25	**Transcriptome Analysis of Chinese Hamster Ovary Cell Lines under Different Culture Conditions** Anne Kantardjieff, University of Minnesota, USA
18:25 – 18:45	**Using Gene Expression Analysis to Assess the Effects of Protein Hydrolysates on CHO Cell Culture Performance** Trissa Borgschulte, SAFC, USA
18:45 – 19:05	**Omics Analysis of Mammalian Cells in Serum-Free Culture Supplemented with Sericin Hydrolysate** Satoshi Terada, University of Fukui, Japan
19:05 – 19:25	**Establishing Metabolomics as Tool in Cell Culture Engineering** Maria Klapa, Foundation for Research and Technology - Hellas, Greece
19:25 – 19:30	Closing Remarks
19:30 - 23:00	Dine Out (on your own; sign up for restaurant and transportation) Advisory Board Dinner

Wednesday, April 16, 2006

07:00 – 08:30	Breakfast Steering Committee Meeting
8:30 – 10:30	**Session VII: Product Quality: Impact of Sequence and Process on Final Product** (sponsored by Merck) Session Chairs: Anton Middelberg (University of Queensland, Australia) and Pranhitha Reddy (Amgen, USA)
08:30 – 08:34	Opening Remarks
08:34 – 09:02	**Protein Therapeutic Design – Beyond Antibodies** Mark Leonard, Wyeth BioPharma, USA
09:02 – 09:30	**The Use of Targeted Gene Silencing in CHO Cells to Improve Protein Quality by Enhanced Glycoprotein Sialylation** Min Zhang, SAFC, USA
09:30 – 09:58	**Efforts to Understand and Control Glycosylation in CHO Cell Culture Processes** Michael W. Laird, Genentech, USA
09:58 – 10:26	**High Density Fed-Batch Cell Culture: Is It Asking for Trouble?** Christine Mitchell-Logean, Merck Serono, Switzerland
10:26 – 10:30	Closing Remarks
10:30 – 11:00	**Poster Session II** (sponsored by Genzyme) Coffee Break
11:00 – 12:00	**Keynote #4** **CHO Mutants for Glycosylation Engineering** Pamela Stanley, Albert Einstein College of Medicine, USA
12:00 – 12:30	Pick up Boxed Lunch
12:30 – 18:30	Buses to/from optional offsite activities
18:30 – 20:00	**Poster Session II** (sponsored by Genzyme) Social Hour
20:00 – 21:30	Dinner

Thursday, April 17, 2006

07:00 – 08:00	Breakfast
08:00 – 10:00	**Session VIII: Cell Culture Process Development and Scale-up: Challenges and Case Studies** (sponsored by Novozymes) Session Chairs: Charles Goochee (Centocor, USA) and Weichang Zhou (Genzyme, USA)
08:00 – 08:04	Opening Remarks
08:04 – 08:32	**Quantitative Study of Physiological Responses of CHO Cells to Repetitive Hydrodynamic Stress in a Scaled-Down Fed-Batch Process** Ningning Ma, Pfizer, USA
08:32 – 09:00	**From Concept to GMP Implementation: Large-Scale Stirred Tank Disposable Bioreactor** Sadettin Ozturk, Centocor, USA
09:00 – 09:28	**Strategies to Improve Productivity for Fed-Batch Processes** Yen-Tung Luan, Wyeth BioPharma, USA
09:28 – 09:56	**Investigation of Glycosylation Variability in a CHO Cell Culture Process** Suzanne Kuo, Genentech, USA
09:56 – 10:00	Closing Remarks
10:00 – 10:30	**Poster Session II** (sponsored by Genzyme) Coffee Break
10:30 – 12:30	**Session IX: Process Integration: Paradigms for Linking Cell Culture and Downstream Processing** (sponsored by Genentech) Session Chairs: Robert Kiss (Genentech, USA) and Eli Keshavarz-Moore (University College London, UK)
10:30 – 10:35	Opening Remarks
10:35 – 10:57	**Impact and Benefits of Applying QbD in Cell Line Development to Downstream Process Development** Pranhitha Reddy, Amgen, USA
10:57 – 11:19	**Primary Recovery Options for MAb Purification: Evolution and Scale-Up of a Flexible Platform Process** David J. Roush, Merck, USA

Thursday, April 17, 2006 (continued)

11:19 – 11:41	**Surprises in Full Scale Harvest Operations and Targeted Cell Culture and Harvest Studies Performed to Enhance Process Robustness** Steven Meier, Genentech, USA
11:41 – 12:03	**A Microwell-based Approach to Predict Large-scale Centrifuge Performance: Impact of Culture conditions on Cell Separation** Andrew Tait, UCL, UK
12:03 – 12:25	**Industrial-Scale Membrane Chromatography for Rapid Capture of Complex Protein Drugs from Continuous Perfusion Culture** Jens H. Vogel, Bayer Healthcare, USA
12:25 – 12:30	Closing Remarks
12:30 – 14:00	**Poster Session II** (sponsored by Genzyme) Grazing Lunch
14:00 – 16:00	**Workshops II** **2A. Single-Use Technologies for Cell Culture** Chairs: Sadettin Ozturk (Centocor R&D, USA) and Russell Wong (Bayer Healthcare, USA) **2B. Scale-down Models for Successful Approvals and Post-Approval Changes** (sponsored by Lonza) Chairs: Steven Meier (Genentech, USA) and Craig Zupke (Amgen, USA) **2C. Automation and Robotics in Cell Culture Process Development** (sponsored by Novo Nordisk) Chairs: Thomas Seewoester (Amgen, USA) and Lin Zhang (Pfizer, USA)
16:00 – 16:30	**Poster Session II** (sponsored by Genzyme) Coffee Break
16:30 – 17:30	**Keynote #5** **The Silver Anniversary of Clinical Protein Production from Recombinant CHO Cell Culture** Matthew Croughan, Keck Graduate Institute, USA
17:30 – 19:30	Open time for activities and poster viewing
19:30 – 21:30	Conference Banquet, presentation of 2008 Merck & Co. Award in Cell Culture Engineering, Poster Awards, and Closing
21:30 – 23:00	Social Hour

Friday, April 18, 2008

07:00 – 08:30 Breakfast followed by departure

Poster Session Chairs

Chair: Laura Palomares **(UNAM, Mexico)**

Co-Chairs: Susan Casnocha **(Pfizer, USA)**
Sherry Gu **(Eli Lilly, USA)**
William Miller **(Northwestern University, USA)**

Poster Session Numbering System

The first number indicates whether the poster is in Session 1 or Session 2.

The middle letter indicates the general subject area (see key below).

The final number is the poster number within the session and topic area.

Session I Poster Topics

A **Engineering Host Cells and Vectors**

B **Cell Line Development and Optimization**

C **Systems Biotechnology "-omics" in Process Productivity**

D **Cell Culture Process Monitoring and Instrumentation**

E **Stem Cell Culture & Tissue Engineering**

F **Media and Feed Development**

Session II Poster Topics

G **Product Quality: Impact of Sequence and Process on Final Product**

H **Cell Culture Process Development and Scale-up**

I **Cell Culture for Viral Production**

J **Transient and Stable Protein Expression - Options for Increased Productivity**

Poster Session Chairs

Chair: Laura Palomares **(UNAM, Mexico)**

Co-Chairs: Susan Casnocha **(Pfizer, USA)**
Sherry Gu **(Eli Lilly, USA)**
William Miller **(Northwestern University, USA)**

Poster List

Poster Session I

1.A.1 OVEREXPRESSION OF TAURINE TRANSPORTER MEDIATES ENHANCED CELL VIABILITY AND PRODUCTION TITER BY THE ACTIVE UPTAKE OF GLUTAMINE IN CHO CELLS
Hisahiro Tabuchi, Chugai Pharmaceutical Co., Ltd (Japan)

1.A.2 CALNEXIN OVEREXPRESSION SENSITIZES RECOMBINANT CHO CELLS TO APOPTOSIS INDUCED BY SODIUM BUTYRATE TREATMENT AND SERUM DEPRIVATION
Chaya Mohan, Korea Advanced Institute of Science and Technology (Korea)

1.A.3 EFFECT OF BCL-XL OVEREXPRESSION ON APOPTOSIS AND AUTOPHAGY IN CHINESE HAMSTER OVARY CELLS UNDER NUTRIENT-DEPRIVED CONDITIONS
Yeon-Gu Kim, Korea Advanced Institute of Science and Technology (Korea)

1.A.4 REVERSE ENGINEERING OF ATTACHMENT PROPERTIES IN MAMMALIAN CELL CULTURES
Joseph Shiloach, National Institutes of Health (USA)

1.A.5 ENHANCEMENT OF TRANSIENT GENE EXPRESSION AND CULTURE VIABILITY USING CHINESE HAMSTER OVARY CELLS EXPRESSING BCL-XL
Brian S. Majors, Johns Hopkins University (USA)

1.A.6 IMPROVED PRODUCTION OF RECOMBINANT HUMAN ANTITHROMBIN III IN CHO CELLS BY OVEREXPRESSION OF TRANSCRIPTION FACTORS ATF4 AND GADD34 INVOLVED IN UNFOLDED PROTEIN RESPONSE
Tomoshi Ohya, Mitsubishi Tanabe Parma Corporation (Japan)

1.A.7 RECOMBINANT PROTEIN PRODUCTION AND THE REGULATION OF XBP-1 SIGNALING IN CHO CELLS
Sebastian C. Y. Ku, Bioprocessing Technology Institute (Singapore)

1.A.8 MANUFACTURING OF NON-FUCOSYLATED THERAPEUTIC ANTIBODIES IN MAMMALIAN CELLS
Mitsuo Satoh, Antibody Research Laboratories, Kyowa Hakko Kogyo CO., Ltd. (Japan)

1.A.9 OVEREXPRESSION OF GLYCINE BETAINE TRANSPORTER AND ITS IMPACT ON CELL CULTURE PERFORMANCE
Jun Jung, Biopharmaceutical R&D, LG Life Sciences, Ltd. (Korea)

1.A.10 PRECISION GENOME EDITING IN MAMMALIAN CELLS USING ENGINEERED ZINC FINGER PROTEINS
Trevor Collinwood/ Kevin Kayser, Sangamo Biosciences (USA)

1.A.11 OVEREXPRESSION OF TRANSCRIPTION FACTORS INCREASES TRANSIENT RECOMBINANT PROTEIN PRODUCTION IN MAMMALIAN CELLS
Sarah Wulhfard, Ecole Polytechnique Federale de Lausanne, Laboratory of Cellular Biotechnology (Switzerland)

1.A.12 IMPROVING PROTEIN GLYCOSYLATION IN MAMMALIAN CELLS WITH A GLYCOSYLATION TOOLBOX
Zhiwei Song, Bioprocessing Technology Institute (Singapore)

1.B.1 STRATEGIES FOR SELECTING HOST CELL POPULATIONS FOR ENHANCED PROCESS COMPATIBILITY
Soo Hean Gary Khoo, UCB Celltech (UK)

1.B.2 RAPID GENERATION OF HIGH-PRODUCING CLONAL CELL LINES FOR RECOMBINANT MONOCLONAL ANTIBODY MANUFACTURE USING THE CLONEPIXFL SYSTEM
Patrick H. C. van Berkel, Genmab BV (Netherlands)

1.B.3 BYPASSING THE NEED FOR HIGH THROUGHPUT PROCESSING IN CELL LINE DEVELOPMENT
Stewart Gunnery, Genetix (UK)

1.B.4 SUSPENSION OF DNA MISMATCH REPAIR ALLOWS FOR THE ISOLATION OF CHO CELLS RESISTANT TO HIGH OSMOLARITY
Florence Wu, Invitrogen (USA)

1.B.5 A STUDY ON THE TEMPERATURE DEPENDENCY AND TIME COURSE OF THE COLD CAPTURE SECRETION ASSAY
Nicole Borth, University Bodenkultur (Austria)

1.B.6 QUALITY BY DESIGN ASPECTS OF MOLECUE AND CELL LINE SELECTION
Rohini Deshpande, Amgen, Inc. (USA)

1.B.7 RAPID PRODUCTION OF ANTIBODIES BY CHO POOLED TRANSFECTANTS
Alison J Mastrangelo, Lonza Biologics (UK)

1.B.8 STREAMLINED CELL LINE GENERATION FOR COMMERCIAL MONOCLONAL ANTIBODY PRODUCTION
Xuejun (Sherry) Gu, Eli Lilly (USA)

1.B.9 A PROCESS FOR ACCELERATING CELL LINE DEVELOPMENT
Andrew Sandford, Selexis (USA)

1.B.10 SCREENING CHO DG44 CLONES FOR MAXIMAL IGG PRODUCTION
Thomas Yeager, CSL Limited (Australia)

1.B.11 ANALYSIS OF THE SPECIFIC CHROMOSOMAL REGION ADJACENT TO THE DHFR GENE AMPLIFIED IN CHO DR1000L-4N CELL LINE
Takeshi Omasa, Osaka University (Japan)

1.B.12 GENOME WIDE PREDICTION OF GENETIC ELEMENTS THAT BOOST EXPRESSION IN MAMMALIAN CELLS
Igor Fisch, Selexis SA (Switzerland)

1.B.13 DEVELOPMENT OF CHO CELLS TAGGED WITH LOXP SEQUENCES FOR HIGH-LEVEL GENE EXPRESSION BY SITE-DIRECTED INTEGRATION
Leda R. Castilho, Federal University of Rio de Janeiro (Brazil)

1.B.14 INFLUENCE OF THE HC:LC RATIO ON THE PRODUCTION OF TWO DIFFERENT MONOCLONAL ANTIBODIES IN CHO CELLS DURING TRANSIENT TRANSFECTION
Johannes Pichler, University Bodenkultur (Austria)

1.C.1 SYSTEMATIC REDUCTION OF A *MUS MUSCULUS* GENOME-SCALE METABOLIC MODEL INTO AN EXPERIMENTALLY DETERMINABLE METABOLIC FLUX ANALYSIS MODEL
Lake-Ee Quek, Australian Institute for Bioengineering and Nanotechnology (AIBN)(Australia)

1.C.2 CROSS-SPECIES MICROARRAY ANALYSIS AS A TOOL FOR MONITORING AND DIAGNOSIS OF FERMENTATION PROCESS
Jianmin Chen, Global Biological Development, Bayer HealthCare (USA)

1.C.3 MINING TRANSCRIPTOME DATA FOR HYPERPRODUCTIVITY FUNCTIONAL TRAITS IN RECOMBINANT MAMMALIAN CELLS
Salim Charaniya, University of Minnesota (USA)

1.C.4 PROBING THE DYANMICS OF GLOBAL PROTEIN TURNOVER AND ANTIBODY SECRETION THROUGH SILAC PROTEOMICS
Joon Chong Yee/ Salim Charaniya, University of Minnesota (USA)

1.C.5 PROTEOMICS IDENTIFIES GENETIC TARGETS TO INCREASE SEAP PRODUCTIVITY IN CHO CELLS
Jeffrey Swanberg, University of Delaware (USA)

1.C.6 TRANSCRIPTIONAL PROFILING OF NS0-GS AND NS0-BCL-2 CELLS PRODUCING ANTIBODY AT DIFFERENT STEADY STATES IN CHEMOSTAT CULTURE
Britta Krampe, School of Chemical and Bioprocess Engineering, University College Dublin (Ireland)

1.C.7 USING THE "OMICS" TECHNOLOGIES IN THE CHARACTERIZATION OF NS0 MYELOMA CELL LINES
Kathya Rashida de la Luz/Adolfo Castillo-Vitlloch, Center of Molecular Immunology (Cuba)

1.C.8 HYPEROSMOTIC STRESS RESPONSES IN MAMMALIAN CELLS: A COMPARATIVE MICROARRAY STUDY OF HYBRIDOMA AND CHO CELL RESPONSES
Susan T. Sharfstein, Rensselaer Polytechnic Institute (USA)

1.D.1 TWO DIMENSIONAL DIFFERENTIAL GEL ELECTROPHORESIS TO FACILITATE RECOMBINANT PROTEIN PROCESS DEVELOPMENT
Julita K.Grzeskowiak, University of Natural Resources and Applied Life Sciences (Austria)

1.D.2 ON-LINE CELL-SIZE AND BIO-VOLUME MEASUREMENTS IN CELL CULTURE USING RADIO-FREQUENCY IMPEDANCE SPECTROSCOPY
John Carvell, Aber Instruments (UK)

1.D.3 ON-LINE VIABLE CELL DENSITY MEASUREMENTS USING SCANNING DIELECTRIC SPECTROSCOPY
Cary Opel/Ashraf Amanullah, Genentech, Inc. (USA)

1.D.4 CAPACITANCE SPECTROSCOPY AS A ROBUST TOOL FOR CELL CULTURE MONITORING IN PROCESS DEVELOPMENT AND MANUFACTURING
Geoffrey ESTEBAN, FOGALE nanotech (France)

1.D.5 TUNING OF DISSOLVED OXYGEN AND PH PID CONTROL PARAMETERS IN LARGE SCALE BIOREACTOR BY LAG CONTROL
Véronique Chotteau, Biovitrum (Sweden)

1.D.6 EVALUATION OF AN ONLINE BIOMASS PROBE TO MONITOR CELL GROWTH AND CELL DEATH
Angelo Perani, Ludwig Institute for Cancer Research (USA)

1.D.7 IMPROVING PROCESS PERFORMANCE BY INCREASING PROCESS ROBUSTNESS: CONTROLLING THE PHYSIOCHEMICAL ENVIRONMENT OF THE CULTURE
Colin Jaques, Lonza Biologics (UK)

1.D.8 DEVELOPMENT OF THE NOVEL AUTOMATIC SEMI-CONTINUOUS SAMPLING, ANALYSES AND FEED-BACK CONTROL SYSTEM FOR LARGE SCALE BIOREACTOR
Yoshinori Takagi, Chugai Pharmaceutical Co., Ltd. (Japan)

1.E.1 A SCALEABLE PROCESS FOR IMMOBILIZED CULTURE OF PANCREATIC TISSUE: ALGINATE BEADS FORMED BY EMULSION AND INTERNAL GELATION
Corinne Hoesli, University of British Columbia (Canada)

1.E.2 HIGH THROUGHPUT SCREENING OF FACTORS FOR THE EX-VIVO PRODUCTION OF NEUTROPHILS FROM CORD BLOOD HEMATOPOIETIC STEM CELLS
Flavia Marturana, Australian Institute for Bioengineering and Nanotechnology (Australia)

1.E.3 MICRO PLATFORM FOR CONTROLLED EMBRYONIC STEM CELL DIFFERENTIATION
Michelle Khine, University of California, Merced (USA)

1.E.4 CELL CULTURE AND CRYOPRESERVATION IN AN ALGINATE ENVIRONMENT: APPLICATIONS IN CELL-BASED THERAPIES AND TOXICOLOGY TESTING
Rita Malpique, ITQB-UNL/IBET (Portugal)

1.E.5 IMPROVING HUMAN PANCREATIC STEM CELL EXPANSION AND DIFFERENTIATION IN A STIRRED BIOREACTOR
Margarida Serra, ITQB-UNL/IBET (Portugal)

1.E.6 STATISTICAL CELL GROWTH MODELS OF STEM CELL DIFFERENTIATION
Robert E Nordon, University of New South Wales (Australia)

1.E.7 CLINICAL SCALE EX VIVO EXPANSION OF NEUTROPHILS FROM HSC
Nicholas Timmins, Australian Institute of Bioengineering and Nanotechnology (Australia)

1.E.8 HAEMOPOIETIC CELL CULTURE WITH IMMOBILISED CYTOKINES
Ian Aird, Australian Institute for Bioengineering and Nanotechnology : University of Queensland (Australia)

1.E.9 EMBRYONIC STEM CELLS GENERATE FUNCTIONAL VASCULAR DERIVATIVES FOR BUILDING MICROVASCULATURE TISSUE
Kara E McCloskey, University of California, Merced (USA)

1.E.10 EX VIVO PRODUCTION OF RED BLOOD CELLS FROM PERIPHERAL BLOOD DERIVED CD34+ CELLS
Daniela Boehm, University College Dublin (Ireland)

1.E.11 RECOMBINANT PROTEINS AND TISSUE ENGINEERING: RECOMBINANT COLLAGEN AS BIOACTIVE ELEMENT IN SCAFFOLDS
Eva-Maria Engelhardt, Ecole Polytechnique Federale de Lausanne, Laboratory of Cellular Biotechnology (Switzerland)

1.E.12 OPTIMIZING HUMAN EMBRYONIC STEM CELL CULTURE TECHNOLOGY: DEVELOPMENT OF HIGH-THROUGHPUT SCREENING SYSTEMS TO ACCELERATE THE DEVELOPMENT OF DEFINED MEDIA
Nicolas J Caron, University of British Columbia (Canada)

1.E.13 PRODUCTION AND CHARACTERIZATION OF A NEW DEXTRIN BASED HYDROGEL. DIFFUSIONAL BEHAVIOR AND IN VITRO BIOCOMPATIBILITY ASSESSMENT
Joana Carvalho, Universidade do Minho (Portugal)

1.E.14 PURIFICATION OF UNDIFFERENTIATED HUMAN EMBRYONIC STEM CELLS VIA SURFACE CHARGE DIFFERENTIALS- PRELIMINARY WORK
Nik Willoughby, Heriot-Watt University (UK)

1.E.15 EX-VIVO PRODUCTION OF HUMAN RED BLOOD CELLS
Sia Athanasas-Platsis, University of Queensland (Australia)

1.E.16 STANDARDISED APPROACHES TO STEM CELL BIOPROCESSING
Hazel Thomson/ Tim Allsopp, Stem Cell Sciences (UK) Ltd (UK)

1.F.1 NOVEL APPROACH TO A CHEMICALLY DEFINED PLATFORM MEDIUM AND FEED OPTIMIZATION FOR CHO CELL CULTURE.
David (Xiaojian) Zhao, Invitrogen (USA)

1.F.2 RAPID, FOUR-FOLD INCREASE IN ANTIBODY PRODUCTION THROUGH DOE-BASED MEDIA OPTIMIZATION AND HYDROLYSATE SUPPLEMENTATION
David Myatt, BD Biosciences - Advanced Bioprocessing (Australia)

1.F.3 REPLACEMENT OF UNDEFINED COMPONENTS IN A R-CHO CULTURE SYSTEM WHILE MAINTAINING PRODUCT TITER
William C. Paul Jr, Invitrogen (USA)

1.F.4 EFFECTS OF CALCIUM IONS ON CELL GROWTH AND AGGREGATION OF A SUSPENSION-ADAPTED RECOMBINANT CHO CELL LINE
Hong Woo Park, Hanyang University (Korea)

1.F.5 A RECOMBINANT ANALOGUE OF HUMAN TRANSFERRIN (DELTAFERRIN™) PROVIDES IMPROVED PRODUCTIVITY IN CHO CELLS EXPRESSING A MONOCLONAL ANTIBODY
Simula T/ Sally Grosvenor, Novozymes Biopharma AU Limited (Australia)

1.F.6 NOVEL SERUM-FREE CULTURE USING SILK PROTEIN SERICIN
Akiko Sakuma, JST Innovation Satellite Shiga (Japan)

1.F.7 ADDRESSING HYDROLYSATE VARIABILITY THROUGH THE APPLICATION OF NOVEL PRODUCTION PROCESS TECHNOLOGY
Samad Radjai, Sheffield Pharma Ingredients (USA)

1.F.8 USABILITY OF SIZE-EXCLUDED FRACTIONS OF PLANT HYDROLYSATES IN CELL CULTURE
BokHwan Chun, Korea University (Korea)

1.F.9 APPROACHES TO THE DEVELOPMENT OF HIGH-PERFORMANCE MEDIA FOR CHO CELLS
Martin Gawlitzek, Genentech (USA)

1.F.10 RAPID PROCESS IMPROVEMENT ACHIEVED BY APPLYING A RATIONAL APPROACH TO CULTURE MEDIA OPTIMIZATION
Tom Fletcher, Irvine Scientific (USA)

1.F.11 SELECTION AND OPTIMIZATION OF PROTEIN HYDROLYSATES (PEPTONES) IN CHO CELL CULTURE PROCESSES
Jason Goodrick, Genentech, Inc. (USA)

1.F.12 A RATIONAL METHOD OF INTEGRATING MEDIA DEVELOPMENT AND FED-BATCH PROCESS STRATEGY: A CASE STUDY
Scott D Storms, Irvine Scientific (USA)

Poster Session II

2.G.1 NOVEL CHO CELLS-DERIVED IFN ALPHA ANALOGS WITH ENHANCED IN- VIVO BIOLOGICAL ACTIVITY
Natalia Ceaglio, Universidad Nacional del Litoral (Argentina)

2.G.2 INVESTIGATION OF GLYCOSYLATION VARIABILITY IN A CHO CELL CULTURE PROCESS
Suzanne Kuo, Genentech, Inc. (USA)

2.G.3 DEMYSTIFYING CAPPING EXCURSIONS IN MANUFACTURING A HIGHLY GLYCOSYLATED THERAPEUTIC PROTEIN
Frank Wang/ Jin Wang, Bayer Healthcare Pharmaceuticals (USA)

2.G.4 ERYTHROPOIETIN PRODUCTION AND GLYCOSYLATION IN PERFUSION CHO CULTURE WITH TEMPERATURE REDUCTION
Woo Suk Ahn, Biopharmaceutical R&D, LG Life Sciences, Ltd. (Korea)

2.G.5 PROCESS ANALYTICAL CHEMISTRY CONSIDERATIONS FOR ONLINE PROTEOMICS OF BIOLOGICS
William E. Haskins, University of Texas at San Antonio (USA)

2.G.6 THE USE OF TARGETED GENE SILENCING IN CHO CELLS TO IMPROVE PROTEIN QUALITY BY ENHANCED GLYCOPROTEIN SIALYLATION
Min Zhang, SAFC Biosciences (USA)

2.G.7 LECTIN-BINDING ASSAY FOR EVALUATION OF GLYCOSYLATION IN BIOPHARMACEUTICAL PRODUCTION
Wook-Dong Kim, Osaka University (Japan)

2.G.8 PROCESS MAPPING STRATEGY TO MONITOR RTHROMBIN PRODUCT QUALITY DURING MANUFACTURE
Karen De Jongh, ZymoGenetics, Inc (USA)

2.G.9 THE EFFECT OF BIOREACTOR PH , TEMPERATURE AND MEDIA COMPONENTS ON PROTEIN GLYCOSYLATION IN PERFUSION CULTURES OF MAMMALIAN CELLS
Chun Zhang, Bayer Healthcare Pharmaceuticals (USA)

2.G.10 IMPROVING QUALITY OF HUMAN MONOCLONAL ANTIBODY IN CELL CULTURE PROCESS BY DESIGN OF EXPERIMENTAL METHODS
Satoshi Oguchi, Kirin Pharma Company, Limited (Japan)

2.G.11 ENHANCING BIOLOGICAL ACTIVITY OF IMMUNOGLYCOPROTEINS BY A CONVENIENT METHOD OF GENERATING PREFERRED GLYCOVARIANTS
Vijay Yabannavar, Trubion Pharmaceuticals (USA)

2.G.12 QUALITY BY DESIGN APPROACHES USED TO DEFINE PROCESS CONTROL STRATEGIES FOR THE COMMERCIAL MANUFACTURING OF A RECOMBINANT MONOCLONAL ANTIBODY
Ilse Blumentals, GlaxoSmithKline (USA)

2.G.13 REDUCED -IFN AGGREGATION UNDER LOW TEMPERATURE CONDITIONS IN CHO BATCH AND PERFUSION CULTURE SYSTEMS
Jose Rodriguez, University of Manitoba (Canada)

2.H.1 USE OF SHORT-DURATION PERFUSION TO ENHANCE PRODUCTIVITY IN FED-BATCH BIOREACTORS
Gregory W. Hiller, Wyeth Biotech (USA)

2.H.2 MODELING-BASED SCALE-UP STRATEGY FOR BIOREACTOR CELL CULTURE PROCESSES
Kunal Aggarwal, MedImmune Vaccines (USA)

2.H.3 IMPROVING PROCESS PERFORMANCE BY INCREASING PROCESS ROBUSTNESS
Atul Mohindra, Lonza Biologics (UK)

2.H.4 CELL CULTURE PROCESS DEVELOPMENT USING A 24 -WELL PLATE MICROBIOREACTOR SYSTEM
Ashraf Amanullah, Genentech, Inc. (USA)

2.H.5 ENHANCEMENT OF MASS TRANSFER IN A 250 L BIOREACTOR BY SPARGER DESIGN MODIFICATION
Christian Wood/Sadettin Ozturk, Centocor R&D, Inc. (USA)

2.H.6 PERFUSION PROCESS IN A DISPOSABLE STIRRED-TANK BIOREACTOR: EQUIPMENT DESIGN AND PROCESS CHALLENGES
Nicole E Richardson/ Sadettin Oturk, Centocor R&D, Inc. (USA)

2.H.7 EXPANDING PIPELINES, CONTRACTING TIMELINES: DEVELOPING A PLATFORM APPROACH TO COMMERCIAL PROCESS DEVELOPMENT
Deborah E. Pascoe, Genentech, Inc. (USA)

2.H.8 THE USE OF APPROPRIATE SMALL SCALE MODELS AND COLLABORATIVE TROUBLESHOOTING IN THE EVALUATION OF ATYPICAL CELL CULTURE PERFORMANCE
Kathy Carswell, Genentech, Inc. (USA)

2.H.9 FUNDAMENTAL CHARACTERIZATION OF BIOREACTORS DESIGNED FOR MICROCARRIER-BASED CELL CULTURE PROCESSES
Timothy J. Johnson, Genzyme Corporation (USA)

2.H.10 ARE THERE ANY LOW SHEAR AGITATORS FOR ANIMAL CELL CULTURE?
Alvin W. Nienow, University of Birmingham (UK)

2.H.11 POTENTIAL NEW PROTECTIVE ADDITIVES AND DELIVERY METHODS FOR CELL CULTURE
Jeff Chalmers, The Ohio State University (USA)

2.H.12 MONOCLONAL ANTIBODY TITERS OF 10 GRAM/LITER AND BEYOND; THE PER.C6® CELL LINE XD™ PROCESS
Robert Hof, DSM Biologics (The Netherlands)

2.H.13 APPLICATION OF A HIGH-THROUGHPUT SEMI-AUTOMATED PLATFORM BASED ON 96-DEEPWELL PLATES FOR CELL CULTURE PROCESS DEVELOPMENT
Damien Voisard, Merck Serono S.A (Switzerland)

2.H.14 PRODUCT QUALITY ASSESSMENT DURING CELL LINE SELECTION AND PROCESS DEVELOPMENT
Feng Li, Genentech, Inc. (USA)

2.H.15 CASE STUDY OF AN ACCELERATED PROCESS TRANSFER FROM PROCESS DEVELOPMENT TO A COMMERCIAL MANUFACTURING FACILITY
Kevin Johnson, Genentech, Inc. (USA)

2.H.16 WHAT MATTERS- PERFORMANCE EFFECTS OF CULTURE CONDITIONS AND DURATION IN A RECOMBINANT CHO CELL LINE
Gargi Seth, Genentech, Inc. (USA)

2.H.17 RAPID DEVELOPMENT AND SCALE-UP OF A FED-BATCH PROCESS FOR TWO SPECIFIC FC-FUSION PROTEIN PRODUCING CELL LINES: CASE STUDIES
Zhengjian Li, Bristol-Myers Squibb Company (USA)

2.H.18 ESTABLISHMENT OF A STANDARDIZED BIOREACTOR SCALE-DOWN MODEL
Ellen Johnson, Amgen, Inc. (USA)

2.H.19 PHYSICAL DESCRIPTION OF BIOREACTORS SUITABLE FOR SCALE UP AND OPTIMIZATION OF UNIT OPERATIONS
Hermann Tebbe, Roche Diagnostics (Germany)

2.H.20 AUTOMATION OF THE HYBRIDOMA TECHNOLOGY
Ivan Svendsen, Novo Nordisk A/S (Denmark)

2.H.21 HELICAL TRACKS IN ORBITAL SHAKEN CYLINDRICAL VESSELS AT DIFFERENT SCALES - IMPACT ON MIXING AND GAS TRANSFER RATES
Andreas Kocourek, Sartorius Stedim Biotech GmbH (Germany)

2.H.22 COMPARISON BETWEEN PERFUSION AND FED-BATCH PROCESSES FOR PRODUCTION OF RECOMBINANT POLYCLONAL ANTI-RHESUS D ANTIBODIES
Yun Jiang, Biovitrum AB (Sweden)

2.H.23 EVALUATION OF HYDROCYCLONE IN HIGH DENSITY MAMMALIAN PERFUSION PROCESSES
Chun Zhang, Bayer Healthcare Pharmaceuticals (USA)

2.H.24 STATISTICALLY DESIGNED PROCESS OPTIMIZATION USING A HIGH THROUGHPUT AUTOMATED CELL CULTURE PLATFORM
H. Brett Schreyer, BioProcessors Corp. (USA)

2.H.25 ASPECTS OF SCALE UP AND SCALE DOWN ACTIVITIES IN FERMENTATION PROCESSES – MINIMIZE RISK OF SCALE DEPENDENT FAILURES
Michael Pohlscheid, Roche Diagnostics GmbH (Germany)

2.H.26 UPSTREAM CULTURE DEVELOPMENT AND CONTRASTS FOR INTERNAL AND EXTERNAL TECHNOLOGY TRANSFER: CASE STUDY FOR A PHASE I/II MONOCLONAL ANTIBODY PRODUCTION PROCESS
T. Craig Seamans, Merck & Co., Inc (USA)

2.H.27 FROM 1 G/L TO 3 G/L: RAPID PROCESS DEVELOPMENT FOR PHASE II CLINICAL PRODUCTION OF XMABTM2513
Marie M. Zhu, Xencor Inc (USA)

2.H.28 PROOF OF PRINCIPLE FOR RECOMBINANT PROTEIN PRODUCTION: A DISPOSABLE 1000 LITER ORBITAL SHAKEN BIOREACTOR SYSTEM FOR MAMMALIAN CELL CULTURE
E.-M. Engelhardt, Ecole Polytechnique Fédérale de Lausanne (Switzerland)

2.H.29 CLOSED AUTOMATED PROCESS FOR SCALE-UP OF ANIMAL CELLS
Emily B. Robbins, ATCC (USA)

2.H.30 IMPROVING HEMAGGLUTININ PRODUCTION USING THE BACULOVIRUS EXPRESSION SYSTEM
Wafaa Mahmoud, Protein Sciences Corporation (USA)

2.H.31 PROCESS DEVELOPMENT FOR THE PRODUCTION OF A THERAPEUTIC CANCER VACCINE BASED ON EXTRACELLULAR DOMAIN OF HER-1 RECEPTOR
Julio Palacios/Adolfo Castillo-Vitlloch, Center of Molecular Immunology (Cuba)

2.H.32 APPLICATIONS OF ANTI-APOPTOSIS GENES AVEN AND E1B-19K IN BHK AND CHO CELLS IN PERFUSION BIOREACTOR
Toey Nivitchanyong, Johns Hopkins University (USA)

2.H.33 PERFUSION CULTURE OF RECOMBINANT CHO CELLS FOR PRODUCTION OF THERAPEUTIC ANTIBODIES BY APPLICATION OF CELL-ONCE-THROUGH PERFUSION MODE USING CENTRITECH LAB II CENTRIFUGE
Duk Jae Oh, Sejong University (Korea)

2.H.34 EXPERIMENTAL STUDY OF THE VELOCITY FIELDS IN A VORTEX FLOW FILTER DESIGNED FOR PERFUSION PROCESSES
Ricardo Medronho, Federal University of Rio de Janeiro (Brazil)

2.H.35 INTEGRATED PROCESS FOR PRODUCTION AND IN SITU RECOVERY OF UROKINASE
Pradip Kumar Roychoudhury, Indian Institute of Technology (India)

2.H.36 CHANGES IN CHO CULTURE LACTATE RE-UTILISATION DUE TO CHANGES IN SCALE
Eli Keshavarz-Moore, UCL (UK)

2.H.37 INFLUENCE OF CULTURE CONDITIONS ON THE PRODUCTIVITY AND QUALITY OF A LYSOSOMAL ENZYME PRODUCED IN HIGH CELL DENSITY, CONTINUOS PERFUSION, CHO CELL BIOREACTORS
Maria Ng, Biomarin (USA)

2.H.38 ENGAGING A GLOBAL CMO WITH SPECIFIC ISSUES RELATED TO CELL CULTURE
Graeme Macaloney, QSV Biologics Ltd (Canada)

2.H.39 SCALE DOWN MODELS FOR MAB FED BATCH FERMENTATION PROCESSES: SHAKE FLASK AND LAB-SCALE BIOREACTORS AND THEIR USE IN PROCESS CHARACTERIZATION AND VALIDATION
Robert Puskeiler, Roche Pharma (Germany)

2.I.1 ANALYSIS OF THE PRODUCTION OF STRUCTURAL PROTEINS AND CAPSIDS OF ADENO-ASSOCIATED VIRUS TYPE 2 (AAV-2) IN INSECT CELLS.
Lilí- E. Gallo-Ramírez, Instituto de Biotecnología, UNAM (México)

2.I.2 HIGH GENETIC STABILITY OF DENGUE VIRUS PROPAGATED IN MRC-5 CELLS AS COMPARED TO THE VIRUS PROPAGATED IN VERO CELLS
Suh-Chin (Samuel) Wu, Institute of Biotechnology, National Tsing Hua Univ (Taiwan)

2.I.3 SCALABLE CULTURE SYSTEMS FOR PPRV PRODUCTION USING DIFFERENT CELL LINES
Ana Carina Silva, ITQB-UNL/IBET (Portugal)

2.I.4 COMBINING ASYNCHRONOUS AND SYNCHRONOUS INFECTIONS IN A MULTI-BACULOVIRUS SYSTEM TO IMPROVE THE PRODUCTION OF AN ADENO-ASSOCIATED VIRUS VECTOR
Jimmy A. Mena, Biotechnology Research Institute, NRC (Canada)

2.I.5 COMPARISON OF PARENTAL AND RECOMBINASE-EXPRESSING HEK293 CELL LINES IN A HELPER-DEPENDENT ADENOVIRAL VECTOR PRODUCTION AND PURIFICATION STRATEGY
Edwige Dormond, Biotechnology Research Institute, NRC (Canada)

2.I.6 DOWNSTREAM PROCESSING OF ENVELOPED VIRUSES: RELEASING BOTTLENECKS
Manuel J. T. Carrondo, ITQB-UNL/IBE (Portugal)

2.I.7 MULTIPARAMETRIC FLOW CYTOMTRY FOR PROCESS MONITORING AND PREDICTION OF VIRUS AND PROTEIN EXPRESSION
Mohamed Al-Rubeai, University College Dublin (Ireland)

2.I.8 DESIGNING PRODUCTION STRATEGIES FOR NEW BIONANOMATERIALS IN INSECT CELLS
Octavio T. Ramírez, Universidad Nacional Autónoma de Mexico (México)

2.I.9 CHALLENGES IN THE DEVELOPMENT OF STABLE CELL LINES FOR THE PRODUCTION OF RETROVIRAL GENE THERAPY VECTORS
Ana S. Coroadinha, ITQB-UNL/IBE (Portugal)

2.I.10 AGMNPV FOR THE CONTROL OF VELVET BEAN CATERPILLAR IN SOYBEANS - ISOLATE SELECTION VIA IN VITRO OCCLUSION BODY PRODUCTIVITY
Marcia Regina da Silva Pedrini, Federal University of Rio Grande do Norte (Brazil)

2.I.11 CHALLENGES IN DEVELOPING A ROBUST ADENOVIRUS PRODUCTION PLATFORM PROCESS
Marie-Pierre Gentile, Merck and Co (USA)

2.I.12 SCALE-DOWN OF INACTIVATED POLIO VACCINE PRODUCTION FOR IMPROVED PROCESS UNDERSTANDING
Wilfried A.M. Bakker, Netherlands Vaccine Institute (Netherlands)

2.J.1 BACULOVIRAL INFECTION OF MAMMALIAN CELLS FOR ENHANCED TRANSIENT GENE EXPRESSION
Chao-Min Liu, Hoffmann-La Roche Inc. (USA)

2.J.2 CHARACTERISATION OF PLASMID REPLICATION AND RETENTION IN THE EPICHO TRANSIENT EXPRESSION SYSTEM
Giuseppe Codamo, Australian Institute for Bioengineering and Nanotechnology (AIBN) and Acyte Biotech Pty Ltd (Australia)

2.J.3 OPTIMIZING LARGE-SCALE TRANSIENT TRANSFECTION OF CHO CELLS
Peggy Lio, Invitrogen Corporation (USA)

2.J.4 BIPHASIC PRODUCTION STRATEGY THROUGH GENETICALLY INDUCED GROWTH-ARREST IN CHO CELL CULTURES
Yih Yean Lee, Bioprocessing Technology Institute, Biomedical Sciences Institutes (Singapore)

2.J.5 CULTIVATION AT SUB-OPTIMAL TEMPERATURES IMPROVES THE SPECIFIC TPA PRODUCTIVITY AND LONGEVITY OF CHO CELL CULTURE
Norma A. Valdez- Cruz, Universidad Nacional Autónoma de México (Mexico)

2.J.6 HIGH YIELDS OF MONOMERIC RECOMBINANT BETA-INTERFERON FROM MACROPOROUS MICROCARRIER CULTURES UNDER HYPOTHERMIC CONDITIONS
Tharmala Tharmalingam, University of Manitoba (Canada)

2.J.7 METHODS FOR CONTROLLING CENTRAL CARBON METABOLISM IN MAMMALIAN CELL CULTURE
Brian D. Follstad, Amgen (USA)

2.J.8 THE EFFECTS OF ANTI-OXIDANTS AND OXIDATIVE STRESS IN CHO CELL FED-BATCH CULTURE
Danny Chee Furng Wong, Bioprocessing Technology Institute, Biomedical Sciences Institutes (Singapore)

2.J.9 DEVELOPMENT OF AN L-SELENOMETHIONINE LABELING PROTOCOL FOR PCSK9 EXPRESSED BY CHO CELLS IN THE BELLOCELL BIOREACTOR
Ing-Kae Wang, Pfizer Global Research and Development (USA)