

Program

Cell Culture Engineering XII

April 25 – 30, 2010

Fairmont Banff Springs Hotel
Banff, Alberta Canada

Program Co-Chairs:

Professor Kelvin Lee, University of Delaware, USA
Dr. Dana Andersen, Genentech, Inc., USA



Engineering Conferences International

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Laura Palomares (UNAM, Mexico)
Thomas Ryll (Biogen Idec, USA)
Georg Schmid (Roche, Switzerland)
Miranda Yap (BTI, Singapore)
Weichang Zhou (Genzyme, USA)

Sunday, April 25, 2010

15:00 – 18:00	Conference check-in (Van Horne Foyer) Poster Boards available for set up
18:00 – 18:15	<u>Welcoming Remarks and Opening of the Conference</u> Dana Andersen (Genentech) and Kelvin H. Lee (University of Delaware), Conference Chairs John G. Auniņš, ECI Technical Liaison
18:15 – 19:15	Keynote Lecture: Reprogramming of Cancer Cell Metabolism by MYC and HIF Chi Dang Johns Hopkins University, USA
19:15 – 21:00	Dinner
21:00 – 22:00	Social Hour (sponsored by Genzyme)

NOTES

- Technical Sessions and Poster Sessions will be held in the Van Horne Ballroom.
- Meals will be in the Alberta/New Brunswick rooms, with buffets set up in the Riverview Lounge.
- Audiotaping, videotaping and photography of presentations are prohibited.
- Speakers – Please leave at least 5 minutes for questions and discussion.
- Please do not smoke at any conference functions.
- Turn your cellular telephones to vibrate or off during technical sessions.
- Be sure to make any corrections to your name/contact information on the Master Participant List at the registration desk or confirm that the listing is correct. A corrected copy will be sent to all participants after the conference.

Monday, April 26, 2010

06:30 – 08:30

Breakfast

Challenges in Biotherapeutic Development

(sponsored by Amgen)

Session Chairs: Pranhitha Reddy (Amgen, USA) and Thomas Ryll (Biogen Idec, USA)

08:30 – 9:15

Industrialization of mAb production: Impact to cell culture process development

Brian Kelley, Genentech, USA

09:15 – 09:45

Utilizing genome wide expression profiling to identify potent endogenous promoters for CHO based manufacturing of therapeutic proteins

Scott Estes, Genzyme Corporation, USA

09:45 – 10:15

Engineering energy metabolism pathways and regulatory robustness of glycolytic fluxes

Wei-Shou Hu, University of Minnesota, USA

10:15 – 10:45

Coffee Break

10:45 – 11:15

Auditioning of CHO host cell lines using the artificial chromosome expression (ACE) technology

Malcolm Kennard, Kennard Biologic Consultants, Canada

11:15 – 11:45

Where are you in the platform funnel?

Thomas Seeworster, Amgen Inc., USA

12:00 – 13:30

Lunch

Engineering of Cells and Vectors

Session Chairs: Michael Betenbaugh (Johns Hopkins University, USA) and John Joly (Genentech, USA)

13:45 – 14:15

Third generation CD20 antibody engineered for increased direct cell death induction and ADCC

Pablo Umaña, Roche Glycart AG, Switzerland

14:15 – 14:45

CHO cell engineering – from a case-by-case towards a global approach

Hitto Kaufmann, Boehringer Ingelheim Pharma, Germany

14:45 – 15:15

Engineering molecular chaperones for improved specific foreign protein productivity in recombinant CHO cells

Gyun-Min Lee, KAIST, Korea

15:15 – 15:35

Modification of microRNA expression levels in CHO cells as a route to improving bioprocess phenotypes

Niall Barron, Dublin City University, Ireland

15:45 – 16:15

Coffee Break

Monday, April 26, 2010 (continued)

16:30 – 18:30

Workshops I

Organizers: Tim Charlebois (Pfizer, USA) and Craig Zupke (Amgen, USA)

A) Integrating Advances in Product and Process Knowledge During Development: Opportunities and Limitations of QbD (sponsored by MedImmune)

Ilse Blumentals (GSK, USA) and Enda Moran (Pfizer, Ireland)

B) Practical Challenges in Biotherapeutic Development: When and How do Rapidly-developed, Platform Phase 1 Processes "Transform Themselves" into Optimized, Robust Commercial Ones? (sponsored by Novozymes)

Mark Leonard (Pfizer, USA) and Kunle Onadipe (Pfizer, USA)

B) Applications of Automation and Robotics

Jerry Yang (Amgen, USA) and Lin Zhang (Pfizer, USA)

18:30 – 20:30

Dinner

20:30 – 22:30

Posters I and Social Hour (sponsored by Novo Nordisk)

Poster Chair: Laura Palomares (UNAM, Mexico)

Poster Co-Chairs: Susan Casnocha (Pfizer, USA), Maria Klapa (Foundation for Research and Technology-Hellas, Greece), Denny Kraichely (Centocor, USA), Miranda Yap (Bioprocessing Technology Institute, Singapore), Georg Schmid (Roche, Switzerland)

Tuesday, April 27, 2010

06:00 – 08:00

Breakfast

Cellular Effects on Product Characteristics

Session Chairs: Michael Butler (University of Manitoba, Canada) and Ilse Blumenthals (GlaxoSmithKline, USA)

08:00 – 08:45

Towards optimised glycoform profiles for antibody therapeutics

Roy Jefferis, University of Birmingham, UK

08:45 – 09:15

Antibody disulfide bond reduction in CHO production processes

Mike Laird, Genentech Inc., USA

09:15 – 09:45

Controlling sialic acid content in a non-antibody CHO cell culture process

Kara Calhoun, Genentech Inc., USA

09:45 – 10:15

Coffee Break

10:15 – 10:35

Cell specific control of recombinant monoclonal antibody production in CHO cells

Jane McLeod, University of Sheffield, UK

10:35 – 11:20

RIP-CHIP: Using RNA-binding proteins and microRNA targeting to study the human regulatory code

Scott A. Tenenbaum, University at Albany, USA

11:30 – 13:00

Lunch

New Opportunities for Cell Culture Engineering

Session Chairs: Matthew Croughan (Keck Graduate Institute, USA), Jamie Piret (University of British Columbia, Canada), and Terry Papoutsakis (University of Delaware, USA)

13:00 – 13:45

Generation of stem cells by reprogramming with viral vectors

James Ellis, Hospital for Sick Children, Canada

13:45 – 14:15

Robust stem cell based drug screening using synthetic stem cell niche engineering

Peter Zandstra, University of Toronto, Canada

14:15 – 14:45

Molecular elucidation and engineering of stem cell microenvironments

Dave Schaffer, University of California, Berkeley, USA

14:45 – 15:30

Stem cell adhesion in matrix-based programming

Dennis Discher, University of Pennsylvania, USA

15:30 – 16:00

Coffee Break

16:00 – 16:30

Development of a scalable, robust cell culture process for manufacture of human cardiomyocytes from induced pluripotent stem cells

Peter Fuhrken, Cellular Dynamics International, Inc., USA

16:30 – 17:00

Blood pharming: infinite supply of fresh RBC?

Jeff Chalmers, The Ohio State University, USA

17:00 – 17:30

Clinical scale ex vivo manufacture of neutrophils from haematopoietic progenitor cells

Nick Timmins, The University of Queensland, Australia

Tuesday, April 27, 2010 (continued)

17:30 – 20:30

Banff Dine Around

20:30 – 23:00

Posters II and Social Hour (sponsored by Novartis)

Poster Chair: Laura Palomares (UNAM, Mexico)

Poster Co-Chairs: Susan Casnocha (Pfizer, USA), Maria Klapa (Foundation for Research and Technology-Hellas, Greece), Denny Kraichely (Centocor, USA), Miranda Yap (Bioprocessing Technology Institute, Singapore), Georg Schmid (Roche, Switzerland)

Wednesday, April 28, 2010

06:00 – 08:00

Breakfast

Emerging Technologies and Applications

(sponsored by Pfizer)

Session Chairs: Christina Chan (Michigan State University, USA), William Miller (Northwestern University, USA), Ashraf Amanullah (Genentech, USA)

08:00 – 08:45

An integrative biology approach to reverse engineering living systems

Eric Schadt, Pacific Biosciences, USA

08:45 – 09:15

Sweet new world: engineering eukaryotic glycosylation reactions in bacteria

Matt DeLisa, Cornell University, USA

09:15 – 09:45

Human antibody discovery, expression, and optimization in yeast

Eric Krauland, Adimab, USA

09:45 – 10:30

Recombinant protein drag-tags for free-solution electrophoretic DNA sequencing

Annelise Barron, Stanford University, USA

10:30 – 11:00

Coffee Break

11:00 – 11:30

Fermentanomics: detailed cell culture analysis using NMR spectroscopy and chemometrics

Andreas Kaerner, Eli Lilly and Company, USA

11:30 – 12:00

System-level ¹³C fluxomics for animal cells

Lars Nielsen, The University of Queensland, Australia

12:00 – 12:30

Improving mammalian cell line protein production using a metabolic model-based approach

Bernhard Palsson, University of California at San Diego, USA

12:30 – 18:00

Box Lunch and Free Afternoon

16:00 – 18:00

Bonus Workshop

18:00 – 20:00

Dinner

20:00 – 22:30

Posters III and Social Hour (sponsored by Eli Lilly)

Poster Chair: Laura Palomares (UNAM, Mexico)

Poster Co-Chairs: Susan Casnocha (Pfizer, USA), Maria Klapa (Foundation for Research and Technology-Hellas, Greece), Denny Kraichely (Centocor, USA), Miranda Yap (Bioprocessing Technology Institute, Singapore), Georg Schmid (Roche, Switzerland)

Thursday, April 29, 2010

06:30 – 08:30

Breakfast

Advances in Cell Culture Process Development

Session Chairs: Sherry Gu (Eli Lilly, USA) and Charles Goochee (Johnson and Johnson, USA)

08:30 – 09:00

Herceptin: process lifecycle changes drive continued learning opportunities for cell culture engineers

Kathy Carswell, Genentech, Inc., USA

09:00 – 09:30

Impact of antibody molecule and cell lineage on product quality and manufacturing process

Pranhitha Reddy, Amgen Inc., USA

09:30 – 10:00

A nutrient and inhibitor control strategy for next-generation CHO fed-batch cultures

Gregory Hiller, Pfizer, Inc., USA

10:00 – 10:30

Coffee Break

10:30 – 11:00

Rapid development and technology transfer of an in-licensed phase 3 process

Susan Casnocha, Pfizer, Inc., USA

11:00 – 11:30

Towards fully continuous bioprocessing: what can we learn from pharma?

Konstantin Konstantinov, Genzyme Corp., USA

11:30 – 13:00

Lunch

13:00 – 15:00

Workshops II

Organizers: Tim Charlebois (Pfizer, USA) and Craig Zupke (Amgen, USA)

A) Scale-up and Technology Transfer Experiences (sponsored by Sartorium Stedim)

Bob Kiss (Genentech, USA) and Charlie Sardonini (Genzyme, USA)

B) Application of Single-Use Technologies

Terry Hudson (Genentech, USA) and Bryan Monroe (Life Technologies, USA)

C) Opportunities and Challenges in Applying -omics Technologies

Rohini Deshpande (Amgen, USA) and Alan Dickson (Univ. Manchester, United Kingdom)

15:00 – 15:30

Coffee Break

Novel Vaccines and Virology

Session Chairs: Amine Kamen (NRC Biotech Research Institute, Canada) and John Auniņš (Merck, USA)

15:30 – 16:00

Up- and down-stream processing challenges for the production of virus-like particles to be used as recombinant vaccines

Octavio Ramirez, UNAM, Mexico

16:00 – 16:30

Inactivated polio vaccine production: a technical history from Salk-IPV to Sabin-IPV

Wilfried AM Bakker, Netherlands Vaccine Institute, The Netherlands

Thursday, April 29, 2010 (continued)

- 16:30 – 17:00 **Bench scale production of influenza virus from suspension culture of MDCK-siat7e cells**
Joseph Shiloach, NIDDK, NIH, USA
- 17:00 – 17:20 **Optimizing downstream processing of recombinant baculoviruses for gene therapy: the leverage from the fundamentals**
Tiago Vicente, IBET/ITQB-UNL, Portugal
- 17:30 – 18:30 **CCE Award: Synthetic mammalian gene networks**
Martin Fussenegger, ETH Zurich, Switzerland
- 19:00 – 22:00 Banquet and Social Hour (sponsored by Genentech/Roche)

Friday, April 30, 2010

- 06:00 Breakfast and departure
(Check out time is 12:00, Breakfast available until 10:00am)

Cell Culture Engineering XII Poster Presentations

- 1 **Integrated Strategies To Improve Cell Line Development Process**
Lin Zhang, Pfizer Inc, USA
- 2 **With A Little Help From My (Viral) Friends: Ways To Resolve The Low-Titer-Issue In CHO Transient Production Processes**
Sabine Geisse, Novartis Institutes for BioMedical Research, Switzerland
- 3 **Proliferation Controlled Cell Lines With In Vivo Physiology**
Hansjoerg Hauser, Helmholtz Centre for Infection Research, Germany
- 4 **Development Of A Reproducible System For Production Of Human Red Blood Cells From Haematopoietic Stem Cells**
Mohamed Al-Rubeai, University College Dublin, Ireland
- 5 **Metabolomics: Designing And Engineering Cell Culture Development Processes**
Alan Dickson, University of Manchester, United Kingdom
- 6 **Insights Into Scale Up Of High-Yield Chemically-Defined Platform Process: Bringing Early Stage Products From Development To Manufacturing By Considering Cell Line Sensitivity To Hydrodynamic Forces**
Helena Y. Makagiansar, Biogen Idec, USA
- 7 **A Case Study For Applying Qbd Concept Into Cell Culture Process Design**
Tongtong Wang, Eli Lilly and Company, USA
- 8 **Development Of A High Throughput Cell Culture Platform For Clone Selection And Process Development**
Anli Ouyang, Eli Lilly and Company, USA
- 9 **Nmda Expression In Hek293/Glast Cells Using Bacmam**
Kim Stutzman-Engwall, Pfizer PharmaTherapeutics Research and Development, USA
- 10 **Intensifying CHO Cell Based Fed-Batch Culture For High Yield Antibody Production Using A Chemically Defined Process Format**
Thomas Ryll, Biogen Idec, USA
- 11 **Strategies For Enhanced Productivity Of A Hydrophobic Recombinant Protein**
Maureen Spearman, University of Manitoba, Canada
- 12 **Noval Orbital Shaken Bioreactor For Cell Cultivation In Disposable Bags**
Dr. Tibor Anderlei, Adolf Kühner AG, Switzerland
- 13 **Single-Batch Manufacturing Of Recombinant Human Polyclonal Antibody For Human Therapy**
Anne Bondgaard Tolstrup, Symphogen A/S, Denmark

- 14 **Quest For Quantity And Quality; How Are We Meeting This Challenge In Cell Line Development?**
Rohini Deshpande, Amgen. Inc, USA
- 15 **Early Identification Of Molecules With Expression-Related Manufacturability Issues**
Laura Simmons, Genentech, Inc., USA
- 16 **Profiling Highly Conserved MicroRNA Expression In Chinese Hamster Ovary Cells And Its Applications In Cell Engineering**
Nan Lin, Sigma-Aldrich, USA
- 17 **The Challenge To Produce Glycoproteins Of High Quality - Control Of Catabolite Formation In Minimal Culture Media With CHO Cells**
Ferruccio Messi, Cell Culture Technologies, Switzerland
- 18 **Manipulating The Energy Metabolism In The Baculovirus-Insect Cells System: A Bridge Between Metabolic And Bioprocess Engineering**
Manuel Carrondo, ITQB-UNL/IBET, Portugal
- 19 **Next Generation Of Cell Line Selection And Process Optimization: 10 ML Bioreactor Technology (Micro-24 Micro Bioreactor)**
Tiffany D Rau, PhD, GlaxoSmithKline, USA
- 20 **Regulation Of Transferrin Receptor Numbers At The Cell Surface May Drive Growth And Productivity**
Andrew Sakko, Novozymes Biopharma, Australia
- 21 **Construction Of A Recombinant Bacmid For Expression Of An Antiapoptotic Protein From *Lonomia Obliqua* Hemolymph In A Baculovirus/ Uflag Cells System**
Ana Carolina Viegas Carmo, UFSCar, São Carlos/SP, Brazil
- 22 **The Transcriptomic and Metabolic Signature of Artificially Selected Cell Lines**
Mohamed Al-Rubeai, University College Dublin, Ireland
- 23 **Identification Of A Productivity "Hot Spot" Within A Narrow Temperature Band Near 38°C In An Ns0 Cell Line**
Charles Sardonini, PhD, Genzyme Corporation, USA
- 24 **Factors Causing Antibody Reduction Observed During Harvest Clarification Of CHO Cell Culture**
Pratik Jaluria, Alexion Pharmaceuticals, USA
- 25 **Avoiding Pitfalls During Scale Up And Tech Transfer – Minimize Risk Of Failures By Equipment Characterization**
Michael Pohlscheidt, Roche Diagnostics GmbH, Germany
- 26 **Improving Human Hepatocyte Functionality For Drug Testing Applications: 3d Culture In Stirred Bioreactor**
Sofia B Leite, IBET/ITQB-UNL, Portugal

- 27 **Cell Culture Process Media Development: A Framework For Timeline - And Resource-Constrained Programs**
Anne Kantardjieff, Alexion Pharmaceuticals, USA
- 28 **Development Of A Glutamine Synthetase (Gs) Knockout CHO Host Using Zinc Finger Nucleases**
Christopher C. Frye, Eli Lilly and Company, USA
- 29 **Development And Implementation Of High Density Cell Banking Technology Improves Operational Efficiency In Large-Scale Protein Biomanufacturing**
Martin S. Sinacore, Ph.D., Biogen Idec Inc., USA
- 30 **Establishment Of Chemically-Defined Cell Culture Platform For Therapeutic Antibody Production: Opportunities And Challenges**
John C. H. Fann, Abbott Bioresearch Center, USA
- 31 **Development Of A Chemically-Defined Platform Medium For CHO Processes: Identification And Interactions Of Key Media Components**
Martin Gawlitzek, Genentech, Inc., USA
- 32 **Impact Of Antibody Molecule And Cell Lineage On Product Quality And Manufacturing Process.**
Pranhitha Reddy, Amgen, USA
- 33 **How Systems Biology Can Help To Develop Vaccine Processes: The Case Of Rotavirus-Like Particles**
António Roldão, ITQB-UNL/IBET, Portugal
- 34 **The Addition Of Sirnas To CHO Culture To Improve The Yield And Quality Of Biotherapeutics**
David A. Kocisko, Alnylam Therapeutics, USA
- 35 **Hek-293 Cells Is An Efficient Platform For Large Scale Manufacturing Of Influenza Vaccines.**
Amine A. Kamen, National Research Council, Canada
- 36 **Development Of A Robust Bioprocess Platform For A Soluble Recombinant Protein Production**
Peifeng Chen, MedImmune, USA
- 37 **Systems Biology Approach To High Yielding CHO Cell Bioprocess**
Shun Luo, Amgen, Inc., USA
- 38 **Strategic Opportunities And Applications Of High Throughput Technology In Cell Culture Development**
Xiaoming (Jerry) Yang, Amgen Inc., USA

- 39 **Long Term Preservation Of Liver-Specific Phenotype In Hepatocytes Through A Novel Gravimetric Controlled Perfusion Bioreactor System**
Rui Tostões, IBET/ITQB-UNL, Portugal
- 40 **Analytical Fingerprinting Tools: Linking Chemical Characteristics To Media Formulation Quality And Biological Performance**
Cheryl Moody Bartel, Life Technologies, USA
- 41 **Continuous Improvement Of Process, Cost, And Product Quality Through Post-Licensure Process Changes**
Jin Wang, Bayer HealthCare LLC, USA
- 42 **Investigation Of Cellular Factors Influencing Productivity In CHO Cell Fed-Batch Processes: Glutamine Metabolism And Autophagy**
Mario A. Jardon, University of British Columbia, Canada
- 43 **Study Of Alternating Tangential Flow Filtration For Perfusion And Harvest In Chinese Hamster Ovary Cells Cultivation**
Veronique Chotteau, Royal Institute of Technology (KTH) , Sweden
- 44 **Development Of Robust Protocols Based On Recombinant Histone H3.1 To Increase The Retroviral Transduction Efficiency Of Primary Hematopoietic Stem Cells**
Pascal R. Beauchesne, University of British Columbia, Canada
- 45 **Rapid Creation Of Platform Fed-Batch Process Using A High Throughput (Simcell™) System**
Zhihua Xiao, Life Technologies Corporation, USA
- 46 **Improving Mammalian Cell Line Protein Production Using A Metabolic Model-Based Approach**
Iman Famili, Ph.D., GT Life Sciences, Inc., USA
- 47 **Production, Characterization, And Pharmacokinetic Properties Of Antibodies With N-Linked Mannose-5 Glycans Towards Enhanced Adcc Function**
Marcella Yu, Genentech, Inc., USA
- 48 **Continuous Improvement Of Commercial Drug Substance Manufacturing Through Application Of Analytical Tools**
Eric Fallon, Genentech, Inc., USA
- 49 **High-Throughput Culture Of Single Cells In Nanovolume Bioreactors Allows Assessment Of Heterogeneity In Hematopoietic Stem Cell-Enriched Populations**
Véronique Lecault, Michael Smith Laboratories, Canada
- 50 **Quantitative Metabolomics For Mammalian Cells - Development Of An Optimized Protocol For Sampling And Extraction**
Stefanie Dietmair, Australian Institute for Bioengineering and Nanotechnology, Australia

- 51 **Ex Vivo Manufacture Of Red Blood Cells**
Nicholas E. Timmins, The University of Queensland, Australia
- 52 **Cell Quality Prediction Based On Image Analysis Combined With Bioinformatics For Practical Cell Processing**
Ryuji Kato, Nagoya University, Japan
- 53 **Accelerating Cell Culture Process Development: Scale-Up From Micro Wells To Miniaturised And Bench Scale Reactors**
Frank Baganz, University College London, United Kingdom
- 54 **Inhibition Of Pro-Domain Cleavage Enhances Recombinant Hbmp-2 Yield In Mammalian Cell Culture Systems**
Aileen JJ Zhou, University of Toronto, Canada
- 55 **High-Throughput Analysis And Modulation Of Cellular Responses To Process Conditions**
Susan T. Sharfstein, Rensselaer Polytechnic Institute, USA
- 56 **A Systems Approach To Quantify And Exploit Metabolic Reprogramming In Anti -Apoptotic CHO Cells**
Jamey D. Young, Vanderbilt University, USA
- 57 **Establishment Of An On-Line, Dynamic Feeding Method And Applications For High Titer CHO Processes**
Jincai Li, Genentech, Inc., USA
- 58 **Preservation Of Balanced Cell Culture Environment For Fed-Batch Process**
Yen-Tung Luan, Pfizer, USA
- 59 **In Vitro And In Silico Studies Of The Antibody Production Process; A Through-Culture Analysis In Mammalian Cells**
Claire M Bennett, University of Sheffield, United Kingdom
- 60 **Rational Feed Design Based On Metabolite Profiling Of Mammalian Cell Lines**
Christopher Sellick, The University of Manchester, United Kingdom
- 61 **Enhanced And Scalable Mab Production Using The EPICHO Transient Expression System**
Giuseppe Codamo, University of Queensland, Australia
- 62 **Aeration And Mixing Strategies For A Co2 Sensitive CHO Process**
Kevin Johnson, Genentech, USA
- 63 **Making An Improved CHO Host Cell: Engineering Or Evolution?**
Trent Munro, University of Queensland, Australia
- 64 **Molecular Characteristics Of CHO Host Cell Lines Optimised By Cell Sorter Assisted Directed Evolution**
Nicole Borth, University of Natural Resources and Applied Life Sciences, Austria

- 65 **Development And Implementation Of Shaking Culture Systems For Recombinant Protein Production By Animal Cells**
Chao-Min Liu, Hoffmann-La Roche Inc., USA
- 66 **Novel Host Cell Engineering Strategy Enabled The Establishment Of A High-Yield Strain**
Hisahiro Tabuchi, Chugai Pharmaceuticals, Japan
- 67 **The Bac-Based Physical Map Of Chinese Hamster Ovary Dg44 Cell Line**
Yihua Cao, Osaka University, Japan
- 68 **The Genomic Structure Of Exogenous Dhfr Amplicon And Its Application In CHO Gene Amplification**
Takeshi Omasa, Osaka University, Japan
- 69 **Improvement Of Productivity Of A Chinese Hamster Ovary Cell By Unfolded Protein Response -Related Pathway Engineering**
Tomoshi Ohya, Mitsubishi Tanabe Pharma Corporation, Japan
- 70 **Ires-Mediated Tricistronic Vector For Rapid Generation Of Monoclonal Antibody Expressing Cell Lines With High Productivity And Consistent Quality**
Yuansheng Yang, Bioprocessing Technology Institute, Singapore
- 71 **Htlv Tax Activates Human Cmv Mie Promoter Enhancing Production Of Recombinant Proteins In Mammalian Cells**
Sheng-Hao Chao, Bioprocessing Technology Institute, Singapore
- 72 **Novel Single-Use Bioreactor Development Using Pneumatic Mixing Mechanism**
Brian Lee, PBS Biotech, Inc., USA
- 73 **Chemical Chaperones Provide Improved Productivity And Reduce Aggregation Of Recombinant Flag-Comp-Ang1 In CHO Cells**
Sung Kwan Yoon, Aprogen, South Korea
- 74 **Utility Of Aggregation-Sensitive Dyes In Detecting Igg High Molecular Weight Aggregates**
Nigel Jenkins, National Institute of Bioprocessing Research and Training, Ireland
- 75 **Changes In Media Composition Due To Expression Of Igg1 In Hek And CHO Cells**
Peter G. Slade, Life Technologies, USA
- 76 **Continuous Feeds Of Sodium Lactate And Sodium Chloride In Bioreactors: Decoupling The Effects Of Lactate From Osmolality On CHO Cells**
Inn H. Yuk, Genentech, USA
- 77 **Maximizing Antibody Productivity Through Media Optimization For CHO Cell Culture**
Jian Wu, Amgen Inc., USA

- 78 **Development of novel high-expression vector system•G'Mammalian PowerExpress System TM' for the production of biopharmaceutical from CHO cells**
Kenji Masuda, Toyobo Co., Ltd., Japan
- 79 **Protein And Membrane Supply For High Throughput Screening Assays By Transient Transfection And Baculovirus Insect Cell Expression**
G. Schmid, F. Hoffmann-La Roche Ltd, Switzerland
- 80 **Application Of Multivariate Data Analysis To The Understanding Of Factors Influencing The Glycosylation Profile Of A CHO-Derived Fusion Protein**
Neysi Ibarra, Eimear O'Donovan, Enda Moran, Pfizer Inc, Ireland
- 81 **Development Of A Shaken Scale Down Model In Usp: From 1000 L To 0.1 L Scale**
Robert Puskeiler, Roche Group, Germany
- 82 **Autophagy As A Positive Cell Survival Mechanism In Recombinant CHO Cells Treated With Sodium Butyrate**
Jae Seong Lee, KAIST, South Korea
- 83 **Enhancing Recombinant Protein Production And Extending Culture Longevity In CHO Cell Culture**
Jong Kwang Hong, KAIST, South Korea
- 84 **Characterization Of Lentiviral Vector Production Kinetics By On-Line Monitoring Of Cell Culture Permittivity**
Sven Ansoerge, National Research Council, Canada
- 85 **Safer, Faster Hd Cell Banking For More Productive Manufacturing**
John Bonham-Carter, Refine Technology, USA
- 86 **Microscale Culture Of Multiple CHOk1sv Clonal Isolates Allows Selection Of Cell Lines With Desirable Monoclonal Antibody Glycosylation**
Rhian Grainger, University of Sheffield, United Kingdom
- 87 **Enhancement Of Sialylation In Biopharmaceuticals Production By Overexpression Of CHO f à-Galactoside f ç2,6-Sialytransferase**
Wook-Dong Kim, Osaka University, Japan
- 88 **Improving Cell Screening For High Producers, Using A Simple 6-Well Plate Fed-Batch Culture**
Risa Ogawa, Kyowa Hakko Kirin Co., Ltd., Japan
- 89 **Novel Mitogenic Factors For Serum-Free Culture**
Satoshi Terada, University of Fukui, Japan

- 90 **CHO Cell Culture Improvements Using A Controlled Nutrient Limiting Feed Strategy**
Matthew Gagnon, Pfizer, USA
- 91 **Integrated Medium And Feed Design For Five-Fold Igg Titer Improvement**
Shawn Barrett, Life Technologies, USA
- 92 **Fed-Batch Optimization Using Doe And A 24-Well Arrayed Bioreactor System Increased T-Pa Production To >2.5 G/L**
Do Yun Kim, University of British Columbia, Canada
- 93 **Metabolic Profiling Is Sensitive To Subtle Changes In The Physiology Of Industrial-Scale Perfusion Cultures Due To Cell Age**
Maria I. Klapa, Foundation for Research and Technology-Hellas, Greece
- 94 **The Fate Of Polyethylenimine In Transient Gene Expression: Towards GMP Grade Recombinant Protein Production**
Tibor F. Anderlei, Kuhner AG, Switzerland
- 95 **Cytoprotective Effects Of Nhri-901 In CHO Cells**
John T. -A. Hsu, National Health Resaerch Institutes, Taiwan
- 96 **Implications Of P53 Loss For Megakaryocytic Differentiation And Platelet Production From Human Stem Cells**
Pani A. Apostolidis, Northwestern University and Delaware Biotechnology Institute , USA
- 97 **Profiling Of microRNAs Expression In CHO Host Cells With Increased Transient Antibody Productivity**
Matthias Hackl, University of Natural Resources and Applied Life Sciences, Austria
- 98 **Characterization of microRNA And messengerRNA Expression Pattern Of A CHO K1 Cell Line Adapted To Growth In Glutamine Free Medium**
Juan A. Hernandez Bort, University of Natural Resources and Applied Life Sciences, Austria
- 99 **Development Of A High-Titer Cell Culture Platform - A Case Study**
Raghavan V. Venkat, MedImmune, USA
- 100 **Engineering Hek-293 Cells For Reduced Metabolic By-Products Formation And Enhanced Recombinant Glycoprotein Production**
Olivier Henry, Ecole Polytechnique, Canada
- 101 **A High-Throughput, Disposable Micro-Bioreactor Model For Early Process Development Using Product Quality As A Performance Metric**
Rachel Legman, Seahorse Bioscience, USA
- 102 **Thick Shear Mode Acoustic Devices As A Tool To Study Cell Adhesion And Proliferation**
Guilherme N.M. Ferreira, Universidade do Algarve, Portugal

- 103 **Viral Nanoparticle Platform For Targeted Therapies**
Luisa Pedro, Universidade do Algarve , Portugal
- 104 **High-Level Recombinant Protein Production In CHO Cells Using Lentiviral Vectors And The Cumate Gene-Switch**
Bernard Massie, CNRC, Canada
- 105 **Bone Marrow Niche-Inspired, Multi-Phase Expansion Of Megakaryocytic Progenitors With High Polyploidization Potential**
Swapna Panuganti , Northwestern University, USA
- 106 **Design And Development Of Model-Based Selection Systems In Mammalian Cell Lines**
Renata Usaite Black, GT Life Sciences, USA
- 107 **Process Mapping Strategy To Monitor Rthrombin Product Quality During Manufacture**
Gautam Nayar, ZymoGenetics, USA
- 108 **Intracellular Localization Of Adeno-Associated Viral Proteins Expressed In Insect Cells**
Lilí E. Gallo-Ramírez, UNAM, Mexico
- 109 **A Kinetic-Metabolic Model Describing CHO Cell Behaviour**
Mario Jolicoeur, Ecole Polytechnique de Montreal , Canada
- 110 **Tools And Strategies For Delivering Clinical Products In A Just-In-Time World**
Minh Luu, Genentech, Inc., USA
- 111 **Effect Of Moderate Hypothermia On Productivity Of Hmab Anti-II8 Produced In CHO Cells: Transcriptional Analysis Of N-Glycosylation Genes And Determination Exoglycosidase Activity**
Octavio Ramírez, Universidad Nacional Autónoma de México, Mexico
- 112 **Cytochalasin D Increases CHO Cell Productivity And Causes Multinucleation**
Jeffrey C Swanberg, University of Delaware , USA
- 113 **Cfd-Study Of Roller Bottles: Influence Of Geometry And Rotation Direction**
Ricardo A. Medronho, Federal University of Rio de Janeiro, Brazil
- 114 **Comparative Transcriptome Profiling Of Chinese Hamster Ovary Cells Through High Throughput Sequencing**
Nitya M. Jacob, University of Minnesota, USA
- 115 **Targeting Viral Infectivity Factor With Specific Antibodies: A Molecular Therapy Approach Against Hiv-1**
Sandra S. Soares, Institute for Biotechnology and Bioengineering (IBB), Centre for Molecular and Structural Biomedicine (CBME), Portugal

- 116 **Accelerating The Time To Generate Clonal Cell Lines Using A One Stage Approach To CHO Cell Line Development**
Krista Alvin, Merck & Co, Inc, USA
- 117 **Combining High-Throughput Screening Of Caspase Activity With Anti -Apoptosis Genes For The Development Of Robust Chinese Hamster Ovary Production Cell Lines**
Haimanti Dorai, Centocor R & D, USA
- 118 **Monitoring Bioreactors in a Cell Culture Development Laboratory with an Autonomous Mobile Manipulator**
Chetan T. Goudar, Bayer HealthCare Pharmaceuticals, USA
- 119 **Integrated And Fully Customizable Control Of High Density Mammalian Cell Perfusion Cultures**
Christopher Cruz, Bayer HealthCare , USA
- 120 **Optimization Of Product Quality Of A Recombinant Antibody Expressed In CHO Cells: Influence Of Ph And Process Time On Charge Heterogeneity**
Christine Jung, Roche Diagnostics GmbH, Germany
- 121 **Evolution And Continuous Improvement Of Antibody Production To Ensure Product Quality And Speed**
Steven Lang, Centocor, USA
- 122 **Sequential Protein Free Media Development And Optimization For A Recombinant Non Gs Ns0 Cell Line.**
Adolfo Castillo, Center of Molecular Immunology, Cuba
- 123 **Qualification Of A Reduced Scale Perfusion Bioreactor Model For A Commercial Monoclonal Antibody Production Bioreactor Process**
Frank Wunfeng Lee, Ph.D. , Centocor R&D Inc., USA
- 124 **Comparison Of Humanized Igg And Fvfc Anti-Cd3 Monoclonal Antibody Expressed In CHO Cells**
Ana Maria Moro, Lab Biopharmaceuticals in Animal Cells, Instituto Butantan, Brazil
- 125 **The Use Of Shaken 96-Deepwells Plates In Screening For Cell Line Development**
Ronald Schoner, MedImmune, Inc., USA
- 126 **Large-Scale Cell Recycle Repeated Batch Culture For Humanized Anti-Gpiib/Iiia Antibody Production**
Masami Yokota, Ph.D., Astellas Pharma Inc., Japan
- 127 **Glycosylation As A Complex Biochemical Network: Interpreting Detailed Mass Spectrometry Profiles And Gene Expression Data Using Intracellular Processing Models**
Michael Betenbaugh, Johns Hopkins University, USA
- 128 **The Effect Of Media And Culture Components On A Recombinant Protein Produced In A Gpex® CHO Cell Line**
Dona York, Catalent Pharma Solutions, USA

- 129 **Mammalian Expression Of Eucode™ Modified Therapeutic Proteins**
Barney Barnett, Ambrx, USA
- 130 **The Use Of Suspension Mdck Cells As Substrates For Influenza Virus Production**
Chia Chu, National Institutes of Health and Johns Hopkins University, USA
- 131 **Cell Culture Process Characterization – A Qbd Prospective**
Wei Lian, Abbott Bioresearch Center, USA
- 132 **Enhancing Recombinant Protein Production In CHO Cells Using Genomic Tools And Cofilin Sirna**
Stephanie Hammond, University of Delaware, USA
- 133 **Towards On-Line Control Of Glycosylation In Mabs**
Melissa St. Amand, Univeristy of Delaware, USA
- 134 **On-line monitoring of the live cell concentration in disposable bioreactors and validation of probes for use in cGMP**
John Carvell, Aber Instruments Ltd., United Kingdom
- 135 **Process Characterization of a Monoclonal Antibody Cell Culture Process**
Brian Horvath, Genentech, USA
- 136 **Maintaining Product Quality From Early To Late Stage Process Development**
Jason Goodrick, Genentech, USA
- 137 **CHO Cell Growth Problems In A Disposable Bioreactor System: Interaction Between Wave Cellbagtm And Chemically-Defined Media**
Derek Adams, Alexion Pharmaceuticals, Inc., USA
- 138 **Rapid Generation Of High-Producing Clonal Cell Lines For Recombinant Monoclonal Antibody Manufacture**
Jolanda Gerritsen, Genmab BV, Netherlands
- 139 **Product Output Optimization Of A Production Scale Legacy Cell Culture Biotechnology Process**
Mike Wright, Bayer Healthcare, USA
- 140 **Cloning Process Optimization For The Selection Of High Producer**
Masahiro Kokubo, Kyowa Hakko Kirin Co., Ltd., Japan
- 141 **Developing A Scale-Down Model For A CHO Cell Fed-Batch Process**
Yun Jiang, Biovitrum AB, Sweden
- 142 **High Titer Process Development For Phase Iii And Launch: A Multi-Faceted Approach**
Kirin M. Jamison, Genentech, Inc., USA

- 143 **Novel Fish Hydrolysate As Cell Culture Additive**
Shinya Takuma, Chugai Pharmaceutical Co., Ltd., Japan
- 144 **Accelerating Process Development For Clinical Manufacturing Of Monoclonal Antibodies Using Single Use Bioreactors**
Marie M. Zhu, Agensys Inc, USA
- 145 **Improved Recombinant Protein Expression Utilizing Codon-Deoptimized Dhfr Selectable Markers**
Howard Clarke, CMC ICOS Biologics, Inc., USA
- 146 **Comparing Growth Factor Performance In Chemically Defined Media**
Sally Grosvenor, Novozymes Biopharma AU, Australia
- 147 **Cottonseed Hydrolysate Facilitates The Consumption Of Lactate In CHO Cell Cultures Resulting In An Extended Growth Profile And A Significant Increase In Target Protein Yield**
James F. Babcock, Sheffield Center for Cell Culture Technology, USA
- 148 **ZAP-CHO Media Supplement Optimizes The Growth Kinetics And Productivity Of CHO Cells**
Steve Pettit, InVitria, USA
- 149 **Characterizing Molecular Factors That Lead To Increased Productivity In RFVIII Expressing BHK21 Cell Lines**
John Thrift, Bayer HealthCare, USA
- 150 **Regulatory Robustness Of Glycolytic Fluxes And Engineering Energy Metabolism Pathways**
Bhanu Chandra Mulukutla, University of Minnesota, USA
- 151 **Neuroepoetin: Novel Combination Of Basic Erythropoietin Glycoforms With In Vitro Neuroprotective Activity**
Natalia Ceaglio, Universidad Nacional del Litoral, Argentina
- 152 **Primary Culture Of Embryonic Cells Of Amblyomma Cajennense (ACARI: IXODIDAE)**
Darci Moraes Barros-Battesti, Laboratório de Parasitologia, Instituto Butantan, Brazil
- 153 **Robust bioreactor strategies for the expansion of undifferentiated human embryonic stem cells**
Manuel J. Carrondo, IBET, Portugal
- 154 **Alginate encapsulation as a novel strategy for the cryopreservation of neurospheres**
Tiago Vicente, IBET/ITQB, Portugal