

# Biochemical and Molecular Engineering XIX

## Poster List

July 12-16, 2015  
Hyatt Ziva  
Puerto Vallarta, Mexico

### Session 1

1. **An engineered secretion system for recovery of folded heterologous proteins in the extracellular space**  
Kevin J. Metcalf, University of California, Berkeley, USA
2. **Development of new-integrated bacterial secretion process platforms**  
Lourdes Velez-Suberbie, University College London, United Kingdom
3. **Case studies for domestic and international cell culture process transfers**  
Christina Petraglia, Genentech, USA
4. **High performance antibody fragment secretion system in Escherichia coli**  
Chih-Chin Chen, Development Center for Biotechnology, Taiwan
5. **A high throughput metabolic screening assay for media development**  
Joon Chong Yee, Bristol Myers Squibb, USA
6. **Creating an integrated scale-down platform process for the extraction and recovery of periplasmically expressed fab from E.coli**  
Asma Ahmad, University College London, United Kingdom
7. **Illinois biological foundry for advanced biomanufacturing (iBioFAB)**  
Huimin Zhao, University of Illinois at Urbana-Champaign, USA
8. **Malic acid production from glycerol with Ustilago trichophora**  
Thiemo Zambanini, RWTH, Germany
9. **Potential approach of bioethanol production from red seaweed gelidium amansii by autoclaving treatment**  
Ho Myeong Kim, Chonnam National University, Korea
10. **Engineering of Saccharomyces cerevisiae for the synthesis of polyketide and fatty acid-derived biorenewable chemicals**  
Nancy A. Da Silva, University of California, Irvine, USA
11. **Role of Cd36 and free fatty acid uptake in Epithelial-mesenchymal transition of hepatocellular carcinoma cells**  
Christina Chan, Michigan State University, USA
12. **Revisiting cancer energetics: Establishing a link between altered fatty-acid metabolism and metastasis**  
Christina Chan, Michigan State University, USA
13. **3D in vitro disease model of human adipose tissue using silk biomaterials**  
Kelly A. Burke, University of Connecticut, USA

14. **Pathogen adaptation to host-induced environmental stress**  
Komal Rasaputra, University of Houston, USA
15. **Characterisation of extracellular polymeric substances produced by *P. Putida* ATTC 11172 growth at different concentration of Glucose**  
Abubaker Elayatt, Sirte University, Libya
16. **Sputtering deposition of magnetic Ni nanoparticles directly onto an enzyme surface**  
Roberta Bussamara, Estadual University of Rio Grande do Sul, Brazil
17. **Heterogeneous systems biocatalysis: A valuable tool to optimize multi-enzyme cascades**  
Fernando López-Gallego, CIC biomaGUNE, Spain
18. **Dielectrophoretic behavior of PEGylated Ribonuclease A in a microdevice with diamond-shaped insulating posts**  
Marco Rito-Palomares, Tec de Monterrey, Mexico
19. **Genetic changes during an adaptive laboratory evolution process allowed fast growth in glucose to an *E. coli* strain lacking the major glucose transport system**  
César Aguilar, IBT/UNAM, Mexico
20. **Adaptive laboratory evolution of the *Escherichia coli* PB11 strain for recovery of the growth capability on glucose**  
Susy Beatriz Carmona, IBT/UNAM, Mexico
21. **A scalable, GMP-compliant transfection technology for rapid production of viral vector and VLPs in mammalian and insect cells**  
Weili Wang, MaxCyte Inc., USA
22. **Rapid manufacturing of diverse biological molecules by MaxCyte flow electroporation technology**  
Weili Wang, MaxCyte Inc., USA
23. **DNA guided scaffolding of pathway enzymes in *Escherichia coli* enhanced alkane production**  
Ziaur Rahman, University of Swat, Pakistan
24. **A study on fatty acid ethyl ester production in a *Saccharomyces cerevisiae* cell factory; Metabolic engineering practice towards a sustainable transportation fuel.**  
Bouke Wim de Jong, Chalmers Technical University, Sweden
25. **Engineering towards improved membrane protein expression in mammalian cells**  
Su Xiao, Johns Hopkins University, USA
26. **Characterization of physiological conditions in the origin of the metabolic reprogramming of cancer cells**  
Joana Pinto Vieira, Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland
27. **In Silico atom labeling for the reconstruction of atom-mapped metabolic networks**  
Noushin Hadadi, Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland
28. **Developing a reconciled genome-scale model of the malaria parasite *Plasmodium falciparum* and its thermodynamics-based flux balance analysis**  
Anush Chiappino Pepe, Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland

29. **Systematic, unbiased reduction of genome scale metabolic reconstruction networks: Redgem**  
Meric Ataman, Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland
30. **Characterization of uncertainty in parameters of kinetic models of large-scale and genome-scale metabolic networks**  
Ljubisa Miskovic, Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland
31. **Yeast cell factories for production of high-value isoprenoids**  
Anastasia Krivoruchko, Chalmers University, Sweden
32. **Enhancing the quality of glycoproteins produced in mammalian cell culture through PYC expression**  
Eric Karengera, École Polytechnique de Montréal, Canada
33. **Hug1p's role as a negative regulator of the MEC1 pathway**  
Michael G. Benton, Louisiana State University, USA
34. **Facilitating unconventional yeast engineering for biorenewables production**  
Zengyi Shao, Iowa State University, USA
35. **Phosphoproteomic analysis using DiART mass tags.**  
Mark Marten, UMBC, USA
36. **Heterologous sigma factors expression for functional screening of metagenomic libraries**  
Nicholas R. Sandoval, University of Delaware, USA
37. **Engineering CHO cell metabolism for culture in galactose**  
Ziomara P. Gerdtzen, University of Chile, Chile
38. **Generation and use of a Cho genome-scale model to describe metabolic shift**  
Ziomara P. Gerdtzen, University of Chile, Chile
39. **Interleukin-2 antibody-driven modulation of immune cell homeostasis**  
Jamie B. Spangler, Stanford University School of Medicine, USA
40. **Design of polyelectrolyte multilayer vaccines assembled from immune signals**  
Christopher M. Jewell, University of Maryland - College Park, USA
41. **Metabolic engineering of new streptomyces sp. from extreme environments for novel antibiotics and anticancer drugs**  
Juan A. Asenjo, University of Chile, Chile
42. **Post-translational engineering of biotherapeutics**  
Michael Betenbaugh, Johns Hopkins University, USA
43. **High throughput analysis of paired heavy and light chain antibody repertoires for systems immunology and human antibody discovery**  
Brandon J. DeKosky, The University of Texas at Austin, USA
44. **Engineering high-titer heterologous protein secretion in salmonella enterica**  
Anum Azam, UC Berkeley, USA
45. **Toward structure prediction and design of protein glycosylation**  
Jeffrey J. Gray, Johns Hopkins University, USA

46. **The external pH affects the recombinant protein aggregation and inclusion body quality**  
Norma A. Valdez-Cruz, Universidad Nacional Autonoma de Mexico, Mexico
47. **Low-cost healthcare diagnostics by directed evolution of peptide receptors in yeast**  
Keith EJ Tyo, Northwestern University, USA

## Session 2

48. **Recombinant synthesis of therapeutic peptides**  
Vida Rodríguez, University of Chile, Chile
49. **Development of a 3-month affinity resin delivery platform for capture and high-Resolution separations**  
Kevin Isett, Avitide, Inc., USA
50. **Contionuous precipitation of antibodies**  
Alois Jungbauer, BOKU, Austria
51. **Quantitative subcellular fractionation of CHO cells**  
Saumel Perez-Rodriguez, Universidad Nacional Autonoma de Mexico, Mexico
52. **A unified time scale for comparing stem cell differentiation and liver development through transcriptome meta-analysis**  
David Chau, University of Minnesota, USA
53. **Genome-Wide RNAi screen for improved functional expression of neurotensin receptor and other proteins**  
Joseph Shiloach, NIDDK/NIH, USA
54. **Modeling the movement of DMT1 transporters in Caco2 cells after iron exposure**  
Ziomara P. Gerdtzen, University of Chile, Chile
55. **Experimental determination and mathematical modeling of iron fluxes in Caco2 cells**  
Andrea Colins, University of Chile, Chile
56. **Interruption of epigenetic regulators with bacterial delivered macromolecules**  
Neil Forbes, UMass Amherst, USA
57. **Effects of endocrine disrupters on adipocyte metabolism and inflammation**  
Sara Manteiga, Tufts University, USA
58. **Towards microbiome engineering: A machine learning approach to infer intra-community interactions**  
Stephen Lincoln, University of Connecticut, USA
59. **Development of a biosensor for detection of phenolic compounds at the nanoscale level**  
Francisco José Ipinza Fernández-Dávila, Center for Nanosciences and Nanotechnology- UNAM, Mexico
60. **Novel nanotechnology approach to tune an alternative splicing – switch from proto-oncogene to tumor suppressor**  
Alexander Kazansky, The University of Texas at Brownsville, USA

61. **CHO cells in manufacturing - Genetics and population dynamics in bioreactor grown populations**  
Florian M. Wurm, Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland
62. **Simultaneous glucose/xylose co-utilization by an evolved *Thermus thermophilus* strain elucidated by genome sequencing and <sup>13</sup>C metabolic flux analysis**  
Maciek R. Antoniewicz, University of Delaware, USA
63. **CHO genome instability impacts host cell protein contaminants**  
Kelvin Lee, University of Delaware, USA
64. **Evolution of metabolic networks**  
John Barrett, University of Minnesota, USA
65. **Integrated analysis of anaerobic gut fungi reveals new tools for lignocellulose breakdown**  
Kevin V. Solomon, University of California, Santa Barbara, USA
66. **A systems analysis of dual signaling control of conjugative drug resistance transfer in *Enterococcus faecalis***  
Arpan Bandyopadhyay, University of Minnesota, USA
67. **Massively parallel flow cytometry and cell sorting using fluorescent barcodes**  
David Colby, University of Delaware, USA
68. **Light-driven cofactor-free whole-cell cytochrome P450 catalysis**  
Ki Jun Jeong, KAIST, Korea
69. **A genome-scale approach to modeling and engineering the mammalian secretory pathway**  
Nathan Lewis, University of California, San Diego, USA
70. **Integration of genome-wide kinetic information into computational strain design protocols**  
Anupam Chowdhury, PSU, USA
71. **Building pathways around alcohol-o-acetyltransferase for the biosynthesis of short chain volatile esters**  
Ian Wheeldon, UC Riverside, USA
72. **Modelling of metabolic networks with gene regulation and in vivo determination of rate parameters**  
Juan A. Asenjo, University of Chile, Chile
73. **In Vivo Continuous Evolution (ICE) of enzymes, pathways, and synthetic circuits**  
Hal Alper, The University of Texas at Austin, USA
74. **Opening Pandora's Box**  
Esteban Marcellin, The University of Queensland, Australia
75. **A genome-scale metabolic network reconstruction for chinese hamster ovary cells identifies the biochemical capacity of protein production**  
Michael Hanscho, Austrian Centre Of Industrial Biotechnology, Austria
76. **Parsing the Complexity of natural product metabolic engineering**  
Parayil K. Ajikumar, Manus Biosynthesis, USA

77. **Development and analysis of precursor production strains**  
Jennifer Reed, UW Madison, USA
78. **Sustainable production of cyclic triterpenoids in *saccharomyces cerevisiae***  
Eik Czarnotta, RWTH Aachen University, Germany
79. **Engineering and preclinical development of a novel class of immune checkpoint Inhibitors for cancer therapy**  
John Blazeck, University of Texas at Austin, USA
80. **Opossum peptide highly active against rattlesnake envenomation in mice**  
Claire Komives, San Jose State University, USA
81. **Industrial IgG-expressing CHO cells exhibit high-productivity metabolic phenotypes identified by <sup>13</sup>C flux analysis**  
Allison G. McAtee, Vanderbilt University, USA
82. **Discovery of novel neutralizing antibodies against *Bordetella* adenylate cyclase toxin and the implication for vaccine design**  
xianzhe wang, The University of Texas at Austin, USA
83. **Antibody cocktails to treat disease caused by *Bordetellae***  
Jennifer Maynard, The University of Texas at Austin, USA
84. **Engineering the type III secretion system for high-titer bacterial protein production**  
Danielle Tullman-Ercek, University of California Berkeley, USA
85. **High-throughput scanning mutagenesis of a polymerase active site using array synthesized oligos**  
Benjamin Borgo, Agilent Technologies, USA
86. **MOSST Suit: A computational tool able to guide rational mutation strategies to design protein properties and functions**  
Alvaro Olivera-Nappa, University of Chile, Chile
87. **Detection and structural characterization of misfolded tau protein in neurodegenerative disease**  
Olga A. Morozova, University of Delaware, USA