

CLOSTRIDIUM XII PROGRAMME

Sunday, 9th September 2012

19.00-20.00 Registration *Wembley Suite, Hilton Hotel*

20.00-24.00 Welcome Reception *Wembley Suite, Hilton Hotel*

Monday, 10th September 2012

Session I: REGULATION *Adams Room, Nottingham Conference Centre*

Chairperson: Nigel P Minton

09.00 - 09.05 Nigel P Minton - The University of Nottingham, UK
Welcome and Introduction

09.05 - 09.40 Hubert Bahl - University of Rostock, Germany (Invited Speaker)
"Global regulators in *Clostridium acetobutylicum*"

09.40 - 10.05 Klaus Winzer - The University of Nottingham, UK
"Quorum Sensing regulates sporulation and solvent formation in *Clostridium acetobutylicum*"

10.05 - 10.30 Peter Dürre - University of Ulm, Germany
"Master and Commander: Spo0A vs. SolB, a Small Regulatory RNA, in Controlling the Shift to Solventogenesis in *Clostridium acetobutylicum*"

10.30 - 10.45 Delyana Vasileva - University of Rostock, Germany (Young Presenter)
Kindly sponsored by BBSRC
"Iron-dependent Response of the Strict Anaerobe *Clostridium acetobutylicum*"

10.45 - 11.15 Coffee break

Chairperson: Terry Papoutsakis

11.15 - 11.50 Weihong Jiang - Shanghai Institutes for Biological Sciences, China (Invited Speaker)
Kindly sponsored by SfAM
"CcpA, a Pleiotropic Key Regulator in Butanol-producing *Clostridium acetobutylicum*"

11.50 - 12.15 Ralf-Jörg Fischer - University of Rostock, Germany
"Role of Granulose for Formation and SASPs for Germination of Endospores of *Clostridium acetobutylicum*"

12.15 - 12.40 Jeffrey Blanchard - The University of Massachusetts, USA
"Population Level Analysis of Mutations Underlying Improvements in Biofuel Production by *Clostridium phytofermentans*"

12.40 - 13.00 Steven Brown - Oak Ridge National Laboratory, USA
"RNA-Seq and DNA Microarray Analyses of *Clostridium thermocellum* Biomass Fermentation Transcriptomes"

13.00 - 14.30 Lunch *The Old Library, NCC*

Session II: BUTANOL ENGINEERING

Adams Room, NCC

Chairperson: George Bennett

- 14.30 - 15.05 Isabelle Meynial-Salles - INSA, Toulouse, France (Invited Speaker)
Kindly sponsored by SGM
"Metabolic Engineering of *Clostridium acetobutylicum* ATCC 824 for the High-Yield Production of Biofuels"
- 15.05 - 15.30 Edward Green - Green Biologics Ltd, UK
"Use of Municipal Solid Waste as a Feedstock for the Butanol Fermentation"
- 15.30 - 15.55 Shang-Tian Yang - The Ohio State University, USA
"Engineering *Clostridium* for High-Titer and High-Yield Biobutanol Production"
- 15.55 - 16.20 Ye Ni - Jiangnan University, China
"Continuous Butanol Fermentation from Low-Value Sugar-Based Feedstocks by *Clostridium saccharobutylicum* DSM 13864"
- 16.20 - 16.35 Yi Wang - University of Illinois, USA (Young Presenter)
Kindly sponsored by BBSRC
"Genome-wide Transcriptomic Analysis in *Clostridium beijerinckii* 8052 using Single-Nucleotide Resolution RNA-Seq Technology"

16.35 - 18.00 Posters I & Coffee

Bowden Room, NCC

20.00 - 22.00 Dinner

The Old Library, NCC

Tuesday, 11th September 2012

Session III: CELLULOSE AND SUGAR UTILISATION

Adams Room, NCC

Chairperson: Peter Dürre

- 09.00 - 09.35 Mike Himmel - NREL, USA (Invited Speaker)
Kindly sponsored by BBSRC
"Engineering the *Clostridium thermocellum* cellulosome"
- 09.35 - 10.00 Lee Lynd - Dartmouth College, USA
"*Clostridium thermocellum*: Metabolic engineering and cellulose utilization"
- 10.00 - 10.25 Philippe Soucaille - INSA, France
"The Weizmann process revisited for cellulosic Butanol production"
- 10.25 - 10.45 David Ramey - Green Biologics Ltd, USA
"Cellulosic Butanol - A Sustainable Advanced Next Generation Biofuel"
- 10.45 - 11.00 Kousuke Yamamoto - Mie University, Japan (Young Presenter)
Kindly sponsored by BBSRC
"Identification of the *Clostridium cellulovorans* cellulosomal subunits on soft biomass degradation"

11.00 - 11.25 Coffee break

Chairperson: Philippe Soucaille

- 11.25 - 12.00 Wilfrid Mitchell - Heriot-Watt University, UK (Invited Speaker)
Kindly sponsored by SGM
"Glucose Sensing in the Solventogenic Clostridia"
- 12.00 - 12.25 Chen Yang - SIBS, China
"Pathway Reconstruction and Flux Quantification of Pentose Metabolism in Solventogenic Clostridia"
- 12.25 - 12.50 Katherine Germane - US Army Research Laboratory, USA
"Arabinose is Metabolized Via a Phosphoketolase Pathway in *Clostridium acetobutylicum*"
- 12.50 - 13.15 Ana Lopez-Contreras - Food & Biobased Research-Wageningen UR, The Netherlands
"Production of Acetone, Butanol and Ethanol from native North Sea seaweed species"
- 13.15 - 13.30 Kumaran Sivagnanam - McGill University, Canada (Young Presenter)
Kindly sponsored by BBSRC
"Proteomic Analysis of *Clostridium acetobutylicum* from Butanol Fermentation"
- 13.30 - 14.30 Lunch** *The Old Library, NCC*
- 14.30 - 17.30 NETWORKING AFTERNOON**
- 19.00 - 23.00 BBQ** *The Old Chemistry Theatre, NCC*

Wednesday, 12th September 2012

Session IV: PHYSIOLOGY, GENETIC TOOLS, AND MODELS *Adams Room, NCC*

Chairperson: Weihong Jiang

- 09.00 - 09.35 Derek Lovley - University of Massachusetts, USA (Invited Speaker)
"Feeding Acetogenic Clostridia Electricity to Produce Organic Commodities from Carbon Dioxide"
- 09.35 - 10.00 Nigel P Minton - The University of Nottingham, UK
"A 'Road Map' for the Genetic Modification of Any *Clostridium* spp"
- 10.00 - 10.25 Terry Papoutsakis - University of Delaware, USA
"Installing the Wood-Ljungdahl (WL) pathway in *Clostridium acetobutylicum*"
- 10.25 - 10.40 Simone Morra - University of Torino, Italy (Young Presenter)
Kindly sponsored by BBSRC
"Clostridia from a Pilot Plant for Enhanced Hydrogen Gas Production: Isolation, Molecular Characterization and Hydrogenase Genes Cloning for Exploitation in Biotechnology"

10.40 - 11.10 Coffee break

Chairperson: Pamela Contag

- 11.10 - 11.35 David Levin - University of Manitoba, Canada
Central metabolism of the anaerobic lignocellulolytic thermophile *Clostridium stercorarium* subsp. *stercorarium* DSM8532
- 11.35 - 12.00 Thomas Millat - University of Rostock, Germany
"Mathematical Modelling of the pH-induced Metabolic Shift Unravels a Heterogeneous Phase Transition"
- 12.00 - 12.25 Servé Kengen - Wageningen University, The Netherlands
"Analysis of the Transcriptional Response to n-Butanol Challenges during Acidogenic Continuous Culturing of *Clostridium acetobutylicum*"
- 12.25 - 12.50 Sebastian Curth - Beuth University of Applied Sciences Berlin, Germany
"Mathematical Modelling for Prediction of Strain Optimization Targets: Sensitivity Analysis and Evaluation of Dynamic Experiments"
- 12.50 - 13.05 Torbjørn Ølshøj Jensen - Aalborg University & Biogasol, Denmark (Young Presenter)
Kindly sponsored by BBSRC
"Conversion of Crude Glycerol by *Clostridium pasteurianum* and by a Developed Mutant Strain"

13.05 - 14.30 Lunch *The Old Library, NCC*

14.30 - 16.00 Posters II & Coffee *Bowden Room, NCC*

Session V: PHYSIOLOGY AND HIGH THROUGHPUT TOOLS *Adams Room, NCC*

Chairperson: Klaus Winzer

- 16.00 - 16.35 Wolfgang Buckel - Philipps-Universität Marburg, Germany (Invited Speaker)
Kindly sponsored by SfAM
"Radical enzymes in clostridial butyrate synthesis".
- 16.35 - 17.00 George Bennett - Rice University, USA
"Analysis of Redox Responses During TNT Transformation by *Clostridium acetobutylicum* ATCC824 and Mutants and Other Clostridia"
- 17.00 - 17.25 Tina Lütke-Eversloh - University of Rostock, Germany
"Development and Application of a High-throughput Screening System for Clostridial Biofuel Production"
- 17.25 - 17.50 Petra Patakova - Institute of Chemical Technology Prague, Czech Republic
"Flow Cytometry Analysis of Solventogenic Clostridia"
- 17.50 - 18.05 Swati Badgujar - Institute of Chemical Technology, Mumbai, India (Young Presenter)
Kindly sponsored by BBSRC
"Carbon flux diversion in *Clostridium acetobutylicum* : Effect of Mutagenesis and Stress"
- 18.05 - 18-10 Closing Remarks

20.00 - 22.00 Conference Dinner *The Old Library, NCC*