



9th Carbohydrate
Bioengineering Meeting
15 - 18 May 2011, Lisboa, Portugal

FINAL PROGRAMME

Sunday, 15th May 2011

15:00 to 17:00 **Registration** – Hotel Vip Grand Lisboa (Reception Floor – Auditorio Foyer)

17:00 to 17:30 **Opening Ceremony of CBM9** – Hotel Vip Grand Lisboa (Room Auditorio)
Chairperson: Carlos Fontes

17:30 to 18:30 **Opening Lecture**
Chairperson: Birte Svensson, Denmark

Harry J. Gilbert, UK

“Novel insights into plant polysaccharide degradation”

Session 1

Structure, Function and Synthesis of Carbohydrates

19:00 to 19:30 **Jian Liu, USA**
“Enzymatic synthesis of heparan sulfate and ultra-low molecular weight heparins”

19:30 to 20:00 **Alain Buleon, France**
“Hydrolysis of concentrated raw starch and breakdown of crystalline structures”

20:00 to 20:30 **Tracey Gloster, Canada**
“Hijacking a biosynthetic pathway yields a glycosyltransferase inhibitor within cells”

20:30 **Welcome Reception** (All Delegates and Accompanying Persons registered)
Dinner at the Pivot Restaurant at the 1st floor of the Hotel Vip Grand Lisboa

Monday, 16th May 2011



08:00 to 19:00 **Registration Desk** – Calouste Gulbenkian Foundation

Session 2

Mechanisms and Structure-Function Relationships of CAZymes

Chairperson: Alisdair Boraston, Canada

- 09:00 to 09:30 **Henrik Clausen**, Denmark
“Applications of carbohydrate-active enzymes in biomedicine”
- 09:30 to 10:00 **Melanie Higgins**, Canada
“Fucose utilization and its role in *Streptococcus pneumoniae* virulence”
- 10:00 to 10:30 **Anthony Planas**, Spain
“A mycoplasma glycosyltransferase in glycolipid biosynthesis. Characterization, modeling and potential target against mycoplasma infections”
- 10:30 to 11:00 **Bernd Nidetzky**, Austria
“Structure and mechanism of oxidoreductases delivering precursors to human glycosaminoglycan and proteoglycan biosynthesis: UDP-glucose 6- dehydrogenase”
- 11:00 to 11:30 **Coffee Break**
- Chairperson: Steve Withers, Canada*
- 11:30 to 12:00 **Wyatt Yue**, UK
“Structural basis for conformational transition and oligosaccharide threading during the glycogenin catalytic cycle”
- 12:00 to 12:30 **Tjaard Pijning**, The Netherlands
“Structure of inulosucrase from *Lactobacillus johnsonii* NCC 533 – insights into substrate and product specificity of GH68 fructansucrases”
- 12:30 to 13:00 **Magali Remaud-Simeon**, France
“Novel insights in the structure-function relationships of the alpha-1,2 branching enzyme derived from a bi-functional GH70 glucansucrase”
- 13:00 to 13:30 **Beatrice Cobucci-Ponzano**, Italy
“A new glycosynthetic methodology exploiting beta-glycosyl azide donors for the preparation of alpha-glycosynthases”
- 13:30 to 14:30 **Lunch**
- 14:30 to 16:00 **Posters**



Session 2 (ctd.)

Mechanisms and Structure-Function Relationships of CAZymes

Chairperson: Harry Brumer, Sweden

- 16:00 to 16:30 **Pedro Coutinho**, France
“A carbohydrate-binding classification to annotate characterized modules in carbohydrate-active enzymes: development and applications”
- 16:30 to 17:00 **Maher Abou Hachem**, Denmark
“Analysis of Mel36A from the probiotic bacterium *Lactobacillus acidophilus* NCFM: specificity and architecture of GH36 α -galactosidases”
- 17:00 to 17:30 **Takuya Ishida**, Sweden
“The structure of a GH45 subfamily C endo- β -1,4-glucanase”
- 17:30 to 18:00 **Coffee Break**

Session 3

Glycoproteomics and Systems Glycobiology

- 18:00 to 18:30 **Lai-Xi Wang**, USA
“Chemoenzymatic synthesis of glycoproteins for functional studies”
- 18:30 to 19:00 **Gonçalo Bernardes**, Switzerland
“Chemical site-selective modification of proteins: synthesis of well-defined glycoproteins”
- 19:00 to 19:30 **Kiyotaka Fujita**, Japan
“Characterization of novel glycosidases involved in the degradation of Hyp-linked oligoarabinosides”
- Free Evening**

Tuesday, 17th May 2011



08:30 to 18:30 **Registration Desk** – Calouste Gulbenkian Foundation

Session 4
Carbohydrate and Enzyme engineering

Chairperson: Marco Moracci, Italy

09:00 to 09:30 **Sam Zeeman**, Switzerland
“Understanding starch biosynthesis in plants: the potential to improve starch crops”

09:30 to 10:00 **Hans Leemhuls**, The Netherlands
“*Disproportionation* of alpha-glucans by glycoside hydrolase family 70 enzymes”

10:00 to 10:30 **Karl Syson**, UK
“A new enzyme, glucan pathway and anti-TB target”

10:30 to 11:00 **Anthony Clarke**, Canada
“Pathway for the o-acetylation of extracellular polysaccharides”

11:00 to 11:30 **Coffee Break**

Chairperson: Mirjam Czjek, France

11:30 to 12:00 **Jerry Stahlberg**, Sweden
“Structure Studies of *Phanerochaete chrysosporium* laminarinase Lam16A and synthesis of cyclic β -glucan using glycosynthase mutants”

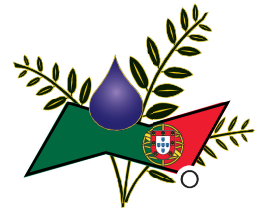
12:00 to 12:30 **Henrik Stalbrand**, Sweden
“Hemicellulose modification: rational subsite engineering of beta-mannanase active site clefts”

12:30 to 13:00 **Benedita Pinheiro**, Portugal
“Cohesin-dockerin interactions are determinant for efficient cellulose degradation in cellulolytic bacteria”

13:00 to 13:30 **Steve Smith**, Canada
“Structural insights into cellulosome assembly and function involving multimodular scaffoldin complexes”

13:30 to 14:30 **Lunch**

14:30 to 16:00 **Posters**



Session 5

Microbial communities and proteogenomics

Chairperson: Barry McCleary, Ireland

- 16:00 to 16:30 **Harry Flint, UK**
"Polysaccharide breakdown by gut microbial communities"
- 16:30 to 17:00 **Elisabeth Lowe, UK**
"Complex carbohydrate recognition by our resident gut bacteria"
- 17:00 to 17:30 **Phil Pope, Norway**
"Novel enzymes for plant biomass processing from the microbiomes of native herbivores"
- 17:30 to 18:00 **Coffee Break**
- 18:00 to 18:30 **Gurvan Michel, France**
"Genomic analysis of the model brown alga *Ectocarpus siliculosus*: novel insights into the evolution of carbohydrate metabolism in Eukaryotes"
- 18:30 to 19:00 **Florence Vincent, France**
"The *Pseudomonas aeruginosa* rets periplasmic sensor domain reveals an intriguing cbm-like fold modulating the rets signalling pathway"
- 20:30 **Congress Dinner** (Portugália Restaurant)
Buses will Depart from the Hotel Vip Grand Lisboa and Hotel Olissippo Marques de Sa at 20:00.



Wednesday, 18th May 2011

08:30 to 13:00 **Registration Desk** – Calouste Gulbenkian Foundation

Session 6

High-throughput analysis: gene cloning and enzyme screening in the genomic era

Chairperson: Ten Feizi, UK

09:00 to 09:30 **Ed Bayer, Israel**
“OK, so we’ve sequenced the genome! Now what do I do?”

09:30 to 10:00 **François Thomas, France**
“Integrating biochemistry, genomics and transcriptomics to decipher the alginolytic system of the marine bacterium *Zobellia galactanivorans*”

10:00 to 10:30 **Angelina Sá Palma, Portugal**
“carbohydrate recognition by glucan-binding proteins: observations using neoglycolipid (ngl)-based microarrays”

10:30 to 11:00 **Coffee Break**

Session 7

Chemicals from carbohydrates: applications in renewable resource utilization

11:00 to 11:30 **Vincent Eijsink, Norway**
“Novel insights into the enzymatic conversion of recalcitrant polysaccharides”

11:30 to 12:00 **Vladimir Kren, Czech Republic**
“Fungal α -N-acetylgalactosaminidase is encoded by the α -galactosidase gene agIA”

12:00 to 13:00 **Closing Lecture**

Chairperson: Luís Ferreira, Portugal

Chi-Huey Wong, Taiwan

“Post-translational Glycosylation: Challenges and Opportunities”

13:00 **Closing Remarks**