

8th Carbohydrate Bioengineering Meeting

PROGRAM OF EVENTS

(all Events will be held at the Hotel Continental Terme and Congress Centre)

Sunday 10th May 2009

15:00 to 17.00	Registrations Hotel Continental Terme (Hall of Congress Centre)
17.00 to 17.30	Opening Ceremony of CBM8 (Sala Pithecusa) <i>Chairperson: Marco Moracci</i>
17.30 to 18.30	Opening lecture (Sala Pithecusa) Prof. Bernard Henrissat <i>CNRS, Universités Aix-Marseille I & II, France</i> "CAZomes: where is genome sequence data taking us"
Session 1 Structure-function relationships of carbohydrate active enzymes (CAZymes) <i>Chairpersons: Birte Svensson and Gideon Davies</i>	
19:00	Dr. T. Gloster <i>University of York ,UK</i> "Divergence of catalytic mechanism within glycoside hydrolase family 97"
19:30	Dr. S. Kralj <i>University of Groningen, The Netherlands</i> "GTFB provides an evolutionary link between enzyme families GH13 and GH70"
20:00	Prof. W. W. Wakarchuk <i>National Research Council of Canada, Institute for Biological Sciences,Canada</i> "The structure and function of the <i>Streptococcus pneumoniae</i> endo- α -N-acetylgalactosaminidase a GH101 CAZyme."
20:30	Welcome Reception (All delegates and accompanying persons)

Monday 11th May 2009

8:20 **Opening**

Session 2

Structure-function relationships of carbohydrate active enzymes (CAZymes)

- 8:30 **Prof. David Vocadlo**
Simon Fraser University, Burnaby, Canada
"Mechanistic understanding of *O*-GlcNAc processing enzymes affords probes for investigating the biological role of *O*-GlcNAc" (Keynote)
- 9:00 **Dr. E. Ficko-Blean**
University of Victoria, Canada
"The molecular details of mucopolysaccharidosis IIIb revealed by the structure of a bacterial alpha-*N*-acetylglucosaminidase."
- 9:30 **Prof. Y. Shoham**
Technion-Israel Institute of Technology, Israel
"An insoluble discrete filamentous structure of the *Zymomonas mobilis* levansucrase is essential for levan synthesis"
- 10:00 **Dr. M. Sandgren**
Swedish University of Agricultural Sciences, Sweden
"The first crystal structure of a glycoside hydrolase family 3 β -xylosidase, Bxl1 from *Hypocrea jecorina*, at 1.8Å resolution"

10:30-11:00 **Coffee break**

Session 3

Applications of carbohydrates and carbohydrate active enzymes

Chairpersons: Garabed Antranikian and Mosè Rossi

- 11:00 **Prof. Jan A.M. de Bont**
Royal Nedalco, Bergen op Zoom, The Netherlands
"Second generation fuel ethanol: the role of enzymes" (Keynote)
- 11:30 **Dr. H-J. Jördening**
Technical University, Braunschweig, Germany
"Tailormade biocatalysts for enzymatic isomaltose formation"
- 12:00 **Dr. W.F. Vann**
US Food and Drugs Administration, USA
"Chemoenzymatic synthesis of conjugatable oligosialic acids"

12:30 **Dr. G. Sulzenbacher**
CNRS, Universités Aix-Marseille I & II, France
"Bacterial glycosidases for the enzymatic removal of blood group antigens"

13:00-14:00 **Lunch**

14:00-15:30 **Poster Session 1 (odd numbers)**

Session 4
Applications of carbohydrates and carbohydrate active enzymes

15:30 **Dr. N. Alonso-Casajús**
Iden Biotechnology S.L., Spain,
"Ectopic expression of glycogen phosphorylase (GlgP) from Escherichia coli leads to enhancement of starch and amylose contents in potato tubers"

16:00 **Dr. H. Takata**
Ezaki Glico Co., Ltd., Japan
"Application of branching enzyme in the starch processing"

Carbohydrates and glycoconjugates in health and nutrition

Chairpersons: Pierre Monsan and Lubbert Dijkhuizen

16:30 **Prof. John C. Mathers**
University of Newcastle, Newcastle upon Tyne, UK
"Resistant starches and human health" (Keynote)

17:00-17:20 **Coffee break**

17:20 **Dr. D.K. Banerjee**
University of Puerto Rico, USA
"Targeting anti-angiogenic glycotherapeutic for the treatment of breast cancer"

Session 5
Carbohydrates and glycoconjugates in health and nutrition

17:50 **Dr. A. La Gatta**
Second University of Naples, Italy
"Synthesis and characterization of innovative crosslinked hyaluronan (HA) based materials"

New developments in carbohydrates analysis and technology

18:20 **Dr. F. Abballe**
Dionex Corporation, USA
"Carbohydrate-analysis: liquid chromatography to solve a challenge"

Free evening

Tuesday 12th May 2009

8:20 **Opening**

Session 6 Glycomics and bioinformatics

Chairpersons Pedro Coutinho and Harry Brumer

8:15 **Dr. Eric J. Mathur**
Synthetic Genomics, La Jolla, CA, USA
"Synthetic biology tools for accelerated glycosyl hydrolase development"
(Keynote)

8:45 **Dr. G. Potocki-Veronese**
Université de Toulouse and CNRS, INRA, France
"Screening the human gut microbiota for the discovery of enzymes efficient for plant fiber degradation"

9:15 **Dr. I. Sorensen**
University of Copenhagen, Denmark
"Wide-scale surveying of plant cell walls across the plant kingdom: implications for industrial applications and understanding cell wall evolution"

9:45 **Dr. M. Frank**
DKFZ Heidelberg, Germany
"New bioinformatic tools and databases for glycomics"

10:15-10:45 **Coffee break**

Session 7

Carbohydrates and enzyme engineering

Chairpersons: Steve Withers and Giuseppe Perugino

- 10:45 **Prof. Paul L. DeAngelis**
University of Oklahoma Health Sciences Center, Oklahoma City, OK USA
"Customizing glycosaminoglycan polymer size and chemistry with synthase enzymes" (Keynote)
- 11:15 **Prof. C. Tellier**
University of Nantes, France
"Converting glycosidases into transglycosidases by directed evolution"
- 11:40 **Dr. A. Lòpez-Munguia**
Universidad Nacional Autónoma de México, México
"Modification of levansucrase specificity through a strategy of addition/deletion of glucansucrase regions"
- 12:05 **Dr. E. Yavuz**
ETH Zurich Switzerland and CNRS, France
"Evaluation of display of oligosaccharides of medical and nutritional interests in LPS engineered *E. coli*"
- 12:30 **Dr. K. Routenberg Love**
Massachusetts Institute of Technology, USA
"A new strategy for the directed evolution of glycosyltransferases for the synthesis of therapeutic glycoconjugates"

13:00 -14:00 **Lunch**

14:00 -15:30 **Poster Session 2 (even numbers)**

Session 8

Synthesis, structure and function of carbohydrates and glycoconjugates

Chairpersons: Vincent Bulone and Sven Pedersen

- 15:30 **Prof. Dr. Peter H. Seeberger**
Max-Planck-Institute for Colloids and Interfaces, Berlin, Germany
"From automated synthesis to applications of carbohydrates in diagnostics and therapeutics" (Keynote)
- 16:00 **Dr. E. Bedini**
Università degli Studi di Napoli "Federico II, Italy
"Synthetic oligosaccharides for phytopathological studies"

16:30	Dr. S. Bornemann <i>John Innes Centre, Norwich Research Park, UK</i> "Enzyme-catalysed polysaccharide synthesis on a surface can be monitored in real time using surface plasmon resonance spectroscopy"
17:00 -17:20 Coffee break	
Session 9 Synthesis, structure and function of carbohydrates and glycoconjugates	
17:20	Dr. R. Toman <i>Slovak Academy of Sciences, Slovakia</i> "Structural and functional peculiarities of the lipopolysaccharides from <i>Coxiella burnetii</i> , the etiological agent of Q fever"
17:50	Dr. K. Paschinger <i>Universität für Bodenkultur, A-1190 Wien, Austria</i> "Mutant worms and defective N-glycan processing"
20:30	Social Dinner and Ceremony for the best Poster Award

Wednesday 13th May 2009

8:20	Opening
Session 10 New insights in enzymatic reaction mechanism and recognition	
<i>Chairpersons : Antoni Planas and Beatrice Cobucci-Ponzano</i>	
8:30	Dr. Carlos M.G.A. Fontes <i>CIISA – Lisboa, Portugal</i> "Mechanisms of cellulosome assembly and cell-surface attachment revealed by the structure of cohesin-dockerin complexes" (Keynote)
9:00	Dr. A. Blennow <i>University of Copenhagen, Denmark</i> "Dynamics of starch granule biogenesis – the role of redox regulated enzymes and low affinity CBMs"

9:30	<p>Prof. B. Nidetzky <i>Graz University of Technology, Austria</i> "Retaining glucosyl transfer catalyzed by disaccharide phosphorylases: mechanisms and application in synthesis"</p>
10:00 -10:15	Coffee Break
<p>Session 11 New insights in enzymatic reaction mechanism and recognition</p>	
10:15	<p>Dr. C. Rovira <i>Parc Científic de Barcelona, Spain</i> "Substrate conformational changes in glycoside hydrolase catalysis"</p>
10:45	<p>Dr. R. Zhang <i>University of British Columbia, Canada</i> "Visualizing the covalent glycosyl-enzyme intermediate of human pancreatic alpha-amylase: snapshots along the reaction coordinate of amylase catalysis"</p>
11:15 -11:45	<p style="text-align: center;">Closing Lecture <i>Chairperson: Marco Moracci</i></p> <p style="text-align: center;">Prof. Anne Dell <i>Imperial College London, UK</i> "Mass spectrometry: a powerful tool for systems glycobiology"</p>
12.00	Closing remarks