

# SUNDAY, MAY 19<sup>TH</sup>, 2019

14:00 16:00	Registration and welcome coffee		
16:00 16:10	Welcome		
16:10 17:10	<b>Opening lecture - Laura Kiessling</b> › Glycans as microbial IDs Chair: <i>Magali Remaud-Siméon</i>		p.32
17:10 17:40	Coffee break		
17:40 19:00	SESSION 1 : Carbohydrate structure & complex carbohydrate-based matrices Chair: <i>Birte Svensson</i>		
17:40 18:20	<b>Jesús Jiménez-Barbero</b> › Breaking the limits in understanding glycan recognition by NMR		p.33
18:20 18:40	<i>Stefanie Barbirz</i> › Host interactions of O-antigen specific bacteriophages: Linking tailspike glycan recognition to particle opening		p.34
18:40 19:00	<i>Wade Abbott</i> › Single-cell visualization of glycan uptake and strain-specific saccharolytic fingerprinting of rumen bacteria		p.35
19:00 20:00	<b>Poster pitch talks</b>	Poster number	
	- <i>Amani Chalak</i> - Influence of the carbohydrate binding module on the activity of an AA9 lytic polysaccharide monoxygenase	2	p.73
	- <i>Jolanda M. van Munster</i> - Surface analysis tools identify how fungus <i>Aspergillus niger</i> modifies lignocellulose	4	p.75
	- <i>Joan Coines</i> - Oxazoline or oxazolinium ion? The reaction mechanism of GH18 chitinases	36	p.108
	- <i>Marie Sofie Moeller</i> - Structural determinants of GH13 alpha-glucan debranching activity and its natural endogenous regulation	46	p.118
	- <i>Annika Borg</i> - Crystallization, characterization and mechanistic analysis of a novel UDP-glucuronic acid 4-epimerase	33	p.105

	- <i>Federica De Lise</i> - RHA-P: Structural and functional insight into a novel bacterial $\alpha$ -L-rhamnosidase from <i>Novosphingobium</i> sp. PP1Y	39	p.111
	- <i>Fiona Cuskin</i> - $\alpha$ -1,6 mannosidase generates N-glycan specificity through requirement for GlcNAc at the +2 subsite	37	p.109
	- <i>Julie Vanderstraeten</i> - VersaTile: A high-throughput DNA assembly method for the rapid construction and evaluation of cellulosome components	80	p.152
	- <i>Kristýna Slámová</i> - Transglycosylation activity of glycosynthase-type mutants of $\beta$ -N-acetylhexosaminidase from <i>Talaromyces flavus</i>	78	p.150
	- <i>Samuel Butler</i> - Enzymatic synthesis of functionalised $\beta$ -mannosyl conjugates from renewable hemicellulosic glycans	112	p.184
	- <i>Gleb Novikov</i> - Computational strategy for protein design based on structure-dynamics-activity relationship insights: GH11 xylanases as a case study	75	p.147
	- <i>Laurent Legentil</i> - Diversion of the arabinofuranosidase CtAraf51 for the anomeric acylation of L-arabinofuranose	95	p.167
	- <i>Cédric Montanier</i> - Immobilized enzymes at work: when surface density matters	126	p.198
	- <i>Elizabeth Ficko-Blean</i> - Carrageenan catabolism is encoded by a complex regulon in marine heterotrophic bacteria	11	p.83
20:00	Welcome reception		

# MONDAY, MAY 20<sup>TH</sup>, 2019

08:30 10:10	SESSION 2: Enzymes for carbohydrate synthesis and modification Chair: <i>Antoni Planas</i>		
08:30 09:10	<b><i>Eva Nordberg Karlsson</i></b> › Synthesis by CAZymes from extremophiles -		p.36
09:10 09:30	<b><i>Lothar Elling</i></b> › A novel enzyme module system for the one-pot synthesis of hyaluronic acid from sucrose and N-acetylglucosamine		p.37
09:30 09:50	<b><i>Gregor Tegl</i></b> › Single step S-GlcNAcylation of peptides and proteins using a mutant hexosaminidase-		p.38
09:50 10:10	<b><i>Jiao Zhao</i></b> › Molecular study of hydrolysis/transglycosylation modulation in retaining glycoside hydrolases		p.39
10:10 10:40	Coffee break		
10:40 11:20	SESSION 2: Enzymes for carbohydrate synthesis and modification Chair: <i>Vladimir Kren</i>		
10:40 11:00	<b><i>Mahima Sharma</i></b> › Dissection of sulfoglycolytic (sulfo-EMP) pathway		p.40
11:00 11:20	<b><i>Moulis Claire</i></b> › Enlarging the toolbox of GH70 sucrose-active enzymes by mixing discovery and rational engineering		P.41
11:20 12:20	<b>Poster pitch talks</b> <ul style="list-style-type: none"> <li>- <i>Zhong-Peng Guo</i> - Developing cellulolytic <i>Yarrowia lipolytica</i> as a plat-form for the production of valuable products in consolidated bioprocessing of cellulose</li> <li>- <i>Zhi Wang</i> - Functional characterization of a FOS transporter sys-tem from an uncultured human gut Dorea species</li> <li>- <i>Scott Mazurkewich</i> - Understanding enzyme-substrate interactions in Carbohydrate Esterase family 15</li> <li>- <i>Camille F. Chastel</i> - A novel family of LPMO acting on cellulose identified in the secretomes of <i>Aspergillus</i> spp.</li> </ul>	<b>Poster Number</b>  120  19  106  103	  p.192  p.91  p.178  p.175


	<ul style="list-style-type: none"> <li>- <i>Maria João Maurício da Fonseca</i> - High-throughput substrate specificity analysis of metagenomic-derived arabinoxylan-active enzymes 26 98</li> <li>- <i>Nicholas Lanz</i> - Role of the KDO Glycosyltransferase KpsS in the Biosynthesis of the Polysialyltransferase Acceptor for <i>Escherichia coli</i> K1 124 p.196</li> <li>- <i>Sanaullah Khan</i> - Identification and structural analysis of alginate oligosaccharide binding sites on <math>\beta</math>-lactoglobulin 122 p.194</li> <li>- <i>Constantin Ruprecht</i> - Generation of a glycodiversification platform for small molecules in <i>Escherichia coli</i> K12 130 p.202</li> <li>- <i>Sarah Desmons</i> - Stereocontrolled chemo-enzymatic conversion of CO<sub>2</sub> 87 p.159</li> <li>- <i>Nobukiyo Tanaka</i> - A fungal endo-<math>\beta</math>-1,2-glucanase with a unique reaction mechanism belongs to a new glycoside hydrolase family 67 p.139</li> <li>- <i>Eva Madland</i> - The NMR structure of carbohydrate binding module 14 from human chitotriosidase and its interaction with chitin 53 p.125</li> <li>- <i>Manon Molina</i> - Exploration of the molecular determinants involved in alternansucrase specificity and polymerization 57 p.129</li> <li>- <i>Magda Fajjes</i> - Metabolic engineering strategies for glycolipids production 115 p.187</li> <li>- <i>Tjaard Pijning</i> - Structural insights in starch conversion by GtFB glucanotransferase enzymes from <i>Lactobacilli</i> 60 p.132</li> </ul>	
12:20 13:50	Lunch (1h30)	
13:50 15:30	SESSION 3: Glycobiotechnologies Chair: <i>Carsten Andersen</i>	
13:50 14:30	<b>Emma Master</b> › Biocatalytic cascades to bifunctional carbohydrates	p.42

14:30 14:50	<i>Simon Ladevèze</i> › Ultra-high-throughput droplet microfluidics CAZymes functional screening using coupled enzymatic assays	p.43
14:50 15:10	<i>Xuefeng LU</i> › Cyanobacterial Conversion of CO <sub>2</sub> to Sugars	p.44
15:10 15:30	<i>Ryo Kakutani</i> › Enzymatic synthesis of Glucan Dendrimer (GD) and its application for drug delivery carriers	p.45
15:30 16:30	Poster session #1	
16:30 17:00	Coffee break	

17:00 18:40	SESSION 4: Omics and CAZyme discovery Chair: <i>Gideon J. Davies</i>	
17:00 17:40	<b><i>Bernard Henrissat</i></b> › Estimating glycan natural diversity using CAZymes	p.46
17:40 18:00	<i>Marie Couturier</i> › Large-scale screening of activities in unexplored CAZy sub-families, and distant or non-classified CAZymes	p.47
18:00 18:20	<i>Gabrielle Potocki-Véronese</i> › Ultra-high-throughput discovery of dietary and host glycan utilization pathways in gut microbiomes	p.48
18:20 18:40	<i>Peter Rahfeld</i> › Discovery of new enzymes for universal donor blood production	p.49

## TUESDAY, MAY 21<sup>TH</sup>, 2019

08:30 10:10	<b>SESSION 5: Auxiliary activities enzymes &amp; carbohydrate esterases</b> Chair: <i>Bernd Nidetzky</i>		
08:30 09:10		<b>Antoni Planas</b> › Peptidoglycan deacetylases. Dual N-acetylglucosamine and N-acetyl-muramic acid specificities, structures and biological functions	p.50
09:10 09:30		<b>Gaston Courtade</b> › Structural and functional insights into the mode of action of a modular lytic polysaccharide monooxygenase	p.51
09:30 09:50		<b>Martin Pfeiffer</b> › The human GDP-mannose-4,6-dehydratase reveals the minimal active site needed for NDP-sugar dehydration	p.52
09:50 10:10		<b>Jane Agger</b> › Enzymatic cleavage of lignin-carbohydrate complexes by fungal glucuronoyl esterases	p.53
10:10 10:40		Coffee break	
10:40 12:20	<b>SESSION 6: Glycobiotechnologies</b> Chair: <i>Takashi Kuriki</i>		
10:40 11:20		<b>Barbara Ann Halkier</b> › Engineering of the production of health-promoting glucos-inolates in heterologous hosts	p.54
11:20 11:40		<b>Paul DeAngelis</b> › Chemoenzymatic synthesis of thio-linked heparinoid polysaccharides for anti-cancer applications	p.55
11:40 12:00		<b>Vladimir Kren</b> › Glycosidase-catalyzed synthesis of glycosyl esters and phenolic glycosides	p.56
12:00 12:20		<b>Gale Wichmann</b> › Metabolic and enzyme engineering to produce high quantities of the steviol glycoside Rebaudioside M in <i>S. cerevisiae</i>	p.57
12:20 13:50		Lunch (1h30)	
13:50 15:30	<b>SESSION 7: CAZyme engineering and computer-assisted design</b> Chair: <i>Pedro M. Coutinho</i>		
13:50 14:30		<b>Narcis Fernandez-Fuentes</b> › Tools for structural bioinformatics; design of a chimeric GH10 CBM-containing hydrolase	p.58

14:30 14:50		<i>David Teze</i> › Efficient conversion of GHs into transglycosylases: a conservation-based approach	p.59
14:50 15:10		<i>Xevi Biarnés</i> › BindScan: a computer-assisted protein design algorithm with applications in re-engineering CAZymes	p.60
15:10 15:30		<i>Mounir Benkoulouche</i> › Enzymatic glycosylation of a chemically-protected tetrasaccharide to access antigenic oligosaccharides	p.61
15:30 16:30		Poster session #2	
16:30 17:00		Coffee break	
17:00 18:40		<b>SESSION 8: Polysaccharide metabolism &amp; carbohydrate transport (Amphitheater)</b> <i>Chair: Marco Moracci</i>	
17:00 17:40		<b>Mirjam Czizek</b> › Completing the pathways of polysaccharide metabolism by marine heterotrophic bacteria	p.62
17:40 18:00		<i>Harry Brumer</i> › Prevotella $\beta$ -mannan utilization Loci: from the rumen to the human	p.63
18:00 18:20		<i>Nicole Koropatkin</i> › The Ruminococcus bromii amylosome: Structure of the Amy12 pullulanase and its starch-binding protein partner Doc20	p.64
18:20 18:40		<i>Lucy Crouch</i> › Novel insights into mucin degradation by key members of the human gut microbiota	p.65
20:00 23:30		Gala Dinner 	Address: Espaces Vanel 1 Allée Jacques Chaban-Delmas 31500 Toulouse espacesvanel.com Subway : Marengo SNCF

## WEDNESDAY, MAY 22<sup>TH</sup>, 2019

09:00 11:30	<b>SESSION 9: Mechanisms, structure-function relationships and dynamics of CAZymes</b> Chair: <i>Steve G. Withers</i>		
09:00 09:40		<b><i>Shinya Fushinobu</i></b> › Structural analysis of $\beta$ -L-arabinofuranosidases in GH127 and GH146	p.66
09:40 10:00		<b><i>Carme Rovira</i></b> › Early stages of glycogen biosynthesis: mechanism of action of glycogenin	p.67
10:00 10:20		<b><i>Anthony Clarke</i></b> › Structural and mechanistic basis for peptidoglycan O-acetylation in both Gram-positive and negative pathogens	p.68
10:20 10:40		<b><i>Masahiro Nakajima</i></b> › Findings of new CAZymes, $\beta$ -1,2-glucan-associated enzymes	p.69
10:40 11:10		Coffee break	
11:10 11:30		<b><i>Emil G P Stender</i></b> › Discovering and characterizing alginate lyases from human gut microbiota	p.70
11:30 12:30		Closing lecture - <b><i>Jean-Guy Berrin</i></b> Fungal biodiversity: a tremendous resource for CAZymes Discovery Chair: <i>Magali Remaud-Siméon</i>	p.71