

Program Novel Enzymes 2016

Tuesday, October 11, 2016

12.00	Registration	
13.45	Marco Fraaije (chair) University of Groningen, The Netherlands	Welcome and introduction
Novel Enzymes by Discovery session Chair: Roland Wohlgemuth (Sigma-Aldrich Chemie GmbH, Switzerland)		
14.00 IL1	John Gerlt University of Illinois, USA	Transport system solute binding protein (SBP)-guided discovery of novel enzymes in novel metabolic pathways
14.40 L1	Martina Andberg VTT Technical Research Centre of Finland, Finland	A novel aldose-aldose oxidoreductase having dual activities on sugars
15.00 L2	Mirjam Kabel Wageningen University, The Netherlands	Plant phenolics enhance oxidative cleavage of plant polysaccharides
15.20	Break	
15.50 IL2	Daniela Monti Istituto di Chimica del Riconoscimento Molecolare, Italy	Novel "hot" epoxide hydrolases: from discovery in metagenomes to synthetic exploitation
16.30 L3	Adiphol Dilokpimol CBS-KNAW Fungal biodiversity centre, The Netherlands	Fungal glucuronoyl esterases: genome mining based discovery and biochemical characterization
16.50 L4	Elisa Lanfranchi University of Groningen, The Netherlands	Scent of bitter almond and a pinch of <i>-omics</i> : discovering a novel hydroxynitrile lyase
17.10	Break	
17.30	Poster Pitch Talks	
	Afsheen Aman University of Karachi, Pakistan	Immobilization of dextranase on chitosan microspheres: An effective approach for increasing recycling efficiency & stability
	Franziska Birmes University of Münster, Germany	Dioxygenases for inactivation of the virulence-associated <i>Pseudomonas aeruginosa</i> quinolone signal
	Marco Bocola RWTH Aachen, Germany	QM/MM calculations reveal substrate scope and a new thiolate pocket of the unique arylpropionate racemase AMDase G74C
	Régis Fauré LISBP - INRA/CNRS/INSA, France	Design of chromogenic probes for identification and evaluation of heteroxylan active enzymes
	Maximilian Fürst University of Groningen, The Netherlands	Structure inspired use of a thermostable Baeyer-Villiger monooxygenase as biocatalyst
	Vijaya Gupta Panjab University, India	Deletion of domain 3 of a novel laccase by random mutagenesis: Understanding the structure-activity relationship
	Stefanie Hamer RWTH Aachen University, Germany	Efficient phosphate recovery from agro waste streams by enzyme, strain, and process engineering


Poster Pitch Talks		
	Hamid Kalhor Sharif University of Technology, Iran	Engineering P450 monooxygenase to make a fused Tetrahydrofuran Ring
	Mohammad Khan Université Catholique de Louvain, Belgium	Does homologous oligomerisation promote protein evolution?
	Fernando López Gallego CIC biomaGUNE, Spain	Enzymes in radiochemistry; An efficient solution for the point of care synthesis of ¹³ N-radiotracers
	Luuk Mestrom TU Delft, The Netherlands	Aqueous asymmetric oxidation of unprotected β-amino alcohols using alcohol dehydrogenases
	Linda Otten TU Delft, The Netherlands	Enzymatic enantioselective synthesis of α-hydroxy ketones and vicinal diols
	Maria Ribeiro University of Lisboa, Portugal	Lysozyme magnetized fibers: old enzyme to new uses as biocatalyst for cancer therapy
	Albert Schulte Suranaree University of Technology, Thailand	Effective electroanalysis with allosteric enzymes: The reductase unit of an <i>A. baumannii</i> hydroxylase as model
	Elisabeth Streit Biomin Research Center, Austria	Discovery of an enzyme for fumonisin B1 degradation in animal feed
	Lina Zermeño-Cervantes Instituto Politécnico Nacional, Mexico	Modification and application of vibriophage endolysins as new biocontrol agent against pathogenic strains
18.30	Reception	The reception is offered to you by the University of Groningen, the Municipality of Groningen and the Province of Groningen
		


Wednesday, October 12, 2016

Novel Enzymes by Discovery session		
Chair: Jennifer Littlechild (University of Exeter, United Kingdom)		
09.00 IL3	David Leys University of Manchester, United Kingdom	Unravelling the chemistry underpinning reversible decarboxylation in the UbiX-UbiD system
09.40 L5	Willem Dijkman TU Braunschweig, Germany	Forming the bioplastic monomer FDCA using a single enzyme
10.00 L6	Tohru Dairi Hokkaido University, Japan	New enzymes for biosynthesis of ketomemycin, a pseudotriptide with carbonylmethylene structure
10.20	Break	
10.50 IL4	Kirk Schnorr Novozymes, Denmark	Novel Enzymes in an industrially relevant context: the tale of two xylanases and other stories
11.30 L7	Alexander Pelzer BRAIN Aktiengesellschaft, Germany	Identification of the novel serine protease Aurase as promising candidate for chronic wound treatment


11.50 L8	Gianluca Molla University of Insubria, Italy	A dream come true: structure-function relationships in L-amino acid deaminase
12.10	Lunch	
13.20	Poster session I	
Novel Enzymes by Discovery session		
Chair: Jaap Visser (Wageningen, The Netherlands)		
14.20 IL5	Florian Hollfelder University of Cambridge, United Kingdom	Rules and tools for efficient enzyme evolution, recruitment and discovery based on catalytic promiscuity
15.00 L9	Carine Vergne-Vaxelaire CEA/IG/Genoscope/LCAB, France	Asymmetric reductive amination by a wild-type amine dehydrogenase from the thermophilic bacteria <i>Petrotoga mobilis</i>
15.20	Break	
15.50 IL6	Kohei Oda Kyoto Institute of Technology, Japan	A bacterium that degrades and assimilates poly(ethylene terephthalate) and its enzymes involved in the degradation
16.30 L10	Griet Dewitte Ghent University, Belgium	Enzyme cascade reactions for efficient glycosylation of small molecules
16.50 L11	Wolf-Dieter Fessner TU Darmstadt, Germany	Engineering a thermostable transketolase for carbonylation of arylated substrates


Thursday, October 13, 2016

Novel Enzymes by Engineering session		
Chair: Lubbert Dijkhuizen (University of Groningen, The Netherlands)		
09.00 IL7	Manfred Reetz Philipps-University Marburg, Germany	Recent methodology developments in directed evolution
09.40 L12	Ayelet Fishman Israel Institute of Technology, <i>Israel</i>	Combining protein engineering strategies for improving lipase stability in methanol
10.00 L13	Ligia Martins Universidade Nova de Lisboa, Portugal	Directed evolution of PpDyP, a bacterial DyP-type peroxidase, for improved oxidation of phenolic compounds
10.20	Break	
10.50 IL8	Magali Remaud-Simeon University of Toulouse, France	Structurally-guided engineering of enzymes and enzymatic pathways for novel product
11.30 L14	Bert van Loo University of Münster, Germany	Functional transitions in enzyme evolution: balancing stability, folding and catalytic specificity
11.50 L15	Anthony Green University of Manchester, United Kingdom	A chemically programmed proximal ligand enhances the catalytic properties of heme enzymes
12.10	Lunch	
13.20	Poster session II	

Novel Enzymes by Engineering session		
Chair: Tom Desmet (Ghent University, Belgium)		
14.20 IL9	Emma Master University of Toronto, Canada	Polysaccharide utilization loci as sources of unique carbohydrate active enzymes
15.00 L16	Bhuvana Shanbag Monash University, Australia	Engineering carbonic anhydrase with self-assembly peptide as functional nanoparticles
15.20	Break	
15.50 IL10	Dick Janssen University of Groningen, The Netherlands	Computational approaches in enzyme engineering
16.30 L17	Tea Pavkov-Keller University of Graz, Austria	Changing the chemoselectivity of an aldo-keto-reductase to a flavin-free ene-reductase
16.50 L18	Binuraj Menon University of Manchester, United Kingdom	Flavin dependent halogenase enzymes for aromatic regioselective bio-halogenation
17.10	Break	
Oxidative Biocatalysis session		
Special session on the H2020-EU project ROBOX		
Chair: Marco Fraaije (University of Groningen, The Netherlands)		
17.30 IL11	Monika Muller DSM, The Netherlands	Application of P450 monooxygenases on kg scale
17.50 IL12	Rubén Gómez Castellanos University of Pavia, Italy	Insights from the crystal structures of cyclohexanone monooxygenase from <i>thermocrispum municipale</i>
18.10 IL13	Boris Schilling Givaudan, Switzerland	Use of biocatalysis for the production of flavor and fragrance ingredients
19.00	Conference Diner	<i>There will be busses to bring you to the restaurant: Restaurant NiHao, Gedempte Kattendiep 122, Groningen</i>

Friday, October 14, 2016

Novel Enzymes - Biocatalysis session		
Chair: Isabel W.C.E. Arends (University of Delft, The Netherlands)		
EUROPEAN COOPERATION IN SCIENCE AND TECHNOLOGY		
09.00 IL14	Thomas Barends Max Planck Institute for Medical Research, Heidelberg, Germany	Hydrazine synthase, a bacterial enzyme producing rocket fuel
09.40 L19	John Ward University College London, United Kingdom	Norcochlorine synthase: mechanism and production of novel tetrahydroisoquinoline alkaloids
10.00 L20	Thierry Gefflaut Université Baise Pascal, France	Aldolases and transaminases from biodiversity for new aldolase-transaminase cascades

10.20	Break	
10.50 IL15	Berndt Nidetzky Graz University of Technology, Austria	Novel synthetic glycosylations and phosphorylations in single and multi-enzyme catalyzed transformations
11.30 L21	Laurence Hecquet Institu de Chimùie de Clermont Ferrand, France	One-pot, two-step cascade synthesis of naturally rare ketoses by coupling thermostable transaminase and transketolase
11.50 L22	François Stricher Global Bioenergies, France	Artificial metabolic pathways for bio-based isobutene
12.10	Lunch	
Novel Enzymes - Biocatalysis session		
Chair: Jan-Metske van der Laan (DSM, The Netherlands)		
13.20 IL16	Leandro Helgueira Andrade Universidade de São Paulo, Brazil	From enzyme prospection to synthetic applications with hetero-compounds
14.00 L23	Claudia Wahl RWTH Aachen University, Germany	Fast optimization of multi-enzyme cascade reactions by analysis with multiplexed capillary electrophoresis
14.20 L24	Thomas Bayer Technische Universität Wien, Austria	'Substrate/redox funneling' as a novel flux optimization tool for synthetic enzyme cascades <i>in vivo</i>
14.40 IL17	Slavko Kralj DuPont, The Netherlands	Efficient enzymatic synthesis of inulooligosaccharides
15.20	Closure	



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