



Novel Enzymes 2018 Darmstadt

Draft Conference Program

Tuesday, October 9, 2018

12:00	Registration	
14:00	Woody Fessner (<i>chair</i>)	Welcome and introduction
14:10	Matthias Rehahn <i>Vice President, TU Darmstadt, Germany</i>	Welcome address
Session 1 <i>Chair: Woody Fessner (TU Darmstadt, Germany)</i>		
14:20 KL1	Nicholas Turner <i>University of Manchester, UK</i>	Biocatalytic retrosynthesis and total synthesis
15:00 OL1	Christian C. Gruber <i>Austrian Centre of Industrial Biotechnology, Graz, Austria</i>	Mining structural databases using 3D-point-clouds using the “Catalophore Platform” to predict enzymatic activity
15:20	Coffee	
Session 2 <i>Chair: Manfred Reetz (MPI Mülheim and Marburg University, Germany)</i>		
15:50 KL2	Uwe Bornscheuer <i>Greifswald University, Germany</i>	Recent advances in the discovery, engineering and application of monooxygenases
16:30 OL2	Ivana Drienovská <i>TU Graz, Austria</i>	A designer enzyme featuring an unnatural amino acid as a catalytic residue
16:50 OL3	Nicolas Canu <i>Université Paris-Sud, France</i>	Hijacking the hijackers: cyclodipeptide synthases can use non-canonical amino acids as substrates
17:10	Break	
17:30	Poster Pitch Talks <i>Chair: N.N.</i>	
	<i>(speakers tba)</i>	<i>(titles tba)</i>
18:30	Henk-Jan Joosten <i>bio-product B.V., Nijmegen, Netherlands</i>	3DM’s novel protein discovery and optimization platform
18:40	Break	
19:00	Reception	Maschinenhaus, Ground Floor

Wednesday, October 10, 2018

Session 3 <i>Chair: Jennifer Littlechild (Exeter University, UK)</i>		
09:00 KL3	John Ward <i>University College London, UK</i>	Building Alkaloids using (<i>S</i>)-Norcochlorogenic Acid Synthase
09:40 OL4	Benoît Desguin <i>Université Louvain, Belgium</i>	Biosynthesis and function of the nickel-pincer cofactor of lactate racemase
10:00 OL5	Jorick Franceus <i>Ghent University, Belgium</i>	Exploring the functional diversity of glycoside phosphorylases reveals two novel enzyme specificities
10:20	Coffee	
Session 4 <i>Chair: Johannes Kabisch (TU Darmstadt, Germany)</i>		
10:50 KL4	Joelle Pelletier <i>University of Montreal, Canada</i>	Interfacing between experimental and computational enzyme engineering
11:30 OL6	Tohru Dairi <i>Hokkaido University, Sapporo, Japan</i>	Dissecting prokaryotic polyunsaturated fatty acid synthases
11:50 OL7	Berndjan Eenink <i>University of Münster, Germany</i>	Ancestral reconstruction and experimental testing of evolvability using the AP-superfamily as a model system
12:10	Lunch	
13:40	Poster Session I <i>Chair: N.N.</i>	
15:20	Coffee	
Session 5 <i>Chair: Roland Wohlgemuth (Sigma-Aldrich, Buchs, Switzerland)</i>		
15:50 KL5	Jürgen Eck <i>B.R.A.I.N. AG, Zwingenberg, Germany</i>	Hints from Nature: Tapping the property landscape of enzymes
16:30 OL8	Sabrina Hoebenreich <i>Philipps-University Marburg, Germany</i>	Directed evolution of an Fe ²⁺ -dependent halogenase for asymmetric C(sp ³)-H chlorination
16:50 OL8	László Poppe <i>Budapest University, Hungary</i>	Expanding the MIO-enzyme toolbox – Novel enzymes structures and mechanistic considerations
17:10 OL10	Lothar Elling <i>RWTH Aachen, Germany</i>	A Novel Enzyme module system for the one-pot synthesis of hyaluronic acid from sucrose and <i>N</i> -acetylglucosamine
19:00	Speakers Dinner	Orangerie (<i>by invitation</i>)

Thursday, October 11, 2018

Session 6 <i>Chair: Tom Desmet (Ghent University, Belgium)</i>		
09:00 KL6	Pere Clapes <i>IQAC-CSIC, Barcelona, Spain</i>	New applications of native and engineered carboligases
09:40 OL11	Aline Telzerow <i>TU Graz, Austria</i>	A novel (<i>R</i>)-selective amine transaminase with extraordinary substrate scope
10:00 OL12	Mikael Widersten <i>Uppsala University, Sweden</i>	Engineering alcohol dehydrogenase for mechanistic studies and biocatalytic applications
10:20	Coffee	
Session 7 <i>Chair: John Woodley (Technical University of Denmark, Lyngby, Denmark)</i>		
10:50 KL7	Anett Schallmey <i>TU Braunschweig, Germany</i>	Revival of halohydrin dehalogenase biocatalysis: New enzymes and novel catalytic functionalities
11:30 OL13	Emna Bouhajja <i>Université de Toulouse, France</i>	High-throughput functional metagenomics for investigating host-bacteria-food interactions in mammal gut
11:50 OL14	Aurelio Hidalgo <i>Universidad Autónoma de Madrid, Spain</i>	Discovery of thermostable enzymes: screening the extreme biodiversity using droplet microfluidics
12:10	Lunch	
13:40	Poster Session II <i>Chair: N.N.</i>	
15:20	Coffee	
Session 8 <i>Chair: Svjezdana Findrik Blažević (University of Zagreb, Croatia)</i>		
15:50 KL8	Michael Müller <i>Freiburg University, Germany</i>	Biosynthesis as a source of new enzymes – and much more
16:30 OL15	Anders O. Magnusson <i>TU Darmstadt, Germany</i>	nanoDSF as screening tool for enzyme libraries and biotechnology development
16:50 OL16	Anna Szekrenyi <i>TU Darmstadt, Germany</i>	Discovery of non-natural activity in protein superfamilies
17:10 OL17	Frank Hollmann <i>TU Delft, Netherlands</i>	Photodecarboxylases for the synthesis of fuels from wastes
15:50 KL 9	Gerrit Poelarends <i>University of Groningen, Netherlands</i>	New enzymes and chemoenzymatic cascades for amino acid synthesis

19:00	Conference Dinner	Braustübl Restaurant (<i>by invitation</i>)
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Friday, October 12, 2018

Session 9 <i>Chair: Harald Kolmar (TU Darmstadt, Germany)</i>		
09:00 KL10	Sven Panke <i>ETH Zürich, Basle, Switzerland</i>	Novel enzymes for fine and orthogonal biochemistry
09:40 OL18	Régis Fauré <i>Université de Toulouse, France</i>	Exploiting catalytic duality: insight into the hydrolysis/synthesis modulation in hydrolases
10:00 OL19	Matthias Engleder <i>Austrian Centre of Industrial Biotechnology, Graz, Austria</i>	The selective hydration of fatty acids with oleate hydratases: From structure-function studies to substrate scope expansion
10:20	Coffee	
Session 10 <i>Chair: Anton Glieder (TU Graz, Austria)</i>		
10:50 KL11	Uli Schwaneberg <i>RWTH Aachen, Germany</i>	KnowVolution: Redesigning enzymes for innovations
11:30 OL20	Juan Mangas-Sanchez <i>University of Manchester, UK</i>	Fungal reductive aminases
11:50 OL21	Vasilis Tseliou <i>University of Amsterdam, Netherlands</i>	Mechanistic insight into the catalytic promiscuity of amine dehydrogenases: Asymmetric synthesis of secondary and primary Amines
12:10	Lunch	
Session 11 <i>Chair: Stefano Servi (Politecnico di Milano, Italy)</i>		
15:50 KL12	Marko Fraaije <i>University of Groningen, Netherlands</i>	An old cofactor leads to new enzymes: expanding the toolbox of redox biocatalysts
16:30 OL22	Martin Schürmann <i>InnoSyn B.V., Geleen, Netherlands</i>	Development and scale-up of efficient biocatalytic oxidations using oxygen
15:50 KL13	Kurt Faber <i>Karl-Franzens-University, Graz, Austria</i>	Carboxylation and decarboxylation
15:20	Closure	