



PRAXISforum

o 8 – o9 Nov 2016 Frankfurt/Main, Germany

Enzymes for Industrial Applications

The flagship event for industry delegates and solution providers.

PRAXISforum partner:

Hessen

Biotech

www.dechema.de/enzymes



From experts for experts

Enzymes are considered to be little miracle substances for innovation, process advantages and cost reductions. Whether in the food industry, pharmaceutical industry, textiles, detergents, biorefineries, fine and specialty chemicals, paper and cosmetics, the application areas in which enzymes can be used sensibly and profitably are diverse and nowhere near exhausted.

The DECHEMA PRAXISforum "Enzymes for Industrial Applications" is the flagship event in the field of enzyme technology. It brings together top-class industry professionals, solution providers and key customers from all over the world. It is your chance to attend and get informed about the latest developments and new products, services and processes as well as production technologies.



What the PRAXISfourm is about

- **By industry, for industry** the PRAXISforum reveals market opportunities and promotes the development of new enzymes, production processes and application areas.
- **Networking platform** the PRAXISforum brings together 150 international market leaders and high profile end-users and experts from all relevant industries.
- High-level speakers best practices presentations and lessons learned from speakers at decision-maker level. Technological background is as much presented as end-user relevant information.
- **Relevance to applications** the PRAXISforum provides visitors an overview on innovations for their highly specific requirements of everyday practice.



PRAXISforum 2016 key topics

- Industrial applications of enzymes: recent developments and future aspects
- Best practice examples and lessons learned: successful enzyme applications
- Economic enzyme immobilization and formulation
- Efficient downstream processing techniques
- Engineering enzymes: customized solutions for innovative processes
- · Recent advances in bioreactor engineering and scale up

Tuesday, 8 November 2016

Time	Торіс	Speaker
9:30	Registration, Opening of exhibition	
11:00	Opening and welcome address	A. Förster / Head of Research Management and Conferences DECHEMA e.V., Germany
11:10	Welcome address	R. Waldschmidt / CEO Hessen Trade & Invest, Germany
11:15	 Impulse Some showcases of genomics, metagenomics, microbiomics and other bioinformatics-driven technologies in our innovation pipeline at Novozymes Some bioinformatics visualization showcases from Novozymes' enzyme and microbe discovery pipeline Bioinformatics cannot stand-alone; examples of our interdisciplinary approach Perspectives and trends in the applied bioinformatics field 	M. Borchert / Head of Bioinformatics and Microbe Technology, R&D Novozymes, Denmark
11:55	 Impulse Integration of Biotransformations in Chemical Multi-Step Processes for Fine and Bulk Chemi- cals Concept of integration of biotransformation steps in multi-step syntheses Compatibility of bio- and chemocatalysis as a prerequisite to design one-pot processes Case study from the area of pharmaceuticals: chemoenzymatic synthesis of Rosuvastatin Case study from the area of bulk chemicals: chemoenzymatic synthesis of Guerbet alco- hols 	H. Gröger / Chair of Organic Chemistry I Bielefeld University, Germany
12:35	Lunch and networking at exhibition floors	
Time	Торіс	Speaker
14:00	tba • following soon	S. Freyer / Head of Bioprocess Development BASF, Germany
14:30	 The championship of enzyme engineering – How to win the cup Overview of cutting edge protein engineering strategies, concepts and technologies Exemplary case studies from SeSaM-Biotech and external research (Literature) Current bottlenecks and ways to overcome 	D. Schönauer / CEO SeSaM-Biotech, Germany

- them in the (near) futureHumorous illustration and understanding of
 - content provided by "football analogy"

Tuesday, 8 November 2016

Time	Торіс	Speaker
15:00	 Developing tailor-made enzymes for diagnostic application Diagnostic enzymes are mainly developed as bulk materials to be integrated later into complex diagnostic platforms to perform their parts in the final applications We will describe several parameters, which are necessary to investigate for building the bridge between R&D and production practically 	M. Bönitz-Dulat / Head of Enzyme Development Roche Diagnostics, Germany
15:30	Interactive networking and discussion @ "topic tables", Exhibition Walkthrough	
Time	Торіс	Speaker
16:45	 High-throughput assay for enzyme screening Importance of carbohydrate degrading enzymes Novel chromogenic substrates for enzyme activity and specificity screening Chromogenic biomass substrates for screen- ing the bioindustrial potential of enzymes Possible applications 	J. Schückel / Research Scientist GlycoSpot, Denmark
17:15	 EziG Enzyme Immobilization: One method for all enzyme types A general and standardized method for immobilization of enzymes in active form Co-immobilization of several enzymes on the same carrier Biocatalysis in flow chemistry 	K. E. Cassimjee / CEO EnginZyme, Sweden
17:45	 SpinChem® is transforming your solutions Information about the rotating bed reactor (RBR) technology Applications of immobilized enzymes in RBR mL to m3 scale Process development 	E. Byström / CEO SpinChem, Sweden
18:15	Interactive networking and discussion @ "topic tables", Exhibition Walkthrough	
19:00	Networking Dinner	Location: Life-Style Bar @ Maritim Hotel, Theodor-Heuss-Allee 3, Frankfurt/M. (2 min walk from venue)
23:00	End of first PRAXISforum day	

Wednesday, 9 November 2016

8:45 **Re-Opening exhibition**

Time	Торіс	Speaker
9:30	 Chemo-enzymatic conversion of biomass constituents Oxidative enzymatic processes with in situ peroxide generation Application of lipases for biosurfactant synthesis Enzyme cascades with integrated noble metal catalysis 	V. Sieber / Chair of Chemistry of Biogenic Ressources TU Munich, Germany
10:00	 Empowering enzymes for wider use in high-value pharma applications Enzyme-shielding platform technology: how to make enzymes robust Resistance to a variety of process and in vivo conditions provided to the enzyme A few examples: Antibody related applications 	Y. Dudal / CEO INOFEA, Switzerland
10:30	 The latest tools and technologies for enzyme discovery and development following soon 	A. Ellis / Technical Director Biocatalysts, United Kingdom
11:00	Interactive networking and discussion @ "topic tables", Exhibition Walkthrough	



Wednesday, 9 November 2016

Time	Торіс	Speaker
12:15	 Biocatalytical process development up to kg-scale Examples from Hydrolysation, Transamination, Reduction using chemo-enzymatic cascades How to overcome obstacles in the industrial use of enzymes ("The bottle on the table")? New examples of biocatalytical routes to fine chemicals Experiences in scale-up of enzymatic processes 	U. Menyes / CEO Enzymicals, Germany
12:45	tba • following soon	Lars O. Wiemann evoxx technologies, Germany
13:15	 Closing Keynote Enzymatic production of soluble carbohydrate fiber Selection and screening of enzymes for production of soluble carbohydrate fiber Testing of fiber for efficacy in several food ingredient applications Impact of fiber structure on performance Optimization of enzymatic process to meet product specifications 	R. DiCosimo / DuPont Fellow DuPont Industrial Biosciences, USA
14:00	Lunch at exhibition floors, interactive networ-	

End of PRAXISforum 15:15

king and discussion @ "topic tables"



Promote your brand, products, services and build enduring relationships

Be an active part of the PRAXIS forum: this is a great way to personally get in touch with your target group and to understand a customer's needs from their perspective. We offer a wide range of customizable opportunities for every budget.

Why exhibit or sponsor at the PRAXISforum?

- **Connect** with a high amount of discussion and networking breaks, the PRAXISforum offers the perfect environment to meet up with all our attendees. Therefore, it is the perfect place to connect with both new people and long standing customers and suppliers along the entire enzyme technology value chain.
- Present the exhibition is an integral part of the PRAXIS forum and offers an unparalled platform for your latest product, technology and service innovations as well as manufacturing processes and attract profitable new customers.
- **Profit** our prior exhibitors and sponsors told us they achieved substantial business opportunities from their active participation at the PRAXISforum.
- **Unique** industrial enzymes deserve more than being only part of a conference. The PRAXISforum is the only industry-focused event bringing all players along the industrial enzyme technology value chain together to discuss recent developments, new trends and perspectives and overall to do new business.

Preliminary exhibitor list: (as of 26 Sep 2016) AMICOGEN Image: EnginZyme Comedia enginEgyme Image: InginZyme <tr





Mara Bönitz-Dulat

Head of Enzyme Development, Roche Diagnostics / Germany

"Evolution and development of enzymes using with the maximum of goal-orientated methods and industrial procedures to bring biocatalyst to industrial products in order to support biotechnological applications."

- 1991-1996: Study of Biology at RWTH Aachen and University of Hanover
- 1996-2000: pHD thesis for creating s new carbonylreductase at the Institute of Enzyme Technology (IET)/ Prof. Dr. M.-R. Kula
- Since 2000: Head of Enzyme Development at Roche Diagnostics GmbH in Penzberg, Germany

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Martin Borchert

Head of Bioinformatics and Microbe Technology, R&D, Novozymes / Denmark R&D Integration Director, Organobalance / Germany

"While next and 3rd generation DNA sequencing techniques become more and more affordable, customized DNA synthesis became a commodity service, and analytical instruments equip us with increasing accuracy, we have to concentrate our efforts to gain most value of those new technologies and combine them with each other in order to harvest optimal synergy. Failure in doing so will result in too long innovation cycles which ultimately will result in poor product development processes."



Martin Borchert is head of Bioinformatics and Microbe Technology, R&D at Novozymes A/S headquarters in Denmark. As one of the core research facilities this interdisciplinary branch is a hub and supports the applied discovery and prototype delivery of innovative enzyme solutions or whole microorganisms into Novozymes' diverse Enzyme and Microbe Business. Martin is also very active in external technology scouting and has several public funded research grants, currently in the field of metagenomics. Martin joined Novozymes in 2005 after his PhD in biotechnology (TU Hamburg-Harburg) and MSc in chemistry (TU Berlin). Martin has an entrepreneurial research style, has published several scientific articles and is inventor or more than 25 patents in the field of White Biotechnology.



Emil Byström CEO, SpinChem, Sweden

> "Attractive production economy using heterogeneous biocatalysis could now be realized with RBR technology!"

- 2013 CEO, SpinChem AB
- 2010 Product manager SpinChem AB
- 2010 PhD in polymer chemistry Umeå University: Porous polymeric materials for chromatography: Synthesis, functionalization and characterization



"I believe that the potential of biocatalysis far exceeds the current exploitation. One of the main reasons being the higher cost of use compared to traditional catalysis. The ongoing developments in molecular biotechnology and bioinformatics broaden the scope of possible chemistries. A general immobilization procedure may well be a step towards making biocatalysis the first choice, a sustainable as well as cost effective alternative."

- 2014 : Co-founder and CEO of EnginZyme, currently the only Swedish biocatalysis company
- 2012- 2014: Postdoctoral research at the Arrhenius laboratory, Stockholm Univ., in biocatalysis (Prof. Jan-Erling Bäckvall) and quantum chemical modelling of enzyme reaction mechanisms (Prof. Fahmi Himo)
- 2007- 2012: PhD in biotechnology at Royal Institute of Technology, Stockholm (Prof. Per Berglund)









Robert DiCosimo DuPont Fellow, DuPont Industrial Biosciences / USA

"In certain applications, a customer may require that an enzyme not be engineered for improved properties or performance. The ability to identify a naturally-occurring enzyme that meets these requirements can be challenging, but is often possible through the power of bioinformatics and genome mining."

Robert DiCosimo received a Ph.D. in Organic Chemistry from MIT in 1982, working in the areas of physical organometallic chemistry and enzyme catalysis. He joined the Central Research Department of Standard Oil of Ohio in 1982, concentrating on the development of processes employing homogeneous and heterogeneous catalysts, and microbial and enzymatic catalysts. In 1988 he joined DuPont CR&D at the Experimental Station in Wilmington, Delaware, working on the development and commercialization of processes which utilize enzymatic or microbial catalysis for the production of specialty chemicals, food ingredients, and polymer, pharmaceutical and agrochemical intermediates. He moved from DuPont CR&D to DuPont Industrial Biosciences in 2015, where he is currently a DuPont Fellow.



Yves Dudal CEO, INOFEA / Switzerland

"The next generation of drugs requires enzyme-mediated precision processing, let's meet the challenge!"

Biochemical engineer by training, Yves Dudal was awarded with a PhD in Chemical Engineering from Polytechnique Montréal, Canada. He engaged in academic research in France focusing on the development of innovative environmental diagnostic tools, from which he founded his first start-up Envolure. After transferring it to a European industrial group last year, Yves became exclusively involved with INOFEA, which he co-founded and where he acts as CEO and member of the Board of Directors.



Andrew Ellis Technical Director, Biocatalysts / United Kingdom

Andrew Ellis manages the New Product Development team and is responsible for driving innovation, as well as generating new product ideas to ensure that Biocatalysts stays at the forefront of technological advancement.



Harald Gröger Chair of Organic Chemistry I, Bielefeld University / Germany

"The combination of different (and complementary) types of catalysts, e.g., chemoand biocatalysts, in one-pot processes enables a perspective towards the development of efficient production technologies, which avoids cost-, capacity-, and solvent-intensive purification steps of intermediates. One of the challenges in this field is the design of compatible catalyst and reaction systems, which are tolerant against the components being involved in the other reaction steps."

Harald Gröger studied Chemistry at the Universities of Erlangen-Nürnberg and Oldenburg and received his diploma degree in Chemistry from the University of Oldenburg in 1994. He carried out his doctoral thesis at the University of Oldenburg under the supervision of Prof. Dr. Martens. After receiving his doctoral degree in 1997, he stayed as a postdoctoral fellow at the University of Tokyo in the group of Prof. Dr. Shibasaki from 1997 to 1998. In 1998 he joined the research department Chemische Forschung of SKW Trostberg AG. After the merger with Degussa-Hüls AG to Degussa AG in 2001, he became Project Manager in the Project House Biotechnology of Degussa AG. From 2004 to 2006 he worked as a Senior Project Manager at the research unit Service Center Biocatalysis of Degussa AG. From 2006 to 2011 he was W2-Professor (Associate Professor) of Organic Chemistry at the University of Erlangen-Nürnberg and since April 2011 he is W3-Professor (Full Professor) of Organic Chemistry at Bielefeld University. Harald Gröger and his teams were awarded the Degussa Innovation Award 2003 (category: new products) and the Degussa Innovation Award 2005 (category: new or improved processes). In addition, he was awarded the Carl-Duisberg-Memorial-Prize 2008 of the German Chemical Society (GDCh), the Otto Roelen Medal 2014 of the DECHEMA and the German Catalysis Society (GeCatS) and a Visiting Professorship of Osaka University in 2014.



Stephan Freyer

Head of Bioprocess Development, BASF / Germany

- 2008: Senior Research Manager, Head of Bioprocess Development, BASF
- 2005 2007: Research Manager Bioprocess Development, BASF
- 1998 2004: Process Development Live Sciences, BASF
- 1993 1997: Technical Development, BASF
- 1989 1993: PhD study, Forschungszentrum Jülich





Ulf Menyes CEO, Enzymicals / Germany

"An open discussion of scientists from the field of biocatalysis, users in organic synthesis and technologists from the plant engineering is essential to overcome language barriers and technical challenges. Economic and simultaneously sustainable synthesis processes will be mixed chemical and biocatalytic processes over a period of the next 20 years and more."

- 1984 1989: Studies at the University of Greifswald, Chemist (diploma)
- 1989 1992: Research Doctorate at the University of Greifswald, organic and technical chemistry
- 1992 1998: Research assistant at the University of Greifswald, analytical chemistry
- 1994: PhD, University of Greifswald, "HF catalyzed Friedel-Crafts-Reaction using surfactants e.g. for the production of high octane fuels"
- 1995 2003: Managing Director Synaptec GbR/GmbH
- 2003 2010: Managing Director Syntrex GbR
- since 2011: CEO Enzymicals AG

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David Schönauer CEO, SeSaM-Biotech / Germany

"Blindfolded random enzyme evolution belongs to the past – highly customized solutions employing a broad spectrum of methods and technologies to find the best 'amino acid teams' will yield the enzymes that define tomorrow's medicine and industry."

David Schönauer studied Molecular Biotechnology at RWTH Aachen University. In parallel he participated and graduated from the Entrepreneurship-Program "TRACE". In 2012 he was appointed CEO of SeSaM-Biotech and since then builds the company as a provider of Quality Enzyme Solutions in the field of protein engineering.



Julia Schückel Research Scientist, GlycoSpot / Denmark

"Our assay will help answer key questions in the enzyme discovery field, such as finding new enzyme activities for industrial processes. The main advantage of our technique is that our substrates are available in four different colours that can be mixed together, which makes it high-throughput, cost-effective and extremely convenient."

Julia Schückel has studied Chemistry at the TU Dresden (Germany) and did her PhD in Biochemistry at the University of York (United Kingdom) working on Plant Cytochrome P450s. After moving to Copenhagen (Denmark), she started a postdoc at Prof. William G. T. Willats group and developed the chromogenic substrate assay together with Dr. Stjepan K. Kracun, which was the basis for the GlycoSpot technology.



Volker Sieber

Chair of Chemistry of Biogenic Ressources, TU Munich / Germany

"Only the combination of the best of both worlds - chemical catalysis and enzyme catalysis – will enable the technically and economically viable utilization of biobased resources for chemicals and fuel production."

Prof. Sieber studied chemistry at the University of Bayreuth and the University of Delaware. After obtaining his doctorate, he went to the California Institute of Technology as a research fellow. Following a brief sojourn at McKinsey & Co., Prof. Sieber held a number of positions in the chemical industry between 2001 and 2008. He has been a full professor at TUM since end of 2008. In parallel he has built up research group at a Fraunhofer Institute in the area of bio-, chemo- and electrocatalysis over the last six years and developed it into an Institute branch. Prof. Sieber is deputy director of the Straubing Center of Science, which is focusing on biomass utilization. In 2015 he became one of the founding members of the council on Bioeconomy for the government of the Free State of Bavaria.



PRAXISforum Enzymes for Industrial Applications 2015 attendes include:

- AB Enzymes GmbH
- Allnex Austria GmbH
- Almac Group
- Aravis S.A.
- Autodisplay Biotech GmbH
- B.R.A.I.N. Aktiengesellschaft
- BASF PCN GmbH
- BASF SE
- Bayer Technology Services GmbH
- BIA separations GesmbH
- Bilfinger Industrietechnik
- Bio Base Europe Pilot Plant
- Biocatalysts Ltd.
- Biokal labsystems
- Biomillenia SAS
- Biopract GmbH
- bitop Aktiengesellschaft
- BYK-Chemie GmbH
- CASCAT GmbH
- Charles University Prague
- Clariant Produkte
- c-LEcta GmbH
- Codexis
- cpbi-bioscientific GmbH & Co.KG
- Crespel & Deiters GmbH & Co. KG
- DAKO AG
- DECHEMA Ausstellungs-GmbH
- DECHEMA-Forschungsinstitut
- DiaCoating GmbH
- DSM Nutritional Products AG
- DSM Pharmaceutical Products
- Empa
- EnzymeWorks Inc.
- Enzymicals AG
- EOC Belgium
- Eppendorf AG
- Erbslöh Geisenheim AG
- Euticals GmbH
- evocatal GmbH
- Evonik Industries AG
- Firmenich SA
- Fraunhofer-Zentrum CBP
- Gene Bridges GmbH
- Givaudan Netherlands B.V.
- Givaudan Schweiz AG
- Heinrich Frings GmbH & Co.KG
- Heinrich-Heine-Universität Düsseldorf
- Henkel AG & Co. KGaA

- Heraeus Precious Metals
- Hessen Trade & Invest GmbH
- Illert GmbH
- Infraserv GmbH & Co. Höchst KG
- Jena Bioscience GmbH
- JenaBios GmbH
- Johnson Matthey GmbH
- KhD Solutions
- Libragen SA
- Linde Engineering Dresden GmbH
- Lonza AG
- M+W Process Industries GmbH
- Nestlé Product Technology Center
- Nestlé Research Centre
- Nordic ChemQuest AB
- Novartis Pharma AG
- Novasep Process SAS
- Novozymes A/S
- Patentanwälte Gierlich & Pischitzis Partnerschaft
- PCAS
- PerkinElmer LAS (Germany) GmbH
- Pfeifer & Langen GmbH & Co. KG
- Plastic Omnius Auto Inergy
- Procter & Gamble Ltd.
- Protéus PCAS
- PS Biotech GmbH
- RESINDION SRL
- Roche Diagnostics
- RWTH Aachen
- Sandoz Industrial Products GmbH
- Sanofi Aventis Deutschland GmbH
- SeSaM Biotech GmbH
- Slovak University of Technology
- SternEnzym GmbH & Co. KG
- Swissaustral Biotech SA
- ThyssenKrupp Industrial Solutions AG
- TOPLAB GmbH
- Total New Energies
- TU Hamburg-Harburg
- Unilever
- VBU Association of German Biotechnology Companies
- VITO NV
- Vogelbusch Biocommodities GmbH
- VTU Technology GmbH
- W42 GmbH
- Wacker Chemie AG
- Wiley-VCH Verlag

Registration

Tickets	DECHEMA Members ¹	Others
Regular fee ²	675 EUR	690 EUR
All prices are quoted excl. 19% VAT		

Please register online via our PRAXIS forum website: www.dechema.de/enzymes.

¹⁾ Personal DECHEMA members ²⁾ Registration fees incl. full entrance to all presentations and exhibition, food and beverages (incl. networking dinner on 8th November 2016)

Venue

DECHEMA-House Theodor-Heuss-Allee 25 D-60486 Frankfurt/Main Germany

Accomodation

We reserved a contingent of rooms at the following hotels. Please book yourself using the given keyword.

•	 Maritim Hotel Frankfurt (2 min walk from venue) Theodor-Heuss-Allee 3 D-60486 Frankfurt am Main phone: +49 69 75 78-1130 email: reservierung.fra@maritim.de 		
	single room: booking code:	around 100 EUR (incl. breakfast and free WiFi) please contact us via mathes@dechema.de to get your personal booking code	
•	Mercure Hotel (8 min Voltastr. 29 D-60486 Frankfurt ar phone: +49 69 7926- email: H1204@accor	m Main ·o	

single room:101,60 EUR (incl. breakfast and free WiFi)booking code:DECHEMA

Furthermore, you find a lot of different hotels in all price categories near the venue along the streets Europa-Allee and Hamburger Allee.

How to get to DECHEMA



By public transport

From Frankfurt Airport

- approx. 20 min. by taxi
- S-Bahn: S 8, S 9 (line 8 or 9) to the main station (Hauptbahnhof), change to S 3, S 4, S 5 or S-6 (platform 104, underground) to the station Messe, exit Theodor-Heuss-Allee / Festhalle

From the main railway station (Hauptbahnhof)

- approx. 20 min. walk
- approx. 10 min. by taxi
- S-Bahn: S 3, S 4, S 5 or S 6 (platform 104, underground) to the station Messe, Exit Theodor-Heuss-Allee / Festhalle
- Underground: line U 4 (line 4) direction Bockenheimer Warte to the station Messe, Exit Festhalle and 10 min. walk
- tram/streetcar line 16 or 17 to the stop Varrentrappstraße and 10 min. walk

By car

Via Autobahn/Westkreuz to Frankfurt Stadtmitte, turn right at first traffic light after the railway bridge

From the city centre in direction Messe (exhibition grounds), on the Theodor-Heuss-Allee first left-hand turn-off lane before the railway bridge

Entrance Varrentrappstraße

The area of DECHEMA is part of the low emission zone (Umweltzone) in Frankfurt. Only vehicles displaying an appropriate badge on their windscreen will be allowed to enter the low emission zone. Information: www.umweltzone.frankfurt.de





Any questions?

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