

## GENERAL INFORMATION

## SPONSORS

ChemBioTec TU Dortmund University

SFB „Vom Gen zum Produkt“  
Technical University Braunschweig

Biokatalyse 2021

Evonik Degussa GmbH

BRAIN AG, Zwingenberg

c-LEcta GmbH, Leipzig



## SUPPORTING ORGANISATIONS



## TRAVEL

## With public transport

By train: ICE to Karlsruhe, then local tram S1 from Karlsruhe main station to Bad Herrenalb via Ettlingen (further information: [www.bahn.de](http://www.bahn.de)).

By bus: from Pforzheim, Baden Baden or Wildbad/Calw.

From Bad Herrenalb station it takes approximately 10 minutes by foot or by taxi.

## By car

From Freiburg/Basel/Strasbourg: A5

From Stuttgart/Ulm/München: A8

From Mannheim/Frankfurt/Koblenz: A5/A61

From Karlsruhe via Ettlingen through the Alb valley to Bad Herrenalb. In the town centre, left direction Dobel/Pforzheim.

There are car parks above the conference venue on the right hand side.

## VENUE AND ACCOMMODATION

Evangelische Akademie Baden  
Dobler Str. 51, 76332 Bad Herrenalb  
Germany

## SCHEDULE

Beginning: Monday, 22 August 2011, 2 pm  
End: Thursday, 25 August 2011, 1 pm

## LANGUAGE

The course will be held in English.

## APPLICATION

A requirement for the participation at the summer school is a completed university study with an outstanding final degree, excellent communication skills, interdisciplinary thinking and working as well as an own motivation letter or a letter of recommendation of the supervising professor. Please send your applications to:

DECHEMA e.V.  
Training department  
P.O. Box 15 01 04  
D-60061 Frankfurt am Main

Phone: +49 69 7564 253  
Fax: +49 69 7564 414  
E-mail: [gruss@dechema.de](mailto:gruss@dechema.de)  
Internet: <http://kwi.dechema.de/biot.html>

## REGISTRATION FEE

Postdocs industry: 330,- €

Postdocs academia: 250,- €

PhD students: 190,- €

(incl. accommodation, board, course materials, soft drinks and VAT)

Deadline: 15 June 2011

## 2ND SUMMER SCHOOL

22 - 25 August 2011  
Bad Herrenalb / Germany

## Biotransformations 2011



## TOPIC

Biocatalysis is rapidly evolving into a key technology in industrial “white“ biotechnology for the discovery and production of bulk and fine chemicals, especially in the pharmaceutical industry, where high yielding chemo-, regio-, and enantioselective reactions often are critical.

Here the following fundamental aspects are in focus:

- Screening and development of new catalysts considering the specific requirements of a distinct process.
- Efficiency of production systems considering the qualitative and quantitative mass and energy fluxes.
- Reaction engineering based on the optimisation of bioprocesses considering side reactions and scale-up.
- Development and implementation of new and efficient processes of downstream processing.

To increase efficiency of new biotechnological processes it is important that scientists from the diverse fields of chemistry, biology and process engineering work efficiently together in research and development. The aim of this summer school is to educate PhD students and post-docs as well as young industrial co-workers at an early stage of their career in interdisciplinary communication of the different fields.

The summer school will provide the thorough introduction to the latest biocatalysts, modern expression hosts, state of the art directed evolution, high throughput screening and bioprocess engineering methods. The expert lectures will be given in such a manner, that beside educational information of the specific topic, the interdisciplinary approach will be pointed out. The number of participants is limited, enabling close interactions of the young academics with international leading experts in the field of biotransformation.

## GOALS

Biocatalysis and biotransformation became an important tool in all areas of industry. Working fields range from microbial screening, enzyme discovery and optimisation of methods via bio-chemo-catalysis, whole cell biotransformations, the use of enzyme cascades to downstream processing methods and economic as well as environmental aspects. Tailor-designed biocatalysts implemented in

innovative and optimized processes for industrial purposes can lead to fine chemicals and valuable pharmaceutical intermediates. In order to make potential of novel and/or engineered enzymes and techniques for biotransformation processes, young scientists with a molecular understanding in the mentioned interdisciplinary fields have to be educated and brought together. The latter is the main and ambitious goal of the Summer School for Biotransformations in 2011.

## TARGET AUDIENCE

Addressed are outstanding PhD students, post-docs (scientists) from academia as well as young industrial researchers at an early stage of their career. PhD students, post-docs, and young industrial researchers should write a short motivation letter for participation or bring a letter of recommendation by the supervisor and are willing to present a poster on their work. A scientific advisory board of noted experts will discuss and decide which posters will be presented during the summer school.

Speakers will stay at least for one night to enable an intensive exchange and discussion among all participants.

## PROGRAMME

The summer school will open the panel for intensive discussions of PhD-students and young scientists together with experts from both the academic and industrial research and development fields. In interactive and interdisciplinary discussions, e.g. in the areas of applied biotechnology, biotransformation, downstream processing, enzyme discovery, protein engineering, strain development and organic catalysis, both opportunities and limitations of novel and innovative processes and tailor-made enzymes will be reflected. Besides the plenary presentations of renowned experts, all participants will have the opportunity to introduce their research studies on a poster, which will be presented in scheduled poster sessions. In order to initiate active discussions, all students and young scientists will give a short oral presentation of the key results of their research.

## MODULES

Protein discovery 2.0:	Tailor-made novel biocatalysts De novo design
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From dry to wet lab:	In silico modelling Structure-function analysis
Multi-purpose biocatalysis:	Enzyme promiscuity Non-conventional reactions
Multi-step bioconversion:	Enzyme cascades A combined world of chemo- and biocatalysis
Pimp the production host:	Strain development Pathway engineering Synthetic Biology
Higher-Faster-Further:	Enzyme engineering & optimisation Directed evolution Rational design
From reaction to process:	Whole cell biotransformation vs. isolated enzyme catalysis Reactor design Separation Purification
All in omics:	(Meta)genomics Transcriptomics Proteomics Metabolomics

## ORGANISATION COMMITTEE

BIOTRANSFORMATIONS 2011

Jürgen Eck	BRAIN AG, Zwingenberg
Wolf-Dieter Fessner	Technical University of Darmstadt
Bernhard Hauer	University of Stuttgart
Dirk Holtmann	DECHEMA e.V.
Andreas Liese	Technical University of Hamburg-Harburg
Oliver May	DSM Pharmaceutical Products, Geleen
Sven Panke	ETH Zürich, Basel
Andreas Schmid	TU Dortmund University
Jens Schrader	DECHEMA e.V.
Christoph Syldatk	Karlsruher Institute of Technology (KIT)

## ORGANISERS

Gemeinschaftsausschuss Biotransformationen der Vereinigung für Allgemeine und Angewandte Mikrobiologie (VAAM) und der DECHEMA e.V.

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**Reply form**  
**(Fax-No.: +49 69 7564-414)**

**DECHEMA e.V.**  
Training dept.  
P.O. Box 15 01 04  
**D-60061 Frankfurt am Main**

**Registration** to the DECHEMA summer school 7161  
**"Biotransformations 2011"** Bad Herrenalb, 22-25 August 2011  
Deadline for registration: 15 June 2011

**Biot**

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**Participant**

Mrs  Mr  Title \_\_\_\_\_  
Name \_\_\_\_\_  
Surname \_\_\_\_\_  
Company \_\_\_\_\_  
Department \_\_\_\_\_  
Street/POB \_\_\_\_\_  
Code/Place \_\_\_\_\_  
Phone/Fax \_\_\_\_\_ E-mail \_\_\_\_\_

**Invoice address**

Company \_\_\_\_\_  
Department \_\_\_\_\_  
Street/POB \_\_\_\_\_  
Code/Place \_\_\_\_\_

Industry       University       PhD Student \*

\* Please attach proof.

Motivation letter       Letter of recommendation       Abstract for poster presentation

The course fee amounts to € 330.- (industry), € 250.- (university), € 190.- (PhD students). Please do not transfer the fee before having received the final confirmation of participation by DECHEMA. If we receive a notice of withdrawal at least two weeks prior to the beginning of the course, the participation fee less 10% for administration expenses will be reimbursed. Thereafter, a reimbursement will not be possible.

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Place, date

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signature + company stamp