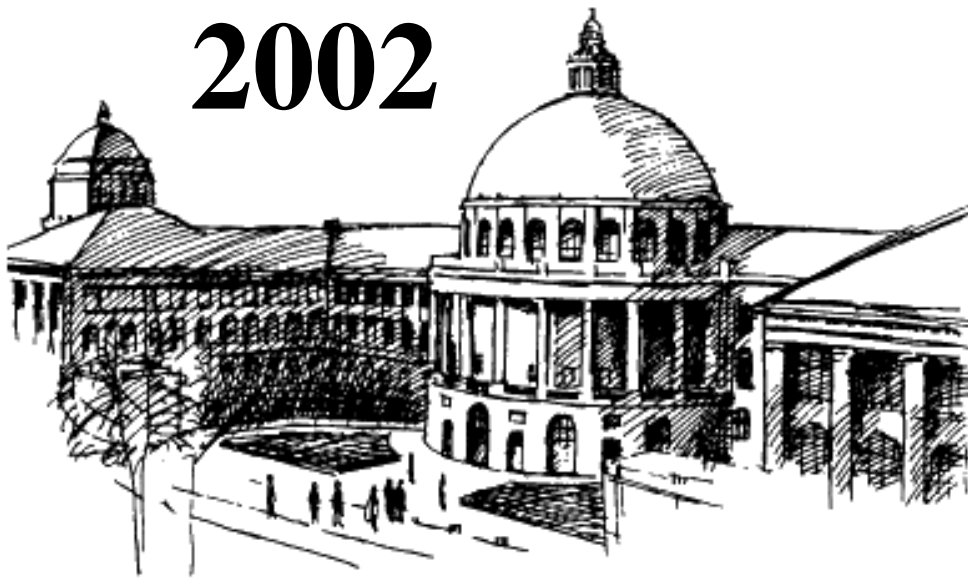


Applied Biocatalysis

2002



**The 7th annual meeting
of the working party 'Biotransformations'
German Society for Applied Microbiology
(VAAM)
at ETH Zurich
9th – 11th October, 2002**



Wednesday, October 9, 2002

17:00 - 19:30 **Registration** ETH Hoenggerberg, HCI G3
(New Chemistry Building)

Thursday, October 10, 2002

08:00 - 09:00 **Registration**

09:00 - 09:20 **Andreas Schmid** (Institute of Biotechnology, ETH, Zurich,
Switzerland)
Welcome Address

Session 1

Screening

Chair: A. Schmid (ETHZ, Biotechnology)

09:20 - 10:00 **L 01** **Jean Louis Reymond**
(Inst. of Org. Chemistry, University of Bern, Bern,
Switzerland)

Enzyme screening and fingerprinting.

10:00 - 10:25 **O 01** **Klaus Liebeton** (B.R.A.I.N. AG, Zwingenberg, Germany)
New lipolytic enzymes from the metagenome.

10:25 - 11:00	Coffee break
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Session 2

Enzyme and Biocatalyst Engineering

Chair: D. Hilvert (ETHZ, Organic Chemistry)

11:00 - 11:40 **L 02** **Peter Kast** (Inst. of Org. Chemistry, ETH, Zurich,
Switzerland)
Darwinian evolution to probe (and design) enzyme structure
and function.

11:40 - 12:05 **O 02** **Dan S. Tawfik** (The Weizmann Institute of Science,
Rehovot, Israel)
Molecular evolution of an extremely fast phospho-triesterase
by *in vitro* compartmentalization (IVC).

12:05 - 12:30 **O 03** **Willem J.H. van Berkel** (Wageningen University,
Wageningen, The Netherlands)
Engineering of flavoprotein oxygenases and oxidases.

12:30 - 13:30	Lunch (individual, at the MENSA Hoenggerberg)
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Session 3

Sources of Novel Biocatalysts for Industrial Applications

Chair: S. Panke (ETHZ, Process Engineering)

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| 13:30 -14:10 | L 03 | Beat Wirz (Roche Pharma, Basel, Switzerland)
Biotransformation services in pharmaceutical industry. |
| 14:10 - 14:35 | O 04 | Thomas Daubmann (Jülich Fine Chemicals, Jülich, Germany)
Alcohol dehydrogenases for the asymmetric synthesis of chiral compounds. |
| 14:35 - 15:00 | O 05 | Dick B. Janssen (Biochemical Laboratory, University of Groningen, The Netherlands)
Engineered biocatalysts for the production of semi-synthetic β -lactam antibiotics. |

15:00 - 15:20	Coffee break
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Session 4

New Products via Biocatalysis

Chair: C. Syldatk (University of Stuttgart)

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| 15:20 - 16:00 | L 04 | Oreste Ghisalba (Novartis, Basel, Switzerland)
Chemo-enzymatic synthesis of chiral building blocks and drug metabolites for pharma applications. |
| 16:00 - 16:25 | O 06 | Rein V. Ulijn (Dep. of Chemistry, University of Edinburgh, UK)
The first examples of protease-catalyzed solid phase peptide synthesis. |
| 16:25 - 16:50 | O 07 | Wolfgang Zimmermann (Dep. of Bioprocess Technology, University of Chemnitz, Germany)
Enzymes for the synthesis of large-ring cyclodextrins. |

17:00 - 19:00 ***Poster session***

20:00 - 23:00	<i>Symposium Dinner @ Lake-Side Casino Zürichhorn (shuttle bus service)</i>
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Friday, October 11, 2002

Session 5

Biocatalysis and the Chemical Industry

Chair: W. Treffenfeldt (DOW Germany)

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| 09:00 - 09:40 | L 05 | Bernhard Hauer (BASF AG, Ludwigshafen, Germany)
Enzymes as industrial biocatalysts: strategies for their discovery and improvement. |
| 09:40 - 10:05 | O 08 | Sol M. Resnick (The DOW Chemical Company, San Diego, USA)
Enzymatic resolution of chiral P-series glycol ethers. |
| 10:05 - 10:30 | O 09 | Marco Eissen (Lab. of Technical Chemistry, ETH, Zurich, Switzerland)
Concepts towards a sustainable synthesis design using biocatalysts. |

10:30 - 10:50	Coffee break
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Session 6

New Reactions and Technology

Chair: D. Janssen (University of Groningen)

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| 10:50 - 11:30 | L 06 | Fredi Brühlmann (Firmenich SA, Geneva, Switzerland)
Flavour and fragrance chemicals through biocatalysis. |
| 11:30 - 11:55 | O 10 | Frank Hollmann (Inst. of Biotechnology, ETH, Zurich, Switzerland)
Chemo-enzymatic redox reactions using oxidoreductases and organometallic catalysts. |
| 11:55 - 12:20 | O 11 | Andreas Liese (Inst. of Biotechnology, Research Centre Jülich, Jülich, Germany)
Molecular hydrogen driven efficient generation and regeneration of NADPH. |
| 12:20 - 12:45 | O 12 | Heiko Feitkenhauer (Lab. of Chemical Engineering and Industrial Chemistry, ETH, Zurich, Switzerland)
Cotton finishing with anaerobic cultures - is a complete replacement of auxiliary chemicals and purified enzymes feasible? |

12:45 - 13:45	Lunch (individual, at the MENSA Hoenggerberg)
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Session 7

Biocatalysis for Fine Chemicals Production

Chair: R. Wohlgemuth (FLUKA AG)

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| 13:45 – 14:25 | L 07 | Andreas Kiener (LONZA AG, Visp, Switzerland)
Biocatalytic approaches for large scale production of synthons. |
| 14:25 - 14:50 | O 13 | Dongliang Chang (Inst. of Biotechnology, ETH, Zurich, Switzerland)
Regio- and stereoselective hydroxylation of non-activated carbon atoms with <i>Sphingomonas</i> sp. HXN-200: synthetic applications. |
| 14:50 - 15:15 | O 14 | Manfred Zinn (Swiss Federal Institute of Materials Testing and Research, EMPA, Dübendorf, Switzerland)
Multiple nutrient limited growth of bacteria as a means to tailor-made polyhydroxyalkanoate. |

15:15 - 15:35	Coffee Break
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Session 8

Putting Things Together: From Enzyme mechanism to Custom Manufacturing

Chair: A. Schmid (ETHZ, Biotechnology)

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| 15:35 - 16:15 | L 08 | Herfried Griengl (Inst. of Org. Chemistry, TU Graz, Austria)
Enantiospecific formation of cyanohydrins using enzymes - preparative and mechanistic aspects. |
| 16:15 - 16:55 | L 09 | Marcel Wubbolts & Theo Sonke (DSM, Geleen, The Netherlands)
Biocatalysts: from discovery to application in custom manufacturing. |
| 16:55 - 17:00 | | Bernard Witholt (Inst. of Biotechnology, ETH, Zurich, Switzerland)
Closing remarks |

END