



Editorial

Proceedings of the Seventh International Symposium on Biocatalysis and Biotransformations (BIOTRANS 2005), Delft, The Netherlands, 3–8 July 2005

Mankind has used biocatalysts since thousands of years for the production of bread, cheese and wine, without knowing what was going on at a molecular level. Research in recent times has led to a tremendous increase in the knowledge about the functioning of the microbial cells and enzymes which are responsible for the reactions that are happening both in our kitchen and in nature. This opened the possibilities to use biocatalysts for reactions for which they were *not* designed. Many enzymes were shown to be able to convert unnatural substrates and some perform reactions they were never expected to do. Biocatalysts can even be used on large scale in chemical industry and this was the basis for what is now called “The third wave of biotechnology”: industrial biotechnology.

Industrial or white biotechnology is expected to play a dominant role in the development of sustainable processes in chemical industries, as has been formulated in the document “The Vision for 2025 and Beyond” of the European Technology Platform on Sustainable Chemistry [1]. Using feedstocks that are ultimately derived from renewable (i.e. agricultural) resources, industrial biotechnology will be able to devise new routes to chemicals that are currently derived from fossil resources like oil, coal and gas. Although several successful examples like high fructose corn syrup and polylactic acid have been commercialised, there is still a long way to go before our economies are really bio-based [2].

The BIOTRANS symposia reflect the growing interest of science and industry in industrial biotechnology. It is in this series of biannual conferences, where several hundreds of participants from various disciplines interact, that recent advances in the field are highlighted.

BIOTRANS 2005 is the seventh issue of the series, which started in 1993 in Graz (Austria). The city of Delft (The Netherlands) was chosen as the venue, for several reasons. One of the oldest biotechnological companies in the world, the Royal Dutch Yeast and Spirit Company (later Gist brocades, now DSM) was founded here. A lot of excellent research in the field of industrial biotechnology is being done at the Delft University of Technol-

ogy, going back to the famous microbiologist Kluyver. When it comes to conferences, the university has experienced staff and good facilities. Last but not least, the historical centre of Delft is world-famous.

About 500 participants attended 19 invited lectures and 32 oral presentations, and discussed about 300 posters. This special issue of the *Journal of Molecular Catalysis B: Enzymatic* contains a selection of full papers based on lectures or posters that were presented at BIOTRANS 2005. All manuscripts were double-refereed in the usual way, and I would like to thank the dozens of reviewers that helped to keep the standards of the journal. The contributions have been grouped into the following topics:

- Biotransformations in organic synthesis.
- Industrial scale processes and development.
- Biochemical engineering and downstream processing.
- Enzyme discovery and development.
- Mechanistic biochemistry, protein structure and modelling.
- Pathway engineering, genomics and proteomics.

On this occasion, I would like to express my sincere thanks to the national and international Scientific Committee and to the local staff at Delft University of Technology, for making this congress so successful. The support from the Scientific Committee of the Section on Applied Biocatalysis of the European Federation of Biotechnology (ESAB) [3] is gratefully acknowledged. Special thanks also to the main industrial sponsor (DSM), to Delft University of Technology, to the B-BASIC programme, to the COST Chemistry D25 action, and to all other sponsors for their generous financial contributions.

It is logical that the BIOTRANS series will continue, and it is my pleasure, together with professor Vicente Gotor, to invite you to BIOTRANS 2007, which will be held in Oviedo (Spain) [4] from 8–13 July 2007.

References

- [1] Downloadable at the SusChem website: www.suschem.org.
- [2] See for relevant documents on the bio-based economy: www.bio-economy.net.
- [3] www.esabweb.org.
- [4] See www.uniovi.es/bioorganica/congresos/biotrans2007/index.html. General information on the BIOTRANS conference series can be obtained at: www.biotrans.org.

Maurice C.R. Franssen*

*Wageningen University, Laboratory of Organic Chemistry,
Dreijenplein 8, 6703 HB Wageningen,
The Netherlands*

* Tel.: +31 317 482976;

fax: +31 317 484914.

E-mail address: maurice.franssen@wur.nl

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