



Preface

The increasing interest for obtaining chiral enantiopure organic molecules has tremendously accelerated the development of new technologies and synthetic procedures pursuing this goal. Besides, a need for a higher sensibility in developing environmentally friendly and sustainable processes is mandatory for the science and technology of the 21st century. Enzymatic processes combine both aspects with a high degree of success, and thus solving conceptual and practical problems. These are the main reasons for the increasing use of biotransformations both in academia and industry. Nowadays, biocatalysis, in combination with chemical catalysis, has emerged in the pharmaceutical industry as a routine tool for the preparation of enantiopure drugs. The possibility of carrying out these enzymatic processes under mild conditions and their high selectivity make the biocatalytic step very attractive to perform some transformations which are difficult to achieve only by chemical procedures, with broad applications in pharmaceutical, alimentary and cosmetic industries. These facts constitute the foundation of an already well documented research field with very solid base, continuously expanding thanks to new techniques and methodologies.

In recent years, directed evolution of enzymes has allowed the development of new biocatalysts. I strongly believe that genetic engineering techniques are going to continue playing a major role in the future research of enzymatic biocatalysis and will open new possibilities to carry out industrial processes in several sectors.

One of the major series of meetings devoted to biocatalysis is the Biotrans conference. The *8th International Symposium on Biocatalysis and Biotransformations* (Biotrans 2007) took place in Oviedo, a very beautiful city in the North of Spain, between 8 and 13 July 2007, and the organization was carried out by the Bioorganic group of Oviedo University. It was the first time this symposium was held in Spain, bringing together industrial and academic researchers from around the world. This way, Biotrans 2007 involved the participation of experts in different areas of biocatalysis creating a multidisciplinary atmosphere and stimulating the exchange of knowledge.

The aims of the Congress focused on an update on recent achievements and future tendencies in the field of biotransformations, paying especial attention to the following topics:

- *Enzymes in Organic Synthesis: Applied Biocatalysis.*
- *Industrial Application: Scale Processes and Development.*
- *Enzyme Sources and Evolution: Actual Strategies and Tools in Directed Evolution.*
- *Biochemical Engineering and Downstream Processing.*
- *Mechanistic Biochemistry, Protein Structure, and Modeling.*
- *Pathway Engineering, Genomics, and Proteomics.*

More than 500 important researchers from all over the world attended the conference, distributed in: 22 invited lectures, 31 oral presentations and 307 posters. On the whole, 43 countries participated in Biotrans 2007. This special issue of the *Journal of Molecular Catalysis B: Enzymatic* contains selection of full papers based on lectures or posters that were presented at Conference. All manuscripts have been double-referred in the usual way, and I would like to thank the reviewers that helped to keep up the standard of the journal.

On this occasion, I would like to express my sincere thanks to the local and the International Scientific Committee. In addition, our acknowledgment goes to the City Council of Oviedo, the University of Oviedo, the Principality of Asturias, and other Institutions such as the Ministry of Science and Education in Madrid, the Spanish Council for Scientific Research (CSIC), Genoma Spain, the Spanish Societies of Therapeutic Chemistry and Biotechnology, and of course to the different private companies whose contributions have made possible the organization of this international event.

It is logical that the Biotrans series will continue, and it is my pleasure, together with professor Jean-Louis Reymond, to invite you to Biotrans 2009, which will be held in Bern between 5 and 9 July 2009.

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