

CERC3 YOUNG CHEMISTS' WORKSHOPS

TOTAL STREET

Friedrich-Alexander-Universität Erlangen-Nürnberg

BIOCATALYSIS

2004

March 24 – March 27

in Erlangen, Germany

Institut für Organische Chemie der Friedrich-Alexander-Universität Erlangen-Nürnberg, Henkestraße 42, D-91054 Erlangen

Local Organizing Committee

Dr. Norbert Jux PD Dr. Markus Reiher Prof. Dr. Rudi van Eldik

CERC3 Young Chemists' Workshop "Biocatalysis"

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1. Introductory Overview

Background

CERC3 is the acronym used for the Chairmen of European Research Councils' Chemistry Committees (CERCCC or CERC3). CERC3 is a committee composed of senior research chemists who are actively involved in the decision making process of allocating national funds in the support of research in basic chemistry, and who represent their national research council. They have intimate knowledge of their national research council funding policies and have peer review experience. CERC3 meets annually. A number of observers are also invited, including representatives from the European Chemical Industry Council (CEFIC), the European Commission, the European Science Foundation (ESF), the European Federation of Chemical Engineers (EFCE), the European Communities Chemistry Council (ECCC), the Federation of European Chemical Societies (FECS), the COST Technical Committee for Chemistry and the National Science Foundation (NSF).

Aims and Scope of the workshop "Biocatalysis"

Catalysis has been an extremely important research area within chemistry over the past hundred years, and its importance will even grow in the future due to the increasing demand for atom efficient, convergent and low-energy syntheses. One of the greatest promises of catalysis results from the fact that chemistry has developed methods, reagents and pathways to break into chemical bonds previously considered inert. Processes of converting naturally abundant substances into useful smallmolecule building blocks have come into reach. The chemically selective conversion of methane, reduction of dinitrogen under mild conditions or the storage of sunlight energy by photolysis of water and generation of molecular hydrogen, as great as the challenges may be, are no longer pure fantasies, but are intensively studied experimentally. A good deal of these studies war initiated by nature demonstrating that from the chemical point of view even the most difficult reactions can take place if only the proper enzymes, i.e., catalysts, are available. The structures of numerous enzymes and their active centers have been elucidated. Now we know where all the atoms are, but we still do not know how they work. This is the point where bioinorganic and bioorganic chemists are called upon to elucidate structure-activity relationships determining the reactivity of the active centers and to realize these relationships with small-molecule model compounds. This workshop is intended to bring together young chemists active in the field and to encourage them to keep pursuing their goals however high they are.

> Prof. Dieter Sellmann, Erlangen († 06.05.2003)