Preface

Jan-E. Bäckvall

Published online: 1 May 2010
© Springer Science+Business Media, LLC 2010

Catalysis is presently a strong and growing field of Chemical Science. Recent advancement in instrumentation has made it possible to characterize heterogeneous catalysts at the molecular level and has dramatically increased the understanding of heterogeneous catalytic reactions. At the same time biocatalytic transformations have emerged as practical and scalable reactions that can be used in industrial applications. Homogeneous metal-catalyzed reactions have for a long time been associated with high selectivity and this has been underscored during the past decade by an increasing development of enantioselective reactions. *The International Symposium on Relations between Homogeneous and Heterogeneous Catalysis* (ISHHC) brings together practitioners in the fields of heterogeneous, homogeneous and enzyme catalysis. The aim with the symposia is to integrate these three fields of catalysis and examples of such integration is the immobilization of homogeneous metal catalysts and biocatalysts. Other examples of integration between the fields are the coupled processes involving metal and enzyme catalysis that have attracted attention recently. In these symposia world-leading scientists from different areas of catalysis are brought together to share their experience and ideas

with the purpose to overbuild the gap between homogeneous and heterogeneous catalysis as well as biocatalysis.

This special issue of *Topics in Catalysis* is based on the invited keynote and plenary lectures presented at the ISHHC-XIV held in Stockholm, Sweden, September 13–18, 2009. The meeting was organized by Stockholm University and the Swedish Chemical Society with supported co-organization from IDECAT and the Berzelii Center EXSELENT. As can be seen from this Issue, new concepts and ideas have been forwarded in several areas including nanoscience in catalysis, functionalized MOFs, asymmetric synthesis with homogeneous, heterogeneous, and enzyme catalysis, oxidation reactions, catalytic generation of hydrogen, integrated catalysis, catalysis with immobilized metal complexes, flow systems, and site specific catalysts.

The International Advisory Board decided unanimously to designate Professor Hans-Joachim Freund, Fritz-Haber-Institut der Max-Planck-Gesellschaft, Berlin, as Chairman for the ISHHC-XV, which will be held in Berlin, Germany, September 11–16, 2011. Professor Freund is world leading in the area of catalysis and has a long experience from the field. He will certainly make ISHHC-XV to a successful event.

J.-E. Bäckvall (✉)
ISHHC-XIV, Stockholm, Sweden
e-mail: jeb@organ.su.se