



Preface

Introduction by guest editors

This Special Issue of Catalysis Today includes selected papers presented at the 6th European Conference on Solar Chemistry and Photocatalysis: Environmental Applications (SPEA 6) held from 13th to 16th June 2010 in Prague, Czech Republic. The original idea of the exclusively European symposium has changed over the years. The nowadays SPEA is a genuine world conference devoted to all aspects of environmental photocatalysis including solar based processes, development of novel photo-catalysts, design of reactors, theoretical aspects of photoprocesses, related nanotechnologies, etc. The SPEA conferences attendance has revealed the constantly growing trend reaching more than 240 participants from 38 countries of 5 continents in 2010 in Prague. The scientific program of SPEA6 consisted of seven plenary lectures, 42 oral presentations and almost 200 poster presentations. Plenary speakers brought more detail insights to various, specific and attractive parts of the applied photocatalysis. The poster session represented an adequate scientific forum, suitable for less formal discussions, which was in most cases even more fruitful.

Both oral and poster presentations were subdivided into four focused sessions, each of them addressing one of the main areas of the current applied photocatalytic research:

1. Development of new materials for photochemistry and photocatalysis,
2. Air and water treatment,
3. Models for photochemistry and photocatalysis,
4. Environmental photochemistry and photoprocesses utilizing solar light.

The biennial SPEA Conference places a strong emphasis on research in photochemical and photocatalytic processes using natural or simulated sunlight for environmental applications. Large number of contributions was devoted to the development of new materials. It was emphasised that selection of the best photocatalyst is linked to its specific use.

The lack of drinking water creates serious social and health problems, especially in developing countries. Therefore new fields of research proposing and testing innovative water treatment methods have been undertaken in recent decades. This is the case of advanced oxidation techniques (AOTs) which are able to eliminate biorecalcitrant pollutants that can otherwise be removed from

water, but not eliminated. It is worth noting that volatile organic compounds (VOCs) in gas effluents, which are the cause of environmental and health risks, can be reduced or entirely eliminated by very promising gas-phase photocatalytic treatment.

We believe that the 37 papers included in this Special Issue of Catalysis Today represent a good overview of the state of the art of the Conference's four topics. In our opinion, a special interdisciplinary approach is essential to face the future challenges related to the use of sunlight for environmental applications. The solution to current specific problems can no longer be approached from any single discipline, but requires the cooperation of biologists, engineers and chemists working together.

Finally the Editors would like to thank the authors and referees, as well as the institutions and companies that sponsored SPEA6, for making this Special Issue possible.

Sixto Malato and Isabel Oller wish to thank the Spanish Ministry of Science and Innovation for financial support for the edition of this issue through the EDARSOL project (CTQ2009-13459-C05-01): <http://www.psa.es/webesp/projects/edarsol/index.php>.

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Available online 3 February 2011