

Preface

Special issue on “Advanced catalytic oxidation processes”

Advanced oxidation constitutes a suitable technology for environmental remediation relying upon the intermediacy of chemical initiators (i.e., free radicals) and energy (i.e., heat) to destroy target pollutants found in water, wastewaters, soil and air. Advanced oxidation processes (AOPs) include ozonation, UV irradiation, photocatalysis, sonolysis, the Fenton and photo-Fenton reagent, electrochemical oxidation, wet air oxidation as well as various combinations of the above. AOPs may be used either for the complete mineralization of all pollutants to carbon dioxide, water and mineral salts or for the selective removal of the more bioresistant pollutants and their conversion to biodegradable intermediates.

This special issue of *Catalysis Today* entitled “advanced catalytic oxidation processes” consists of high quality papers that were presented as oral or poster contributions during the *1st European Conference on Environmental Applications of Advanced Oxidation Processes (EAAOP-1)* held in Chania (Crete, Greece) from 7 to 9 September 2006 and co-organized by the Technical University of Crete and the Aristotle University of Thessaloniki.

The Conference, although “European”, brought together scientists, engineers and other environmental professionals from 30 countries all over the world (including, beyond Europe, North and South America, Australia and Asia) to present and discuss timely research, concerning the application of AOPs for water, wastewater, soil and air treatment and remediation. Over 290 oral and poster presentations as well as five plenary lectures were given by eminent researchers in this interesting scientific field during a hectic 3-day intensive program. Of these, several papers with a clear catalytic focus regarding environmental remediation were selected for review and possible publication in this special issue which consists of 24 research articles as well as a review article. Topics that are dealt with by the

research groups involved in these publications include catalyst preparation and characterization for catalytic treatment, application of homogeneous and heterogeneous photocatalysis for wastewater treatment, air remediation and water disinfection, catalytic wet oxidation of agro-industrial effluents, Fenton reactions, coupling AOPs with other treatment technologies and many more.

We wish to thank the Executive Editor of *Catalysis Today* Professor Julian Ross as well as his editorial assistant Rosie Malone for their invaluable assistance in preparing this special issue. We are also indebted to all the reviewers who helped making this issue an important reference material. Special thanks are expressed to the members of the Scientific and Organizing Committees who helped making this Conference a great success.

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