

Editorial

Introduction by Guest Editors

In developed countries, the importance of water as a resource and problems derived from its scarcity has led to growing social and legislative demands. As a consequence, in the last 30 years, new fields of research have opened in a search for more efficient water treatment methods. This is the case of the advanced oxidation techniques (AOTs) and their application to nonbiodegradable contaminants, which can otherwise be removed from water, but not eliminated.

Fast development of research in this field has encouraged chemists, chemical engineers and related professionals to meet and debate their findings and plan new strategies for the future, working toward evermore efficient methods of wastewater treatment wherever needed.

The same can be said of gaseous effluents, as emission limits for organic air pollution become stricter. Volatile organic compounds (VOCs) pose an environmental and health threat, which can be treated by adsorption, incineration, condensation, etc., or be completely destroyed by chemical methods, such as the very promising gas-phase photocatalytic air pollution treatment.

The SPEA Meetings have been held against this background, particularly, the fourth, in Las Palmas de Gran Canaria, in the Canary Islands, Spain, in November, 2006, the “4th European Meeting on Solar Chemistry and Photocatalysis (SPEA 4)”, where scientists assembled to present and debate their latest achievements in low-cost treatment technologies for wastewater, gaseous effluents and polluted soils.

This Special Issue of *Catalysis Today* was compiled from the scientific reports generated by the congress, and includes a selection of some of the most interesting work presented at the meeting. The importance of this congress can be intuited from the following data: The 34-member Scientific Committee were from 11 different countries (Argentina, Chile, Finland, France, Germany, Greece, Italy, Slovakia, Spain, Switzerland, and the USA). One hundred and thirty-five delegates from 22 different countries attended the congress (representing 368 authors). One hundred and thirty-eight communications were presented, 45 oral presentations and 93 posters. Three plenary lectures, one round table and two poster session discussions completed the program. The results and discussion sessions provided a very good approximation of the current state-of-the-art of photocatalytic and solar photocatalytic environmental applications.

As explained above, the focus was on photochemical and photocatalytic air, soil and water pollution treatments, and related topics were classified in eleven areas: (1) water treatment and disinfection; (2) air treatment; (3) soil remediation; (4) green synthesis by solar-chemistry, photochemistry and photocatalysis; (5) development of new materials for photochemistry and photocatalysis; (6) developments and perspectives in environmental photochemistry; (7) commercial applications; (8) environmental management; (9) experimental standardization; (10) models for photochemistry and photocatalysis; (11) general questions. These topics cover a wide spectrum of the subjects in the scope of *Catalysis Today*. Indeed, we believe that the 33 papers included in this Special Issue represent a good overview of the state of the art of photocatalysis, covering a variety of aspects, and involving institutions from all over the world.

The Editors would like to thank authors and referees for their effort in making this Special Issue possible, as well as the economic assistance received from the Spanish Ministry of Science and Education (Project Ref. CTQ2006-27173-E) and from the Cabildo Insular de Gran Canaria. The editors also wish to thank the European Commission (Research DG) for its financial assistance within the “Global Change and Ecosystems Program (6th FP, Contract No. 036882, “INNOWATECH Project”). And we thank all of the other institutions and businesses that contributed to Congress funding, especially the support received from the Spanish Royal Society of Chemistry (through the Specialized Photochemistry and Electrochemistry Groups) and to the Spanish Society of Industrial Chemistry and Chemical Engineering.

Sixto Malato Rodríguez*

Wolfgang Gernjak

PSA (Plataforma Solar de Almería),
CIEMAT, Crta Senés km 4, Tabernas,
Almería 04200, Spain

Jesús Pérez Peña

José Miguel Doña Rodríguez

CIDIA, Parque Científico-Tecnológico,
Universidad de Las Palmas de Gran Canaria,
Campus de Tafira,
35107-Las Palmas de Gran Canaria, Spain

*Corresponding author. Tel.: +34 950387940;
fax: +34 950365015
E-mail addresses: Sixto.Malato@psa.es
(S. Malato Rodríguez)
wolfgang.gernjak@psa.es (W. Gernjak)

jperez@dqui.ulpgc.es (J. Pérez Peña)
jdona@dqui.ulpgc.es (J.M. Doña Rodríguez)

Available online 7 August 2007