

Foreword

Significant advances have been made in the field of marine chemistry over the past few decades. New technologies and methods have led to a more effective contribution of chemistry to marine sciences, and remarkable progress has been made in such areas as the detection and quantification of marine contamination and its effects, and the study of the transfer of material through sea-sediment, sea-land and sea-air interfaces. In a relatively short period of time, it has been possible to increase and expand knowledge of the ocean as a system and the role that it plays on a global scale.

This monographic issue of *Scientia Marina* includes a selection of papers presented at the “XIV Seminario Ibérico de Química Marina” (14th Iberian Seminar on Marine Chemistry), held in Cadiz on 22, 23 and 24 September 2008.

The Iberian Seminar on Marine Chemistry (in the first editions known simply as the Seminars on Marine Chemistry) was first held in Cadiz in 1983. Initially, the seminars were organized by the Faculty of Sciences and the Faculty of Marine and Environmental Sciences of Cadiz University in collaboration with the Andalusian Institute of Marine Sciences (CSIC).

The seminars are biennial. The initial aim of scientific dissemination soon led to a regular flow of communication between researchers that use chemistry and its tools to study marine processes. As of the sixth edition, the seminars were opened to Portuguese researchers and since then they have been held consecutively in Vigo, Aveiro, Cadiz, Faro, La Coruña, Lisbon, again in Cadiz and, more recently, again in Vigo.

In the 2008 edition, 74 communications were included. They were characterized by their multidisciplinary nature and their high scientific quality. In this edition the seminar paid a heartfelt tribute to the late Dr. José Antonio Rubio Segovia. During his work at the Faculty of Marine and Environmental Sciences of Cadiz University, Professor Rubio was a big supporter of the seminars and, with his great knowledge of chemistry, was always able to smooth the way for researchers belonging to different scientific fields. A prize with his name was established for the best oral communication presented by a young researcher in this edition.

Most of the papers presented at the 14th Iberian Seminar of Marine Chemistry deal with 2 main subjects. The first subject is biogeochemical processes that take place in marine systems, including studies of modelling at a global scale and on the coast of the Iberian Peninsula. Special attention is paid to the C cycle, nutrient dynamics, and the influence of some sediment–water column exchange processes that take place in these areas.

The second subject is the fate, distribution, behaviour and effects of inorganic and organic contaminants in coastal ecosystems. Significant advances have been made in the role of submarine canyons in transporting contaminants to the continental margin and in the land-ocean interchange of metals. The use of high-volume products such as surfactants is an important ecological problem in estuary and coastal ecosystems, and their fate and distribution and the risk for aquatic biota in coastal ecosystems is analyzed. Metal concentrations in sediments have been used as a tool for establishing risk assessment and a new index has been applied to establish potential hazards. Finally, the study of the effect of copper on natural marine picoplankton has been shown to be a promising tool for real evaluation of contamination in oceanic ecosystems. Metallothionein and the subcellular distribution of metal can be used as a biomarker of metal exposure but environmental variables can significantly affect the response of organisms.

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The Editors