

---

## Preface

---

### Rosa María Torres Sánchez

CETMIC, Camino Centenario y 506,  
CC49, B1896ZCA, M.B. Gonnet,  
Provincia de Buenos Aires, Argentina  
E-mail: rosats@cetmic.unlp.edu.ar

### Maria dos Santos Afonso

INQUIMAE y DQIAQF,  
Facultad de Ciencias Exactas y Naturales,  
Universidad de Buenos Aires,  
Ciudad Universitaria, Pabellón II,  
C1428EHA, Buenos Aires, Argentina  
E-mail: dosantos@qi.fcen.uba.ar

**Biographical notes:** Rosa María Torres Sánchez holds Lic in Chemistry from UBA in 1978 and PhD from UCL (Belgium, 1983). She is a CONICET researcher, specialised in materials and clay soil components characterisation and adsorption processes of pollutants: heavy metals and agrochemicals. She has taught at national universities and is a Visitor Professor in universities in Spain, Belgium, USA and Japan. She directs research projects on the use of organoclays and clays as adsorbents of pollutants, for bactericidal decontamination of water and for synthesis of new materials. She has published 90 papers in international journals and 20 book chapters, directed six theses and four in course. She is a regular reviewer for international journals and national research projects, and is a vice-director of CETMIC.

Maria dos Santos Afonso has a PhD in Chemistry. Her current position is Professor at Buenos Aires University where she teaches Aquatic Chemistry and General Chemistry courses. Her research interests focus on the biogeochemistry of soils, sediments and aquatic ecosystems, the cycles of water, carbon, nutrients and metals, water-rock interactions, chemistry of the organic pollutants such as pesticides and environmental modelling. She has published more than 50 papers in international peer-reviewed journals, one book and several book chapters.

---

The International Congress of Environmental Science and Technology and the First National Congress of the Argentinean Society of Environmental Sciences and Technologies was held from 28 May to 1 June 2012, in the city of Mar del Plata, Buenos Aires Province, Argentina.

This Congress, named 'Argentina and the Environment 2012 (AA2012)' under the title 'A crosscutting and comprehensive look at environmental problems', attempted to integrate researchers from different research or technology areas related to environmental

topics in an open forum where they were able to share knowledge and discussions about innovations, ideas, theories, advances and models, with colleagues coming from other disciplines.

The Congress was also provided the opportunity to establish links for encouraging the research and the analysis over diverse environmental problems at a global, national and local level.

IJEnvH gave us the mission to publish a special issue dedicated to the conference with a selection of papers presented at AA2012. The first collection of papers was published in IJEnvH 2013 Vol. 6 No. 4. Thus, this second issue of the journal associated with this Congress presents seven research papers related to different topics:

- Biocatalysed acidification and metal leaching processes in sediments of polluted urban streams
- Water decontamination by silver and copper montmorillonite
- Arsenic biotransference to alfalfa (*Medicago sativa*)
- Mechanisms of arsenic and fluoride release from Chacopampean sediments (Argentina)
- Dynamic laser speckle and fuzzy mathematical morphology applied to studies of chemotaxis towards hydrocarbons
- Effect of the surfactant benzalkonium chloride in the sorption of paraquat and cadmium on montmorillonite
- *Asterococcus superbus* as a biosorbent of copper, zinc, cadmium and lead: adsorption isotherm and kinetic modelling.