



“Gheorghe Asachi” Technical University of Iasi, Romania



EDITORIAL

ADVANCED ECO-TECHNOLOGIES AND MATERIALS FOR ENVIRONMENTAL AND HEALTH APPLICATION

The contributions in the form of full papers collected in this Special Issue of *Environmental Engineering and Management Journal* were selected from lectures and posters of the scientific and technical sections hosted by the 6th International Conference *Biomaterials, Tissue Engineering & Medical Devices BiomMed'2014* held in Constanta, Romania, on September 17-20, 2014.

BiomMed 2014 represents one of the most important international conferences in the field of materials for health applications, which includes a special section dedicated to eco-technologies and advanced materials, with an active participation from academy, industry and research centers. A special attention was given in exploring recent facilities for different characteristics of materials that could represent potential for remediation and mitigation of pollution as well as sustainable materials for replacing natural resources and for environmental processes that can improve life quality.

The areas of particular interest addressed within materials for environmental and health application issues were:

- use of advance nanostructured materials in treatment processes for heavy metals and organic compounds removal
- photocatalytic processes for wastewater treatment
- modeling and simulation of some processes regarding heat exchange and predictive control for wastewater treatment
- sustainable biomaterials use for quality life improvement

A special emphasis was given to the monitoring of ecosystems from Danube River and mercury mines from Romanian territory, in order to

evaluate pollution impact of different heavy metals as one of actual threaten. Also, the presence and quantification of heavy metals were investigated in soils and sediments in order to identify ways of monitoring with precision and good limit of detection. Other important aspects discussed during the conference addressed:

- the European Research and Innovation in the broad field of green economy,
- promotion of advanced materials for sustainable development, research priorities in *Horizon2020*
- relevant funding opportunities.

In order to put together recent original works on these aspects, we organized this special issue (SI). We selected 30 papers from the numerous papers presented at the *BiomMed 2014* conference and other submissions. After a rigorous refereeing process, which took two to three rounds of review for each paper, we finally accepted 19 papers for publication in this SI. We strongly believe that all these papers will be useful to the interested members of the scientific community who were not able to participate directly.

This way *BiomMed 2014* represents a real opportunity to identify environmental problems and challenges and to contribute by the help of scientific results to solve real aspects of environmental protection, advanced eco-technologies and materials for environmental and health application.

Finally, we are very thankful to the contributors, the members of the scientific committee and the reviewers. This special issue would not have been possible without the professionalism and hard work of the editorial staff of *Environmental Engineering and Management Journal*.

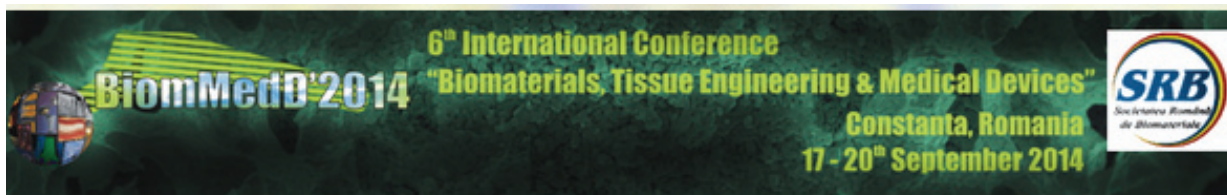


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Iulian Antoniac obtained his ME, PhD and Postdoc degrees in *Materials Science* at the University Politehnica of Bucharest. He is the Vice Dean of Faculty Materials Science and Engineering, leader of the Biomaterials Group, head of the Biomaterials & Interface Phenomenon Laboratory, and full professor at the Faculty Materials Science and Engineering. Prof. Antoniac has published widely, with over 200 papers published in peer-reviewed journals and conference proceedings, 7 patents and several books. He acts as the member of editorial board or reviewer for many international journals and held many invited lectures during his career at conferences focused on biomaterials, bioceramics and materials science. Also, he acts in different national and international scientific association being currently Vice President, Council Member and Former President of the Romanian Society for Biomaterials (SRB), Member of Executive Committee and Former President of the International Society for Ceramics in Medicine (ISCM).



Ecaterina Matei is Professor at Department of Materials Processing and Ecometallurgy from Faculty of Materials Science and Engineering, University Politehnica of Bucharest. She graduated the Faculty of Chemistry at the University of Bucharest in 1997. Also, she holds a PhD in *Materials Engineering and Science* at the Faculty of Materials Science and Engineering since 2006 and was awarded with Habilitation degree in *Environmental Engineering* in 2014. Professor Matei acquired expertise related to water-soil system decontamination, synthesis and testing of new materials used for water treatment, innovative technologies for neutralization of wastes and expertise of environment quality. She has developed management and scientific competences for over 20 research projects in the field of environmental protection and material science. The scientific activity was materialized in: 4 books (author or co-author), 82 scientific works, including 23 listed on the ISI Web of Science, different patent applications and oral communications presented at national/international scientific meetings.



Corneliu Munteanu is Professor in Materials Engineering at the „Gheorghe Asachi” Technical University of Iasi. He graduated the Faculty of Mechanics of the „Gheorghe Asachi” Technical University of Iasi in 1983. Also, he holds a PhD in Materials Technology at the „Gheorghe Asachi” Technical University of Iasi since 1995. Prof. Munteanu acquired expertise related to materials characterization, microstructural evaluation, surface engineering, biomaterials and ecomaterials. He has developed management and scientific competences for over 20 research projects in the field of material science and engineering. In addition, he was involved in different activities related to the strategies, programs and university management. The scientific activity was materialized in: 9 books, more than 200 scientific works, including 56 listed on the ISI Web of Science, 11 patents, oral communications and invited lectures presented at national/international scientific meetings.