

## Editorial

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The fruitful relation between the Spanish and Portuguese scientific communities working in the field of carbon materials is a well-established reality. As part of a younger generation of researchers in the field of carbon materials, we were very honoured to receive the invitation of Professor F. Maldonado to be Invited Editors of this 40<sup>th</sup> issue of the Boletín del Grupo Español del Carbón, which we accepted with great pleasure. In the following of the previous issue that reported the work developed by Portuguese groups devoted to carbon research, we here aimed to give an insight on the contributions of young Portuguese researchers, highlighting the versatility of carbon materials.

The wide range of perspectives herein presented along with the quality of the works developed by Portuguese young researchers in the field of carbon materials are certainly the result of the teaching activities of senior Portuguese professors that created reference research groups in Porto, Lisboa and Évora. In this context, young Portuguese researchers have been contributing to the growth of carbon research with high quality works that has been published in top journals focused on carbon materials science.

This issue gathers contributions mainly from Post-doc researchers and PhD students which develop their work in laboratories of Portuguese Universities (Porto – FEUP and FCUP, Lisboa - FCUL, Nova de Lisboa – FCT-UNL and Évora - UÉvora) and also in the National Civil Engineering Laboratory (LNEC). Interestingly both fundamental and applied approaches are reported.

The versatility of carbon materials to assure a more sustainable society is clearly presented in the contributions that focus on fields related with renewable energies and environmental protection. Regarding the energy applications one contribution reports the use of carbon nanomaterials-based electrodes for oxygen reduction reaction (ORR) electrocatalysts while the other reviews the importance of these nanomaterials as electrodes for the design of high performance supercapacitors. The remaining contributions address the issue of environmental protection, in both gaseous and aqueous phase. In what concerns greenhouse gases control, a study reporting CO<sub>2</sub> capture by lab-made carbon aerogels, as well as by commercial samples, is presented. Two of the manuscripts focus on the evaluation of textural and surface properties of carbon nanomaterials for catalytic degradation of organic pollutants in aqueous medium. The importance of the micropore size distribution to understand the adsorption mechanism of pharmaceutical compounds onto activated carbons is also illustrated. Another work discusses the need of an environmental risk assessment when the use of biomass-derived carbon materials in environmental remediation applications is envisaged. Finally, there is also a manuscript reporting the use of commercial activated carbons at pilot scale water/wastewater treatment plants in both conventional and hybrid configurations for controlling emerging contaminants such as pharmaceuticals, pesticides and cyanotoxins.

We could not finish this editorial without acknowledging all the authors that contributed to this issue by their interest and willingness to share their research with the Portuguese and Spanish carbon communities. The strengthening of the relationships of young researchers are certainly the guarantee that the collaboration between the groups of Portugal and Spain will continue to be a reality in the future.

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