Editorial

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Biographical notes: Paulo Sérgio Duque de Brito holds a degree in Chemical Engineering, Processes and Industry specialisation in the Technical Superior Institute, Master's in 'Corrosion Science and Engineering' in UMIST, Manchester University, and PhD in Chemical Engineering in Superior Technical Institute in the electrochemical – on fuel cells. He has also obtained his Master of Business and Administration (MBA). Currently, he is a Full Professor in the Superior School of Technology and Management of Polytechnic Institute of Portalegre (IPP). He is a Coordinator of the research centre VALORIZA – Research Centre for Endogenous Resource Valorization and Coordinator of Master Technologies for Environmental Valorization and Energy Production. The main areas he investigates are related with bioenergy, waste environmental treatments, materials corrosion and energy galvanic production.

Eliseu Monteiro is a Professor of Mechanical Engineering at the Faculty of Engineering of the University of Porto, and has a broad curriculum in numerical simulation with expertise in gasification in semi-industrial plants. His main areas of research include biomass and municipal solid waste gasification, combustion, syngas production, syngas flame speed characterisation, multi-zone modelling and waste valorisation. He has published 68 papers, eight book chapters, two books and one registered patent. In the last five years, he supervised and co-supervised 15 MSc, PhD and specialisation course students. Since 2017, he has received six awards and has been jury in eight academic degrees.

Luiz Rodrigues holds the degree of Diplomchemiker from the Martin Luther University, Germany, the Msc. degree in Corrosion Science and Engineering, from the University of Manchester, and a PhD in Chemical Engineering by the IST, in Lisbon, Portugal. He works as a teacher at the Polytechnic Institute of Portalegre, Portugal, where is the coordinator of the programs in Biofuels Production Engineering and Bioenergies and Renewable Gases, and teaches different subjects, among others, environmental physics and chemistry, environmental valorization and energy production technologies, and hydrogen and fuel cells. His main areas of research interest focus on advanced biofuels, environmental recovery, and materials sustainability and durability.

Valter Silva is a senior researcher in the area of environment and energy at Aveiro University and Senior Collaborator Researcher at the Polytechnic Institute of Portalegre, Portugal. He graduated in Chemical Engineering from the University of Porto, Portugal, in 2004, obtained his Ph.D. in Chemical and Biological Engineering at the same university in 2009, and his degree as Specialist in Numerical Simulation (combustion and fluid dynamics) at Technical University of Madrid and Ansys, Inc., in 2017. Since 2012, he has led a research team devoted to the application of experimental and numerical solutions on the environment and energy topics (gasification, combustion, fuel cells, techno-economic analysis, LCA, CFD, and optimisation).

CIEEMAT is a privileged meeting of professionals, researchers, professors and students from Ibero-American countries who develop their activity in energy and the environment, bringing together entrepreneurship and technological innovation around the aforementioned areas.

The challenges of higher education for the 21st century, namely the centralisation of the educational process of the student and the sharing of experiences between institutions, at the level of international cooperation, double graduation and cooperation with the community, were also topics of debate among the participants.

We believe that we must rethink, personally, institutionally and corporately, the management that we make of the waste we generate and the energy that we have available. That is why we have created this congress and exhibition that we hope can be part of our contribution for a more efficient use of these resources.

We all recognise that humanity is facing worldwide climate change, with high environmental aggressions, a situation which calls for effective efficient energy technologies. The European Union (EU) is undertaking the challenge through a policy whose target is nothing less than the transformation of the entire energy system in order to a low-carbon economy.

We believe that the biofuels of second and third generation, in other words, biofuels which search for raw materials that do not compete with the food chain, are a clear future bet, but a significant effort of R&D and projects of technology demonstration is still required.