

# Editorial

Following the success of the previous six workshops held respectively in Pardubice, Czech Republic, Riga, Latvia, Cracow, Poland, Pisa, Italy, San Sebastian, Spain, and Bragança, Portugal from 2010 to 2015, the 7th Workshop on Green Chemistry and Nanotechnologies in Polymer Chemistry took place at the National Laboratory of Nanotechnology in San José, Costa Rica in 2016. The event was attended by a large group of scientists from many academic backgrounds, hailing from different countries, committed to expanding the scope of their scientific research and its impact on industrial society.

The conference was aimed at exploring and discussing the latest trends in applied research and technology in the fields of green chemistry and nanotechnology in polymer chemistry, as well as their contribution to a sustainable biobased and innovative industry. However, it was not just an event for presenting the state of the art of the mentioned topics, but also a space for developing new ideas and sharing knowledge between researchers from academia and industry and students from 20 countries. It is a pleasure to bring you this special issue of *Journal of Renewable Materials*, which is a collection of some of the main topics presented.

During the last decades, the biorefinery concept and its impact on modern industrial society has gained considerable prominence. In the case of the academic field, worldwide interest in biobased polymers has increased progressively over the past years as advances in technology have generated an accumulated experience, allowing the development of new routes to produce bioplastics to reduce dependency on fossil fuels. Some of the studies presented in the workshop covered and reviewed the transformation of biomass-derived compounds into polymers and valuable chemicals. Addressing the need for synthesis of biobased high-performance resins with properties similar to those shown by their commercial counterparts, the study of network formation kinetics

and thermomechanical properties and linear fracture mechanics of interpenetrating polymer networks (IPNs) from acrylated soybean oil and  $\alpha$ -resorcylic acid were presented and deeply discussed. Following a similar approach, a high-performance biobased epoxy polymer was synthesized using fast pyrolysis bio-oil (containing lignin fragments) as a source of phenolic compounds. Therefore, ideas and research were developed on how to efficiently reuse and/or take better advantage of the materials extracted from nature nowadays. Examples of this are the synthesis and characterization of foams derived from hybrid biopolymer, and synthesis of nanocellulose derived from pineapple peel waste from industries.

How extracellular structures forming natural tissues and secretions are arranged, the reason for the iridescent colors of butterfly wings, and why spider silk has mechanical strength were some of the interesting questions discussed; and the first insights derived from the National Laboratory of Costa Rica under the umbrella of this new concept of “nanobiodiversity” are published in this special issue.

The contributions reflect the relevance of topics such as biorefining and bioinspired materials for technical applications. We are glad to present approaches and processes in this special issue that enable enhancement of new material development and reuse.

We would like to express our thanks to the authors of these articles for the excellent quality of work and to those who reviewed the articles for their professional evaluations.

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