Editorial

The International Symposium on Polymer Ecomaterials (PEM) is a biennial event organized by the Key Laboratory of Polymer Ecomaterials (KLPE), Chinese Academy of Sciences. Following the great success of the first symposium (PEM 2012, Changchun, China), the second one was held in Kunming, China, on August 2014, with 187 participants joining in. Six sessions were set, covering biodegradable polymer materials, adsorption and separation polymer materials, energy saving and environmentally friendly polymer materials, processing technologies of polymer ecomaterials, biomedical polymer materials, and drug and gene controlled release systems. Five exemplary plenary talks were given, with Prof. Alessandro Gandini actively participating in the entire symposium as one of the plenary speakers. He invited me to act as co-editor of the articles in this special issue of the *Journal of Renewable Materials*.

With the concern over sustainable development in the materials industry, there has been a growing interest in developing materials from renewable resources. In this special issue, five articles were selected from PEM 2014, focusing on renewable materials from plant and CO_2 resources. As the most typical biodegradable polymer, Polylactic acid (PLA) is generally prepared by ring-opening polymerization of lactide. While D-lactide (D-LA) or L-lactide (L-LA) can provide PLA with much better thermal and mechanical performance than that of racemic LA, they are much more expensive than racemic lactide. In an article by Dr. Xuan Pang *et al*. of KLPE, delicately designed bimetallic Salen aluminum (III) complexes were used to catalyze stereoselective polymerization of rac-LA, giving high stereoselectivity (Pm = 0.95). As renewable materials, both PLA- and CO_2-based plastics (PPC) have been commercialized in China, but the positive effect of their application in wooden fiber is also really encouraging. An article about a new biocomposite prepared by Dr. Xiaoqing Zhang *et al*. of CISRO using PPC to enhance the interactions in PLA/wood fiber composites is presented in this issue. They provided sound evidence that artificially made biodegradable polymers can be compatible with natural polymer. In another article, Dr. Shunjie Liu *et al*. of KLPE synthesized a new family of amorphous CO_2-based triol which can be used to develop dual-shape memory polyurethane, in which the shape fixity ratio (R_f) could unexpectedly approach 100% at a recovery time of 40 s at 70°C. Addressing the concern that biomedical or intelligent materials are seldom prepared from cellulose, Prof. Shengxiang Ji *et al*. developed a one-pot synthesis technique of amphiphilic miktoarm cellulose in which the micellar aggregates showed an interesting temperature-responsive property. Finally, in addition to the cost issue, there is a major concern about whether the mechanical and thermal performance in polymers from renewable resources is comparable with petroleum-based analogs. In the article by Prof. Guangyuan Zhou *et al*. of KLPE, a thorough comparison is made between copolyesters from terephthalic acid (PTA) and 2,5-furandicarboxylic acid (FDCA), providing sound evidence that partly replacing FDCA with TPA would be practical in industry in the future.

Xianhong Wang
KLPE, CAS
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