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Special Issue Reprint

Natural Fiber Based Composites

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Entitled “Natural Fiber-Based Composites”, this Special Issue has the objective to give an inventory of the latest research in the area of composites reinforced with natural fibers. Fibers of renewable origin have many advantages. They are abundant and cheap, they have a reduced impact on the environment, and they are also independent from fossil resources. Their ability to mechanically reinforce thermoplastic matrices is well known, as their natural heat insulation ability. In the last twenty years, the use of cellulosic and lignocellulosic agricultural by-products for composite applications has been of great interest, especially for reinforcing matrices. The matrices can themselves be of renewable origin (e.g., proteins, starch, polylactic acid, polyhydroxyalkanoates, polyamides, etc.), thus contributing to the development of 100% bio-based composites with a controlled end of life. This Special Issue’s objective is to give an inventory of the latest research in this area of composites reinforced with natural fibers, focusing in particular on the preparation and molding processes of such materials (e.g., extrusion, injection-molding, hot pressing, etc.) and their characterization. It contains one review and nineteen research reports authored by researchers from four continents and sixteen countries, namely, Brazil, China, France, Italy, Japan, Malaysia, Mexico, Pakistan, Poland, Qatar, Serbia, Slovenia, Spain, Sweden, Tunisia, and Vietnam. It provides an update on current research in the field of natural fiber based composite materials. All these contributions will be a source of inspiration for the development of new composites, especially for producers of natural fibers, polymer matrices of renewable origin and composite materials. Generally speaking, these new materials are environmentally friendly and will undoubtedly find numerous applications in the near future.

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