Special Issue

Advances in Self-Healing Composites

Message from the Guest Editors

In the contemporary panorama of technologically-advanced self-healing materials, polymers undoubtedly assume a primary role because of their widespread use and the wide variety of self-healing mechanisms available. Self-healing composites potentially offer greater durability for severe load-bearing applications in which safety is a concern and where repair and maintenance are expensive. In addition, the development of self-healing thermosets incorporating dynamic bonds can introduce a new paradigm in developing materials that can combine the reworkability and recyclability of thermoplastics with structural and chemical resistance of thermosets, enabling the development of high performance thermoset composites with reduced CO2 footprints. This Special Issue highlights the achievements and applications of self-healing composites. Contributions also focus on the molecular dynamics at the base of self-healing and the assessment of its effectiveness, and the interfacial adhesion and self-healing at the fiber matrix interface.

Guest Editors

Dr. Eugenio Amendola

Institute of Polymers, Composites and Biomaterials (IPCB), National Research Council, P.le Enrico Fermi 1, 80055 Portici, Italy

Prof. Dr. Hesheng Xia

State Key Laboratory of Polymer Engineering Materials, Sichuan University, Cheng Du, China

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
materials@mdpi.com

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

Editor-in-Chief

Prof. Dr. Maryam Tabrizian
1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

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