



Polymeric Self-Healing Materials

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Deadline for manuscript submissions:

closed (31 August 2022)

Message from the Guest Editors

A self-healing material has the ability to restore lost or degraded performance using resources inherently available in the material itself. Ideally, this ability should be fast and be able to occur for an infinite number of cycles without any external stimuli. Unfortunately, persistent irreversible mechanisms, low chemical stability, and weak mechanical performance mean that the present systems are far from having these capabilities.

Polymers are the materials most broadly used in daily life. The incorporation of self-healing mechanisms in polymeric materials promises to further expand their use by extending the lifetime of structural and functional polymer-based systems. This Special Issue aims to represent the state of the art and provide systematic information on self-healing mechanisms, characterization techniques, and structure–property relationships. We hope to provide the community with new ideas and perspectives, as we are firmly convinced that these bioinspired materials can be applied in most modern engineering applications.





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