Special Issue

Mechanical and Structural Properties of Polymer Materials

Message from the Guest Editors

The mechanical performance of polymer-based materials is often related to structural features that do not allow materials to efficiently accommodate the macroscopic strain to which they are exposed. In the case of neat polymers, these features are linked to their molecular structure and microstructure. Concerning polymer-based composites, the interfacial region between the reinforcing agent drastically influences the mechanical properties. The lack of deformability or stress transfer relating to these structural features is at the origin of damage phenomena accommodating the macroscopic strain, which results in the extreme case of material failure. Knowledge of the relationships between the structure at different scales and the mechanical properties of polymer-based materials is of fundamental interest to improve material synthesis, formulation, (re)processing, and/or design. Extending the mechanical durability is beneficial. This Special Issue focuses on these relationships, especially but not exclusively in the case of emerging polymer-based materials. The influence of aging on the structure–mechanical property relationships is also of high interest for this issue.

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Since its foundation in 2009, *Polymers* has developed into an internationally renowned, extremely successful open access journal. The editorial team and the editorial board dedicatedly combine open-access publishing and high-quality rigorous peer reviewing. The performance of the journal has proven this strategy to be well-suited and highly successful. This is reflected in the increasing impact factor of *Polymers*, the most recent one being 4.7.

I would like to invite you to contribute to the success of the journal by sending us your high quality research papers. We would be pleased to welcome you as one of our authors.

Editor-in-Chief

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