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Interaction of Gaseous Plasma with Polymers and Polymer Composites

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Message from the Guest Editor

Polymers and polymer composites are often treated by gaseous plasma to obtain the desired surface finish, such as surface functionalization, nanostructuring, and selective etching (preferential removal of one component from the surface of a polymer composite). Although the technique has been used on an industrial scale for decades, the scientific background of the interaction between reactive gaseous species and polymer materials is still unclear. In particular, there is a lack of reliable information on the surface finish versus the plasma parameters. Furthermore, the evolution of surface properties of complex polymers and block and graft copolymers upon plasma treatment has rarely been reported. The plasma treatment often causes unwanted effects, such as modification of subsurface film, formation of loosely bonded molecular fragments on the polymer surface, and aging—spontaneous modification of surface properties of polymers and polymer composites that have been exposed to gaseous plasma.

It is my pleasure to invite you to submit a manuscript for this Special Issue. Full papers, communications, and reviews are all welcome.

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Message from the Editor-in-Chief

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