

Special Issue

Modern Trends in Polymer Brushes: Experiment, Theory and Simulation

Message from the Guest Editor

Polymer brushes are systems consisting of polymer chains densely grafted to a (flat, spherical, or cylindrical) surface or to another single polymer chain (molecular brushes). Despite the rather long history (the first theoretical works of Alexander and de-Gennes appeared in the 1970s), polymer brushes remain an object of interest for many scientists. Along with purely theoretical interest, the driving force behind this is the wide range of applications of these systems in various fields. Examples of such applications are functional or protective coatings, composite materials, surface-engineered particles, metal–organic interfaces, micropatterning, colloids, nanoparticles, functional devices, and biological systems (artificial cilia, drug delivery systems, molecular sensors). The goal of this Special Issue is to present new results concerning the structure and dynamics of the such polymer brushes obtained by use of both experimental and theoretical methods, as well as computer simulation results. Examples of applications of such systems in the various fields of engineering and biomedicine are also welcome.

Guest Editor

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