

Special Issue

Functionalized Polymer Nanocomposites

Message from the Guest Editor

Polymer nanocomposites (PNCs) are cutting-edge materials consisting of a polymer matrix embedded with nanoscale fillers, offering enhanced properties such as improved strength, stability, and functionality.

Functionalization—modifying the polymer or filler surface—enables tailored interactions and applications, making PNCs a versatile platform for advanced technologies.

This special issue focuses on **functionalized polymer nanocomposites** for key applications in **biocatalysis, pharmaceuticals, and biosensors**. In biocatalysis, functionalized PNCs immobilize enzymes or catalysts, enhancing their activity and reusability for industrial and biomedical processes. In pharmaceuticals, they are pivotal for drug delivery systems, offering controlled release, targeted delivery, and biocompatibility, as well as scaffolds for tissue engineering. In biosensors, PNCs provide high sensitivity and specificity, enabling next-generation devices for medical diagnostics and environmental monitoring.

Guest Editor

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