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Smart polymeric materials are predominating the new era of materials used for biomedical applications and research. Along with their inert nature and enhanced biocompatibility, the ability to respond to a certain stimulus has helped these smart polymeric materials to gain considerable attention in the biomedical community. The adaptive changes in a smart material's own structure, and in turn functions, in order to interact with environment are mainly due to their chemistry and induction triggers. These conformational changes help these materials to sense specific environmental changes in a biological system, making them a useful tool for applications such as drug delivery, tissue engineering, creation of biomimetic scaffold, biosensors, and diseased organ management by nonsurgical intervention among others.

Despite recent advances in this emerging field, there are still many challenges that persist related to the need for a comprehensive understanding of the myriad of chemical, physical, and biological interactions that come into play.

This Special Issue aims to bring together knowledge from across different fields such as chemistry, biochemistry, analytical science, materials science, and physics as well as recent advances at the frontiers of research in biomaterials.

Potential topics include but are not limited to the following:

- ▶ Development and functionalization of smart polymeric materials, including surface and structural properties and modification
- ▶ Smart polymeric biomaterials and drug delivery
- ▶ Smart polymeric biomaterials for devices: (bio)sensors and detectors, devices with integrated biological functionality
- ▶ Hybrid smart polymeric materials for drug and metabolite monitoring
- ▶ Modulation and simulation of smart polymeric materials for non-immunogenic drug delivery
- ▶ (Self)/foldable smart polymeric materials and applications in wound healing, etc.
- ▶ 3D/4D printing of smart polymeric material for bioartificial organs

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/apt/smbe/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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