Special Issue

Mathematical Modeling of Polymer-Based Drug Delivery Systems: Mechanisms and Applications

Message from the Guest Editor

In recent years, a wide range of theoretical models have been developed to describe drug release mechanisms. The first types of models are empirical and semi-empirical models. The most used ones are the zero-order model, Higuchi model, Hixson–Crowell model, Korsmeyer–Peppas model, first-order model, etc. There are also kinetic models, based on the usual conservation laws, developed on spaces with integer dimensions or kinetic models, based on the conservation laws, developed on spaces with a non-integer dimension, explicitly written through fractional derivatives. Recently, a new generation of theoretical models has arisen, based on scale relativity, either with the monofractal dynamics, as in the case of Nottale, or with the multifractal dynamics, as is the case for the Multifractal Theory of Motion. This Special Issue aims to present the main mathematical models employed in polymer-based drug delivery, in correlation with possible experimental approaches and applications.

Guest Editor

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Deadline for manuscript submissions

31 May 2026

Pharmaceutics

an Open Access Journal by MDPI

Impact Factor 5.5
CiteScore 10.0
Indexed in PubMed

mdpi.com/si/213938

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