Special Issue

Mechanism-Based Pharmacokinetic and Pharmacodynamic Modeling

Message from the Guest Editor

Mechanistic pharmacokinetic and pharmacodynamic modeling is a methodology utilized at all stages of drug discovery and development. Mechanism-based pharmacokinetic/pharmacodynamic (PK/PD) models provide insights into the mechanisms of drug effects, pathophysiology of diseases and interrelations among drugs and various signaling molecules and biomarkers. PK/PD modeling allows for the quantitative assessment of drug effects in vivo and performing simulations in order to select the most appropriate dosing regimen that maximizes efficacy while minimizing the toxicity of medications. This approach may be also useful in the selection of first-in-human doses based on the results of preclinical studies. This Special Issue is dedicated to original research and review articles. Pharmaceutical scientists are cordially invited to share the results of their investigations covering the full spectrum of PK/PD modeling and simulation, including PBPK models of drugs in preclinical species and humans, disease progression modeling, PBPK/PD modeling and PBPK/QSP approaches.

Guest Editor

Dr. Artur Świerczek

Department of Pharmacokinetics and Physical Pharmacy, Faculty of Pharmacy, Jagiellonian University Medical College, 9 Medyczna Street, 30-688 Krakow, Poland

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Pharmaceutics
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
pharmaceutics@mdpi.com

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Prof. Dr. Patrick J. Sinko
Department of Pharmaceutics, Ernest Mario School of Pharmacy, Rutgers University, Piscataway, NJ 08854, USA

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