Special Issue

Targeted Drug Delivery for the Chronic Pain Treatment

Message from the Guest Editors

Complex chronic pain is a management challenge for primary care providers and physician pain specialists alike. When a chronic pain patient fails to respond to medication management, physical therapy, interventional pain procedures, and even surgeries, implantable pain control becomes a viable treatment alternative with neurostimulation and targeted spinal drug delivery comprising the two widely available options.

Pain pumps implanted for targeted spinal drug delivery have significantly higher risks compared to neurostimulation systems but are often more effective for the most complex pain problems. While neurostimulation is widely practiced by many pain specialists worldwide, pain pumps are much less popular and are implanted and managed by a relatively small group of specialists. This Special Issue aims to examine the evidence basis for pain pumps and their effectiveness for a myriad of pain problems that have failed all other management and discusses the reasons that targeted drug delivery may be an underutilized therapy.

Guest Editors

Prof. Dr. David M. Schultz Nura Pain Clinics, Edina, MN 55435, USA

Dr. Alaa Abd-Elsayed

Department of Anesthesiology, University of Wisconsin School of Medicine and Public Health, Madison, WI 53715, USA

Deadline for manuscript submissions

closed (25 August 2022)



Pharmaceutics

an Open Access Journal by MDPI

Impact Factor 5.5 CiteScore 10.0 Indexed in PubMed



mdpi.com/si/113695

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

mdpi.com/journal/pharmaceutics





an Open Access Journal by MDPI

Impact Factor 5.5 CiteScore 10.0 Indexed in PubMed



About the Journal

Message from the Editor-in-Chief

Pharmaceutics (ISSN 1999-4923) is an online open access journal on the science and technology of pharmaceutics and biopharmaceutics. The scientific community, the wider community and the general public have unlimited and free access to the content as soon as a paper is published; this open access to your research ensures your findings are shared with the widest possible audience. Please consider publishing your impressive work in this high quality journal. We would be pleased to welcome you as one of our authors.

Editor-in-Chief

Prof. Dr. Patrick J. Sinko

Ernest Mario School of Pharmacy, Rutgers, The State University of New Jersey, William Levine Hall, Room 225C, 160 Frelinghuysen Road, Piscataway, NJ 08854-8020, USA

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, Embase, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q1 (Pharmacology and Pharmacy) / CiteScore - Q1 (Pharmaceutical Science)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 14.9 days after submission; acceptance to publication is undertaken in 3.3 days (median values for papers published in this journal in the first half of 2025).

