

Special Issue

Computer-Aided Vaccinology: From Epitope Prediction to Reverse Vaccinology and Beyond

Message from the Guest Editors

Vaccine development is one of the most appealing fields in biosciences. Vaccines' goal is to make the immune system able to face future infections. The discovery of vaccination, credited to Edward Jenner and Louis Pasteur, has led to global declines in morbidity and mortality from different infectious diseases. However, as the recent SARS-CoV2 virus pandemic has shown us, the rapid evolution of many pathogens constitutes a challenge to vaccine development in terms of host–pathogen interaction(s) and immunity generation. Bioinformatics plays a pivotal role in this research field, driving vaccine improvement in a limited period of time, thanks to advanced soft-computing methods such as artificial intelligence (AI) and deep learning. Exploring computational tools for immunoinformatics and their usage is the central topic of this Special Issue.

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About the Journal

Message from the Editor-in-Chief

Vaccines (ISSN 2076-393X), founded in 2013, now has a firm history of publishing peer-reviewed, state-of-the-art research papers on vaccines and vaccination in the broadest sense. Areas covered include, but are not limited to, novel and emerging vaccine technologies, building on in-depth knowledge of what constitutes a protective immune response. These can be new vaccines for old diseases, or old vaccines for new diseases. Vaccines against cancer and autoimmune diseases explicitly are also within the scope of the journal. Because public opinion and even government policies towards vaccines and vaccination have changed, vaccine policy and public health issues are major concerns. Climate change will also have an impact on the spread of infectious diseases, and thus also on vaccine and vaccination policies worldwide.

Editor-in-Chief

Prof. Dr. Ger Rijkers

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.1 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the second half of 2025).