

Special Issue on **Predictive Modelling Based on Statistical Learning in Biomedicine**

CALL FOR PAPERS

During recent years, considerable research has been devoted to exploring the combination of state-of-the-art statistical methodology with machine-learning techniques. This framework, often referred to as statistical learning, provides advantages for biomedical research, particularly regarding data situations frequently encountered in modern biomedical research characterized by large numbers of potential features or variables. In such situations, it is often the primary aim to obtain sparse and explanatory models, which can be generalized effectively. When techniques of statistical learning are applied to these problems, interpretable prediction rules leading to accurate forecasts for future or unseen observations can be deduced from potentially high-dimensional data.

This special issue aims to collect cutting-edge research and novel approaches emerging from statistical computing for applications in biomedicine. The purpose of the issue is to cover a broad range of methodological contributions regarding different types of algorithms and fields of biomedical application. The focus lies in providing deeper insights into the potentials of combining statistical modelling with machine learning to ultimately find interpretable prediction rules for biomedical applications.

Therefore, we invite researchers to contribute original research articles related to new methodologies and state-of-the-art applications in the field of predictive modelling based on statistical learning. We encourage authors to support reproducible research by submitting manuscripts accompanied by corresponding computer code that supports their conclusions. Purely theoretical articles without proper applied motivation and/or lacking biomedical applications are discouraged.

Potential topics include but are not limited to the following:

- ▶ Variable or feature selection techniques for potentially high-dimensional data and their impact on prediction accuracy
- ▶ Innovative model classes providing deeper insights into complex data structures
- ▶ Techniques to improve run-time efficiency, decrease memory demand, or enhance tuning of statistical learning algorithms
- ▶ New methodology to evaluate prediction accuracy or the performance of statistical learning algorithms
- ▶ Innovative worked-out applications of predictive modelling based on statistical learning in biomedical research

Authors can submit their manuscripts through the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/cmmm/pmb/>.

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

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