



toxics



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Predictive Toxicology

Collection Editor:

Dr. Minjun Chen

National Center for Toxicological
Research, United States Food
and Drug Administration,
Jefferson, AR 72079, USA

Message from the Collection Editor

The recent advances of toxicogenomics, high-throughput screening, stem cells, and image analysis are creating unique opportunities to improve our ability to predict risk in humans and the development of predictive toxicology. These modern biotechnologies are producing big toxicological data and require advanced artificial intelligence technologies to evaluate the potential for predicting toxicity. The application of conventional machine learning algorithms, such as logical regression, decision tree, and support vector machines, have largely enhanced our capability to recover useful knowledge from the increasing volume of toxicity data. A recent study reported by researchers from John Hopkins University, demonstrated that using artificial intelligent algorithms trained on chemical-safety, big data could be more predictive and outperform expensive animals studies on some toxicities.

In this Topical Collection, we focus on exploring the relationship between the toxicity of xenobiotics and their chemical structures, disturbed cellular, and molecular pathways by the application of artificial intelligent methods to improve the prediction of toxicity risk.



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Topical Collection



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Editor-in-Chief

Dr. Demetrio Raldúa

Department Environmental
Chemistry, IDAEA-CSIC, Jordi
Girona 18, 08034 Barcelona,
Spain

Message from the Editor-in-Chief

Toxics (ISSN 2305-6304) is an international, peer-reviewed, open access journal which provides an advanced forum for studies related to all aspects of toxic chemicals and materials. We aim to publish high quality work that furthers our understanding of the exposure, effects, and risks of chemicals and materials in humans and the natural environment as well as approaches to assess and/or manage the toxicological and ecotoxicological risks of chemicals and materials. Please consider publishing in *Toxics* when preparing your next paper.

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Contact Us

Toxics Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

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toxics@mdpi.com
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