Special Issue

Venomics Insights into the Evolutionary Biology of Peptide Toxins in Marine and Terrestrial Organisms

Message from the Guest Editors

Indeed, biological diversity can be understood and translated into combinatorial chemical and pharmacological possibilities. Modern venomics has advanced so well in technological aspects that the tiniest and hidden organisms can be assessed for their toxin contents and repertoires. The combination of "omics" sciences (genomics, transcriptomics, proteomics, etc.), computational biology, and essential pharmacological assays, such as in vitro 2-D, 3-D, and organoid cell systems, electrophysiology (e.g., voltage and patch-clamp recording), and in vivo insect (e.g., cricket), mouse, and zebrafish models, allow for and make possible the discovery of toxin structures, scaffolds, activities, and functionalities that have contributed to translating the basic research on toxins into different fields of applied sciences—from pest control (e.g., ion-channel blocker bioinsecticides) to diagnosing and treating chronic and degenerative diseases (peptide probes and antidiabetic, immunomodulator, and painkiller drugs).

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Toxinology is an incredibly diverse area of study, ranging from field surveys of environmental toxins to the study of toxin action at the molecular level. The editorial board and staff of *Toxins* are dedicated to providing a timely, peer-reviewed outlet for exciting, innovative primary research articles and concise, informative reviews from investigators in the myriad of disciplines contributing to our knowledge on toxins. We are committed to meeting the needs of the toxin research community by offering useful and timely reviews of all manuscripts submitted. Please consider *Toxins* when submitting your work for publication.

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