

## Structural Mass Spectrometry

🕒 **Submission Deadline: 31 July 2025**

### Guest Editors:



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Dear Colleagues,

The molecular structural analysis has continually evolved in response to develop methodologies applicable to interdisciplinary research. Methods of optical spectroscopy, electron and nuclear paramagnetic resonance, and X-ray crystallography, amongst others, routinely determine isolated and interacting ensembles of molecules both in vitro and in vivo in environmental, biological, and foodstuffs samples. Their encountering technical complications, however, are still not been adequately addressed, despite evolution in the instrumentation design. Mass spectrometry has already been proven as irreplaceable method for mainly quantitative analysis. However, it provides highly reliable, precise, selective, specific, and sensitive molecular structural data on binding stoichiometry and specificity of interacting molecules, dissociation constants, mechanistic aspects of (bio)chemical reactions, etc. There are promising technical innovations directed at emerged specific needs of analysis showing (i) applicability to extremely low analyte concentrations; (ii) rapid; and (iii) high analytical informational content, (iv) direct assay; and (v) resolving individual molecules in multi-component (heterogeneous) samples, amongst other advantages. The Special Issue tackles applied mass spectrometry to structural study of challenging molecules of biological, environmental, and foodstuff systems that are relevant within fields of the modern science at crossroads among chemistry, biology, physics, archeology, (nuclear) forensics, statistics, agricultural and food science, medicine, toxicology, pharmacy, history, and more.

### Keywords:

Mass spectrometry; molecular structural analysis; biological, environmental, and food samples; methodology; applications.

