

## **Spatial single-cell metabolomics: Unique field at the intersection of imaging and mass spectrometry**

There is a growing appreciation of the importance of metabolites, small molecules playing key roles in biology and medicine. Metabolites fuel the cells, serve as building blocks, link different cellular programs, and enable cell-cell communication. Investigation of metabolism, a collection of cellular processes involving all metabolites, attracts growing interest in biology, and in medicine including cancer, diabetes, and novel therapies. Spatial metabolomics is an emerging technology that enables investigating metabolism in time and space. This technology combines molecules analysis, often by means of mass spectrometry, and imaging. A unique aspect of this technology is the big amount of data, since every pixel can be considered as a separate sample. We will review the advances of this technology and show how it opens novel horizons to providing a molecular view of the composition of tissues and single cells.