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PL3

Flow-based systems as convenient tools for sample processing in environmental monitoring

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In environmental monitoring, sample collection and processing before quantification involve multiple steps that influence the quality of results and the overall time and sustainability of the procedure. While considerable effort has been devoted to improving detection - often emphasizing miniaturization, enhanced sensitivity, and better selectivity, typically through high-profile instrumentation - other essential aspects have received comparatively less attention. These include sampling strategies, analyte collection, and sample preparation, all of which play a crucial role in the final analytical outcome.

Flow-based techniques, implemented in various modes and often coupled with separation methods, offer an opportunity to accelerate analytical workflows, enrich target analytes, remove interferents, and reduce the consumption of samples and reagents.

In this talk, several recent approaches for monitoring environmental samples, particularly water and soil, will be presented. In addition, the application of sorbent materials for the in situ collection of analytes will also be discussed.

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