



UNDER THE AUSPICES OF H.E. THE
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MR. PROKOPIOS PAVLOPOULOS
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ICCE 2019 SESSION

Recent advances in targeted and non-targeted screening strategies based
on high resolution accurate mass spectrometry in environmental and
food analysis

Conveners

Ester Heath, Adrian Covaci and Dimitra Lambropoulou

Keynote Speaker

Susan D. Richardson, *University of South Carolina, USA*

Considerable progress in analytical instrumentation, informatics, and related fields has delivered powerful tools and techniques in environmental and food analysis for assessing chemical contamination. Among them, mass spectrometry (MS) has gained tremendous popularity thanks to the advantages that this technique offers, including unparalleled sensitivity and specificity, high resolution and wide dynamic range. High resolution-mass spectrometry enables rapid detection and reliable identification of a range of contaminants even in complex environmental and food matrices thanks to full scan acquisition mode with high mass resolving power and high mass accuracy. In this regard, the use of HRMS based approaches has raised the level of the environmental and food research. The present focus is on developing rapid and cost effective analytical methodologies that generate no false-negatives with a manageable frequency of false-positives. Screening techniques can be either targeted or and although most methods applied to environmental and food analysis are targeted, i.e., detecting either one or a few classes of compounds, the current trend is towards a non-targeted approach, which allows identification of novel compounds and retrospective data analysis. This session will disseminate the latest developments in HRMS in environmental and food research. Challenges and possibilities will be presented.