Challenges in analytical chemistry: identification of new pollutants, metabolites and transformation products

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Knowledge on chemical pollution and the problems it generates is based mainly on our capacity to detect and determine the presence of compounds capable to exert negative effects towards the environment and humans. With the advent of new mass-spectrometry (MS) based technologies, the capacity for screening and identification of organic contaminants or their transformation products at trace or ultra-trace levels meet no frontiers. Recently, MS methods have spanned from target to non-target and suspect analysis, from family-based chemical analysis to multiresidue, from parent compounds to metabolite and transformation products identification. Therefore, the chemical information is broad and complete, and contributes to better evaluate environmental risks. The objective of this session is to provide information on new methods, techniques and other analytical approaches which permit a broader and deeper study on contaminants present in the environment and the potential effects they might pose. The final aim is to define and illustrate the various pieces that make up the field of trace organic analysis, with special emphasis on the methodology used and how to approach the specific analytical problem.