

Short Symposium: Indoor pollutants

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Human and material resources for environmental contaminant analysis – scientific achievements of the Lab for Chromatographic Analysis of the Novi Sad Faculty of Technology

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The Faculty of Technology (FoT NS) is the leading entity within the University of Novi Sad, with the highest number of published papers (0.93) in international journals (IJs) per researcher in 2020. Located in Novi Sad, the administrative center of the Vojvodina Province, known as the main Serbian area for agriculture, food, chemical, and oil-petrochemical industries, FoT NS positioned itself as a confident partner for numerous industry players, innovations, and technical solutions in these domains. Furthermore, FoT NS as a modern academic institution has coordinated numerous domestic and international projects in the fields of basic sciences and technological innovations. Thus, FoT NS has immense experience in project management, training development and lecturing, active interaction with different research stakeholders, being an important part of the wider EU research network. Team members of the Lab for Chromatographic Analysis of the Faculty of Technology, Novi Sad belong to the leading research group at FoT NS in the domain of the environmental protection and monitoring of different classes of contaminants in environmental samples and food, including persistent organic pollutants, heavy elements, and contaminants of emerging concern (CECs). The Lab for Chromatographic Analysis of the Faculty of Technology, Novi Sad is equipped with highly sophisticated instruments such as GC-MS, UHPLC-QqQ-MS, and UHPLC-Orbitrap-HRMS, as well as sample preparation equipment, which are ideal analytical combinations for the determination of regulated and unregulated, new classes of contaminants, as well as for target and suspect surveillance of the known and unknown groups of CECs and their metabolites in very complex samples. Additionally, an advanced software tool – Compound Discoverer Software installed on a high-performance PC for high-resolution mass spectrometric data processing, upgrades the capabilities of the UHPLC-Orbitrap-HRMS for a wide screening of contaminants, including suspected and nontargeted analysis. The team members of the Lab for Chromatographic Analysis comprise two senior researchers with significant experience in the domain of environmental pollution, contaminants monitoring, risk assessment, and instrumental analysis of inorganic and organic micropollutants, also with an important background in multi-partner international and national research projects on development of analytical methods for determination of environmental contaminants, risk assessment, food safety, etc., also having experience in knowledge transfer activities towards different target groups (students, pupils, teachers, academic staff, stakeholders); two early stage researchers, highly trained in GC-MS, UHPLC-QqQ-MS, and UHPLC-Orbitrap-HRMS analysis, also with experience in the multi-partner international and national project, and one young researcher.

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