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*in kemijsko tehnologijo*

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**VABILO NA PREDAVANJE  
V OKVIRU DOKTORSKEGA ŠTUDIJA  
KEMIJSKE ZNANOSTI**

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z naslovom:

**Trends in sample treatment of  
environmental samples**

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*Vljudno vabljeni!*

**Abstract:**

In the environmental analysis, two main problems are usually present: one refers to the low concentration levels of contaminants that can be present in the samples and the other one to the complexity of the samples. At present, highly powerful analytical techniques, such as those based on chromatography coupled to high resolution mass spectrometry or tandem mass spectrometry, are available, which enable low concentration levels to be determined. However, a sample treatment is often required, even using these powerful techniques, in the case of complex samples, such as wastewater, sludge, soils, and so on. Moreover, matrix effect is a usual problem in complex samples mainly when analyzed by liquid chromatography-mass spectrometry using electrospray ionization.

In the last years, significant advances in sample treatment have been devoted to increase the selectivity and the sensitivity of the analytical method. In this talk, some of these advantages will be discussed based on the research developed in my research group.

As regards water analysis, some examples of the specific application of solid-phase extraction with mixed-mode sorbents will be described, focusing on the need of a careful selection of the experimental conditions to decrease matrix effect and therefore, to increase selectivity and sensitivity. Moreover, the application of the methods developed will be demonstrated with the determination of different groups of emerging organic contaminants (EOCs) in environmental samples.

The application of sample treatments to solid samples, such as sludge, will be also discussed, focusing on pressurized liquid extraction and QuEChERS and different clean-up strategies to decrease the matrix effect. Different examples of how to decrease the matrix effect will be described for the determination of different EOCs in sludge samples and examples of their occurrence in the samples will be included.