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v Ljubljani

Fakulteta *za kemijo*  
*in kemijsko tehnologijo*

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

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z naslovom:

**Adsorption of pharmaceutical compounds  
from aqueous solutions by activated  
carbons**

**v sredo, 5. aprila 2017 ob 15:00 uri**  
v predavalnici 1 v 1. nadstropju Fakultete  
za kemijo in kemijsko tehnologijo, Večna pot 113

*Vljudno vabljeni!*

**Abstract:**

At present, pharmaceutical compounds are considered emergent pollutants and a great number of monitoring studies have been performed to assess their presence in the aquatic environment. Although being detected at trace level the potential noxious effect of these compounds have been demonstrated, drawing the attention of the authorities for this issue. In this sense, the report of the European Parliament and the Council for the Review of Annex X of the Directive 2000/60/EC on priority substances in the field of water policy included three pharmaceutical compounds (diclofenac, 17-beta-estradiol, 17-alfa-ethinylestradiol) in the watching list, being this a first step for a future regulation.

The effective removal of a large number of compounds with very different chemical nature is actually a great challenge to water treatment plants that can only be overcome through finding new solutions. To overcome this problem several technologies can be implemented, as is the case of those based on adsorption onto activated carbons.

In this context, the contribution of the scientific community is of paramount importance in various levels, namely in developing new activated carbons, ideally using removable sources, and elucidating the mechanism of the adsorption process.

In this seminar, after a brief introduction to the activated carbons' properties and preparation methodologies. The importance of various experimental parameters on the adsorption mechanism of pharmaceutical compounds from aqueous solutions will be presented through the analysis of various case studies, emphasising the importance of a deep textural characterization of the carbon textural properties, and the interdisciplinary character of this type of studies.