

**Overview of the PhD student activities in the Chemistry program in the field of Environmental Chemistry:
2014/15**

Student (given name and surname)	Jakub Urík
Supervisor (given name and surname)	Branislav Vrana
Consultant (given name and surname)	Foppe Smedes; Jana Klánová
Beginning of the study (month/year)	08/2014
Form of study (delete where appropriate)	Present (internal)

Summary of yearly research results (15 lines maximum)

Diffusion coefficients of polar organic compounds (PFCs, PPCPs, CUPs) in agarose hydrogel used as a material for novel passive samplers have been experimentally determined by measuring mobility of compounds in stack of several gel sheet layers. Agarose gel material has been thereby found suitable for use as a diffusive layer in water passive sampling devices.

Additionally, novel passive sampling device based on DGT sampler was tested in an artificial flow-through system at different rotation speeds (simulating different water flow rates) and with diffusion layer both present and absent.

These results are sufficient for a single scientific paper, but also show a great potential for further research: Since the sampling rates were slow, new design with larger sampling area should be proposed and tested. Diffusion coefficients in hydrogel should be also determined by a different method and compared. Lastly, diffusion of compounds in sorbent-enriched hydrogel should be determined.

Research results will be presented at conferences in Czech republic as well as abroad in September. Paper will be written in the following months of this summer.

Internship abroad (place, start date, duration)

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Publication activities

Number of peer-reviewed articles in impacted journals	0
Number of conference (oral/poster) presentations	0
Number of other publishing activities (books, book chapters, patents etc.)	0
Public lecture in English (delete where appropriate)	No

The most important results (5 maximum, show the impact factor of the journal):

1	
2	
3	
4	
5	