Overview of the PhD student activities in the Chemistry program in the field of Environmental Chemistry: 2016/17

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)

The novel sampler for polar compounds in water has been successfully introduced. It has been tested alongside other commonly used samplers in fresh and salt water alike. Additionally, the spectrum of sampled compounds has been broadened to include several antibiotics and, potentially, some steroid hormones. The description of the sampler design and use is a part of a certified methodology, which is a result of the finished TAČR beta project TB030MZP001 .

Diffusion coefficients for several compounds in water were obtained in collaboration with UFZ Leipzig, and these are comparable with the previously measured diffusion coefficients in agarose hydrogels. The diffusion in agarose has also been measured at UFZ Leipzig, using a different method than previously. The dependence of diffusion on temperature has also been tested, since temperature is a major factor affecting the sampler intake rate. All these diffusion properties will possibly suffice for a single publication.

Internship abroad during past year (place, start date, duration)

UFZ Leipzig, Germany (6 weeks starting 31.10.2016)
UFZ Leipzig, Germany (6 weeks starting 01.05.2017)

Publication activities during Ph.D. studies

Number of peer-reviewed articles in impacted journals	0
Number of conference (oral/poster) presentations	2
Number of other publishing activities (books, book chapters, patents etc.)Nmet=3, Nmap=2	5
Public lecture in English (delete where appropriate)	yes

The most important results during Ph.D. studies (5 max, show the IF of the journal, conferences, awards):

1	The novel sampler design has been tested in several campaigns, including fresh and salt water
2	Sampler has been introduced in conferences in Hamburg (ISEAC 39, poster) and Prague (IPSW 2016, oral presentation)
3	Description of the design and use of the sampler is a part of certified methodology (TAČR project TB030MZP001) VRANA, Branislav, Pavel ČUPR, Roman PROKEŠ, Jana BORŮVKOVÁ, Jitka BEČANOVÁ, Foppe SMEDES, Klára HILSCHEROVÁ, Jiří NOVÁK, Michal BITTNER, Ondřej SÁŇKA, Šimon VOJTA, Ondřej MIKEŠ, Anežka SHARMA, Katarína BÁNYIOVÁ, Kateřina ŠEBKOVÁ, **Jakub URÍK**, Barbora PROKEŠOVÁ a Jana KLÁNOVÁ. Metodika pasivního vzorkování perfluoroktansulfonátu PFOS, PFOA a vybraných farmak ve vodním prostředí - Certifikovaná metodika (Nmet). 2016.
4	VRANA, Branislav, Pavel ČUPR, Roman PROKEŠ, Jana BORŮVKOVÁ, Jitka BEČANOVÁ, Foppe SMEDES, Klára HILSCHEROVÁ, Jiří NOVÁK, Michal BITTNER, Ondřej SÁŇKA, Šimon VOJTA, Ondřej MIKEŠ, Anežka SHARMA, Katarína BÁNYIOVÁ, Kateřina ŠEBKOVÁ, **Jakub URÍK**, Barbora PROKEŠOVÁ a Jana

	KLÁNOVÁ. Ověřená metodika pasivního vzorkování pro sledování polybromovaných difenyletherů a jiných hydrofobních kontaminantů ve vodním prostředí - Certifikovaná metodika (Nmet). 2016.
5	ČUPR, Pavel, Branislav VRANA, Ondřej SÁŇKA, Roman PROKEŠ, Jana BORŮVKOVÁ, Jitka BEČANOVÁ, Foppe SMEDES, Klára HILSCHEROVÁ, Jiří NOVÁK, Michal BITTNER, Šimon VOJTA, Ondřej MIKEŠ, Anežka SHARMA, Katarína BÁNYIOVÁ, Kateřina ŠEBKOVÁ, **Jakub URÍK**, Mária CHROPEŇOVÁ, Pavlína KARÁSKOVÁ, Lisa Emily MELYMUK, Ondřej AUDY, Petra PŘIBYLOVÁ, Jiří KOHOUTEK, Barbora PROKEŠOVÁ a Jana KLÁNOVÁ. Data o výskytu emergentních polutantů ve vybraných složkách prostředí - Specializované mapy s odborným obsahem (Nmap). 2016.