



Christoph Moschet wins Otto Jaag Water Protection Prize

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Topics: Organisation & Staff

Christoph Moschet has been awarded the Otto Jaag Water Protection prize for 2015 for his excellent dissertation entitled “Addressing Blind Spots in the Assessment of Pesticides in Surface Waters: A Complete Screening using Trace-Level Mass Spectrometry Techniques and Complementary Sampling Strategies”. The prize recognises outstanding theses and master’s dissertations undertaken at ETH Zurich in the field of water protection and hydrology. For his dissertation at Eawag’s Department of Environmental Chemistry, Christoph Moschet studied pesticide pollution in Swiss waters.

The level of pesticide pollution in Swiss surface waters is greater than previously supposed, by a factor of between two and ten. The pesticides originate from agriculture and from urban areas. Within the context of his dissertation, Christoph Moschet developed a measurement method based on liquid chromatography high-resolution tandem mass spectrometry, which allows practically the whole spectrum of pesticides and their transformation products to be measured. In the process, it became clear that current monitoring programmes underestimate the degree of water pollution, as only a fraction of the 400 or so organic and synthetic substances permitted in Switzerland are tested for. Moreover, modern pesticides and herbicides are particularly challenging to analyse, as they can have a toxic effect even at the nanogram level. A subsequent large-scale field study has shown over 140 substances to be present in medium-sized surface water bodies in Switzerland, with 30-50 pesticides with a concentration level of over 1 µg/L detected in 80% of the samples. Christoph Moschet came up

with recommendations as to how the situation can be improved, for instance, by the inclusion of further substances in routine monitoring, as well as the use of alternative sampling methods such as passive sampling. In addition, he calls for renewed discussion around reducing the use of pesticides and their input into surface waters, and urges that appropriate measures be taken at government level.

Christoph Moschet is currently working in a postdoc position at UC Davis, California, in the field of high-resolution mass spectrometry. He plans to return to Switzerland to undertake further work in water protection and micropollutants. Aside from the Otto Jaag prize, his dissertation was also awarded the SETAC GLB, and he will receive the ETH medal in January 2016.

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