

Eawag Seminar Invitation

Micropollutants in urban water: from science to policy and engineering

Speaker **Prof. Jean-Luc Bertrand Krajewski**
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When **May 17, 11.00 – 12.00 a.m.**

Where **Forum Chriesbach, room C20, Eawag Dübendorf**

Abstract After a brief description of the SIPIBEL observatory and research projects on consumption, release, treatment and transfer of pharmaceuticals in an urbanized area of 30 000 inhabitants in the French Alps (see <http://www.graie.org/Sipibel/anglais.html>), the seminar will include three parts:

1. Monitoring and modelling of pharmaceuticals: from consumption to the wastewater treatment plant.

Daily distribution and monthly sales of 15 pharmaceuticals respectively by a hospital and 6 pharmacies in the SIPIBEL catchment have been collected during two and half years. The daily loads of pharmaceuticals have been measured once per month at the inlets of the WWTP from both the hospital pumping station and the urban area during the same period. Based on these data and their analysis, and also on statistics and time use of the population, a stochastic model of wastewater and pharmaceutical discharges has been established to simulate daily and hourly pharmaceutical loads at the inlets of the WWTP. The model performs better i) than basic models based on excretion ratios for approximately half of the molecules, and ii) for pharmaceuticals which are used by a large number of patients.

2. Communication about pharmaceuticals in wastewater for professionals and the general public.

The SIPIBEL project assumed that improving management and control of pharmaceuticals requires better information and education of professionals and the general public. Interviews, meetings and workshops were organized with various stakeholders (pharmacists, physicians, nurses, water specialists, elected officials...). Animated videos have then been produced and used in various information meetings in France with various audiences.

3. Social sciences and micropollutants.

A network of 13 French research projects on micropollutants (SIPIBEL being one of them) was managed from 2013 to 2018 with work packages devoted to social sciences, focusing on i) the perception of micropollutants by inhabitants and ii) changes of individual behaviours to reduce emissions of micropollutants. Mathilde Soyer, sociologist, coordinated these work packages and prepared a short video for this seminar to present key results and discuss how social scientists should be more proactive and re-formulate their research questions in a more drastic and political way.