



### HAPPY HOLIDAYS!

Dear researchers and other interested parties,  
Before you lies the final 'traditional' SEWPROF newsletter, in the format that I have been making it for the past year. After all, in the first months of 2016 most SEWPROF fellows will leave the project (or will have left already), so reporting on their mobility, projects and personal news will become more difficult. I am sure all fellows will find work they will continue to be happy in, whether it's in academia or industry (or perhaps something completely different).

However, for now I can still make this newsletter, and in the current publication Ana Causanilles-Llanes and Juliet Kinyua report on their joint project on the qualitative screening of new psychoactive substances in pooled urine samples collected in Belgium and the Netherlands using expertise available at the KWR institute and the University of Antwerp.

Since this is the last newsletter in this format, I have kept it short. I know everyone is quite busy finishing up, so hopefully a short newsletter will be nice for a change! I hope you enjoy the article, and I hope to see you for the last installment of the newsletter in February 2016. I wish all of you very happy holidays, and a good, productive 2016!

Until February!  
Janelle van Wel



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#### SPECIAL POINTS OF INTEREST

The SEWPROF MC ITN project, 'A new paradigm in drug use and human health risk assessment: Sewage profiling at the community level' is funded by the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement [317205].



## **Joint project: Ana Causanilles Llanes and Juliet Kinyua**

As part of the SEWPROF project, all fellows travelled across Europe to work at the different research centers associated with the project. However, what not all of the fellows have in common is that some of them work more closely together than others. For example, Ana Causanilles Llanes from the KWR in Utrecht, the Netherlands, and Juliet Kinyua from the University in Antwerp, Belgium, have travelled back and forth a number of times for their joint project starting from September 2015. Therefore, I asked them a number of questions to explain what they did and why. During the first two months, Ana visited the toxicological centre in Antwerp. It was her 3rd and last secondment within SEWPROF. Right after, in November 2015, it was Juliet's time to visit KWR in Nieuwegein which was also her last secondment.

### **What was the topic of the project and how did it come into being?**

The topic of the joint research "The qualitative screening of new psychoactive substances (NPS) in pooled urine collected from a Belgian music festival and wastewater samples collected during a Dutch event using UPLC-QTOF-MS and UPLC-LTQ-Orbitrap" was predefined and discussed in detail by both groups prior.

### **How did you decide what to do and how to arrange things with your shared secondments?**

Ana wanted to gain some experience with LC-QTOFMS and particularly suspect screening approaches for her secondment. In addition, Juliet wanted to apply the suspect screening approach (ABC article) on samples from Festivals, we both thought it would be a good idea to do this for the secondment since we both had samples collected from festivals. For the Utrecht part, Juliet was eager to learn how to use the Orbitrap and see its capabilities in identification of suspect or unknown compounds.

### **Do you think it's useful to work this way (going back-and-forth)?**

Definitely, you get to benefit from the expertise of each lab. In terms of equipment it





was nice to compare the two instruments (QTOFMS and Orbitrap). Furthermore, we got to hone in and maximize the capabilities of each lab. Our strategizing and planning skills were put to test since we had to design all the work (3 month project) in advance. We were happy to have the opportunity to work closely with each other.

**What did either of you learn from being in the others' workplace? Are there things you would like to take to your home lab?**

*Juliet:* It was definitely a different work environment especially since KWR is not an academic institute. The lab experimental procedures were similar but the equipment was different and this was interesting to learn. I enjoyed working on the LTQ-Orbitrap and exploiting its capabilities for our work, it has certain advantages in compound analysis and identification.

*Ana:* Regarding my experience in the lab, its routine and its instrumental availability, it was very interesting to see how things are done differently for the same final purpose. Besides, I was curious to see how the academic work environment is combined with foren-

sic lab services in Antwerp.

**How did you like Antwerp/Utrecht?**

*Juliet:* the two cities are similar so it was much easier to settle in. I really enjoyed Utrecht, I loved that there were many young people (students and professionals) and so the city is very vibrant with lots of activities, a strong music culture and lots of innovative energy. I enjoyed the beer and food at the Belgian restaurant!

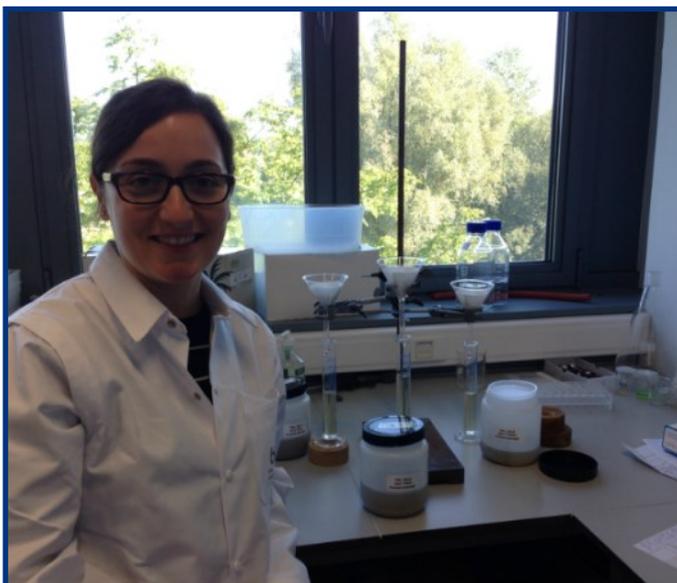
*Ana:* The exchange of secondments has been very easy going since Antwerp and Utrecht are not so different: only 125 km away, with same weather, same native language spoken, and bicycles everywhere. Although I didn't have much luck with accommodation, I loved the Antwerp experience. Especially the food, the beers, and the shopping! I'm looking forward to my next *week-endje weg!*

**Is there anything else you would like to mention?**

*Juliet:* I enjoyed this project immensely, we worked closely, sharing the tasks and tackling challenges with our analysis together. In addition, we both like food and so I enjoyed learning some Spanish recipes from a culinary expert!

*Ana:* I enjoyed the secondment very much. It was a pleasure to work with Juliet and to learn all about NPS screening from her. Besides being surrounded by other students at similar career stage with similar challenges was very stimulating.

Both: We would like to thank SEWPROF and our advisors for their support through the project!



## RESEARCH HIGHLIGHT

This new paper by young researcher Richard Bade discusses the existence of pharmaceuticals and illicit drugs in environmental waters. Although water samples can contain a huge number of possible contaminants, they are only present at low concentrations. This makes their detection and identification problematic. In this collaborative paper, the authors discuss the use of two HRMS instruments, quadrupole time-of-flight and linear trap quadrupole-Orbitrap, from two SEWPROF laboratories. After suspect screening for PIDs was carried out on wastewater (influent and effluent) and surface water samples from Castellón, Eastern Spain, and Cremona, Northern Italy a comparison between the findings of both instruments was made which highlights the advantages and drawbacks of each. 28 compounds were detected and/or identified by either/both instruments. The general agreement in data obtained from both methods will validate the methodologies commonly used by both laboratories for the qualitative screening of contaminants in wastewater.

**Bade R, Rousis NI, Bijlsma L, Gracia-Lor E, Castiglioni S, Sancho JV, Hernandez F (2015).** Screening of pharmaceuticals and illicit drugs in wastewater and surface waters of Spain and Italy by high resolution mass spectrometry using UHPLC-QTOF MS and LC-LTQ-Orbitrap MS. *Anal Bioanal Chem.*

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## Future events

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## Past events

- 1st SEWPROF Training Course: Human Health and the Environment - April 2013, University of Bath, Bath, United Kingdom
- 2nd SEWPROF Training Course: Sampling, sample handling, storage and sample preparation - September 2013, Norwegian Institute for Water Research, Norway
- 3rd SEWPROF Training Course: Analytical techniques for biomarkers analysis - March 2014, KWR Watercycle Research Institute, The Netherlands
- 4th SEWPROF Training Course / 1<sup>st</sup> SCORE COST Training School: Assessing human health and lifestyle by sewage epidemiology - September 2014, Mario Negri Institute for Pharmacological Research, Italy
- 1st SCORE/COST Working Group - October 2014, organized by Water Services Cooperation, Malta
- 5th SEWPROF training course / 2nd SCORE COST training school: Method validation and quality control - April 2015, University Jaume I, Castellón, Spain



2<sup>nd</sup> International Conference on "Wastewater-based drug epidemiology"  
Congressi Stefano Franscini, Monte Verità, Ascona, Switzerland  
11-15 October, 2015

## SPECIAL THANKS TO

