

**Peter M. Schneider ISFG Fellowships of the International Society for Forensic Genetics
(ISFG)**

Applicant:

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Host institution:

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Research visit to the University of Zurich, Department of Forensic Genetics

The ISFG Travel Fellowship Call gave me the opportunity to visit an experienced RNA lab and deepen my knowledge of RNA.

I received training in DNA/RNA co-extraction with updated protocols to achieve higher DNA and RNA outputs. For this, we extracted various body fluid samples, including some test samples from EDNAP proficiency tests, and performed a comparison between the generic 12-plex Zurich RNA panel and the 19-plex RNA panel routinely used in Kiel in terms of sensitivity and specificity. Particular attention was paid to the analysis of rectal mucosal markers, which tend to show cross-reactions with other body fluids. We used the visit to exchange experiences on the challenges of applying the technique to casework and had the opportunity to discuss interpretation and reporting guidelines for the detection of body fluids using RNA. Finally, we exchanged primer mixtures in order to carry out further comparative studies with case samples.

A second focus was on training and knowledge transfer on the application of cDNA SNPs for the individualization of body fluid donors. To this end, we jointly analyzed MPS data that had already been collected in proficiency tests with a special focus on the analysis and interpretation of cSNPs. I gained insights into the establishment of cSNP markers, in particular the search for appropriate markers and the challenges involved in analyzing them.

In addition, I had the opportunity to complete a practical training on age determination of donors with DNA methylation. Using bisulphide conversion, SNaPshot and CE, we analysed 6 methylation markers for buccal swab, saliva and capillary blood samples.

I would like to conclude by thanking the ISFG Fellowship Review Board for awarding me the Peter M. Schneider Fellowship and the Zurich laboratory for their hospitality and openness during my stay. I had a fantastic time and a productive exchange with the Zurich laboratory, so that I could take many ideas and inspirations for the work in my home lab.

Maria Seidel