

ISFG Short Term Fellowship report

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The main purpose of the project was to visit the *Laboratoire de Police Scientifique* (LPS) of Lyon, France, to learn on their implemented method to construct composite sketches of unknown perpetrators (known as DNA phenotyping). The visit took place from November 18th to 22nd, 2019.

DNA phenotyping is being used by LPS in Lyon since 2015. Scientists involved have developed a great practical experience, good communication with investigators and testifying experience in that field.

During my visit, I was able to discuss with François-Xavier Laurent, the scientist who developed the process, and learn why and how they implemented the technic in such a short period of time and which problems were encountered. It was formative for us to be able to follow each steps, from the laboratory processes to the final interpretation, including discussions with experienced scientists on more complex results.

I had brought with me known reference samples to be analyzed. It was very interesting to see how the technic works with our samples and which kind of results have been obtained as we knew exactly what to expect for these samples.

We were also interested to learn under which circumstances LPS uses DNA phenotyping since our main goal is to eventually offer this service to Quebec's investigators.

Others discussions on development, validation and implementation of Massively Parallel Sequencing (MPS) into routine casework were also very useful as we will implement this technology in our laboratory in a near future.

This visit was also an occasion to see if further collaborations could be put in place between our two laboratories as LPS is interested by the probabilistic software STRmix™ which our laboratory has developed great expertise with. The talk I gave at LPS about developmental validation and implementation of the software in our lab gave basement to future exchanges.