

ISFG Short Term Fellowship Summary Report

This report describes the purpose and outcome of the research visit to the Institute of Legal Medicine, Innsbruck Medical University, Austria lead by professor Walther Parson in the period from 14th to 26th January 2018.

The scope of the project is the sequence analysis of the mitochondrial DNA Control Region on reference samples collected in Croatia. Mitochondrial DNA haplotypes will be submitted to the EMPOP population database with a final aim to publish the findings in a collaborative manner. In addition, the Sanger sequencing method will be implemented in forensic routine (case)work in the Forensic Biology Laboratory of the Ivan Vučetić Forensic Science Center, Zagreb, Croatia.

This research visit had several objectives that included practical training and collaborative meetings.

Practical training comprised:

- mitochondrial DNA typing of several samples,
- data analysis in Sequencher software according to the defined EMPOP criteria to establish the quality of previously generated sequencing data,
- phylogenetic alignment and haplogroup assignment.

Additionally, there was an opportunity to take part in mtDNA control region PEC (*Primer Extension Capture*) MPS (*Massively Parallel Sequencing*) protocol applied on ancient bones.

Collaborative meetings on following subjects:

- strategy for the analysis of casework samples,
- interpretation, statistical analysis of mtDNA profiles and report formulation,
- method validation and quality assessment,
- forensic mtDNA database

In conclusion, all objectives of the research visit were achieved and guidelines for the progress of the project were established. This fellowship provided the opportunity to extent methodological knowledge and to enhance my research experience in mitochondrial DNA sequencing.