Katowice (Poland), November 10, 2023

Peter M. Schneider Fellowships of the International Society for Forensic Genetics (ISFG) Short Report – research visit, Santiago de Compostela University.

Beneficiary:

Marcin Tomsia, Ph.D
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Dear ISFG Board,

Thanks to the ISFG award, I had the unique opportunity to visit the Forensic Genetics Unit of the Institute of Forensic Sciences at the University of Santiago de Compostela in Spain (FGU-IFS-USC), between 15th and 27th October 2023.

During the visit to the FGU-IFS-USC, I worked under the supervision of Dr Ana Freire Aradas and Dr Chris Phillips. In this time, we created a new model to estimate chronological age using costal cartilage. The data on which this model was based were recently outlined in the manuscript: *Development of an epigenetic age predictor for costal cartilage with a simultaneous somatic tissue differentiation system* published in *Forensic Science International: Genetics*. Data from the multi-center research collaboration of the VISAGE group (including the participation of Professor Wojciech Branicki from the Jagiellonian University in Kraków), allowed development of the prediction model for chronological age from costal cartilage DNA, achieving approximately ± 4 years accuracy.

During the visit, I also had the chance to go through the whole process of routine work: from automated DNA isolation, estimation of DNA concentration, multiplexed PCR, capillary electrophoresis, and data analysis, to the final interpretation of forensic genetics results. I had the opportunity to go through the whole process in two different laboratories and verify my computational skills under the supervision of experienced experts in *Familias 3* and *LR Mix Studio* software using various scenarios.

Overall, the fellowship allowed me to gain experience with routine work in forensic genetics and increase the knowledge of age prediction from DNA methylation and biogeographical ancestry.

Furthermore, forthcoming projects based on age prediction were discussed and further collaboration frameworks were initiated , which we expect to lead to multiple peer-reviewed papers in the near future.

Following such a successful period of study at Santiago, I would like to thank the IFSG Board for enabling the visit and thus advancing my scientific development.

Marcin Tomsia