

# THE 28<sup>th</sup> CONGRESS OF THE INTERNATIONAL SOCIETY FOR FORENSIC GENETICS

9 - 13<sup>th</sup> SEPTEMBER 2019, PRAGUE, CZECH REPUBLIC, PRAGUE CONGRESS CENTRE



## PRE-CONGRESS WORKSHOP

### HW9 – Forensic DNA Phenotyping: basics of data acquisition and interpretation

**Organiser:** Wojciech Branicki

**Type:** Half Day Workshop, Lecture

**Date & Time:** Tuesday, 10 September (14:00-18:00)

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Forensic DNA Phenotyping (FDP) is a relatively new area in the field of forensic genetics that utilizes the potential of DNA to predict ancestry, appearance and age. The obtained predictions can be used for intelligence purposes to track unknown individuals and speed up the investigation. This workshop will introduce the entire concept of FDP including theoretical aspects of marker selection, prediction modelling and practical application. Participants will get acquainted with technologies, assays and mathematical models available for predictive DNA analysis in forensics. They will also learn about the principles of data interpretation, accuracy parameters like AUC and MAE and prediction error related to different FDP methods. Much attention will be placed to the prediction of pigmentation traits and forensic implementation of the new system HirisPlex-S for simultaneous prediction of eye, hair and skin colour. The workshop will also address the issue of epigenetic age prediction in the forensic field. Participants will learn about the current problems of age estimation by DNA methylation analysis including tissue specificity of age markers, sensitivity of the assays and sources of prediction errors. The available methods of age prediction will be reviewed and the concept of biological age and age acceleration will be introduced. Participants will get acquainted with the importance of combining information about gender, ancestry, and age for appearance prediction. The lectures will be illustrated with practical examples and participants will have opportunity to familiarize themselves with the methods currently used in FDP.

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