



Legal implications of Forensic Genomics

Academic exchange at
University College Freiburg

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Final Report

The final collaborative workshop was held in Germany on 4 September 2019, hosted by University College Freiburg. Attendees were drawn from:

- University College Freiburg
- Kings College London
- University of Canberra

The topic of the workshop was **Forensic Genomics in Police Investigations: Technical, Methodological, Legal, Social and Ethical Aspects**. Presentations covered a broad range of topics and involved significant discussion amongst attendees:

- Australian policy implications of the adoption of forensic genomics
- Off-target phenotypes in forensic DNA phenotyping and biogeographical ancestry inference.
- Supervised feature selection for ancestry informative markers
- Estimating admixture proportions in recently admixed individuals
- Current law initiatives for forensic DNA phenotyping in Germany and Switzerland

Discussion included how workflow analysis, with a focus on ethics and privacy, can bolster a 'privacy by design' approach to the operational use of DNA phenotyping. Approaches to engaging across industries, including genomic health sectors, were also discussed. The workshop attendees also discussed the implementation of forensic DNA phenotyping in the context of wider genomic privacy concerns, and approaches to addressing to public trust and new technology.

Further discussion relating to biogeographical ancestry prediction noted limitations around unambiguous ancestry (e.g. where all ancestors are from one continent) and flagged concerns around marketing of these capabilities as having near perfect accuracy. A paper has recently been submitted in relation to these findings.

Further discussion relating to mixed ancestry research resulted in new research projects being proposed. The discussion at University College Freiburg will allow for continued discussion and information exchange on current developments in forensic DNA phenotyping including discussing and progressing current ethical and legal considerations in the context of existing research work.