UNIVERSITY OF AMSTERDAM

MASTER FORENSIC SCIENCE - LITERATURE THESIS

Title	: Possibilities and limitations of Activity Level Reporting in Bloodstain Pattern Analysis
Keywords	: BPA, Bayesian Statistics,
Forensic Expertise Area	: Bloodstain Pattern Analysis
Start Date	: October/November
Host Institute	: NRGD and NFI
Department/Team	: Humaan Biologische Sporen - Plaats Delict Onderzoek
Supervisor	: 1st Nick Laan, 2nd Mikle van der Scheer
Email address	: n.laan@nrgd.nl
Telephone number	: 06-50080767
UVA Examiner	:
UVA Coordinator	: Arian van Asten/Yorike Hartman

Short Description

In the Netherlands Bloodstain Pattern Analysis is evolving as experts are reporting using activity level propositions. However, determining the probability of the outcome given two competing propositions cannot yet be based on (hard/published) data, simple due to lack in research. While evaluation of multiple propositions with Bayesian Statistics in BPA preferable requires a scientific basis. A scientific basis which for these kinds of calculations in BPA is almost non-existent and sometimes obscure. This literature investigation will focus on collecting and comparing existing data and research to try to find what kind of scientific research is required to further this kind of reporting.

The Netherlands Register of Court Experts (NRGD) will soon (or has recently) opened the field of BPA for registration of experts. One of its goals is to improve quality of experts and reports where possible. Therefor this project will be a joined effort between the NRGD and the NFI.

Key References

1) Bloodstain pattern analysis & Bayes: A case report (https://www.sciencedirect.com/science/article/abs/pii/S1355030623000680)
2) Using the likelihood ratio in bloodstain pattern analysis (https://onlinelibrary.wiley.com/doi/full/10.1111/1556-4029.14899)
3) Towards a likelihood ratio approach for bloodstain pattern analysis (https://onlinelibrary.wiley.com/doi/full/10.1111/1556-4029.14899)
4) NRGD Standards for BPA (not published yet)

Required/Recommended skills and expertise

- Knowledge of Bayesian Statistics, criminalistics and reporting on activity level

- preferable background in or affinity with physics, mathematics or statistics
- affinity with bloodstain pattern analysis, and knowledge concerning basic classification of bloodstain patterns

Visuals







