UNIVERSITY OF AMSTERDAM

Master's Programme in **Forensic Science**

CO VAN LEDDEN HULSEBOSCH CENTRUM

FORENSIC LITERATURE THESIS

LITERATURE THESIS

Title	: ***Activity level analysis across the forensic disciplines***
Keywords	: *Evidence interpretation, hierarchy of propositions, activity level, features*
Forensic Expertise Area	: *All possible disciplines*
Department	: Lectoraat Forensisch Onderzoek
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SHORT DESCRIPTION

Recently, the evaluation of evidence given activity level propositions becomes more of interest within the different forensic science disciplines. Where for some types of evidence such as glass and DNA these activity level evaluations are already a widely-explored topic [1][2], for other types of evidence such as fingermarks or digital traces, these types of evaluations are relatively new [3]. For each forensic discipline, the evaluation of evidence given activity level propositions involves the use of different variables that provide information on the activities that were carried out. Currently, there is no overview available of how questions regarding activities are handled across the different fields of expertise and what variables are used to provide information on these activities. Such an overview would help to recognize disciplines that evaluate evidence given activity level similarly, which could help the different disciplines to structure evaluations of evidence given activity level propositions.

Aim thesis

For this project, we want to review all forensic disciplines in which questions regarding activities are evaluated to study the similarities and differences between the various fields of expertise. For this thesis, research will be conducted by a literature review concerning the specific variables that are taken into account when evaluating evidence given activity level propositions.

This research aims to answer the following questions:
- What are the forensic disciplines in which the evidence given activity level propositions is evaluated (explicitly or implicitly)?
- What are the main activity level issues within these forensic disciplines?
- For each discipline, which variables are taken into account when evaluating evidence given activity level propositions?
- Is it possible to classify the different forensic disciplines into groups for which the same variables apply when evaluating evidence given activity level propositions?

REFERENCES

[1] F. Taroni, A. Biedermann, S. Bozza, P. Garbolino, and C. Aitken, *Bayesian Networks for Probabilistic Inference and Decision Analysis in Forensic Science*, 2nd ed. (John Wiley & Sons, Ltd., Chichester, 2014).

[2] D. Taylor, B. Kokshoorn, and A. Biedermann, *Evaluation of forensic genetics findings given activity level propositions: A review,* Forensic Science International: Genetics **36**, 34 (2018).

[3] A. de Ronde, B. Kokshoorn, C.J. de Poot, and M. de Puit, *The evaluation of fingermarks given activity level propositions*, Forensic Science International **302**, (2019).

REQUIRED/RECOMMENDED EXPERTISE

- Forensic knowledge
- Interest in evidence interpretation