

FORENSIC LITERATURE THESIS

LITERATURE THESIS

Title	: Imaging techniques for a Multidisciplinary Forensic Scan Table
Keywords	: imaging, spectroscopy, spatial distribution, invisible traces
Forensic Expertise Area	: Multidisciplinary
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SHORT DESCRIPTION

In the initial phases of a forensic investigation, sampling and investigation strategies are made that are thought to deliver the most valuable forensic evidence. Most of the time there are existing scenarios that need to be evaluated, but sometimes scenarios can be developed based on the outcome of forensic examinations. In both cases it would be very valuable to have a single, complete image/picture of all the traces on the pieces of evidence.

In later stages of the investigations, decisions have to be made about sampling and investigation strategies. The impact of the place and order in which samples are taken can only be optimally assessed when having a complete overview of the type and location of the traces. Also for the assessment of activity level scenario's, knowledge of the (relative) location of different traces is essential.

The main aim of this literature study is to inventory and assess available imaging techniques that have been used in forensic context or have potential to be used. Especially techniques that go beyond visible reflection and fluorescence imaging are of interest.

Interesting additional aims could include the assessment how the combination of different imaging techniques could help visualise different kinds of potentially interesting materials on/in pieces of evidence.

REFERENCES

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- 3) Ifa, D.R., Gumaelius, L.M., Eberlin, L.S., Manicke, N.E. and Cooks, R.G., "Forensic analysis of inks by imaging desorption electrospray ionization (DESI) mass spectrometry", The Analyst, Vol. 132(5), pp.461-467, 2007

4) Edelman, G.J, Gaston, E., van Leeuwen, T.G., Cullen, P.J. and Aalders, M.C.G., “Hyperspectral imaging for non-contact analysis of forensic traces”, *Forensic Science International*, Vol. 223, Issues 1–3, pp.28-39, 2012

REQUIRED/RECOMMENDED EXPERTISE

A background in chemistry or spectroscopy is recommended for this topic.