

Accepted Manuscript

Title: Investigation of some the factors influencing fingermark detection

Authors: Scott Chadwick, Sebastien Moret, Nilesh Jayashanka, Chris Lennard, Xanthe Spindler, Claude Roux



PII: S0379-0738(18)30334-7
DOI: <https://doi.org/10.1016/j.forsciint.2018.06.014>
Reference: FSI 9361

To appear in: *FSI*

Received date: 5-4-2018
Revised date: 5-6-2018
Accepted date: 11-6-2018

Please cite this article as: Scott Chadwick, Sebastien Moret, Nilesh Jayashanka, Chris Lennard, Xanthe Spindler, Claude Roux, Investigation of some the factors influencing fingermark detection, Forensic Science International <https://doi.org/10.1016/j.forsciint.2018.06.014>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Investigation of some the factors influencing fingerprint detection

Scott Chadwick^{1*}, Sebastien Moret¹, Nilesh Jayashanka,^{1,2} Chris Lennard³, Xanthe Spindler¹, Claude Roux¹

¹ University of Technology Sydney, Centre for Forensic Science, Broadway, 2007, Australia

² Temasek Polytechnic School of Applied Science, 21 Tempines Avenue 1, 529757, Singapore

³ School of Science and Health, Western Sydney University, Locked Bag 1797, Penrith, NSW, 2751, Australia

***Corresponding Author:** Scott.Chadwick@uts.edu.au

Highlights

- Over 14,000 fingerprints were developed and evaluated to investigate some of the factors that influence fingerprint detection
- Fingerprints deposited on porous surfaces were more likely to be developed than fingerprints on non-porous surfaces
- Significant variability was observed between donors and within repeat depositions of the same donors fingerprints
- Reinforces the need for further research into the fundamentals of fingerprint detection

ABSTRACT:

The primary aims of fingerprint detection research are to improve the quality and increase the rate of detection of identifiable impressions. This is usually performed through the development of new methods and technologies to provide alternatives to or improve current procedures. While research of this nature is important to pursue, it fails to address the underlying question related to the factors that affect the detection of a latent fingerprint. There has been significant research that has examined the differences between techniques, donors and fingerprint age, as well as the composition of latent fingerprints. However, they tend not to focus on determining how these factors influence the quality of the developed mark.

This study involved the development and evaluation of over 14,000 natural fingerprints deposited on a variety of surfaces to examine the effect of substrate, age, donor variability

Download English Version:

<https://daneshyari.com/en/article/6550847>

Download Persian Version:

<https://daneshyari.com/article/6550847>

[Daneshyari.com](https://daneshyari.com)