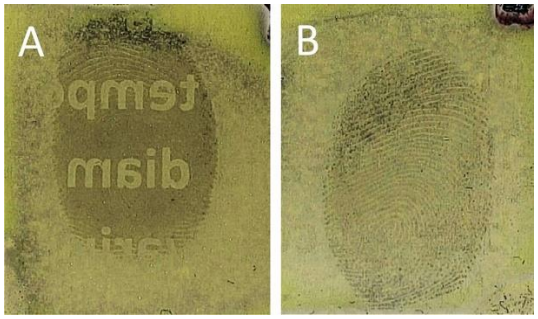

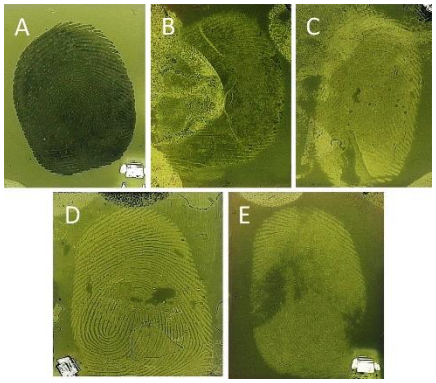

Forensic disciplines combine to develop new fingerprinting technique that could help spot document fraud

New forensic approach utilises existing tools to determine when a fingerprint was deposited on a questioned document.

As one of the foremost innovators within the fields of fingerprint evidence and forensic document examination, researchers at foster+freeman have plenty of combined experience when it comes to developing new technologies for the investigation of crime.

However, while it is not un-common for existing methods and techniques to be re-purposed or enhanced to improve results, it is rare that two independent forensic disciplines combine so well as is the case with the company's latest invention – a unique gelatin fuming technique for examining fingerprints on documents.

Combining a common fingerprinting practice (known as gelatin (gel) lifting) with a novel fuming technique (previously used to reveal fingermarks on fired ammunition) the new technique can be utilised by investigators to determine the sequence in which print details and fingermarks were added to a document.

In a paper published by New Scientist, foster+freemans' Dr Roberto King outlined how the new technique could be important in cases of fraud or in other situations where someone is suspected of tampering with a will or contract by printing on top of it.

To use the technique, a technician places the gelatin over a fingerprint that overlaps with some printed text. They then peel off the gelatin and place it inside a vacuum-sealed glass box filled with a vapour of a chemical called disulphur dinitride. This vapour binds to the microscopic fingerprint ridges imprinted on the gelatin's surface so that after a few minutes a blue-coloured fingerprint is revealed.

The team tested this process for a fingerprint that had text printed over it and another that was made on top of printed text. In the former case, the gelatin touches the text instead of the fingerprint first so the pattern developed at the end of processing was noticeably different - the team could tell which came first, the fingerprint or the text.

Importantly, the technique relies on pre-existing and widely available technology and would not require extensive further training. In addition to this, the new technique can be combined in sequence with other forensic techniques as gelatin lifting does not destroy the fingerprint.

To read the paper in full please contact info@foster+freeman.com or view the research online at https://www.nature.com/articles/s41598-022-16740-z

A preliminary investigation of a two-step, non-invasive process to determine chronological deposition order of fingerprints and printed ink on paper. Sci Rep 12, 12469 (2022). https://doi.org/10.1038/s41598-022-16740-z

King, R.S.P., McMurchie, B., Wilson, R. et al.

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About Foster + Freeman

Foster + Freeman are innovators in the design and manufacture of systems for the examination of questioned documents, latent fingerprints, trace evidence and shoe prints.

Established in 1978, Foster + Freeman has become one of the foremost forensic science equipment suppliers in the world, exporting market leading, and in many cases unique products to more than 150 countries.

For more details about this release contact Darren Corbett at Foster + Freeman

email darren.corbett@fosterfreeman.com or visit www.fosterfreeman.com