



Fingermarks recovery on thermal paper: state of the art and recent novelties

Presenter(s) / Leader(s) / Moderator(s): A.Chiuri, F.Zampa, A. Mattei

Target audience: Experts, practitioners and young scientists

Maximal number of participants: 20

Minimum number of participants: 10

Duration of workshop: 2hrs

Thermal paper represents one of the most common evidence managed by the fingerprint practitioners. Nevertheless it is still one of the most difficult surface where to visualize fingermarks, in order to extract the maximum amount of information. Due to its particular chemical properties, methods most commonly diffused to process this type of evidence suffer with several drawbacks such as:

- * complex procedure;
- * pre- or post-treatment;
- * background staining;
- * low development efficiency with aged fingermarks.

Different possible solutions have been proposed to avoid these problems, the most relevant ones involve:

- * use of different compounds for amino acid sensitive reagents;
- * use of non-polar organic solvents for ninhydrin and 1,2-indanedione;
- * solvent-free techniques, as fuming methods or sandwich process;
- * use of washing solutions to remove the active coat.

A dissertation about the characteristics of the thermal paper will introduce a review of the most relevant techniques broadly diffused will be discussed. This overview will be exploited to describe the state of the art regarding the novelties appeared and published in the last two years about these techniques.

Afterwards, two interesting techniques will be presented and whenever possible tested by the participants. Precisely, the NIR inspection of the treated thermal paper will be discussed, which is a novel non-invasive inspection method recently proposed [1], and the development of latent fingerprints on thermal paper by the controlled application of heat. This method, proposed several years ago [2], is obtaining an increasing interest demonstrated even by some recent studies [3,4].



Ideas, experiences and good practices already implemented about the development of latent fingerprints on thermal paper can be exchanged among the participants and a fruitful discussion is encouraged.

- [1] M. Modica et al, NIR luminescence for the inspections of ThP: A novel tool for fingermarks detection, FSI 244 (2014) [2] M. Wakefield et al., The development of LP on ThP using a novel, solvent-free method., JFI, 55 (2005).
[3] J.W. Bond, Development of LP on ThP by the controlled application of heat, JFS, 58(3) (2013).
[4] J.W. Bond, Comparison of Chemical and Heating Methods to Enhance LP Deposits on ThP, JFS, 59 (2) (2014).