J21 New Perspectives in the Interpretation of Ink Evidence

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After attending this presentation, attendees will understand why the current ASTM standards on ink analysis unnecessarily limit forensic ink examiners in their contribution to the criminal justice system.

Furthermore, attendees will realize that it is possible to improve the profession through the development of adequate quality assurance (QA), data collection, and theoretical frameworks.

The theoretical framework and the results presented during this session will 1) impact the forensic science community by raising the need for the ink examination community to improve their QA; 2) will impact the development of ink examination guidelines for analyzing and interpreting ink evidence; and 3) ultimately will show that the contribution of ink evidence to the criminal justice system can be increased.

The contribution of ink evidence to forensic science is described and supported by an abundant literature and by two standards from the American Society for Testing and Materials (ASTM). The vast majority of the available literature is concerned with the physical and chemical analysis of ink evidence. The relevant ASTM standards mention some principles regarding the comparison of pairs of ink samples and the evaluation of their evidential value.

Reviewing the literature and the ASTM standards in the light of recent developments in the interpretation of forensic evidence has shown the potential for some improvements. These improvements would maximize the benefits of the use of ink evidence in forensic casework. More importantly, these improvements will render the field more compatible with some of the recommendations from the National Academy of Sciences report, "*Strengthening Forensic Science in the United States: A Path Forward.*"

This paper reviews these potential improvements and presents how a suitable QA process, associated with computer-based pattern recognition and a dedicated theoretical framework for the interpretation of ink evidence, can successfully improve current practices.

Ink Evidence, Interpretation, Quality Assurance

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