A67 Implementing Sequential Unmasking Procedures

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After attending this presentation, attendees will gain an understanding of how observer effects have the potential to compromise the interpretation of a forensic analysis, and at what stage of the analysis more information should be revealed to further refine the interpretation in the context of the extant case. Attendees will understand the impact of context effects on an analysis, and will be able to construct an administrative and analytical flow that increases the objectivity of the results and interpretation of their analysis.

This presentation will impact the forensic community by enabling laboratories to implement more objective procedures in the analysis of physical evidence, benefiting the entire criminal justice system by providing more reliable information about physical evidence collected from a crime scene.

Observer effects are rooted in the universal human tendency to interpret data in a manner consistent with one's expectations. This tendency is particularly likely to distort the results of a scientific test when the underlying data are ambiguous and the scientist is exposed to domain-irrelevant information that engages emotions or desires. Despite impressions to the contrary, analysts often must resolve ambiguities, particularly when interpreting difficult evidence samples such as those that are limited, deposited on a potentially-interfering substrate, contaminated, or degraded. With advances in technology, many forensic tests are used to analyze marginal samples likely to produce ambiguous results, such as older samples, samples exposed to environmental insult, and limited samples resulting from incidental contact. Consequently, the need for measures to minimize the consequences of observer effects in forensic testing is growing.

The full potential of forensic testing can only be realized if observer effects are minimized. These problems can be minimized by preventing analysts from having information inconsequential to the proper analysis of an item, and proceeding through interpretation in a step-wise fashion, with more information revealed only after traits of the questioned item have been characterized and documented. As but one example of this concept, sequencing the laboratory workflow such that evidentiary samples are interpreted, and the interpretation fully documented, before reference samples are compared is suggested.

Sequential Unmasking, Observer Effects, Context Effects

 ** Presenting Author*