W9 Deciphering Complex Electrostatic Detection Device (EDD) Impressions

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Learning Overview: The goals of this workshop are to provide attendees with the knowledge, skills, and abilities to create layered images for the decipherment of complex impressions developed by EDD using commonly available digital imaging software. These skills will be demonstrated on multiple and widely varied examples of real-world problems that benefit from this method.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing a methodology that will increase the accuracy of interpretation of impressions developed by EDD and a reduction in the cost of these examinations in material and time.

Examining EDD-developed impressions with digital image layers expands on previous methods of tracking sourced impressions and imaging techniques. Early techniques of removing interfering images from EDD lifts, such as embossed writing or impressions sourced to available writing, required complex photography to subtract these interfering impressions. A subsequent technique involved the creation of multiple transparencies to create overlays. These transparencies were then stacked on top of each other to account for sourced impressions and interfering embossed writing. While both methods are effective, they can be resource and labor intensive.

This workshop will teach a modern approach to the transparency method for tracking sourced impressions using Adobe® Photoshop® layers. This workshop will demonstrate how creating layer masks of available writing and common sourced impressions can be used to account for impressions from multiple documents. This method can also be used to demonstrate the orientation of the impressions when created, reveal unsourced impressions in documents containing complex impressions, and associate documents containing impressions from a common source.

Practical applications of this method include: subtracting impressions of visible writing from preceding pages and following pages of sequential documents to account for unsourced impressions from missing pages; differentiating embossed writing from writing impressions; and separating "layers" of complex impressions in the same document. Additionally, this method can also be very helpful when trying to determine if impressions were created contemporaneously. The final layered image creates a powerful interactive demonstrative product for court testimony.

As a skills workshop, it is paced to maximize the amount of time spent working with imaging software using hands-on examples to ensure these techniques can be used when the attendee returns to the work site.

Documents, EDD, Impressions