F29 Pitfalls of Bias and Bitemarks: Where Does One End and the Other Begin?

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After attending the presentation, greater awareness to the types and introduction of bias in scientific investigation will become a protocol for the investigation. The goal of the presentation is to help the bitemark investigator isolate himself/herself from the introduction of bias.

Becoming aware of the many types of known biases in the scientific investigation associated with bitemark analysis is critical. This presentation will impact the forensic science community by making the investigator aware of the presence of potential sources of bias and working to prevent the introduction of these biases is an absolute requirement in bitemark analysis.

Bitemark analysis is a very complex investigation that often involves many different pieces of information collected from many different venues. Interactions by the bitemark investigator with the sources of the information can begin a chain reaction cascade of events that cause the investigator to move from the application of scientific methodology to bias-based assumptions. The introduction of these biases interferes with the objective science-based process and the associated findings, which can lead to erroneous results ranging from the false positive to the false negative, with everything in between.

Generally speaking, bias takes on two forms: conscious and subconscious. Conscious bias, for example, can be something as simple as being told by law enforcement that there are only three known suspects in the bitemark homicide with the inference that one of the three is the actual biter. The bitemark investigator simply has to figure out which one of the three is the biter.

Subconscious bias is often much harder to detect and avoid. An example of subconscious bias would be the bitemark investigator collecting the actual bitemark evidence and then subsequently collecting evidence from the suspected biters, one of whom looks and acts like a criminal. Subconsciously, the bitemark investigator will form bias toward the individual "criminal acting" suspect, possibly leading to a false positive.

Knowing that the presence of bias exists prior to beginning an investigation helps to isolate its introduction. The most common types of bias in scientific investigation will be presented with explanations of how the bias can be introduced and how to avoid it. Bitemark analysts must develop protocols for the investigation that work to identify, define and remove bias if there is any chance of reaching an opinion based only on the science of the investigation. To do otherwise invalidates the investigation and all of its associated findings.

Bitemark, Bias, Bitemark Analysis

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