



## Criminalistics Section - 2016

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### **B211 From Cold Case to Solved Crime**

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After attending this presentation, attendees will better understand the complexities and challenges faced in processing cold cases and will be presented with a case file example.

This presentation will impact the forensic science community by bringing to light the challenges faced in processing cold cases as well as the need to continue efforts to solve these open cases.

DNA testing has become the single most important forensic tool available in solving, prosecuting, and preventing crime; however, DNA processing techniques have only become well adopted and routine in aiding criminal investigations within the past 15 to 20 years. This is in part due to new technological advances in the field. With the implementation of new technology, cold cases are able to be re-accessed to see what may be possible in terms of examining evidence for biological fluids and/or biological material.

Investigations into cold cases face the same basic challenges as new investigations in terms of DNA testing, namely obtaining a DNA profile that can be uploaded to the database of forensic unknown samples to be compared to known individuals in order to solve the case. Still, additional complexities for cold cases exist. Cold cases may require testing on items of evidence that were unable to be processed at the time due to a lack of technology or due to obtaining an unsuccessful result. Processing a cold case involves greater cooperation among law enforcement, the crime laboratory personnel, and the district attorney's office. This is due in large part because simply locating the items of evidence to be processed can be both time consuming and challenging. Similarly, locating previous reports and previous DNA testing results can take great effort. From past reports, the crime laboratory can make a determination as to what DNA testing or additional testing is now plausible. After determining what is possible, challenges are faced with the processing of evidence that is old and may only result in the recovery of degraded DNA. Challenges are also faced in dealing with items of evidence that may have been unknowingly contaminated at the scene in a pre-DNA world in which there was less emphasis on proper protective equipment. Also, obtaining DNA elimination samples increases the challenge. A DNA profile may be able to be recovered on the item of evidence tested; however, obtaining elimination samples from witnesses or law enforcement personnel who may have come into contact with the item may be impossible.

Processing cold cases can be challenging not only in terms of the DNA processing, but also in obtaining funding and employing staff to locate, vet, and analyze these difficult items of evidence. Also, one must consider the legal limitations, as the statute of limitations may have already passed for these cases.

As a result of all the above-listed challenges, several cold cases remain unprocessed to this day and thus stay cold. A successful cold case will be presented. The challenges faced in this laboratory will be highlighted as well to showcase the need for the continued processing of these open cases.

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#### **Cold Cases, Unsolved, DNA**