



### A6 Forensic Thinking or Thinking Forensic?

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After attending this presentation, attendees will have been provided with fodder for discussion regarding the future of forensic sciences from a general perspective and will ask attendees to personally reflect on whether or not they are making good decisions for the field and are leading the forensic community in the right direction. The attendees will clearly understand how forensic scientists have been positioned historically, in the present day, and in which future directions they may go.

This presentation will impact the forensic community by providing key elements for a complete reflection on where the forensic sciences stand today. This is a great starting point for those who represent the future of the profession and for those who will shape the next generation of forensic scientists. Many changes and evolutions are taking place in the forensic community, and now is the time to make adjustments in order to ensure that forensic scientists are heading in the right direction.

The foundation of modern-day forensic sciences is now more than 100-years-old. The great work of pioneers Hans Gross and Edmond Locard set the stage for forensic scientists today. Forensic sciences remain here today to assist the court in discovering the truth in both criminal and civil litigations. In the 1960s, tremendous technical improvements allowed forensic scientists to further advance the field. When used in perfect conjunction with the proper thinking process, these new technologies led to a betterment of the field. In the last decade, technologies have also undergone tremendous developments. Back in the early days, a test tube was about the most advanced piece of equipment found in a crime laboratory, but today, it is not unusual to find a gas chromatograph-mass spectrometer or some other gizmo used to measure isotope ratios. Unfortunately, these recent technological advances, while constituting great technical improvements, have not only not led to an improvement of forensic sciences, but have also contributed to its decline.

New technological advances have three major consequences for the forensic community to consider. First, because the amount of data obtained from an analysis is so large and because the analytes detected are so minute, forensic scientists often lack the capacity to understand the significance of the results. Second, because the analyses are so complicated, forensic scientists now are more focused on understanding these analyses rather than understanding the evidence, itself, and what it means in the particular context of an investigation. In addition, the level of specialization is so high that modern forensic scientists no longer have a global view on a case. Third, because the instrumentation now is so complex, the recent trend is to form technicians who can operate an apparatus that spits out results, rather than scientists who can actually read the results and interpret what they mean.

It is crucial that every forensic scientist fully comprehends the genuine forensic thinking process and constantly applies it in his/her duties. In the early days of forensic sciences, the fathers of criminalistics made it clear that forensic sciences revolved around the evidence. Nowadays, when one looks at how recent research is conducted and how some academic programs are designed, it too often appears that the philosophy is that forensic sciences revolve around the techniques used to analyze the evidence and no longer the evidence, itself. It seems blatantly obvious that forensic sciences have slowly deviated from scientific rigors toward legal and political concerns. However, what the forensic community must remember is that forensic scientists first serve science and then legal concerns. It is not acceptable to deviate from science to satisfy legal concerns. It is not acceptable to ignore scientific certainties, if any, to become more politically correct. It is not acceptable to ignore circumstances and botch the interpretation of evidence.

Forensic scientists applying proper forensic thinking are an endangered species. It is now time to reverse the stream and to spread the genuine forensic thinking process again in order to ensure a bright future for forensic sciences and for the fulfillment of their mission to justice.

#### **Forensic Sciences, Future, Thinking Process**