W9 Strategies for Scientific Problem-Solving With Physical Evidence

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After attending this presentation, attendees will have better knowledge of and more insight into the development, underpinnings, and potential value of criminalistics from the perspective of experienced and knowledgeable forensic scientists.

This presentation will impact the forensic science community by addressing the often-overlooked but crucial question of which examinations to perform for a given case, how that decision-making is currently organized, and how it might be improved.

With the rapid growth of the forensic science industry, focus has been more on what scientific techniques to apply to questions of the law and how to increase the number of analyses done than on how those methods are applied. "Progress has been technical rather than fundamental, practical rather than theoretical, transient rather than permanent."[1] This quote in Paul Kirk's article, *The Ontogeny of Criminalistics,* still rings true.

Forensic science has developed on many fronts and there has been an increase in the demand for forensic science services, both in the number and size of forensic laboratories and in the number of university degree programs in forensic science. Efforts in the domain of laboratory accreditation, proficiency testing, and expert certification have contributed to ensuring the quality of the analytical work being performed. These, along with impressive technological advances, are obviously perceived as positive developments; however, there have also been more negative trends: forensic scientists are increasingly confined to the role of reactive technicians and rarely address the complete physical evidence investigation, especially in the context of complex and non-routine cases, and requests submitted to the forensic laboratory are often limited to factual, technical reports rather than the more complex and often more useful evaluative reports and reconstructions.

Responsibility for defining the scientific problem to be solved on the front end and of interpreting the significance of the scientific results within the context of the case on the back end lie primarily with non-scientist personnel. The research being conducted in the forensic science field also rarely addresses this front end and back end decision making. As a consequence, the contribution of forensic science rarely reaches its full potential.

The presenters bring with them a wealth of knowledge and experience concerning the evolution of forensic science industry in several countries. Along with a summary of how forensic science has evolved in their own jurisdictions, they will present their views on the key elements required for the optimization of the contribution of forensic science to criminal justice questions, particularly with regard to complex and non-routine cases, volume crime, and providing guidance to criminal justice policymakers.

Practical, interactive exercises will also be included to illustrate the key points made by the presentations.

Reference(s):

1. **Kirk P.L. The Ontogeny of Criminalistics**, 54 *J. Crim. L.* and *Criminology* 235 (**1963**).

Case Assessment, Forensic Intelligence, Complex Cases