

Plenary Speakers

Thursday, August 2, 2012

Dr. Henry Lee

8:15 AM – 9:15 AM 100 Thomas Building

The Utilization of Chemical Evidence in Forensic Investigations



Recognition of Forensic evidence and laboratory analysis of Chemical evidence can be helpful in directing an investigation along a productive path. Not all types of chemical evidence will be directly linked to or can identify a suspect. In fact, the most common use of Chemical evidence found at crime scenes is to identify the substance or chemical present in the questioned sample. However, chemical evidence could provide indirect investigative information or leads to the solution of the crime. This is the most important and significant use of physical evidence collected from crime scenes. Not every crime scene will have a smoking gun or an eyewitness, but the scene will hold physical evidence that can provide help to the investigating officers. For example, in a hit-and-run investigation, a seven-layer paint chip from the victim's clothing can be used to narrow down the number and kinds of cars that could have been involved in the accident. The presence and absence of GSR can help the investigator to eliminate or include a suspect; the DNA profiles from the semen on victim's rape kits can lead to a potential suspect; The number of different types of inks on a document could indicate the number and types of writing instruments used in a case; the chemical development of latent fingerprints could yield information about a possible sequence of events at the scene, and the condition of the chemical evidence could also help identify the activity of the scene.(1), (2)

Following are the objectives of utilization of forensic evidence found at a crime scene in any investigations; (3), (4)

1. Information on the corpus delicti
2. Information on the modus operandi
3. Linkage of persons to other persons, objects, or scenes
4. Linkage of evidence to persons, objects or locations
5. Determining or eliminating the events and actions that occurred
6. Disproving or supporting witness statements or testimony
7. Identification or Elimination of a suspect
8. Identification of unknown substance
9. Reconstruction of a crime
10. Providing investigative leads

Case examples will be use to illustrate the applications of forensic evidence in criminal and civil cases.

(1). The Real World of A Forensic Scientist, Henry Lee, Elaine Pagliaro, & Katherine Ramsland, Prometheus Books, NY, 2009

(2). Henry Lee Crime Scene Hand Book, Henry Lee, Tim Palmbach & Marilyn Miller Elsevier, 2003

(3). Forensic Science Today, 2nd ed., Henry Lee, George M. Taft & Kimberly A. Taylor, Lawyers & Judges Publishing, Tucson, AZ, 2009

(4). Introduction to Forensic Science and Criminalities, Gaensslen, Harris and Lee, McGraw Hill, 2007

Dr. Henry C. Lee is one of the world's foremost forensic scientists. Dr. Lee's work has made him a landmark in modern-day forensic sciences. He has been a prominent player in many of the most challenging cases of the last 40 years. Dr. Lee has worked with law enforcement agencies in helping to solve more than 6000 cases. In recent years, his travels have taken him to England, Bosnia, China, Brunei, and other locations around the world. Dr. Lee's testimony figured prominently in the O. J. Simpson trial, and in convictions of the "Woodchipper" murderer as well as hundreds of other murder cases. Dr. Lee has assisted local and state police in their investigations of other famous crimes, such as the murder of Jon Benet Ramsey in Boulder, Colorado, the 1993 suicide of White House Counsel Vincent Foster, and the reinvestigation of the Kennedy assassination. Dr. Lee is currently the Chief Emeritus for Scientific Services and was the Commissioner of Public Safety for the State of Connecticut and has served as that state's Chief Criminalist from 1979 to 2000. Dr. Lee was the driving force in establishing a modern State Police Forensic Science Laboratory in Connecticut. In 1975, Dr. Lee joined the University of New Haven, where he created the school's Forensic Sciences program. He has also taught as a professor at more than a dozen universities, law schools, and medical schools. Dr. Lee has authored hundreds of articles in professional journals and has co-authored more than 25 textbooks, covering the areas, such as; DNA, Fingerprints, Trace Evidence, Crime Scene Investigation and Crime scene reconstruction. Dr. Lee has been the recipient of numerous medals and awards, including the 1996 Medal of Justice from the Justice Foundation, and the 1998 Lifetime Achievement Award from the Science and Engineer Association. He has also been the recipient of the Distinguished Criminalist Award from the American Academy of Forensic Sciences; the J. Donero Award from the International Association of Identification, and in 1992 was elected a distinguished Fellow of the AAFS.