



## Criminalistics Section – 2009

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### A5 Forensic DNA: Perspectives on Progress in a Rapidly Growing Field

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The goal of this presentation is to describe recent developments and the state of forensic DNA analysis with comment on the potential and future of this rapidly growing field.

This presentation will impact the forensic community by explaining where the field of forensic DNA testing has come and where it is going. Challenges in terms of education and growth will be addressed.

Since its introduction in the mid-1980s, forensic DNA testing has played an important role in the criminal justice community through aiding conviction of the guilty and exoneration of the innocent. Remains from missing persons and victims of mass disasters have been re-associated and identified through linking reference samples to recovered remains. New technologies are regularly introduced and validated to expand the capabilities of laboratories working to recover DNA results with improved sensitivity and informativeness.

As of July 2008, the U.S. national DNA database contains over six million profiles and has aided tens of thousands of investigations nationwide. The success of DNA has resulted in an expansion of DNA collection laws from offenders and arrestees and a dramatic increase in the numbers of samples submitted for analysis from crime scenes. Forensic laboratories have embraced automation for sample preparation and data interpretation in order to meet increasing throughput demands. Short tandem repeat (STR) typing continues to be the primary workhorse in forensic DNA analysis although new genetic markers are under development for specific applications.

The general public continues to be interested in forensic DNA in large measure due to the popularity of TV programs such as *CSI: Crime Scene Investigation* and *Law & Order*. Other fields such as genetic genealogy and biometrics are increasing interfacing with forensic DNA methodology. Some of the biggest challenges facing the field today are education and training of new staff so that growth in the area of DNA testing can be addressed.

#### **Forensic DNA, STR Typing, DNA**