



Jurisprudence Section – 2011

E40 AFIS vs. CODIS: Why Did the DNA Match When the Fingerprints Didn't?

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After attending this presentation, attendees will understand why latent fingerprints might not "hit" in the Automated Fingerprint Identification System (AFIS) even though there has been a Combined DNA Index System (CODIS) match to the same perpetrator who has left his prints at the crime scene.

This presentation will impact the forensic science community by illustrating deficiencies or "quirks" in the AFIS system that prevent latent fingerprint identifications even though the suspect's inked prints are in AFIS, and why it is important to re-search AFIS after getting a CODIS match.

Cold case investigators sometimes find that after a CODIS match, when they run the suspect's prints in AFIS they get a match to crime scene latents that didn't match before. This raises speedy trial issues: if the defendant's inked prints were in AFIS, why didn't they hit sooner? What went wrong? Why is the defendant facing charges many years after the crime when he might have or could have or should have been identified when the latents first entered the AFIS system?

Lawyers may be surprised to learn that approximately 25% of the time, latent prints fail to match inked prints in the AFIS system. Factors such as the quality of the inked prints, the fact that inked prints may be entered only once instead of after every arrest, the surface area of the latent vs. the surface area of the inked print, and whether the "minutia" of the latent print are plotted by a live fingerprint examiner or the AFIS computer will affect the likelihood of a match.

The Manhattan District Attorneys Office Forensic Sciences/Cold Case Unit will present a case study of a CODIS "cold hit" rape case where AFIS failed to initially make a match. After the cold hit, prosecutors asked the latent print examiners to take another look at latents lifted from the crime scene, and to re-submit them to AFIS. This resulted in a match to the same defendant identified through DNA. After the defense made speedy trial objections, prosecutors researched the AFIS system. A demonstration of a latent print search showed that the skill of the latent print examiner in plotting the minutia of the latent print affected the likelihood that the computer would offer the correct perpetrator in the list of candidates for a match.

Latent Fingerprints, AFIS, CODIS