



# ASCLD FRC Lightning Talks

## *Error Rates in Forensic Science*

Thursday January 7<sup>th</sup>, 2020, 1:00 EST, WebEx

Register at: <https://www.ascld.org/lightning-talks-registration/>



### *Fingerprint Error Rate on Close Non-Matches*

Jay Koehler, Professor of Law, Northwestern University School of Law

The risk of error in fingerprint identification is heightened when prints from different sources have many common features and few dissimilar features. A mandatory proficiency test completed by 125 fingerprint agencies revealed high false positive error rates on two similar, but non-matching, print pairs.



### *Estimates of Error Rates in Forensic Science among Forensic Analysts and Judges*

Brett Gardner, Psychologist, University of Virginia School of Law

We surveyed 183 practicing forensic analysts and 164 judges to examine how they estimate error rates in forensic science disciplines. Results revealed that analysts perceive errors in their discipline to be rare, with false positive errors even more rare than false negatives. Judges' also underestimated the error rates of forensic science disciplines according to few available benchmark studies, although their estimates were more conservative than those made by analysts.



### *Error Rates and Firearm Examination*

Ted Vorburger, Guest Researcher, National Institute of Standards and Technology

In its Daubert ruling of 1993, the Supreme Court listed "known or potential error rate" as a factor in considering the admissibility of forensic evidence. It is challenging to establish relevant error rates for the pattern matching discipline of firearm examination. At NIST we have been engaged in two projects aimed to address this issue: a review project that seeks to evaluate the scientific foundations of the discipline and a research project into automated methods for firearm identification. As part of the review, we have been working to gather all public data that address the issue of error rate and uncertainty in this field. As part of the research project, we are investigating the application of 3D (topography) imaging technology and computerized analysis for objective firearm examination including estimation of error rates when considering potential identifications.