



## Odontology Section - 2016

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### **G25 The Rise and Fall of Bitemark Matching and Bitemark Recognition: Blame It on DNA ... or, What's Next?**

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After attending this presentation, attendees will better understand how meta-data review of legal case outcomes, multidisciplinary review, and media commentary, accompanied by objective empirical research and DNA methods present severe obstacles to forensic practitioners still relying on judicial stare decisis for their legitimacy.

This presentation will impact the forensic science community by allowing a more public look at these topics, which are omnipresent in social and print media.

Excessive expert disagreement in pattern analysis reflects poor reliability performance among bitemark analysis practitioners. Considerable odontological evidence was presented at the 2015 American Academy of Forensic Sciences (AAFS) Plenary Session that reinforced motivational bias as a contributing factor. Pre-trial and post-conviction DNA disagreement with prosecutorial bitemark opinions on the source, and the mere existence of skin patterns resulting from bitemarks, reflects poor validity in this AAFS/American Board of Forensic Odontology (ABFO) -accepted subset of forensic odontology.

Substantive research in the decades-long bitemark literature has failed to support human skin as an accurate pattern substrate. The National Academy of Sciences 2009 Report, *Strengthening Forensic Science in the United States: A Path Forward*, agrees with this fact, which conflicts with the few odontologists still practicing this field of forensic odontology. To date in the legal arena, the United States courts have been unable to keep up with the rise and fall of 40 years of stare decisis appellate holdings that accept bitemark matching and recognition. Some states' citations affirming this practice still use references that have become legally determined exonerations. This is despite the input of Frye, Daubert, Kumho, and judicial colleges on how to render opinions on what constitutes "science." This gap has very recently resulted in forensic reform advocates successfully advancing new legislation to educate and mandate courts to recognize and "weigh" (a notable non-science approach) empirical evidence-based "paradigm" shifts in forensic practice as being "new evidence." In a sense, politicians are creating their own piecemeal, state-by-state reform of forensics outside the hallowed halls of the practitioners and their committees.

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**Odontology Gap Analysis, Pattern Misidentification, Stare Decisis**