

## F22 Cell Phones Are the New DNA: The Emerging Role of Mobile Device Forensics in Wrongful Conviction Exonerations

*John J. Carney, Esq., JD\*, Carney Forensics, Scandia, MN 55073*

**Learning Overview:** New evidence produced from testing using new, innovative technology can open the door to judicial action for wrongful conviction review and exonerations. For decades, DNA testing was the most popular and effective example of new technology. Now mobile device forensics is emerging as an effective alternative to watch, or even the most promising form of new evidence, because of its speed of technology innovation and adoption and its support of a diversified number of proof vectors as compared to DNA. This presentation will compare and contrast mobile with DNA evidence. The goal of this presentation is to focus on effectively using mobile device forensics to recover new evidence in wrongful conviction challenges.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community in terms of competence (ability) and performance (action) by showing the practical value of technology innovation, whether biological or digital, in modern-day criminal justice in the United States and how to recognize opportunities to exploit it. This presentation will educate attendees on how to obtain new trials and exonerations based on effectively using sound digital forensic methods, best practices, and mobile device forensic tools designed to seek truth and defend the innocent.

The hypothesis or proposition of this presentation centers on how new technology and rapidly changing methods and tools provide a steady stream of opportunities for the Innocence Project, appellate public defenders, and private criminal defense attorneys to recover exonerating evidence in wrongful conviction challenges using advanced mobile device forensic science.

This presentation will compare and contrast mobile with DNA evidence. Like DNA, mobile may play a key role in wrongful conviction cases in the United States. (1) Technology-based innovation may provide new evidence required to open the door to wrongful conviction review. (2) Both methods have wide applicability for all persons in the population. (3) Everyone has DNA and most people have a cell phone. (4) The frequency of relevant and probative evidence recovery upon which cases turn compared to other forms. (5) Both have destructive use cases: DNA sample consumption; device chip-off; iPhone® jailbreaks; and Android® rooting.

Differences between mobile and DNA evidence may support mobile as the most promising form of new evidence. (1) DNA evidence is now regularly tested before trial. Many old cases have been reviewed using DNA. (2) Greater pace and rapid adoption for mobile technology innovation. (3) Diversified proof vectors for mobile as opposed to binary outcomes for DNA. (4) Material advantages of wrongfully convicted defendant's cooperation (personal knowledge) for mobile credentials. (5) Range of training and proficiency of mobile device forensic practitioners compared to DNA labs. (6) Limited time budgets and quotas for mobile device forensic practitioners in law enforcement. (7) Emerging awareness of mobile device evidence within the criminal justice community.

This presentation will focus on effectively using mobile device forensics to recover new evidence in wrongful conviction challenges. (1) Mobile device artifacts like device locations, contacts, text messages, chat, voice calls and messages, photos, videos, health and activity data, internet browsing, Google® searches, and mobile app evidence. (2) Pattern-of-life evidence showing insights into digital behaviors and frequency and location of routines.

This presentation will highlight opportunities to leverage mobile device forensics during the post-appeal time window to recover new evidence to qualify for reduced standards of proof. (1) Older feature phones with impaired device connections, or examined with primitive screen photographs instead of probative mobile device forensic tools, and advanced, deeply probative hardware extraction techniques like JTAG, chip-off, and In-System Programming (ISP). (2) iPhones® now support forensically sound, temporary jailbreaks which yield full file system extractions and deeply probative, newly discovered forms of mobile evidence and abundant deleted evidence. (3) Android® smart phones support forensically sound bootloaders and decrypting imaging methods that yield physical and full file system extractions and deeply probative, newly discovered forms of mobile evidence and abundant deleted evidence.

This presentation will conclude with a brief review of a successful wrongful conviction case study of a first-degree murder with a Life Without Parole (LWOP) sentence in Minnesota where an advanced mobile device forensic examination of the victim's feature phone from March 2008 recovered new, material evidence that contradicted eyewitness testimony and provided the wrongfully convicted defendant a new trial.

---

### Wrongful Conviction, Mobile Device Forensics, DNA