

History of Forensic Science



- BCE Evidence of fingerprints in early paintings and rock carvings made by prehistoric humans
- 700s Chinese used fingerprints to establish the identity of documents and clay sculptures, but without any formal fingerprint classification system.
- 1248 Chinese recorded a description of how to distinguish drowning from strangulation. First recorded application of medical knowledge to crime solving.

- 1686 First notes recorded about fingerprint characteristics
- 1784 In England, John Toms was convicted of murder based on matching a piece of newspaper in his pocket to a wad left at the crime scene.
- 1836 James Marsh, a Scottish chemist, was the first to use toxicology (arson detection) in a jury trial.
- 1864 Odelbrecht first advocated the use of photographs to identify criminals, document evidence and crime scenes.

- 1880 First recorded use of fingerprints to solve a crime in Tokyo
- 1887 First Sherlock Holmes novel published
- 1891 Hans Gross credited with coining the term *criminalistics*
- 1901 Development of techniques to detect blood types
- 1903 New York State prison system began to use fingerprints to identify criminals
- 1905 Federal Bureau of Investigation (FBI) established

- 1910 First police crime laboratory established in France
- 1920 Edmond Locard develops idea that “Every contact leaves a trace”.
- 1924 First U.S. crime lab implemented in Los Angeles.
- 1932 FBI crime lab established
- 1941 Beginning of voiceprint identification
- 1945 Test for semen presence developed

- 1954 Breathalyzer for field sobriety testing invested.
- 1977 Automated Fingerprint Identification System (AFIS) introduced by FBI
- 1986 First use of DNA to solve a crime
- 1991 Integrated Ballistics Identification System (IBIS) launched for comparison of bullets, cartridge cases, and shell casings.
- 1996 FBI introduced computerized searches of the AFIS fingerprint database.

- 1998 Combined DNA Index System (CODIS) created
- 2011 Develop software to match hand drawn facial sketches to mug shots stored in databases
- 2014 Develop laser-based imagine system that can create 3D images of objects from 10.5 m away
- 2014 Scientists research on new biometric, body odor, with 85% accuracy

Crime Laboratories



Four Major Federal Crime Laboratories

1. FBI – largest crime lab in the world
2. Drug Enforcement Administration (DEA) – analyzes drugs seized
3. Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) – analyzes alcoholic beverages, weapons, explosives
4. U.S. Postal Inspection Service – crimes involving the postal service

Other Federal Labs

- ▶ Dept. of Homeland Security:
 - Secret Service – counterfeiting & protect president
- ▶ Dept. of Treasury:
 - IRS - questioned documents
- ▶ Dept. of Interior:
 - US Fish & Wildlife Services – poaching, endangered species, national park crimes

Crime Labs in Colorado

- ▶ Colorado Bureau of Investigation (CBI) – analyzes evidence sent by police departments in Colorado
- ▶ Longmont: limited crime lab; LPD collects evidence and sends it to CBI
- ▶ Denver: has its own crime lab
- ▶ Other Crime Labs:
 - Jefferson County Sheriff's Office
 - Greeley/Weld County Forensic Lab
 - Rocky Mountain Regional Computer Forensic Laboratory, Centennial