1679: The Habeas Corpus Act is formally passed by English Parliament.

1764: Italian Cesare Beccaria’s publishes *Dei delitti e delie*, when translated via French into English becomes the influential *Essay on Crimes and Punishment*.


1789: Congress passes the Judiciary Act, which establishes the federal justice system and creates the Office of the Attorney General, as well as the U.S. Marshal Service.

1802: John Dalton introduces modern atomic theory into the science of chemistry.

1813: In France, Mathieu Orfila advances science of forensics as he uses a microscope for the analysis of blood and semen stains.

1817: German pharmacist Frederick Serturner announces the extraction of morphine from opium.

1818: Augustin Jean Fresnel (1788–1827), French physicist, publishes his *Mémoire sur la diffraction de la lumière* in which he demonstrates the ability of a transverse wave theory of light to account for such phenomena as reflection, refraction, polarization, interference, and diffraction patterns.

1828: Friedrich Wöhler synthesizes urea. This is generally regarded as the first organic chemical produced in the laboratory, and an important step in disproving the idea that only living organisms can produce organic compounds. Work by Wöhler and others establish the foundations of organic chemistry and biochemistry.

1828: Luigi Rolando (1773–1831), Italian anatomist, achieves the first synthetic electrical stimulation of the brain.

1830: Colt revolver introduced by gun maker Samuel Colt.

1833: Philadelphia establishes the first paid police force in United States.

1835: Henry Goddard at England’s Scotland Yard uses comparison of flaws in bullets to catch a murderer.

1835: Texas Rangers formed.

1836: Toxicological evidence (related to arsenic poisoning) is first used in a trial (in UK).

1839: Semen and sperm characteristics defined by microscopic examination.

1843: Charles-Frédéric Gerhardt (1816–1856), French chemist, simplifies chemical formula-writing, so that water becomes H₂O instead of the previous H₂0₂.

1850: Pinkerton Detective Agency formed.

1857: New York Police Department (NYPD) establishes an investigative division that maintains criminal records.

1858: Rudolf Ludwig Carl Virchow publishes his landmark paper “Cellular Pathology” and establishes
the field of cellular pathology. Virchow asserts that all cells arise from preexisting cells (Omnis cellula e cellula). He argues that the cell is the ultimate locus of all disease.

1861: 1861 Criminal Law Consolidation Act in UK limits use of the death penalty to murder, treason, mutiny and piracy.

1862: Dutch scientist J. Van Deen develops presumptive blood test.

1862: Department of Agriculture establishes the Bureau of Chemistry, the organizational forerunner of the Food and Drug Administration.

1864: First photographic plates made for the purpose of identification of criminals and questioned documents.

1865: United States Secret Service established to interdict counterfeit currency and its manufacturers.

1865: U.S. Secret Service formed primarily to combat currency counterfeiting.

1867: Lambert Adolphe Jacques Quetelet shows the importance of statistical analysis for biologists and provides the foundations of biometry.

1870: U.S. Department of Justice formed.

1872: Ferdinand Julius Cohn publishes the first of four papers entitled “Research on Bacteria,” which establishes the foundation of bacteriology as a distinct field. He systematically divides bacteria into genera and species.

1876: Robert Koch publishes a paper on anthrax that implicates a bacterium as the cause of the disease, validating the germ theory of disease.

1876: Italian Cesare Lombroso’s publishes L'uomo (later translated into English as Criminal Man), a seminal text in criminology.

1877: Microscopic delineation of palm prints.

1877: Congress passes legislation prohibiting the counterfeiting of any coin, gold, or silver bar.

1878: Charles–Emanuel Sedillot introduces the term “microbe.” The term becomes widely used as a term for a pathogenic bacterium.

1879: German pathologist Rudolph Virchow studies and characterizes hair.

1880: Louis Pasteur develops a method of weakening a microbial pathogen of chicken, and uses the term “attenuated” to describe the weakened microbe.

1880: Two Englishmen working abroad notice that fingerprints are unique to individuals. Sir William Herschel, a British Magistrate working in India, uses the impressions of fingers of local businessmen to validate contracts. As Herschel collects these fingerprints, he noticed that no two are alike. In Japan, British physician, Henry Faulds, studies fingerprints he finds on ancient pottery. He documents their individual patterns and develops a method for categorizing them. His work is published in the journal “Nature.”

1882: Sir Francis Galton publishes a book titled “Fingerprints,” that proves that fingerprints do not change during a person’s lifetime. He also develops a set of characteristics, called minutia, that can be used to identify fingerprints. These characters, also called Galton’s Details, are still used in modern forensics.

1882: The German bacteriologist Robert Koch (1843–1910) discovers the tubercle bacillus and enunciates “Koch’s postulates,” which define the classic method of preserving, documenting, and studying bacteria.

1883: French police worker Alphonse Bertillon links criminal behavior to body measurement (anthropometry).

1884: Herbert Spencer writes The Principles of Sociology.

1885: Thomas Byrnes writes Professional Criminals of America.

1887: Arthur Conan Doyle writes the first of a series of detective stories featuring the iconic fictional detective, Sherlock Holmes.

1888: Jack the Ripper commits serial murders in London’s East End.

1889: In 1899 and 1900, Sir Edward Richard Henry improves on Galton’s classification system, allowing forensics experts to handle larger numbers of fingerprints in their filing systems. Henry’s system remains one of the most common systems used.

1892: Argentinean police worker Juan Vucetich advances fingerprint classification system. Vucetich identifies a woman who murdered her own sons by a bloody print on the doorpost.

1898: In Germany, Paul Jesrich compare bullets using photomicrographs.

1900–1949

1900: Friedrich Ernst Dorn (1848–1916), German physicist, demonstrates that the newly discovered
radium gives off a gas as well as produces radioactive radiation. This proves to be the first demonstrable evidence that in the radioactive process, one element is actually transmuted into another.

1900: Karl Landsteiner discovers the blood-agglutination phenomenon and the four major blood types in humans.

1901: In England and Wales, fingerprints are incorporated into the criminal investigation system.

1903: The New York State Prison system begins systematically fingerprinting criminals.

1904: St. Louis Police department uses fingerprint identification during the World’s Fair.

1904: Oskar and Rudolf Adler develop benzidine based presumptive test for blood.

1908: Formal beginning of the Bureau of Investigation (BOI) that became the FBI in 1935.

1910: In France, Edmond Locard establishes the first formal police laboratory.

1911: Fritz Pregl (1869–1930), Austrian chemist, first introduces organic microanalysis. He invents analytic methods that make it possible to determine the empirical formula of an organic compound from just a few milligrams of the substance.

1912: Joseph Thomson develops a forerunner of mass spectrometry and separation of isotopes.

1913: In Paris, Victor Balthazard identifies bullet marking classifications and techniques.

1915: International Association for Criminal Identification, a precursor of the International Association for Identification (IAI), is founded, with founder Harry H. Caldwell as its presiding officer.

1915: Germany uses poison gas at the Battle of Ypres.

1916: Vacuums used to collect trace evidence.

1919: October 28, 1919 Congress passes the National Motor Vehicle Theft Act, also known as the Dyer Act. This act authorizes the Bureau of Investigation to investigate auto thefts that cross state lines.

1920: In France, Edmond Locard publishes L’enquête criminelle et les méthodes scientifique a seminal book for crime scene investigation and criminal forensics.

1921: William Marston develops first modern polygraph.

1921: Twenty-six year old J. Edgar Hoover named Assistant Director of BOI.

1922: White House police force created at request of President Warren G. Harding. Ultimately this will become the uniformed division of the United States Secret Service.

1923: The comparison microscope is used for bullet comparison.

1924: United States consolidates fingerprint files in the Identification Division of the Federal Bureau of Investigation and by 1946, there are more than 100 million fingerprint cards in their files. Eventually this collection of cards becomes the Automated Fingerprint Identification System, or AFIS. In 1999, the F.B.I. teamed with federal, state and local criminal investigation departments to establish IAFIS, the Integrated Automated Fingerprint Identification System. This facility electronically stores the fingerprints and criminal history information of more than 47 million individuals.

1924: Los Angeles Police Chief Vollmer, establishes the first U.S. police crime laboratory.

1924: BOI establishes an Identification Division after Congress authorized “the exchange of identification records with officers of the cities, counties, and states.”

1924: J. Edgar Hoover is named director of the U.S. Bureau of Investigations (later the FBI).

1925: Johannes Hans Berger (1873–1941), German neurologist, records the first human electroencephalogram (EEG).

1925: Special Agent Edwin C. Shanahan becomes the first BOI agent killed in the line of duty.


1930: United States Food, Drug, and Insecticide Administration is renamed Food and Drug Administration (FDA).

1930: U.S. Treasury Department creates Bureau of Narcotics, which will remain the principal anti-drug agency of the federal government until the late 1960s.

1930: Primitive anthrax vaccine developed.

1930: Uniform Crime Reports bulletins/reports established.

1932: Federal Bureau of Investigation (FBI) crime laboratory established.

1932: The Bureau of Investigation starts the international exchange of fingerprint data with friendly foreign governments. Halted as war approached, the program was not re-instituted until after World War II.

1932: In response to the Lindbergh kidnapping case and other high profile cases Federal Kidnapping Act is passed to authorize BOI to investigate kidnappings perpetrated across state borders.

1935: Federal Bureau of Narcotics, forerunner of the modern Drug Enforcement Administration (DEA), began a campaign that portrayed marijuana as a drug that led users to drug addiction, violence, and insanity. The government produced films such as Marihuana (1935), Reefer Madness (1936), and Assassin of Youth (1937).


1941: Researchers publish studies of voiceprint identification.

1941: Arnold O. Beckman, American physicist and inventor, invents the spectrophotometer. This instrument measures light at the electron level and can be used for many kinds of chemical analysis.


1942: Alcohol Tax Unit (ATU) formed and given responsibility for enforcing the Firearms Act.

1946: R.R. Race advances Kell blood group system.

1950–1999

1950: Duffy blood group system advanced.


1950: Puerto Rican nationalists attempt to assassinate President Harry S. Truman. As a result of this incident, in which a United States Secret Service (USSS) agent is killed, Congress greatly expands the duties of USSS.

1950: The FBI initiates the Ten Most Wanted Fugitives Program in May in order to draw national attention to dangerous criminals who have avoided capture.

1951: Kidd blood grouping system advanced.

1953: James D. Watson and Francis H. C. Crick publish two landmark papers in the journal Nature. The papers are entitled “Molecular structure of nucleic acids: a structure for deoxyribonucleic acid” and “Genetic implications of the structure of deoxyribonucleic acid”. Watson and Crick propose a double helical model for DNA and call attention to the genetic implications of their model. Their model explains how the genetic material is transmitted.


1958: International Association for Identification establishes the John A. Dondero Memorial Award, first awarded to FBI Director J. Edgar Hoover.

1959: The microchip, forerunner of the microprocessor, is invented.


1963: November 22, 1963 Lee Harvey Oswald assassinates President John F. Kennedy in Dallas, Texas.


1966: Naval Investigative Service, predecessor of the Naval Criminal Investigative Service, formed as an office within the Office of Naval Intelligence.

1966: In the United States, the Miranda Rights are established when The United States Supreme Court rules in Miranda vs. Arizona that an accused criminal has the right to remain silent; that prosecutors may not use statements unless the police have advise the accused of his or her rights and other rights.


1968: U.S. anti-drug agencies in the Treasury and Health, Education, and Welfare departments merged to form the Bureau of Narcotics and Dangerous Drugs under the Justice Department.

1968: National Institute of Justice established under the authority of the Omnibus Crime Control and Safe Streets Act to provide independent, evidence-based tools to assist state and local law enforcement.

1968: James Earl Ray assassinates Dr. Martin Luther King, Jr. in Memphis, Tennessee on April 4. The FBI opened a special investigation based on the violation of Dr. King's civil rights so that federal jurisdiction in the matter could be established.

1968: As a result of Senator Robert F. Kennedy’s assassination on June 5, Congress authorizes protection of major Presidential and Vice Presidential candidates and nominees.

1969: Microprocessor developed.

1969: Defense Department Advanced Research Projects Agency (ARPA) establish ARPANET, a forerunner to the Internet.


1970: The Consolidated Federal Law Enforcement Training Center, a bureau of the Department of the Treasury, is established as an organization to provide training for all federal law-enforcement personnel. Today known as the Federal Law Enforcement Training Center, it is now part of the Department for Homeland Security.

1970: Congress approves the Organized Crime Control Act of 1970 in October. This law contained a section known as the Racketeer Influenced and Corrupt Organization Act or RICO. RICO becomes an effective tool in convicting members of organized criminal enterprises.

1971: Culliford publishes *The Examination and Typing of Bloodstains in the Crime Laboratory*.

1972: Recombinant technology emerges as one of the most powerful techniques of molecular biology. Scientists are able to splice together pieces of DNA to form recombinant genes. As the potential uses, therapeutic and industrial, became increasingly clear, scientists and venture capitalists establish biotechnology companies.

1972: The ATF Division of IRS becomes a separate Treasury bureau, the Bureau of Alcohol, Tobacco, and Firearms.

1974: Scanning electron microscopy with electron dispersive X-rays (SEMEDX) used to identify gunshot residue.


1977: Forensic scientists begin to use Fourier transform infrared spectrophotometer.


1981: First corpse donated for study received at the Body Farm.

1982: In January, federal law enforcement reorganization gives Drug Enforcement Administration (DEA) and Federal Bureau of Investigation (FBI) concurrent jurisdiction in drug-related criminal matters.

1982: The FDA issues regulations for tamper-resistant packaging after seven people died in Chicago from ingesting Tylenol capsules laced with cyanide. The following year, the federal Anti-Tampering Act was passed, making it a crime to tamper with packaged consumer products.

1984: Crime-fighting efforts bolstered by the Sentencing Reform Act, which stiffens prison sentences, requiring mandatory terms for certain crimes and abolishing federal parole; and by the Victims of Crime Act. Throughout the 1980s, numerous national and community-based organizations are formed to provide support to victims of rape, spousal abuse, drunk driving, and other crimes.

1984: Congress enacts legislation making the fraudulent use of credit and debit cards a federal violation.

1984: The United States Department of Energy (DOE), Office of Health and Environmental Research, U.S. Department of Energy (OHER, now Office of Biological and Environmental Research), and the International Commission for Protection Against Environmental Mutagens and Carcinogens (ICPEMC) cosponsor the Alta, Utah, conference highlighting the growing role of recombinant DNA technologies. OTA incorporates the proceedings of the meeting into a report acknowledging the value of deciphering the human genome.

1984: President Ronald Reagan issues a directive giving the NSA responsibility for maintaining security of government computers.

1985: Alec Jeffreys develops “genetic fingerprinting,” a method of using DNA polymorphisms (unique sequences of DNA) to identify individuals. The method, which is subsequently used in paternity, immigration, and murder cases, is generally referred to as “DNA fingerprinting.”

1985: Kary Mullis, who was working at Cetus Corporation, develops the polymerase chain reaction (PCR), a new method of amplifying DNA. This technique quickly becomes one of the most powerful tools of molecular biology. Cetus patents PCR and sells the patent to Hoffman-LaRoche, Inc. in 1991.


1986: First use of PCR-based forensic DNA analysis in the United States. Henry Erlich confirms that two autopsy samples came from the same person in the case *Pennsylvania v. Pestinikis*.

1986: First use of DNA to solve a crime as Alec Jeffreys uses DNA profiling evidence to identify Colin Pitchfork as a murderer.

1986: Computer Fraud and Abuse Act enacted, defining federal computer crimes.
1986: U.S. intelligence community establishes Intelligence Community Staff Committee on MASINT (measurement and signatures intelligence) to oversee all relevant activities.

1987: Based on RFLP analysis, DNA profiling is introduced into a U.S. criminal trial.

1987: Congress passes the Computer Security Act, which makes unclassified computing systems the responsibility of the National Institute of Standards and Technology (NIST) and not the NSA with regard to technology standards development.

1987: The idea to use patterns of the iris of the eye as an identification marker is patented, along with the algorithms necessary for iris identification.

1987: In England the first use of DNA typing.

1988: International Association for Identification establishes peer-reviewed publication: *Journal of Forensic Identification*.

1988: Pam Am Flight 103 is destroyed by a bomb over Lockerbie, Scotland.

1988: The Human Genome Organization (HUGO) is established by scientists in order to coordinate international efforts to sequence the human genome.


1992: National Crime Information Center consolidates with the FBI’s Criminal Justice Information Services division.

1992: Naval Criminal Investigative Service formed as an entity separate from the Office of Naval Intelligence.


1993: World Trade Center Bombing, February 26, 1993: The World Trade Center in New York City was badly damaged when a car bomb planted by Islamic terrorists explodes in an underground garage. The bomb left six people dead and 1,000 injured. The men carrying out the attack were followers of Umar Abd al-Rahman, an Egyptian cleric who preached in the New York City area.

1993: After a 51-day siege by the Bureau of Alcohol, Tobacco, and Firearms, federal teams assault a compound held by the Branch Davidians, a religious sect charged with hoarding illegal weapons. The Branch Davidians set the buildings on fire, killing 76 people, including cult leader David Koresh.


1994: The Genetic Privacy Act, the first United States Human Genome Project legislative product, proposed regulation of the collection, analysis, storage, and use of DNA samples and genetic information obtained from them. These rules were endorsed by the ELSI Working Group.

1995: Forensic Science Service (U.K.) established the world’s first national criminal intelligence DNA database, the National DNA Database.

1995: Study by the Rand Corporation finds that every dollar spent in drug treatment saves society seven dollars in crime, policing, incarceration, and health services.

1995: A car bomb explodes outside the Alfred P. Murrah Federal office building in Oklahoma City, Oklahoma, on April 19, collapsing walls and floors. 169 persons were killed, including 19 children and one person who died in the rescue effort. Timothy McVeigh and Terry Nichols are later convicted in the anti-government plot to avenge the Branch Davidian standoff in Waco, Texas, exactly two years earlier.


1996: First computerized searches of the AFIS fingerprint database.

1996: First use of mitochondrial DNA typing evidence in a U.S. trial (*Tennessee v. Ware*).

1997: The National Center for Human Genome Research (NCHGR) at the National Institutes of Health becomes the National Human Genome Research Institute (NHGRI).

1997: The FBI announced its new National DNA Index System (NDIS) on December 8, allowing forensic science laboratories to link serial violent crimes to each other and to known sex offenders through the electronic exchange of DNA profiles.


1998: FBI and ATF agree to pursue joint development of one system, using only IBIS, and creates National Integrated Ballistics Information Network.
1998: DNA analyses of semen stains on a dress worn by Monica Lewinsky were found to match DNA from a blood sample taken from President Clinton.

1998: DNA fingerprinting used to identify remains of Russian Imperial Romanov family.

1999: The F.B.I. teams with federal, state and local criminal investigation departments to establish IAFIS, the Integrated Automated Fingerprint Identification System. This facility electronically stores the fingerprints and criminal history information of more than 47 million individuals.

1999: Osama bin Laden is added to the FBI's “Ten Most Wanted Fugitives” list in June, in connection with the U.S. Embassy bombings in East Africa.

1999: FBI personnel traveled to Kosovo on June 23 to assist in the collection of evidence and the examination of forensic materials in support of the prosecution of Slobodan Milosevic and others before the International Criminal Tribunal for the former Yugoslavia.


2001: September 11, Islamist terrorists mount a coordinated terrorist attack on New York and Washington. The World Trade Center Towers are destroyed, killing nearly 3,000 people. In Washington, a plane slams into the Pentagon, but passengers aboard another hijacked airliner, aware of the other terrorist attacks, fight back. During the struggle for the aircraft, it crashes into a Pennsylvania field, thwarting the terrorist’s plans to crash the plane into either the U.S. Capital or White House.

2001: The FBI dedicates 7,000 of its 11,000 Special Agents and thousands of FBI support personnel to the PENTTBOM investigation. “PENTTBOM” is short for Pentagon, Twin Towers Bombing.

2001: Letters containing a powdered form of Bacillus anthracis, the bacteria that causes anthrax, are mailed by an unknown terrorist or terrorist group (foreign or domestic) to government representatives, members of the news media, and others in the United States. More than 20 cases and five deaths are eventually attributed to the terrorist attack.

2001: In conjunction with the U.S. Post Office, the FBI on October 18 offered a reward of $1,000,000 for information leading to the arrest of the person who mailed letters contaminated with Anthrax in October to media organizations and congressional offices. A further anthrax contaminated letter was postmarked to a U.S. senator on October 8, resulting in closure of the Hart Senate building and other government offices and postal facilities.

2001: On October 26, 2001, President George W. Bush signs the Patriot Act into law, giving the FBI and CIA broader investigatory powers and allowing them to share confidential information about suspected terrorists with one another. Under the act, both agencies can conduct residential searches without a warrant and without the presence of the suspect and allows immediate seizure of personal records. The provisions are not limited to investigating suspected terrorists, but may be used in any criminal investigation related to terrorism. The Patriot Act also grants the FBI and CIA greater latitude in using computer tracking devices to gain access to Internet and phone records. Forensic science becomes more entwined with National Security interests.

2001: Enough closed-circuit television cameras (CCTV) are installed in public places in Britain that, on an average day in any large British city, security experts calculate that a person will have over 300 opportunities to be captured on CCTV during the course of normal daily activities.


2004: Total number of DNA profiles in the FBI NDIS database reaches 2,132,470; the total number of forensic profiles is 93,956; and the total number of convicted offender profiles is 2,038,470.

2006: In the United States, while deliberating a death sentence for French citizen Zacarias Moussaoui (as of early 2006 the only person to face criminal charges related to the September 11, 2001 terrorist attacks on the United States) jurors hear the first public playing from the cockpit voice recorder that contains sounds of struggle between passengers and hijackers aboard downed United Airlines Flight 93.

2006: In Afghanistan a man faces a possible death sentence for converting from Islam to Christianity.

2006: In England, robbers make off with currency with an estimated value of $40M to $80M in U.S. Dollars.