

U.S. Department of Justice
Federal Bureau of Investigation

A large, modern, multi-story building with a glass facade and several tall, cylindrical chimneys on the roof. The building is set in a winter landscape with snow on the ground and a small pond in the foreground. The sky is overcast.

FBI LABORATORY

2002

FBI Laboratory 2002 Report



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Message from the FBI Laboratory Director

The forensic community must join forces whenever possible to successfully apply scientific capabilities to the collection, processing, and exploitation of evidence. Whether the subject is forensic casework and improving testing methods and quality standards or forensic research and training, the FBI Laboratory seeks partnerships with other forensic laboratories and scientists in a common mission to provide the best possible forensic services to the criminal justice system.

The fight against terrorism rose to a higher level last year. The FBI Laboratory assisted the investigation and prosecution of several cases of national importance, including Richard Reid who attempted to detonate explosives in his shoes while aboard a commercial jet and the anthrax investigation involving five deaths and contamination through the U.S. Postal Service. For the FBI, for the forensic community, and for the United States, the war on terrorism is as complex and perplexing as any threat this nation has ever faced. And, whether the threat comes in the form of anthrax-laced letters or in the form of a devastating bomb blast in Yemen, it is imperative that we use the full weight of the law and the full knowledge of science to bring these terrorists to justice.

Congress recently provided long-term funding for the FBI Laboratory to join forces with state and local laboratories to conduct mitochondrial DNA (mtDNA) analysis. Four regional mtDNA laboratories, combined with the Laboratory's mtDNA analysis capability



*“Behind every case is a victim -
man, woman or child -
and the people who care for them.
We dedicate our efforts and
the new FBI Laboratory building
to those victims.”*

and the National Missing Persons DNA Database Program, will establish a network of mtDNA laboratories to provide no-cost mtDNA analysis to areas with too few cases to justify their own mtDNA units and who cannot afford to pay commercial rates. Regional mtDNA laboratories exemplify how the FBI Laboratory can cooperate with other full-service, accredited forensic laboratories to provide essential services to agencies that should not be compelled to go without for lack of case volume or funding.

In September 2002, the FBI Laboratory established a new mark of excellence in conducting the 30th *Annual Crime Laboratory Development Symposium*. The FBI Laboratory joined forces with a world-class business administration program to present a three-day program of executive training for 260 forensic laboratory directors from across the country at Washington University in St. Louis, Missouri. This new format will continue in 2003 and will combine the best of executive education geared to the needs of forensic laboratory directors.

The FBI Laboratory continues funding and logistical support for a variety of scientific working groups whose purposes are to develop and improve standards for disciplines as varied as DNA and questioned documents. The FBI Laboratory's sponsorship of the Scientific Working Group on DNA Analysis Methods in the early 1990s demonstrated the power of consensus-based standards arising from the forensic community. The FBI Laboratory is proud to continue support for numerous scientific working groups.

As 2002 came to an end, the FBI Laboratory began moving from FBI Headquarters in Washington, DC, to a new facility in Quantico, Virginia. About 100 employees moved each weekend until all 650 were relocated to the five-floor building that contains nearly 500,000 square feet of specialized laboratory and office space. Architects were guided by concerns regarding security and evidence control, as well as possible exposure to biohazards and airborne pathogens. The building's modular design will accommodate future growth and internal reorganization.

As part of the FBI's restructuring in 2002 to address challenges posed by advancing computer and telecommunications technology, the Engineering Research Facility at Quantico, Virginia, was separated from the FBI Laboratory and became the cornerstone of a new division focused on counterterrorism and cybercrime. Consequently, the Computer Analysis and Response Team and the Forensic Audio, Video, and Image Analysis Unit and their mission to examine digital evidence are no longer a part of the FBI Laboratory.

The FBI Laboratory will continue working with all members of the forensic science community, strengthening relationships, while looking for opportunities to collaborate in ways that may be unfamiliar, but which will prove in coming years to be the foundation of our joint success.

Dwight E. Adams, Ph.D.
Director FBI Laboratory
Federal Bureau of Investigation



FBI LABORATORY GOALS & OBJECTIVES

The successful investigation and prosecution of crimes requires, in most cases, the collection, preservation, and forensic analysis of evidence.

Forensic analysis of evidence is often crucial to demonstrations of guilt and/or innocence. The FBI seeks to enhance the Laboratory's full range of services to include forensic examinations, investigative operations support, research and development, application of information technology, and training.

Goal: To apply scientific capabilities to evidentiary collection, processing, and examination to be the world's foremost forensic laboratory.

To accomplish this goal, the Laboratory has established the following objectives that will support FBI national priorities. These objectives are expected to:

- Provide accurate, unassailable, and timely evidentiary results and objective testimony
- Improve existing, and establish and implement, technical capabilities, databases, protocols, policies, procedures, standards, and guidelines
- Strengthen existing and establish new liaisons including training with national and international forensic laboratory and law enforcement agencies
- Improve and expand training opportunities for the professional staff and recruit additional professional staff
- Implement internal and external reviews including accreditation, audits, proficiency tests, and inventories
- Improve the quality programs at the professional staff, discipline, and organization levels
- Develop and manage internal and external research and development projects
- Implement the 2003 fiscal year program and spending plans



NEW LABORATORY BUILDING

On January 17, 2003, nearly 650 Laboratory employees began moving from FBI Headquarters in Washington, DC, to a new facility in Quantico, Virginia. All moving was done after regular business hours beginning Friday evenings and continuing until the scheduled unit moves were completed. Most moves were done within 20-30 hours. The moves were scheduled for weekends through March until all 24 case-working, response, and administrative units were relocated.



A week prior to the scheduled moves, the evidence from the case-working units was moved by armed escorts. A commercial mover was contracted to pack and move office and laboratory supplies, equipment, and furniture. To satisfy security concerns, Laboratory personnel were assigned line-of-sight duties during 12-hour shifts to watch the movers while they worked in FBI Headquarters and in the new Laboratory building.

As each van was loaded, Laboratory personnel counted and recorded the number of items. When a van was full, it was locked and tamper-proof sealed. Teams of 8-10 moving vans made the 100-mile round-trips repeatedly during the night, followed by armed escorts in cars who maintained line-of-sight control of the vans. Upon arrival at the new Laboratory building, the seals were verified and then the vans were unlocked.



The Laboratory's nearly 500,000-square-foot, state-of-the-art design reveals four floors for specialized laboratories and offices and a library on the fifth floor, a 900-space parking garage, and a stand-alone central utilities plant. The facility is a model for security and evidence control with specified paths for the acceptance, circulation, and return of evidence. Laboratory areas are separated from offices and public areas to avoid evidence contamination and provide examination areas free of distractions. Access to the laboratories is controlled with biovestibules to provide areas to change in or out of appropriate

laboratory attire and serve as airlocks between laboratories and offices. The building was designed to limit exposure to biohazardous materials and curtail transmittance of airborne pathogens. The Laboratory's infrastructure includes fiber-optic computer and communications access and an uninterrupted power supply. The new Laboratory building's modular configuration allows for physical growth and internal reorganization.

The Laboratory's dedication ceremony was held on April 25, 2003, and attended by congressional, governmental, and FBI officials. The new FBI Laboratory was open for tours before and after the ceremony. A display of operational response capabilities was staged on the grounds. On Saturday, April 26, Laboratory personnel were invited to bring their families to tour the building.



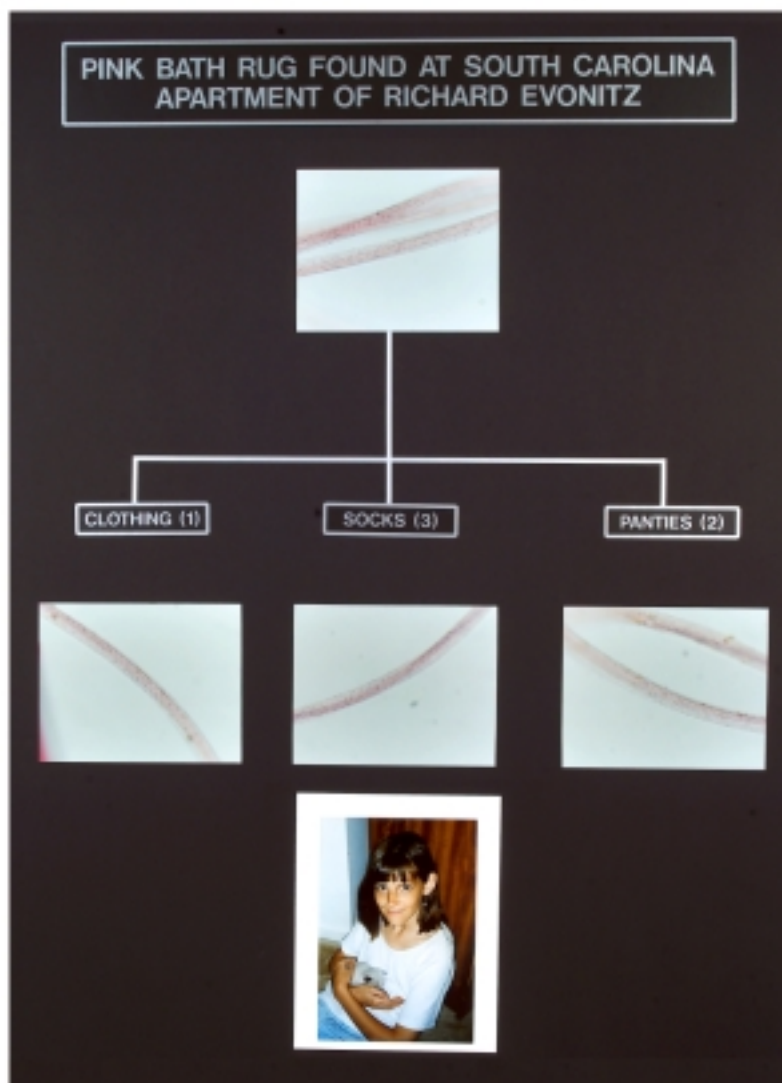
COUNTERTERRORISM, COUNTERINTELLIGENCE, & INVESTIGATIVE SUPPORT

LISK-SILVA CASE KIDNAPPINGS AND MURDERS

On September 9, 1996, 16-year-old Sofia Silva was abducted in Spotsylvania County, Virginia, after returning home from school. Her body was found wrapped in a blanket in a King George County creek on October 14, 1996. Eight months later, on May 1, 1997, 15-year-old Kristin Lisk and her 12-year-old sister, Kati, were abducted after returning home from school. Their bodies were discovered five days later in the South Anna River in Hanover County, about 40 miles from their home.

These abductions and murders began a six-year manhunt led by the Lisk-Silva Task Force composed of FBI Special Agents, state police, and Spotsylvania and King George Counties deputies. More than 12,000 leads were checked. DNA gathered from the crime scenes was compared with more than one million samples in law enforcement databases.

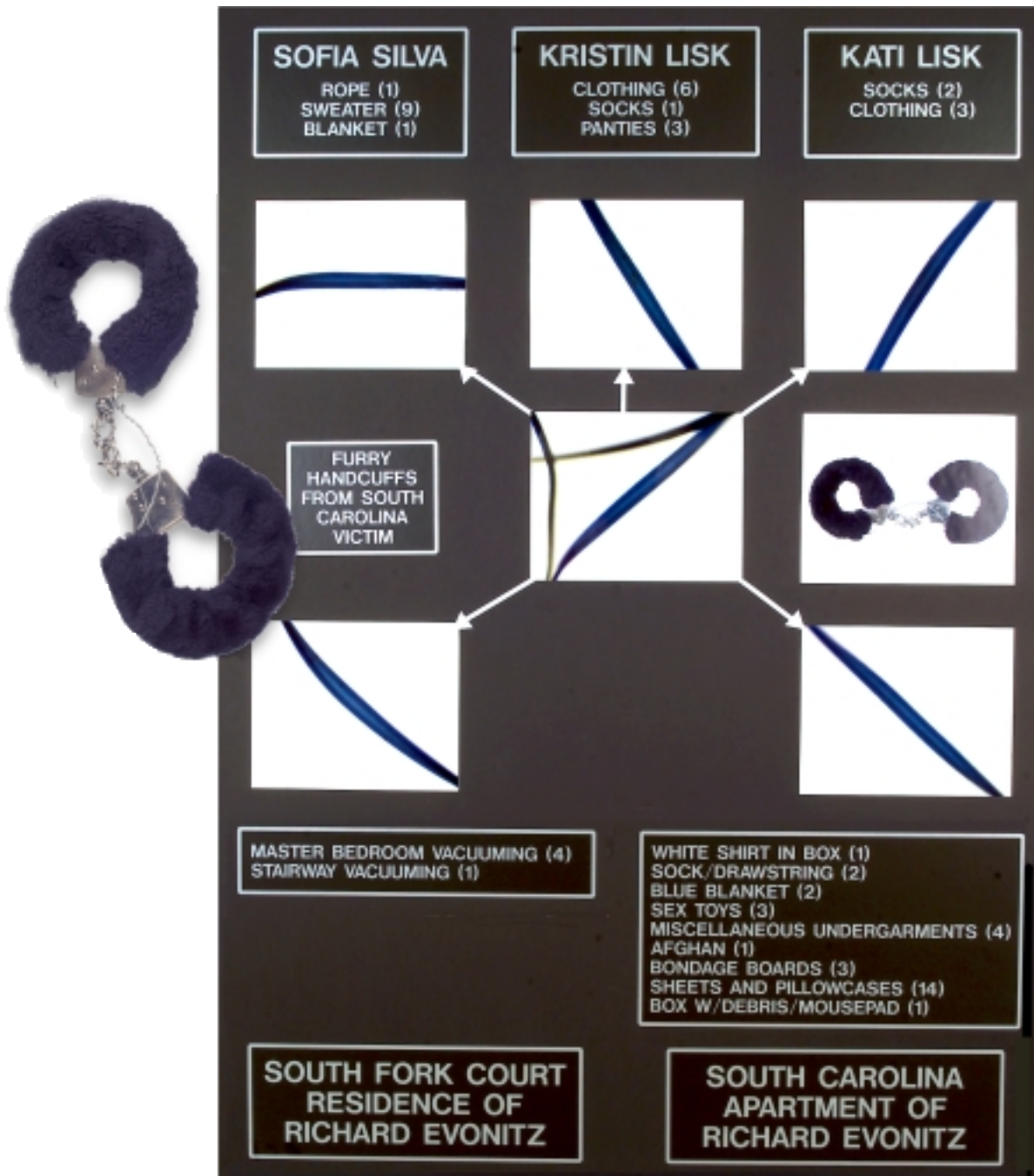
On June 24, 2002, a 15-year-old South Carolina girl was abducted and raped but was able to escape. The suspect, Richard Marc Evonitz, fled southward to Florida. He killed himself on June 27 in Sarasota, Florida, after a high-speed police chase. The task force finally had a solid suspect lead. Evonitz had lived in Virginia at the same time that the murders occurred. Members of the task force went to South Carolina to collect evidence. FBI Laboratory examiners performed more than 500 examinations in six weeks, completing a total of more than 10,000 evidentiary examinations of fingerprints, human and animal hairs, fibers, and tire treads since 1996.



On August 13, 2002, a news conference was held and evidence was presented that conclusively linked Richard Evonitz to the abductions of Sofia Silva and Kristin and Kati Lisk. The most compelling evidence came from the trunk of Evonitz's 1992 Ford Taurus. The Latent Print Unit developed and identified two fingerprints of Kristin Lisk on the underside of the trunk lid indicating that she had likely been locked inside the vehicle's trunk. Hairs consistent with hairs from Evonitz were found on Kristin and Kati Lisk's clothing, as well as on a rope used to bind Sofia Silva's body. Fibers found on all three victims were matched to carpets, including a pink

bathroom rug, dark blue furry handcuffs, blankets, and other materials in Evonitz's homes and vehicle. Newspaper clippings about the Lisk abductions and handwritten notes about the girls and the area where they lived were also found in Evonitz's apartment.

Overwhelming and compelling physical evidence and cooperation between the FBI and multiple law enforcement agencies brought an end to the Lisk-Silva murder investigation.



ATTEMPTED BOMBING OF AMERICAN AIRLINES FLIGHT 63

On December 22, 2001, American Airlines Flight 63, en route from Paris to Miami with 183 passengers and 14 crew members onboard, was diverted to Boston's Logan International Airport under escort by two F-15 fighters after a flight attendant smelled sulfur from a lighted match and noticed a passenger trying to ignite the tongue of his black high-top suede shoe.

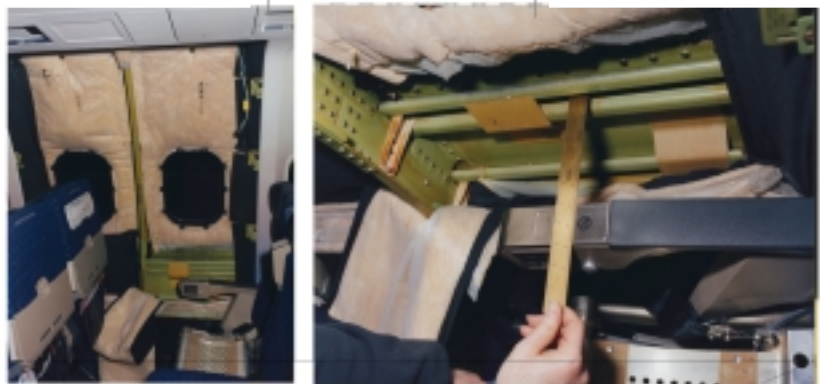
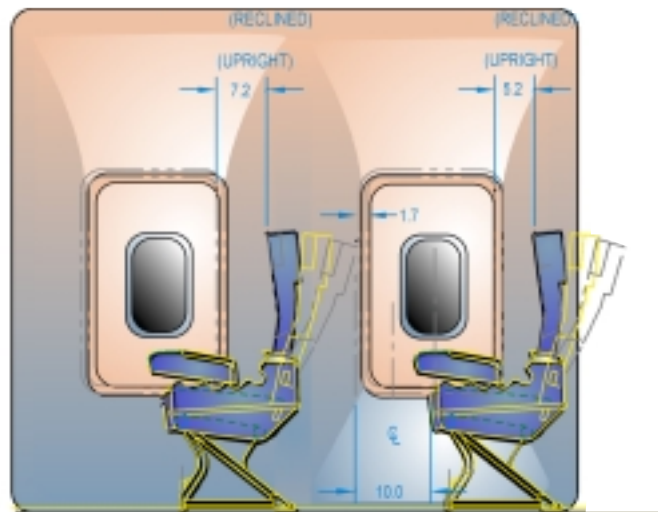
Passengers and crew members overpowered the man, and two doctors injected him with sedatives. Richard Colvin Reid, a 29-year-old British citizen, was subsequently charged with interfering with the flight crew and trying to blow up a transatlantic flight with explosives hidden in the soles of his shoes.

Reid has a lengthy record of theft and other street crimes. Indictments against Reid allege that he received training in handling explosives at Al-Qaeda terrorist camps in Afghanistan and is affiliated with the Al-Qaeda network.

Several components of the improvised explosive devices contained in Reid's shoes were examined to determine their physical and chemical composition. These materials included adhesive tape, time fuse, detonating cord, detonator, main explosive charge, and the plastic binder component of the explosive. The identification of these materials allowed the Explosives Unit examiners to reconstruct the improvised explosive devices to determine the potential devastation had Reid been successful in his attempt to blow up the airplane. Explosives demonstrations indicated that the explosive devices may have been large enough to rupture the skin of a similar airplane fuselage. Although the suspect has pleaded guilty, the results of the reconstruction were critical in the sentencing phase of the prosecution of Reid.

Investigative and Prosecutive Graphic Unit personnel produced a three-dimensional animated reconstruction of the shoe bomb. They also prepared interior drawings of the cabin of the aircraft depicting Reid's location.

The Latent Print Unit developed a palm print on a piece of rolled, lined paper that was used in the construction of an improvised detonator in one of the explosive devices. The print was not that of Richard Reid, indicating that he may have had an unidentified accomplice.



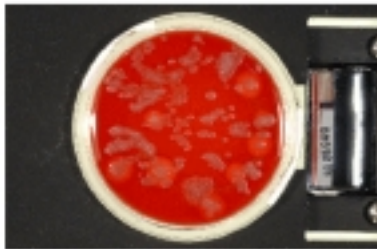
Richard Reid pleaded guilty on October 4, 2002 to eight charges including the attempted use of a weapon of mass destruction, attempted murder, and the attempted destruction of an aircraft. On January 30, 2003, he was sentenced to life in prison plus 110 years, to be served concurrently. He was also fined \$2 million and ordered to pay American Airlines \$6,082 in restitution.



ANTHRAX INVESTIGATION

On October 4, 2001, Robert Stevens, an employee at *The Sun*, headquartered at American Media in Boca Raton, Florida, was diagnosed with inhalation anthrax. His death the following day launched an investigation that continued throughout 2002. Investigators determined that Stevens and four others died from anthrax spores, most likely carried through the U.S. mail. Further investigation revealed that the spores could be spread from unopened mail.

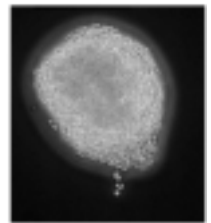
The recovered anthrax-laced letters were postmarked at Trenton, New Jersey, triggering a search for the post office box where the letters had been mailed. Initial results in late 2001 were inconclusive, but the Laboratory's Hazardous Materials



Response Unit began the search again in August 2002 using an enhanced method for gathering microscopic evidence. FBI personnel from the Philadelphia and Newark Field Offices, trained and equipped for the new method, collected evidence that tested positive for viable, pathogenic anthrax from a mailbox on Nassau Street in Princeton, New Jersey. The Unit assisted field personnel in obtaining the mailbox and transporting it to a secure site for analysis. For months the FBI gathered evidence from nearly 700 mailboxes in and around Trenton. The enhanced collection method was the key to finding living, lethal anthrax spores after ten months of exposure to wind, rain, snow, cold, and heat.

In October 2001, investigators from the FBI and the Centers for Disease Control and Prevention found anthrax in the American Media building, but failed to establish how it got there.

On August 26, 2002, the FBI, the Centers for Disease Control and Prevention, the National Institute for Occupational Safety and Health, and the Agency for Toxic Substances and Disease Registry again searched the building using the new evidence collection methods tailored by the FBI Laboratory. Unit personnel adapted a commercial laboratory culture plate used to gather evidence directly at the site. Because the plate contained a culture medium, bacterial growth began immediately, eliminating the need to transfer evidence from the scene to a laboratory before inoculating the plate with the evidence.



Within ten days, personnel made nearly 520 controlled entries into the American Media building and gathered more than 4,900 items of evidence, compared to 170 items from the October 2001 search. Florida's Department of Health, Miami Bureau, was able to process the samples in 24 to 48 hours, eliminating the previous delays of more than a month. Working at the Miami Bureau, personnel from the FBI Laboratory's Special Photographic Unit photographed each culture plate using transmitted and reflected light. This enabled colonies of anthrax to be distinguished from those of other *Bacillus* species, gave the FBI a permanent record of each laboratory result, and provided an in-depth view of anthrax distribution and quantities within the American Media building. The results demonstrate that the anthrax spores that killed Stevens and infected several of his colleagues likely came into the building through the mail.

ASSISTANCE TO LAW ENFORCEMENT

COMBINED DNA INDEX SYSTEM AND THE NATIONAL DNA INDEX SYSTEM

The Combined DNA Index System (CODIS) blends forensic science and computer technology into an effective tool for linking violent crimes. It enables federal, state, and local forensic laboratories to exchange and compare DNA profiles electronically, thereby linking serial violent crimes to each other and to known offenders.

The highest level in the CODIS hierarchy is the National DNA Index System (NDIS). The program enables 171 participating laboratories in 50 states and Puerto Rico, as well as the U.S. Army Laboratory and the FBI Laboratory, to exchange and compare DNA profiles. NDIS reached a major milestone on June 12, 2002, when the Florida Department of Law Enforcement in Tallahassee contributed the one millionth DNA profile.

CODIS generates investigative leads in crimes where biological evidence is recovered from the crime scene using two indexes: the forensic index, which contains DNA profiles from crime scene evidence, and the convicted offender index, which contains DNA profiles of individuals convicted of felony sex offenses and other crimes.

An index for DNA from missing persons has been added to CODIS, allowing federal, state, and local law enforcement laboratories to assist in the identification of missing persons and recovered human remains.

ACCOMPLISHMENTS as of NOVEMBER 2002

Convicted Offender Samples in NDIS	1,396,485
Forensic Samples in NDIS	51,789
Total Specimens	1,450,488
Forensic Hits	1,714
Offender Hits	4,196
Investigations Aided	6,257
CODIS Laboratories*	160
NDIS Laboratories	147

*There are 27 laboratories in 17 countries also participating in CODIS.

Success Story

CODIS-LINKED SERIAL RAPIST

In October 1999, Alan Lee Hoff was charged with two burglaries in Kissimmee, Florida. A few days later a fingerprint check identified Hoff as Claude Dean Hull, wanted for burglary and sexual assault in Arizona and California. Hull, who also used the aliases Steven Bezak and Jerry Alan Long, was first arrested in California in 1991 for a rape in Clovis and two rapes in Fresno, where the victims were threatened at gunpoint. He fled California to avoid prosecution.

On August 23, 1995, a 19-year-old female was sexually assaulted in her Phoenix, Arizona, apartment. The Phoenix Police Department Crime Laboratory developed a DNA profile and searched the Arizona State DNA database. The search disclosed a DNA match to Claude Hull's profile.

In 1998, two women in Phoenix and one in Scottsdale, Arizona, were raped by a man using the same modus operandi as Claude Dean Hull. DNA profiles from these crime scenes were entered into CODIS. Claude Hull's DNA profile matched a 1991 unsolved sexual assault in California.

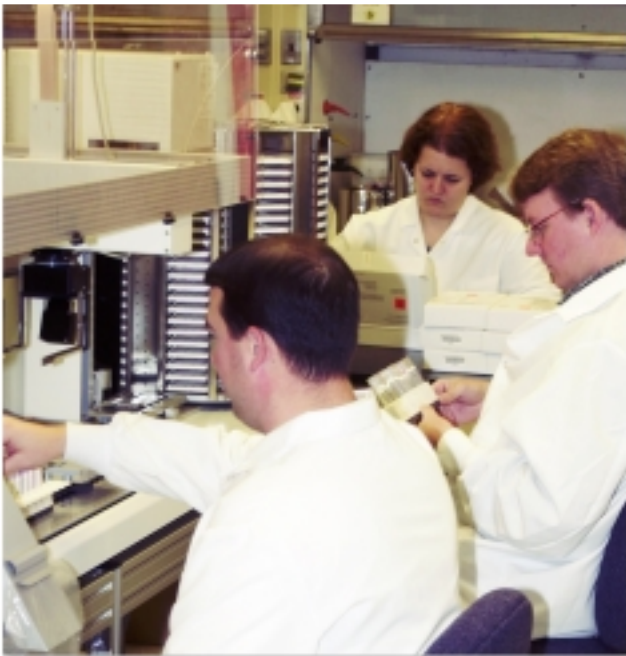
Upon his 1999 arrest in Florida, Hull confessed to one count of rape and three counts of burglary in Florida. He also confessed to raping women in Arizona and California as well as committing numerous burglaries, forgery, and auto theft. He was sentenced to 55 years in a Florida prison.

On March 23, 2001, after pleading guilty to four counts of sexual assault, one count of attempted sexual assault, and one count of attempted sexual assault of a minor, serial rapist Claude Dean Hull was sentenced to 56 years in an Arizona prison, to be served after the completion of his Florida sentence.

FEDERAL CONVICTED OFFENDER PROGRAM

The *DNA Identification Act of 1994* authorized the FBI to establish a National DNA Index System, but it did not authorize the collection of DNA samples from federal offenders. Enactment of the *DNA Analysis Backlog Elimination Act of 2000* closed this final legislative loophole by authorizing collection of DNA samples from federal offenders and those who commit qualifying crimes in the District of Columbia, the military, and on government reservations. In response to the events of September 11, 2001, the *USA Patriot Act of 2001* was enacted. The legislation expanded the list of offenses covered by the Federal Convicted Offender Program to include acts of terrorism and all crimes of violence.

The Federal Convicted Offender Program began sample collection in July 2001. The program now receives approximately 1,000 blood samples a month from the Federal Bureau of Prisons, Federal Probation, and the Court Services and Offender Supervision Agency of Washington, DC. More than 30,000 collection kits have been distributed to over 500 locations.



Success Story

PAROLEE LINKED IN SEXUAL ASSAULT CASES

The Federal Convicted Offender Program recorded its first hit on August 28, 2002, when a Florida sexual assault was linked to a registered sex offender on federal probation. DNA evidence from a May 2002 sexual assault was registered in the CODIS National DNA Index System by the Florida Department of Law Enforcement's Tampa Crime Laboratory. A matching DNA profile was registered by the FBI Laboratory from the blood sample of a Florida man on federal probation for a 1990 court-martial on rape charges. The offender's blood sample was collected by federal probation authorities in June 2002. The sample was analyzed, then uploaded to the National DNA Index System in August 2002.

Following the DNA hit, a quality control procedure to verify the matching offender's identify was initiated using fingerprints submitted with the blood sample. Verification is done to ensure that no switch of an offender's specimen or paperwork has occurred. It is also necessary to check the offender's criminal history and confirm that the offender was qualified to be in the database. Personnel from the Latent Print Units were able to verify the Florida parolee's identification and provide his criminal history. Florida authorities were notified of the details of the DNA match the next day, and they arrested the man they believe is responsible for the sexual assault of the 16-year-old victim.

NATIONAL MISSING PERSONS DNA DATABASE PROGRAM

National Missing Persons DNA Database Program personnel develop DNA profiles from reference samples of biological relatives of missing persons and unidentified human remains. Mitochondrial DNA (mtDNA) profiles are developed from the samples, and when feasible, nuclear DNA analysis is performed. The database stores the DNA profiles in CODIS. The National DNA Index System of CODIS allows laboratories in the system to share DNA information relating to missing persons. The database assists in identifying missing persons on a national level.



Success Story

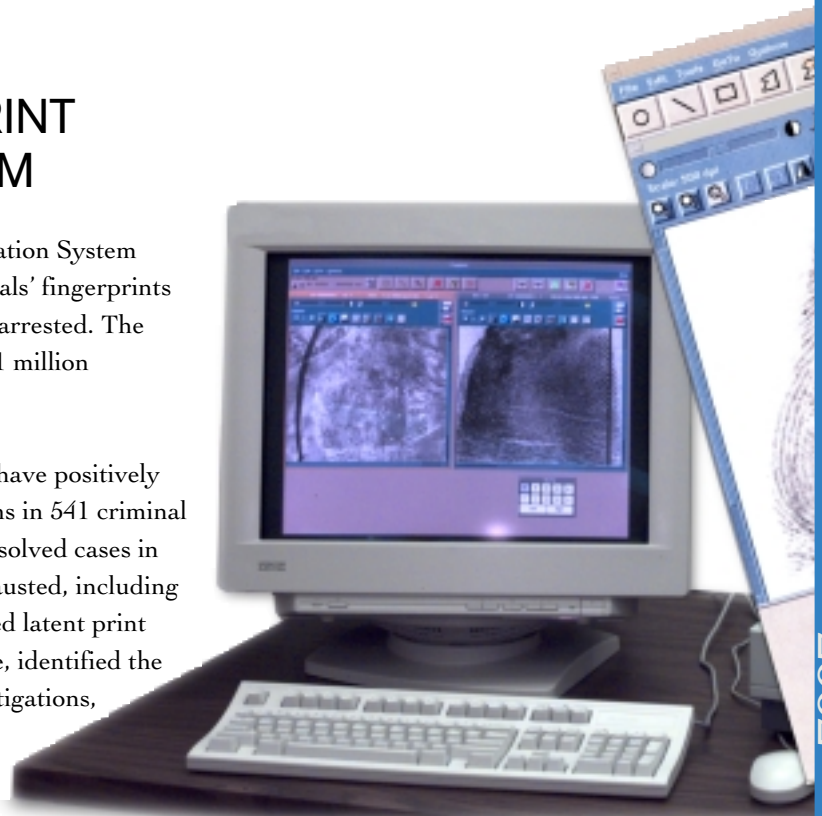
MISSING CHILD IDENTIFIED

In August 1987, 13-year-old Jessica Standridge was reported missing by her parents. A search was conducted by local law enforcement with negative results. Skeletal remains were located in June 1988. A private company attempted to perform DNA testing in 1993, but no conclusive evidence could be obtained at that time. In September 2002, the National Missing Persons DNA Database Program performed mtDNA analysis on a tooth from a recovered skull and on a reference sample obtained from the missing girl's mother. The mtDNA profile of the tooth was the same as the mtDNA profile from the mother's reference sample. This information allowed the police to redirect the focus of their investigation.

INTEGRATED AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM

The Integrated Automated Fingerprint Identification System (IAFIS) provides a national repository of criminals' fingerprints and maintains a criminal record for each person arrested. The IAFIS criminal master file contains more than 41 million criminals' ten-print fingerprint records.

Since 1997, the Latent Print Units using IAFIS have positively identified 966 latent fingerprints with 802 persons in 541 criminal investigations. IAFIS-aided identifications have solved cases in which all other investigative leads had been exhausted, including closed and cold cases. In some cases, IAFIS-aided latent print identifications have provided additional evidence, identified the victims of disasters, expanded the scope of investigations, absolved innocent suspects, or led to new cases being opened.



Success Story

IAFIS IDENTIFICATION DEVELOPS SUSPECT

In 1986, a college professor in Flint, Michigan, was brutally raped and murdered in her home. IAFIS searches of the Michigan State Police files were negative, so no suspects were developed in this crime. A flight attendant was raped and murdered in a motel in Romulus, Michigan, in 1991. Again, there were no suspects.

In 2001, DNA from the 1986 offense was submitted to CODIS, which matched it to the 1991 offense. The Flint Police Department's Cold Case Squad submitted latent fingerprints from the 1986 homicide to the Latent Print Units. Three latent

fingerprints were searched by position and class using IAFIS. The fingerprint specialist was not informed of the other crime at the time of the search. One of the latent fingerprints lifted from a bathroom faucet was identified with a suspect.

The police did not immediately arrest the suspect but followed him and retrieved a napkin he used in a restaurant. DNA from the napkin matched DNA from both homicides. He was arrested and charged with both offenses. The suspect had no arrest record in Michigan.



Success Story

IDENTIFICATION OF A WORLD TRADE CENTER VICTIM

As a result of the September 11, 2001 disaster, a Special Latent Cognizant File was created containing the recorded fingerprints of the unknown deceased and the known fingerprints of possible victims. Requests were made of other agencies, including the U.S. Immigration and Naturalization Service, to provide known prints of victims for entry in the file.

An inked fingerprint from one of the unknown deceased was recorded by a fingerprint specialist. The inked fingerprint was encoded as a latent print, launched into IAFIS, and searched against the Special Latent Cognizant File. An identification was made with a U.S. Immigration and Naturalization Service print that had been added to this file. The identified person had been working in the World Trade Center. This was the first identification of a World Trade Center victim in the file.



UNDERWATER SEARCH AND EVIDENCE RECOVERY TEAMS

Evidence Response Teams have successfully searched for and collected evidence above and below ground for years. In 2000, the Evidence Response Team Unit began working with the New York Office Scuba Team to conduct underwater search operations. The Unit provided funding for the dives, which have been conducted throughout the United States and in Puerto Rico. In 2002, the New York Office Scuba Team was reorganized and renamed, the Underwater Search and Evidence Recovery Team-New York (USERT-NY). Other Underwater Search and Evidence Recovery Teams are being formed in the Los Angeles, Miami, and Washington Divisions.



Success Story

BODIES OF RUSSIAN ORGANIZED CRIME VICTIMS RECOVERED

In December 2001, the FBI Los Angeles Division began investigating the kidnapping of wealthy, mostly Russian, immigrants. Ransom demands were made and one payment received, but the victims were not released. A witness provided information including the fact that six bodies were dumped in two northern California lakes.

A contractor was hired to use side-scan sonar to search the bottom of the lakes for targets that could be the victims' bodies. In March 2002, the contractor located targets near bridges in both lakes at depths up to 310 feet – too deep for divers to be able to search and make recoveries.

On March 16, 2002, four USERT-NY divers, with a remote-controlled submersible vehicle equipped with a video camera and grappling hooks, traveled to California to recover the bodies. On March 17, the team recovered two bodies. The remote-controlled vehicle brought the bodies to within 30 feet of the surface, then divers bagged the bodies in the water and brought them to the surface for transport to the coroner. The first recovered victim had his hands bound and a 45-pound weight tied around his waist. The second victim's ankles were bound. On two subsequent days, the divers recovered two more bodies. The four victims were identified as the missing victims of the Russian organized crime kidnapping ring. A fifth victim, found floating in the lake in October 2001 by the Calaveras County Sheriff's Department, was associated to the crime spree by the cooperating witness.

Members of the Sacramento Evidence Response Team and deputy sheriffs from Tuolumne and Calaveras Counties were also involved in the recovery of the four bodies.

On June 6, 2002, Aimar Altmanis pleaded guilty to one count of conspiracy to take hostages resulting in death and three counts of hostage-taking resulting in death. He is scheduled to be sentenced in June 2003, after the trial of the other defendants.



CONCEALED KNIVES COLLECTION AND GUIDE

In the wake of the September 11, 2001 airline hijackings, Firearms-Toolmarks Unit personnel compiled a collection of easily concealed knives and published the *Guide to Concealed Weapons*. The *Guide* is the first installment of a continuing effort to collect and distribute this information. The *Guide* is available to law enforcement personnel, airport security screeners, and other appropriate agencies by contacting the FBI Laboratory, Firearms-Toolmarks Unit personnel at 703-632-8442.

Many knives in the collection and in the *Guide* were purchased for less than \$20. Some of the knives could be found in homes and offices, and some are made of plastic, making them less likely to be considered a weapon. All the knives were designed to cut, are fully functional, and should be considered as potentially dangerous weapons. In the *Guide*, the knives are shown with an accompanying size-reference scale, and many entries include X-ray images to demonstrate how these weapons may appear through a scanning device.



INTERNATIONAL COOPERATION

During 2002, FBI Laboratory personnel provided training to international law enforcement and forensic laboratory personnel, assisted in international criminal investigations, participated in international symposiums and conferences, and published new forensic research and developments.



Bomb Data Center

personnel assisted an FBI investigation in Karachi, Pakistan. Personnel conducted a bomb squad orientation and an improvised explosive device disposal tool demonstration at the FBI Academy in Quantico, Virginia, for representatives from every Central and South American country except Brazil and Venezuela. The Bomb Data Center hosted the International Bomb Data Center Conference at Quantico, attended by representatives from 27 countries. The Bomb Data Center also conducted training in Kyrgyzstan, Nepal, and Uzbekistan. Unit personnel participated in the German Bomb Data Center Conference, the Australian Bomb Data Center Conference, the International Association of Chiefs of Police Conference, and the Association of Bomb Technicians and Investigators Conference.

Chemistry Unit

scientists provided training in forensic chemistry and toxicology at conferences in France and Mexico. They also assisted police investigations in the Turks and Caicos Islands in the Bahamas, Canada, Egypt, and the United Kingdom.

Counterterrorism and Forensic Science Research Unit

scientists authored 27 publications and instructed 11 courses and workshops, all with international audiences. In addition, unit scientists met with representatives from the United Kingdom's Forensic Science Service at the FBI Academy. Unit scientists assisted forensic explosives laboratory personnel from the Defense Science and Technology Laboratory at Fort Halstead, United Kingdom. Unit personnel continue to provide

technical assistance to the National Institute of Standards and Technology. Two scientists from the Unit are members of the European Union Thematic Network for Natural Isotopes and Trace Elements in Criminalistics and Environmental Forensics working against international fraud. The Counterterrorism and Forensic Science Research Unit and the Questioned Documents Unit are collaborating with the U.S. Secret Service and the Bundeskriminalamt in Wiesbaden, Germany, on a handwriting project.

In 2002, Unit scientists presented at international conferences and workshops in Bordeaux, Paris, and Montpellier, France; Madrid, Spain; Zurich, Switzerland; Phoenix, Arizona; Orlando, Florida; Atlanta, Georgia; Frederick and Gaithersburg, Maryland; San Antonio, Texas; Fairfax and Williamsburg, Virginia; and Washington, DC.

DNA I Unit

scientists participated in an Interpol conference in London, England, and in the International Association of Forensic Sciences symposium in Montpellier, France. Unit personnel participated in the Scientific Working Group on DNA Analysis Methods meetings where Canadian, European, and South American scientists presented DNA updates. Unit scientists assisted at crime scenes and provided evidence examinations and expert witness testimonies to aid foreign police in Australia, Chile, the Dominican Republic, Turkey, Mexico, Nairobi, the Royal Cayman Islands, Russia, and Thailand.

DNA II Unit

scientists assisted Australian, Canadian, French, and Greek law enforcement officials with case investigations. Unit personnel also assisted Argentinean scientists with DNA quality assurance procedures and protocols, helped the New South Wales Police establish mtDNA analysis laboratories, and provided forensic mtDNA training to Costa Rican laboratory personnel.

Evidence Response Team Unit

personnel provided overview programs to Turkish police officials at FBI Headquarters and to attendees of the Latin American Law Enforcement Executive Development Seminar at the FBI Academy. Unit personnel supported field division instructors who conduct international training on violent crime and forensic evidence.

Explosives Unit

examiners provided assistance and training to British, Canadian, Greek, and Israeli law enforcement officials. Explosives Unit personnel assisted with bombing investigations in Bali, Indonesia; Lima, Peru; Karachi, Pakistan; and on a French oil tanker off the coast of Yemen. The EXPeRT (Explosives Reference Tool) database is being made available to law enforcement officials in Australia, Canada, Italy, and the United Kingdom.

Firearms-Toolmarks Unit

personnel provided training to law enforcement officers in South Africa and the Republic of Georgia. Examiners also provided assistance to law enforcement officials from Bosnia and Kosovo.

Forensic Science Systems Unit

program managers made presentations on CODIS, quality assurance standards, and DNA examinations to scientists in Australia, Canada, Colombia, Estonia, France, Germany, Great Britain, Hungary, Iceland, the Netherlands, Singapore, Slovakia, Spain, and Poland. The Unit hosted the annual CODIS User's Conference with 17 foreign scientists in attendance. Personnel coordinated the installation of CODIS in 14 laboratories in Canada, the Czech Republic, Estonia, France, Italy, the Netherlands, Singapore, and Sweden. Nineteen foreign examiners completed the 40-hour CODIS training course at the FBI Academy.

Hazardous Materials Response Unit

personnel provided weapons of mass destruction training in Armenia, Azerbaijan, Croatia, Latvia, Moldova, Romania, and Uzbekistan. The Unit participated in the Europol Counterterrorism Task Force meeting at the Hague in the Netherlands.

Unit personnel traveled to Barcelona, Spain, and Bangkok, Thailand, to support the U.S. Department of State and the U.S. Commerce Department in providing seminars on transshipment and counterterrorism prevention. The Unit actively supported the International Association of Fire Chief's Hazardous Materials Response Team Conference. The Unit recently became active in the Quadralat Technical Working Group which includes investigative agencies from Australia, Canada, the United Kingdom, and the United States.

Unit personnel provided scientific support to foreign countries at the request of FBI Legal Attachés at the U.S. Embassies in Chile and Tunisia. The Unit assisted the U.S. Department of State and its foreign counterparts from Afghanistan, Australia, Belgium, and New Zealand with anthrax- and smallpox-threat letter investigations. Scientists are currently assisting the New South Wales Police in Australia with a homicide investigation involving the use of the ricin or abrin toxin.

During the 2002 Winter Olympic Games in Salt Lake City, Utah, Unit personnel provided informal information sharing and equipment demonstrations to international law enforcement personnel.

Investigative and Prosecutive Graphic Unit

artists provided craniofacial identification training at the FBI Academy to law enforcement students from Australia, the Bahamas, Belgium, Canada, Germany, and the United Kingdom. Unit personnel provided training in crime scene management at the International Association for Identification Conference in Las Vegas, Nevada.

Laboratory Library

editors publish the quarterly peer-reviewed journal, *Forensic Science Communications*, on the Internet at www.fbi.gov/hq/lab/fsc/current/index.htm.

Intended to be a means of communication among international forensic scientists, the journal contains review, research, feature, and technical articles; case reports; book reviews; forensic training updates; and meetings and employment opportunities sections.

Latent Print Units

personnel provided investigative support and training in the United Kingdom. Unit personnel provided latent print development training at the International Association for Identification Conference in Las Vegas, Nevada.

Questioned Documents Unit

personnel provided trial testimony preparation to attorneys from Ireland for a case involving the Irish Republic Army. Shoe print database searches were conducted for Australian and Canadian law enforcement officials. Examiners participated in conferences in Canada and the Slovak Republic.

Racketeering Records and Analysis Unit

personnel provided technical support to the Office of the Prosecutor for the International Criminal Tribunal for the former Yugoslavia. Unit personnel assisted the prosecutor's efforts to reconstruct the events surrounding alleged serious violations of international humanitarian law committed during the 1992-1995 war



in Bosnia. Multiple submissions of records totaling over 2,000 pages, all in Serbo-Croatian, were examined. The seven-month examination culminated in laboratory reports which may be introduced in upcoming trials of accused Serbian military officers.

A Special Photographic Unit

photographer traveled to Abu Dhabi, United Arab Emirates, to provide forensic photographic support for the ongoing September 11 terrorist investigation. Unit personnel gave a presentation on image rectification of shoe prints at the International Association for Identification Conference in Las Vegas, Nevada. Unit personnel also gave informal training to an Australian police officer.

Structural Design Unit

personnel made a presentation on three-dimensional distance and elevation data at the Association of Professional Model Makers in Silver Spring, Maryland, to attendees from Australia, Canada, Finland, France, Israel, Jordan, Mexico, the Netherlands, Switzerland, and the United Kingdom.

Trace Evidence Unit

examiners assisted law enforcement officials from Ghana, Greece, Hungary, Pakistan, and the Republic of Georgia. Unit personnel participated in the European Fibers Group meeting in Paris, France, and the European Network of Forensic Science Institutes Paint and Glass Conference in Madrid, Spain.

Training Unit

instructors provided specialized training to students from Australia, Brazil, Canada, Germany, the Philippines, and the United Kingdom at the FBI Academy. Unit instructors presented critical incident response management training to the South African Police Service in Pretoria, South Africa; a lecture on developing latent prints on skin at the Toronto Police Services Forensic Identification Conference in Canada; and critical incident response management and evidence collection and preservation seminars to the Royal Thai Police in Bangkok, Thailand. The Unit develops and sponsors the *Annual Crime Laboratory Development Symposium* for national and international forensic laboratory directors and managers. The 2002 conference was developed with the Washington University faculty in St. Louis, Missouri.

FIRST RESPONDERS TRAINING

The Laboratory's Operational Response Section is organized into three units: the Bomb Data Center, the Evidence Response Team Unit, and the Hazardous Materials Response Unit. Each unit provides training to FBI, national, and international law enforcement personnel.

BOMB DATA CENTER

Hazardous Devices School

The groundbreaking ceremony for the Hazardous Devices School was held October 28, 2002. The \$25 million construction is funded by the FBI and managed by the U.S. Army Corps of Engineers. The school will include three administrative and classroom buildings and 14 practical exercise training villages. The new facility is located near the existing Hazardous Devices School at the Redstone Arsenal in Huntsville, Alabama, on 295 additional acres. The project is scheduled to be completed in March 2004. The new construction will allow the Hazardous Devices School to better meet the needs of the 437 accredited bomb squads in the United States.

The current school has been at the Redstone Arsenal since 1971 and provides basic and recertification courses for 2,300 public safety bomb technicians in the United States. The school also provides specialty courses for bomb squad personnel including a **Robot Course**, an **Advanced Access and Disablement Course**, and an **Executive Management Course** for managers who are not bomb technicians. The Hazardous Devices School also teaches an **Explosives Handlers Certification Course** for FBI personnel who are not bomb technicians but who need to handle explosives.

Each May, **Special Agent Bomb Technician Annual Training** is held at the Hazardous Devices School. This course is designed to provide advanced training for FBI Special Agent bomb technicians. The course includes information regarding how to respond to a weapons of mass destruction incident.



Field Training Program

- One-week **Regional Technicians Seminars** are taught ten times annually by Bomb Data Center personnel, field Special Agent bomb technicians, and Hazardous Devices School instructors at locations selected by host FBI field divisions. These seminars provide sustained and specialized training on new techniques, procedures, and equipment.
- Field division **Post-Blast Seminars** are taught by the office's Special Agent bomb technician. Bomb

Data Center personnel provide technical support, instructional materials, and explosives. The five-day programs are designed to train state and local police, task force members, and FBI Special Agents in basic post-blast crime scenes.

- **Explosive Device Recognition and X-ray Interpretation** is taught to FBI mail room and tour route personnel and to police officers assigned to FBI Headquarters, the Washington Field Division, and Quantico.
- Bomb Data Center personnel teach specialized, unique courses designed to meet specific needs. Center personnel provided a **Large Vehicle Bomb Countermeasures Course** to the Police of Puerto Rico, coordinated by the FBI San Juan Division. At the request of the Legal Attaché in Bogota, Colombia, Center personnel provided a two-week **Practical Applications Course** which included classroom instruction and extensive practical problems to bomb technicians of the Colombian

National Police and their internal Security Agency personnel. At the request of the Legal Attaché in Rome, Center personnel taught a one-week **Practical Applications Course** for the bomb technicians of the Swiss Guard assigned to the Vatican in Rome, Italy.

EVIDENCE RESPONSE TEAM UNIT

Evidence collection and documentation have become more sophisticated. Evidence response teams handle crime scenes and complex searches and must stay abreast of forensic technological advances. In order to meet this challenge, the Evidence Response Team Unit provides and coordinates basic and advanced training for all evidence response team personnel in the FBI field divisions.

The Unit provides a two-week **Basic Evidence Response Team Course** for all new evidence response team members. In 2002, Unit personnel taught six basic courses to 151 members.

After attending the basic course, team members may attend any of the advanced courses, which are designed to address specific situations commonly encountered by evidence response teams. During 2002, more than 800 team members received advanced training. Examples of the advanced courses are highlighted.



- In the **Post-Blast Crime Scene Course**, students learn to manage bombing crime scenes and collect the components of improvised explosive devices. The Los Angeles Evidence Response Team hosts several sessions of the course annually. Another session is conducted by the Explosives Unit at the FBI Academy in Quantico, Virginia.
- The Explosives Unit, Hazardous Materials Response Unit, and the National Center for the Analysis of Violent Crime Unit assist the Evidence Response Team Unit with a **Mass Disaster Course**. The course simulates bombing crime scenes that are complicated by the presence of victims' tissue fragments. Students collect the remains of pigs and submit them to an on-site morgue.
- The **Forensic Anthropology Course** is held at the University of Tennessee each year. Students gain experience recovering human remains at the University's Anthropology Center, known as the Body Farm. The University provides faculty members and graduate students to assist students with forensic anthropology topics.
- Computer Analysis Response Team Unit personnel assist the Evidence Response Team Unit with a **Digital Evidence Collection Course** that teaches evidence response teams how to properly recover stored data from computers, telefax machines, personal digital assistants, pagers, and cell telephones.
- The **Digital Photography Course** is taught by personnel in the Training Unit and the Investigative and Prosecutive Graphic Unit. Several field evidence response teams received new laser-transit surveying equipment in 2002, and the course taught them to quickly map the locations of evidence in large crime scenes such as bombings, shootings, and plane crashes.
- In 2002, Evidence Response Team Unit personnel coordinated with the Federal Emergency Management Agency's

National Fire Academy to conduct a two-week **Arson Investigation Course**. Evidence response teams learned how to evaluate burnt crime scenes and properly collect and package evidence that might contain traces of ignitable chemicals.

- Specialists from the Latent Print Units teach the **Advanced Latent Print Course**. Students are taught to locate, document, and recover latent fingerprints that are often present at crime scenes. Field division evidence response team photographers assist with this course.
- Coordinated with the Evidence Response Team Unit, the **Shooting Trajectory Course** is presented by personnel from the Firearms-Toolmarks Unit who teach the documentation and evaluation of crime scenes.

HAZARDOUS MATERIALS RESPONSE UNIT

There are currently 17 hazardous materials response teams, operating in the larger FBI field divisions, that are supported by the Hazardous Materials Response Unit training program. These teams are comprised of just over 200 response personnel, predominantly FBI Special Agents, who require response equipment, medical monitoring, and 240 hours of specialized



training. The Unit also provides training to personnel in other field divisions to increase the total number of hazardous materials response teams.

Training courses currently provided to hazardous materials response teams include: **Hazardous Materials Operations, Weapons of Mass Destruction Crime Scene Operations, Hazardous Materials Technician, Biology of Hazardous Materials, Chemistry of Hazardous Materials**, and radiological courses. Unit personnel are also developing new course curricula: **Hazardous Materials Team Leader Management, Hazardous Materials Awareness, and Radiological Crime Scene.**

The Hazardous Materials Response Unit assists the FBI's International Training and Assistance Unit in providing weapons of mass destruction counterproliferation training. Since 1997, Unit personnel have taught more than 25 weapons of mass destruction courses. In November 2002, Unit personnel traveled to Australia to teach a three-day course to law enforcement officials on how the United States responds to weapons of mass destruction threats and incidents.

The Hazardous Materials Response Unit provides guidance and support to the U.S. Department of Justice's Office for State and Local Domestic Preparedness Support and the FBI's Weapons of Mass Destruction Operations Unit. The Unit also provides technical instruction and support to the tactical training and operations of the FBI's Critical Incident Response Group for Weapons of Mass Destruction which includes SWAT (special weapons and tactics) teams, hostage rescue teams, and bomb technicians.

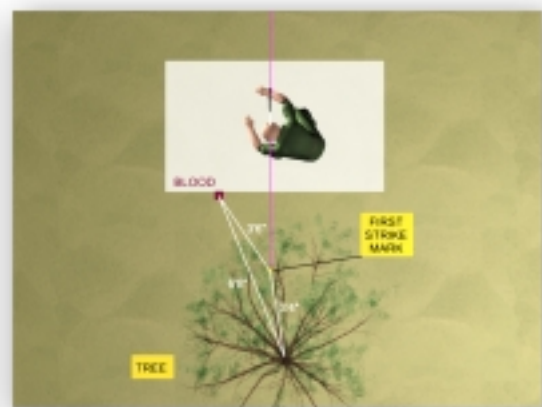
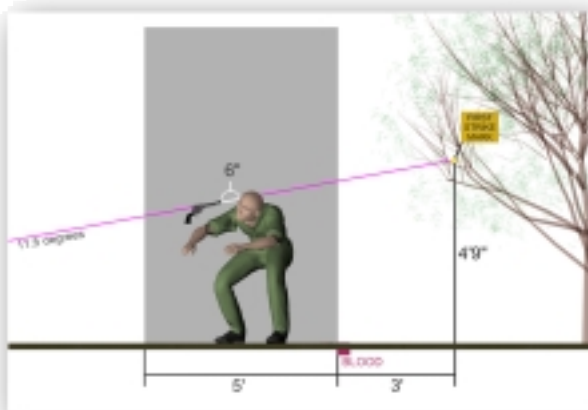


HIGHLIGHTED LABORATORY UNITS

INVESTIGATIVE AND PROSECUTIVE GRAPHIC UNIT

The Investigative and Prosecutive Graphic Unit plans, designs, coordinates, and produces investigative aids and demonstrative evidence in support of FBI and national investigations. This support is provided in four program areas:

- **Crime Scene Survey, Documentation, and Reconstruction**—Provides two- and three-dimensional victim and crime scene reconstructions and computer-animated modeling depicting bullet trajectory, line-of-sight analysis, and vehicular and human movement analysis
- **Forensic Facial Imaging**—Provides composite drawings, two- and three-dimensional facial reconstructions from skeletal remains, facial age progressions, postmortem reconstructions, digital photographic manipulations and retouches, and wanted flyers
- **Demonstrative Evidence**—Provides enlarged documents, charts, maps, diagrams, photographic collages, floor plans, link-analyses, flow-and-check kite charts, time lines, and technical renderings to be used in court
- **Administrative Support**—Provides support to the FBI Director's Office for the President and his staff, the Attorney General, Congress, the Department of Defense, other national and foreign officials, and the press. Unit personnel also provide support to FBI Headquarters personnel.



Success Story

September 11, 2001

On September 11, 2001, four airplane crashes occurred within 90 minutes, forever changing America. Although an exact number of victims may never be known, 19 terrorist hijackers killed more than 3,000 people. After leaving Boston's Logan Airport, American Airlines Flight 11 and United Airlines Flight 185 were hijacked and flown into the Twin Towers of the World Trade Center in New York City. Both towers collapsed shortly after impact, crushing thousands of people in the rubble. American Airlines Flight 77 took off from Dulles Airport in Virginia bound for Los Angeles and crashed into the Pentagon in Virginia. The fourth airplane, United Airlines Flight 93, left Newark, New Jersey, for San Francisco but crashed in Somerset County, Pennsylvania, killing all onboard.

Investigative and Prosecutive Graphic Unit artists prepared a three-dimensional digital reconstruction of the Pentagon crash site. The reconstruction presents the exterior of the Pentagon and provides details of all floors affected by the crash. The scale reconstruction shows the aircraft approach, the building strike, and the damage caused by the crash. It also shows the locations of victims and evidence. Unit personnel continue to prepare charts, maps, diagrams, composite drawings, and photographic retouches in support of this investigation.

RACKETEERING RECORDS ANALYSIS UNIT

The Racketeering Records Analysis Unit examines evidence relating to criminal and terrorist organizations. Records may include ledgers, notebooks, encoded documents, banking and real estate records, and wire-intercepted conversations. The data submitted to the Unit for examination is typically in hard copy, but in some instances, it is in electronic form stored in computers, diskettes, electronic data organizers, and video gambling machines. The Unit is divided into four program areas:

- **Cryptanalysis**—Decrypts manual codes and ciphers found in letters, diaries, ledgers, and other types of written communications and records. Common users of codes and ciphers include gang members, prison inmates, and extremist groups.
- **Drugs**—Examines records relating to marijuana, cocaine, heroin, and methamphetamine drug-trafficking operations. Records may reveal the type of operation, type of drug, quantity of drug

sold or purchased, unit prices, method of payment, transaction dates, roles of participants, gross and net profits, and operating expenses.

- **Gambling**—Examines records relating to sports bookmaking, loan sharking, prostitution, illegal lottery, video gambling machines, and Internet gambling. Records may reveal the type of operation, dates of activity, wagering amounts, types of wagers, roles of participants, operational accounting methods, and annual percentage rates.
- **Money Laundering**—Examines financial records relating to white collar and organized crime, drugs, and domestic and international terrorism matters. Records may reveal the financial interests of subjects, the subjects' ownership interests in assets, and the movement of money through financial institutions and across international borders.

Accounts	Principal	Interest Rate (%)	Interest	Payments Made	Balance
600	4,300		4,300		
600	12,867	0.02	257	13,124	11,000
Joe	3,945		80	4,025	3,945
FF	1,000	0.03	30	1,030	90
Drk	10,000	0.03	300	11,186	2,000
FF	14,000		300	14,856	14,856
Four	4,855		150	4,805	650
Pol	2,000	0.02	40	2,040	40
carpet	5,000	0.10	500	5,500	100

25-Dec
 2
 Interest to 4.6
 2,472
 1-2-25
 Confirmed on 452, 8816025
 Balances carried over to doc 8090025 (1/1)

1-2-25
 Principal of Loans = \$59,198
 Interest on Loans = \$1,287
 \$60,461
 Payments made = 18,200
 Balance = \$42,261

APRs of Loans
 "600" .02 x 52 = 104%
 "FF" .03 x 52 = 156%
 "Drk" .03 x 52 = 156%
 "Pol" .02 x 52 = 104%
 "carpet" .10 x 52 = 520%
 "Joe" .02 x 52 = 104%
 "FFiz" .03 x 52 = 156%

9919120070025

Success Story

SUPPORT PROVIDED TO THE U.S. DRUG ENFORCEMENT ADMINISTRATION

The National Drug Intelligence Center requested that the Racketeering Records Analysis Unit assist in an investigation of the Carrillo-Fuentes drug-trafficking organization. This organization was responsible for transporting large quantities of illicit cocaine from Mexico, through McAllen, Texas, to Atlanta, Georgia.

Racketeering Records Analysis Unit examiners conducted a thorough analysis of the 17 ledgers seized in connection with initial search warrants. The ledgers revealed that during a three-month period, the business in Atlanta distributed a minimum of 2,827 kilograms to approximately 13 separate accounts for \$41,059,000. Records from additional search warrants indicated that a related illicit business distributed a minimum total of 540 kilograms to three separate accounts for \$9,150,000.

In support of the case prosecution, a Unit examiner testified in Federal District Court in McAllen, Texas, on January 15, 2002. The jury found Jose Albert-Fuentes and Rey Dicente-Montanez guilty on three counts of drug trafficking and sentenced both to federal prison—Fuentes for 30 years and Montanez for 15 years.

Success Story

NICODEMO S. SCARFO INVESTIGATION

Nicodemo S. Scarfo Jr., 35, conducted an illegal gambling business and an extortionate credit transaction operation for the LCN Gambino Family in northern New Jersey. Scarfo's sports bookmaking generated approximately \$5,000,000 a year.

Racketeering Records Analysis Unit personnel examined documents seized in connection with this investigation. The examinations revealed that the majority of the documents were accounting records from a large-scale sports bookmaking and loan-sharking operation. Based on the records, Unit personnel were able to determine the size and scope of Scarfo's operation, correlate documents found on Scarfo's person with the printouts from the floppy diskettes, and establish the amount of money Scarfo profited from the operation.

Nicodemo Scarfo pleaded guilty on February 28, 2002, to operating an illegal gambling business. His codefendant, Frank Paolerico, pleaded guilty on March 18, 2002, to operating an illegal gambling business and engaging in extortionate credit transactions. Scarfo was sentenced to 33 months, and Paolerico was sentenced to 24 months in prison.



STRUCTURAL DESIGN UNIT

The Structural Design Unit is responsible for planning, designing, and developing demonstrative evidence to support expert testimony during a trial. Three-dimensional scale models, exhibits, and displays are created to reconstruct crime scenes and clarify for the jury the location and spatial relationships of victims, perpetrators, witnesses, evidence, buildings, and vehicles.

Buildings and terrain where crimes have been committed are reconstructed from on-site measurements, aerial and on-site photographs, maps, witness interviews, computer-aided design files, and blueprints. Bomb devices are replicated from remnants found at the crime scene. Mannequins are created to illustrate the location of wounds. Scale models of vehicles involved in crimes are constructed.

Scale-surveillance models are also created to aid law enforcement personnel in extricating hostages during crisis-response scenarios. These three-dimensional models provide realistic and accurate depictions of building layouts, including elevations, entryways, stairs, and obstructions.



Success Story

CHILD CAUGHT IN CROSSFIRE

On July 20, 1996, four-year-old Davisha Brantley-Gillum was sitting in a parked vehicle with her mother and other siblings at a St. Paul, Minnesota, convenience store. Gang members targeting rival gang members opened fire 30 feet away. A single round struck Davisha in the head, killing her instantly.

A three-year investigation revealed that members of the Rolling 60s Crips street gang were responsible for the shooting. Several members of the gang were indicted on murder charges. Two of those indicted, including the former gang leader, cooperated and agreed to provide testimony at the trial for the promise of a reduced sentence.

Less than three weeks before the trial was scheduled to begin, the federal prosecutor requested that Structural Design Unit personnel prepare a model depicting the convenience store where the shooting

occurred. The three-dimensional scale model of the gas station depicted the parking lot and the distance between the shooter and the victim. This model enabled the prosecutor to present witnesses, who with the help of this visual aid, accurately and succinctly described the events leading to the murder of the child.

In 2002, three defendants were convicted and sentenced to mandatory life sentences in prison without the possibility of parole.

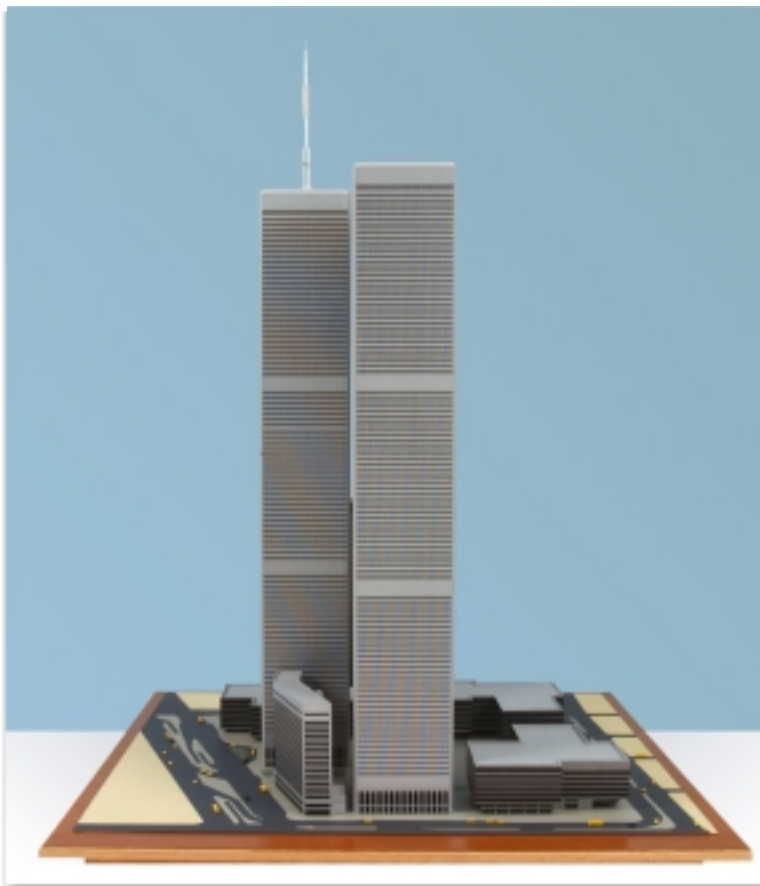
Success Story

UNITED STATES V. MARK WINGER

After a strange two-hour van ride home from the St. Louis Airport on August 23, 1995, Donnah Winger was stalked by the driver of the van, Roger Harrington. Six days after that ride, police were called to the Winger home to find her bludgeoned to death, Harrington shot twice in the head, and her husband distraught. Mrs. Winger's husband said that he was in the basement at the time, heard a scuffle, ran upstairs, and found Harrington beating his wife with a hammer, so Winger shot him. The obvious conclusion was that because Mrs. Winger had complained to family, friends, and the airport limousine company, Harrington had come to retaliate.

However, a crime scene site survey was done, and a three-dimensional, scale trial model was sent to the police department in Springfield, Illinois. The reconstruction depicted the distance between the two victims and Mark Winger's path inside the residence during the time of the deaths. The exhibit also illustrated Mark Winger's line-of-sight according to his statements, which are inconsistent with the evidence and physical layout of the residence.

A visual information specialist from the Structural Design Unit testified as an expert witness to the veracity of the reconstructed crime scene. Mark Winger was convicted of murder and sentenced on August 1, 2002, to life in prison without the possibility of parole.



Success Story

WORLD TRADE CENTER MODEL

Structural Design Unit personnel constructed a scale model of the World Trade Center complex to aid in the ongoing September 11 terrorist investigation. Tower One stands approximately 3 feet 8 inches high and has a one-foot tower on the roof. The World Trade Center's original structural engineering firm supplied hundreds of blueprints that were used to assist in the model construction.

A graphics program was used to draw the windows and doors that were printed on vinyl. The scale structures and vehicles are made of plexiglass and wood.

FORENSIC SCIENCE COMMUNICATIONS

Forensic Science Communications is a peer-reviewed forensic science journal published quarterly on the Internet by FBI Laboratory personnel. The journal is a means of communication between forensic scientists, permitting information of value and interest to be rapidly disseminated among scientists and other interested persons.

Submissions to the journal may include letters to the editor; review, research, or feature manuscripts; book reviews; and technical notes or case reports.

Manuscripts and other information relating to the journal should be sent to:

Managing Editor
Forensic Science Communications
labfsc@fbi.gov

Forensic Science Communications may be viewed online at:

www.fbi.gov/hq/lab/fsc/current/index.htm