



NFSTC

Science Serving Justice

Annual Report 2010

we deliver

nfstc
SCIENCE SERVING JUSTICE



Delivering Excellence

Since 1995, the National Forensic Science Technology Center (NFSTC) has built a reputation for providing high quality, innovative solutions to some of the most difficult problems facing forensic science. In the midst of complicated industry challenges, our dedication to our mission has helped stakeholders deliver improved safety in communities across the country—and allowed our own organization to thrive. In 2010, NFSTC was honored to deliver more services to a wider variety of agencies and stakeholders than ever before.

Whether we are called to provide those on the front lines with the skills to develop actionable intelligence, or evaluate new technology for greater efficiency, or measure laboratory standards, quality science is and always has been our focus. And we take pride in delivering on that promise, every day.

After all, when justice and public safety are at stake, anything less than the absolute best is not an option.

Vision

For the forensic science community and its users to have complete confidence in the quality of the science services provided to the justice community as it strives to ensure the public safety.

Mission

We are dedicated to supporting the justice community in ensuring the public safety by assisting the forensic sciences in the achievement of the highest level of quality services.

EXCELLENCE



"I have been in law enforcement for over 24 years and have had the privilege of attending numerous training sessions ... this has been the most impressive school I have ever attended in my career ... I was exposed to processing ideas that I had no knowledge of existing."

– Sgt. Alvin Simms, Ellis County Sheriff's Office

Delivering Knowledge

NFSTC provided a wealth of **training opportunities** to members of law enforcement, the military and the medical examiner communities in 2010. More than 30,000 training hours were delivered to 753 trainees from agencies across the country, providing theoretical and practical knowledge across a diverse range of forensic disciplines and sciences.

753 trainees
13 programs
33,596 training hours

To ensure our trainees receive knowledge that meets the highest standards, we took additional steps to align programs with industry-standard certifications. In 2010, participants in the *Latent Print Examiner* program demonstrated how well their training prepared them for real-world evidence analysis by sitting for a mock certification exam that approximated that of the International Association for Identification

(IAI). Our entry-level trainees performed remarkably well, especially considering examiners must have two or more years of field experience before sitting for the IAI certification exams. Participants posted scores exceeding IAI requirements in two of the three sections, posting average grades of 86.4% on the written test, 98.4% on pattern recognition and 76.8% on the comparison exam.

(NIJ Award #2008-DN-BX-K186)



Instructional Services Team



The American Board of Medicolegal Death Investigators (ABMDI) approved 32 hours of continuing education units for the online and onsite portions of NFSTC's *Medicolegal Death Investigation* (MDI) training program. Our MDI online course was the first distance learning course to be accepted by the ABMDI, demonstrating the high quality that NFSTC's online participants receive. (NIJ Award #2009-DN-BX-K197)



NFSTC also condensed our existing Association of Firearm and Tool Mark Examiners-certified, *Firearms Academy Program* into a 17-week program for candidates from the U.S. Army Criminal Investigation Laboratory (USACIL). This training equipped participants with advanced technician capabilities so they can be ready for deployment in just seven to eight months.



NFSTC had the opportunity to provide specialized investigative techniques training for the Office of Juvenile Justice Delinquency Prevention (OJJDP) and the nation's Internet Crimes Against Children (ICAC) task forces. NFSTC teamed with the subject matter experts at the High Tech Crime Institute to begin delivery of this crucial program. (NIJ Award #2010-MC-CX-K063)



A new NIJ program, *Essentials of Crime Scene Investigation*, leveraged the skills of NFSTC's Instructional Design unit to develop and deliver a blended learning program for entry-level crime scene examiners. With 16 hours of online training and three days of hands-on, scenario-based instruction, this blended learning program was successfully delivered in 16 sessions to 231 participants from 40 states in just eight months. (NIJ Award #2008-DN-BX-K201)

Other 2010 training highlights included the delivery of a customized multidisciplinary training program to the Michigan State Police for latent print examination, DNA analysis, controlled substances and firearm examination.

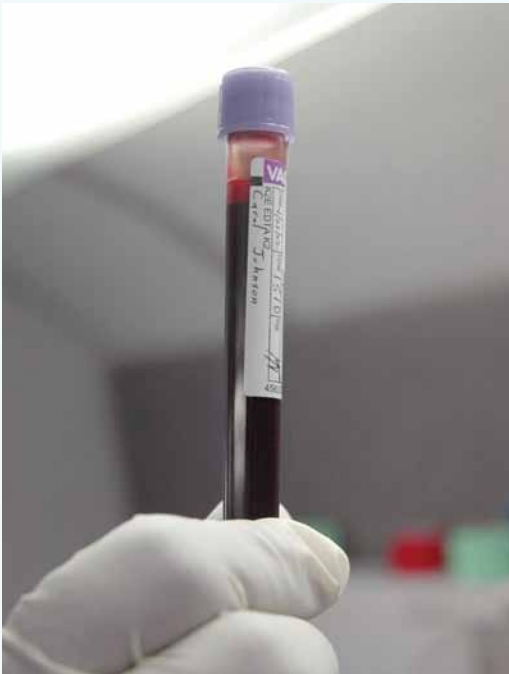


Sample of 2010 Training Stakeholders

SOCOM
USACIL
ROTC
ICAC Task Forces
Michigan State Police
DC Metro Police Lab
VA Dept. of Forensic Science
DC Metro Police Laboratory
Louisiana State Police

Subject Matter Areas

Crime Scene Investigation
Footwear/Tire Track Examination
Medicolegal Death Investigation
Biological Screening
Site Exploitation
Special Techniques for Investigating
Internet Predators
Trace Evidence
Latent Print Examination
DNA Collection and Analysis
Firearm Examination
Controlled Substances



KNOWLEDGE

“Excellent workshop—we are definitely motivated to research/pursue LM/FISH technologies at our laboratory. This may help some cases be solved that would otherwise be hopeless at this time.”

– Scott McWilliams, Wyoming State Crime Laboratory

(Physical Separation of Forensic Mixtures Using Laser Microdissection Techniques Workshop)

Delivering Expertise



Technology Services Team

12 Technology Evaluations
4 Technology Transition Workshops
323 NIJ forensic science grants reviewed
\$149,665,509 awards assessed

NFSTC continued operation of the NIJ’s **Forensic Technologies Center of Excellence** (FTCoE) in 2010, providing numerous technology transition, assistance and support activities. Responding to an average of four inquiries per week from agencies throughout the criminal justice community, NFSTC supported practitioners with information and assistance regarding the latest technologies and techniques to meet their real-world challenges. (NIJ Awards #2007-MU-BX-K008 & 2008-MU-MU-K003)





Forensic Services Team

Technology Evaluations

NFSTC conducted 12 in-depth performance evaluations of technologies to determine their suitability for forensic science applications. The following evaluation reports were published in 2010:

- RxSpec® 700Z Vis/NIR Spectrometer
- M.M.C. International B.V. Screening Tests for Narcotics
- Smiths Detection RespondeR™ RCI Raman Spectrometer
- Icx Fido® Verdict™ Portable Explosives and Narcotics Identifier
- DeltaNu® ReporteR™ Portable Raman Spectrometer
- Thermo Scientific® FirstDefender RM™ Portable Raman Spectrometer
- Evaluation of Three Parameters for Assessing DNA Quantitation
- Comparison of Four Commercially Available Portable Raman Spectrometers
- Applied Biosystems' AmpFℓSTR® Identifiler® Plus Amplification Kit
- BioTx Innovac® II Vacuum Device
- Comparison of Fingerprint Detection Using Semiconductor Laser and LED Light Sources with Three Chemical Reagents (submitted to *Journal of Forensic Identification*)
- Comparison of Monochromatic Light Source and Banded Light Source for Detection of Evidence (submitted to *Journal of Forensic Identification*)

Technology Transition Workshops

As the Center of Excellence, NFSTC held a series of *Technology Transition Workshops* to facilitate the transition of emerging technologies into practice by forensic practitioners. These workshops are a critical component of NIJ's research, development, testing and evaluation (RDT&E) efforts. All tech transition workshops can be found online at:

http://projects.nfstc.org/tech_transition

The following workshops were delivered in 2010:

- Sequential Processing of Latent Prints
- STR & Mitochondrial DNA Analysis by Mass Spectrometry for Managers
- Probability Software and Fingerprint Comparison
- Physical Separation of Forensic Mixtures Using Laser Microdissection Techniques



Technology Demonstrations and Outreach

To share the important work of the Center of Excellence, NFSTC reached out to the community through workshops and the web, and participated at more than 35 national and regional industry conferences and events. In 2010, FTCoE hosted the following major symposia:

Forensic Death Investigation Symposium

Attended by approximately 170 participants, this conference explored new technologies and tools such as the *National Missing and Unidentified Persons System* (NamUs) and discussed standards, training, certification, accreditation and potential solutions to enhancing policy and practice in the criminal justice system.

Impression and Pattern Evidence Symposium

Attended by 350 practitioners and researchers, the event was designed to enhance information-sharing and promote collaboration among the impression and pattern evidence, law enforcement and legal communities. (BJA Award #2009-D1-BX-K028)

DNA Laboratory Audit/Grant Progress Assessment Program

The Center of Excellence visited crime laboratories across the country through the *DNA Audit and Grant Progress Assessment Program* (DNA/GPA), assuring standards for public safety were met. In 2010, the Center completed:

- **99 DNA audits** for both governmental crime laboratories (93) and vendor DNA laboratories (6) performing DNA analyses
- **GPA site visits for 142 agencies in 33 states** that had open NIJ forensic science grants
- **GPA reviews for 323 open awards** representing a total of **\$149,665,509** in NIJ grants



Assessment Services Team



Michigan Public Safety Project

In 2010, the Bureau of Justice Assistance asked NFSTC to be part of a multi-faceted project aimed at evaluating the casework of the Detroit Crime Laboratory that was shuttered in 2008, and assisting Michigan leaders to establish model forensic science services for the city of Detroit. To effectively address different aspects of this problem, the project was divided into three separate task groups:

1. Processing approximately 10,500 backlogged sexual assault kits
2. Review casework from the shuttered Detroit crime laboratory
 - a. All cases/all services conducted one full year prior to closing
 - b. All forensic firearms cases conducted five years prior to closing
3. Assist in planning a new forensic science laboratory in Detroit

The project achieved numerous major milestones by year end, including the establishment of a Board of Directors that included all the key state and city stakeholders, and the development of a tactical and strategic plan for addressing the major phases of the project.

(BJA Award #2009-D1-BX-K028)



Compliance and Contracts, & Projects Teams

“By establishing the FIC as a small, for-profit arm of the organization, the focus and integrity of NFSTC can be preserved, allowing it to remain truly mission-oriented and supportive of our stakeholders.”

– Kevin Lothridge, CEO

Delivering Innovation

In 2010, NFSTC launched the **Forensic Innovation Center (FIC)**, a business cluster of organizations on the leading edge of forensic science. This unique for-profit partnership will provide forensic service assessment, training, project management, equipment procurement and more. The FIC’s agile team of forensic experts is positioned to rapidly respond to national and international projects. Teaming partners include:



The FIC aligns well with the Enterprise Florida Strategic Plan, and in partnership with the Governor’s Office of Tourism, Trade and Economic Development (OTTED), Enterprise Florida and Pinellas County Economic Development, NFSTC received and will use Florida’s Qualified Target Industry tax refund program to assist in developing the FIC.

With contract income now making up 48% of our business, the FIC allows NFSTC the organizational structure to capture these opportunities and further diversify our stakeholder and project portfolio.

NamUs has proven to be an excellent tool for law enforcement and is utilized in every one of our missing and unidentified investigations.” – E. J. Picolo, Special Agent in Charge, Florida Department of Law Enforcement

Delivering Resolution

The **National Missing and Unidentified Persons System** (NamUs) had another year of tremendous growth in 2010, its second year of full operation. By year end, more than 100 cases had been resolved with the assistance of NamUs, a remarkable milestone for such a young program. (NIJ Award #2007-IJ-CX-K023)

Fueled by the efficient work of seven dedicated NFSTC staff and a team of nine highly experienced forensic services contractors, the NamUs program helped resolve numerous challenging cases, some of which had been open for decades.

To raise awareness of the benefits of NamUs and assist in case management, the NamUs team reached out to more than 1,400 law enforcement and medical examiner/coroner agencies across the country. Throughout the year, the NamUs team continued to cultivate relationships with agencies including the National Crime Information Center

(NCIC), the National Center for Missing and Exploited Children (NCMEC) and the FBI's Violent Criminal Apprehension Program (ViCAP). Developing close ties with these agencies helps enhance the information sharing that is at the heart of the success of the NamUs program.

Adding to its growing list of awards and recognition, NamUs was nominated in 2010 for a Laureate Award from the Computerworld Honors Program for its use of information technology to benefit society.

NamUs continued to gain interest around the nation through a variety of news stories that helped raise awareness of the unique benefits of the NamUs system. This attention helped boost user registrations 42% for the Missing Persons database and 20% for the Unidentified Persons database.

55 case resolution assists in 2010
97% increase in Missing Person cases
23% increase in Unidentified Person cases
147,571 unique visitors for 2010



NamUs Program Team

Locating Loved Ones, Finding Closure

NamUs UP # 2297	
NamUs UP Case Number: 2297 ME/C Case Number: 5080370 Pinellas County, Florida 45 to 65 Year Old White Male	
Identification Potential	
★★★★★ High	

Artist Rendition. Source: NamUs Unidentified Persons Database

In November 2009, Sue D'Agostino from Islip, New York, learned of NamUs while watching the ABC television show, *The Forgotten*. D'Agostino and her family had not heard from her brother, David Brennesholtz, for several years and began searching the unidentified side of NamUs. She found the system easy to use and continued to search occasionally over the next several months. On April 14, 2010, she came across a case, unidentified person #2297, who had been found dead in Clearwater, Florida in 2008. She thought the face in the photo was familiar and just might be her brother, David.

D'Agostino contacted the Pinellas County Medical Examiner's office with her suspicions. Family DNA reference samples were taken and on May 10, 2010, a completed DNA report positively identified the Clearwater man as David Brennesholtz, D'Agostino's missing brother.



RESOLUTION

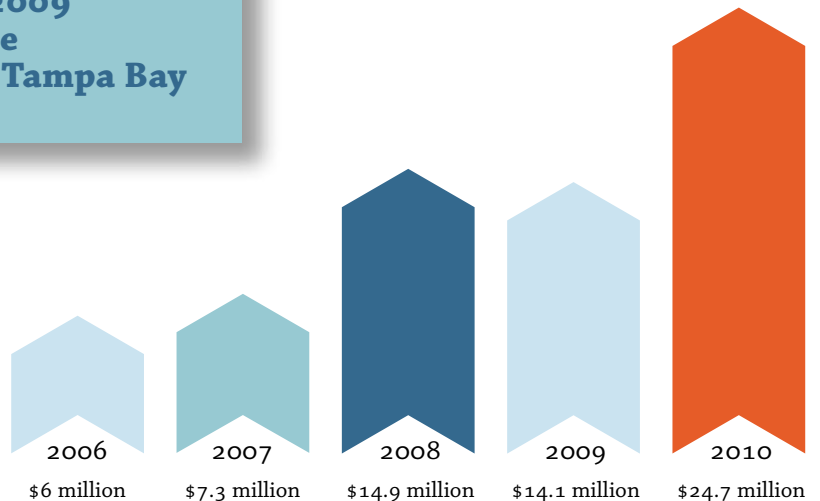
Delivering Growth

For a second year in a row, NFSTC was ranked one of *Tampa Bay Business Journal's* **Fast 50** rapidly growing businesses. Driven by strong demand for services from the Department of Defense, NFSTC substantially increased the total revenue generated via contractual agreements. In 2009, grant funding made up 85% of NFSTC's revenue, with only 15% coming from contracts. By the end of 2010, contract income made up 48% of NFSTC's revenue. This shift in funding sources provides beneficial diversification of NFSTC's portfolio.

75% total revenue increase over 2009
490% increase in contract revenue
#22 Fastest Growing Company in Tampa Bay



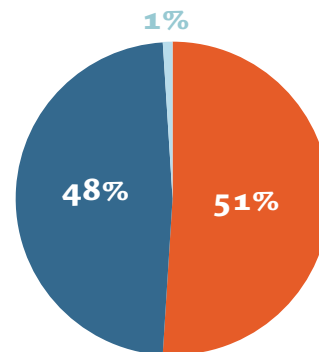
Financial Services Team



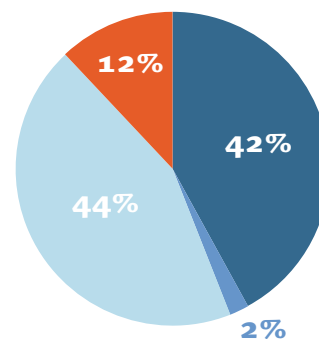
2010 Audited Financial Statement

NFSTC is committed to prudent and appropriate fiscal management, providing the best forensic support, training and services for our communities across the country.

Income:	Total	%
<i>Grant Income</i>	12,729,442	51%
<i>Direct Federal Funding</i>		
<i>Contract Income</i>	11,873,442	48%
<i>Other Governmental & Private Agencies</i>		
<i>Other</i>	98,526	1%
Total	24,701,410	100%



Expenses:	Total	%
<i>Program Services</i>		
<i>NIJ Cooperative Agreement</i>	9,764,616	42%
<i>BJA Cooperative Agreement</i>	388,719	2%
<i>Office of Juvenile Justice</i>	89,574	—
<i>Contracts</i>	10,388,926	44%
<i>General & Administrative</i>	2,836,513	12%
Total	23,468,348	100%



A copy of IRS Form 990 can be found on our website at:
<http://www.nfstc.org/about/partnerships-and-funding>
 For further information, please contact us at info@nfstc.org
 or (727) 549-6067.

“The people I work with are very easygoing, and have the utmost respect for individuals that work here. This is the first time in a long time I actually enjoy coming to work every day!”

“Every day is a new challenge and never routine!”

“The people are great (friendly, helpful and talented) and the work is interesting, challenging and beneficial to the community.”

– Quotes from employee workplace survey, October 2010

Delivering Opportunity

To keep pace with increased demand for services, NFSTC added 16 new staff including professional, administrative and industrial security positions. Expanding our staff during 2010 is an extraordinary accomplishment considering the difficult economic conditions our country is facing. In 2010, the Tampa Bay area added approximately 1,500 jobs, according to business analysts. NFSTC’s job increase equates to 1% of the Tampa Bay area’s total job growth. These high quality professional opportunities help strengthen our community and provide valuable experience in a scientific field.



In addition to these newly created positions, 14 staff members were selected for advancement into new roles, providing staff with career growth while retaining and motivating talented staff. Growth and retention are an important part of our organization’s strength and ensures NFSTC has the depth of experience to provide stakeholders with the highest quality service.



Administration, Security & Logistics Team



Best Place to Work—Once Again

For a second straight year, NFSTC was selected by the *Tampa Bay Business Journal* as a **Best Places to Work** in the “Big” category (companies with 26–50 employees). The *Tampa Bay Business Journal* has recognized the area’s **Best Places to Work** for five years, and the event is highly regarded in the region.

In addition, NFSTC’s executive team was once again recognized by the *Tampa Bay Business Journal* as one of the area’s top management teams, taking the #5 spot in a field of 21 finalists.

92% average retention rate through 2010
16 new positions in 2010
58 total staff at year end



Human Resources Team

OPPORTUNITY

"I loved the knowledge imparted by each person at the stations. They were obviously well educated and loved what they do."

"I enjoyed learning about the different types of forensic science through the hands-on stations and by going into different setup practice scenarios."

– Participants of CSI Night at NFSTC

Delivering the Future

Since our founding, NFSTC has shared expertise and insights throughout the justice community. In 2010, NFSTC stepped up efforts to reach out to our local Tampa Bay area community through a variety of educational programs. NFSTC scientists and staff participated in numerous engaging events including four educational programs hosting 430 participants.



STEM Student Tours

NFSTC hosted more than 90 Science, Technology, Engineering and Mathematics (STEM) students from local high schools for hands-on tours of our forensic science training facility in June. The students were part of the *STEM TEC: Summer Career Institute*, a program developed by Junior Achievement and WorkNet Pinellas. Students toured the NFSTC facility and participated in hands-on activities involving testing unknown substances and biological fluids, interpreting DNA profiles and using firearms comparison microscopes.

Great American Teach In

Representatives from our laboratory services and instructional design departments visited area schools and made presentations to 120 students to provide information on forensic science and instructional design careers.

In addition, Kevin Lothridge, NFSTC CEO, served on the board of the Professional Science Master's (PSM) Initiative of the State of Florida. The PSM degree is equivalent to the MBA; it is designed to provide science graduates with the management skills to successfully work outside academia.





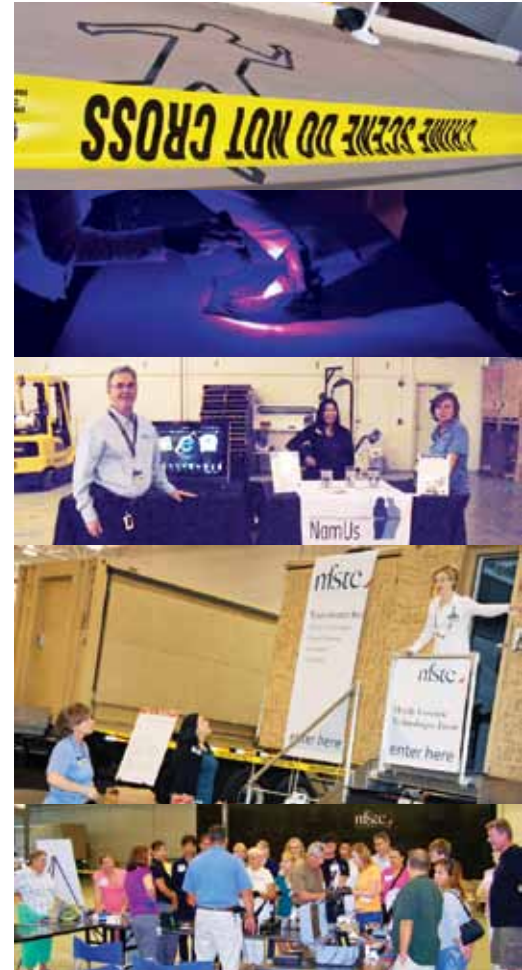
Communications Team

CSI Night at NFSTC

More than 85 business, community and law enforcement leaders in the Tampa Bay area had the opportunity to roll up their sleeves and get first-hand experience in working a “crime scene” at our CSI Night event. Invited guests were presented with a case file and evidence bag, and participated in activities illustrating how real forensic professionals work. This event centered on debunking commonly held myths about forensic science, including fingerprinting, DNA collection and crime scene processing, and served to educate community leaders about NFSTC.

Sci Café, St. Petersburg

The Pier Aquarium brought their quarterly scientific discussion series to NFSTC in July 2010. Visitors rotated through several activity stations to learn about the exacting process of crime scene investigation, and a panel of NFSTC experts fielded questions. This interactive experience demonstrated how the NFSTC staff supports the justice community through innovative research, programs, evaluation of the latest technologies and laboratory quality reviews.



NFSTC Member Organizations

The members of NFSTC meet annually to receive an update on organization activities and elect the board of directors.

American Academy of Forensic Sciences
American Board of Criminalistics
Association of Forensic Quality Assurance
Managers
American Society of Crime Laboratory Directors
Bureau of Alcohol, Tobacco, Firearms
and Explosives
Florida International University
International Association for Identification
Southeastern Public Safety Institute of
St. Petersburg College
University of Central Florida
University of South Florida

NFSTC Executive Management

Kevin Lothridge, *Chief Executive Officer*
David Epstein, *Chief Operations Officer*
Dave Sylvester, *Chief Projects Officer*

Board of Directors

Mitchell R. Morrissey, *President*
District Attorney, Denver, CO

Carl M. Selavka, PhD, *Secretary*
Consultative Forensic Specialist

James J. Cali, CPA, *Treasurer*
Bi-State Development Agency, dba METRO

Benny Del Re
Retired Director, Santa Clara County
District Attorney's Crime Laboratory

J.C. Upshaw Downs, M.D.
Georgia Bureau of Investigation

John W. Ives
President, Eagle 32 Innovative Solutions, LLC

Joseph P. Polski
Chief Operations Officer, IAI

Marie Samples
Assistant Director, Dept. of Forensic Biology
Office of Chief Medical Examiner, New York City

Susan Uremovich
Laboratory Director, Virginia Dept. of Forensic
Science – Eastern Laboratory



Executive Team



Board of Directors

Letter from the President

To our Stakeholders,

It is a pleasure to report that 2010 was a year of significant accomplishments for NFSTC. As the theme for this year's annual report—*We Deliver*—indicates, NFSTC experienced outstanding success in providing leading-edge support for the justice community. Exciting progress was achieved through a 75% revenue increase that was driven by a 490% increase in our commercial contract revenue, placing NFSTC at number 22 of the fastest growing companies in Tampa Bay.

An important part of this eventful year was the strong performance by the *National Missing and Unidentified Persons System* (NamUs) and the **Forensic Technologies Center of Excellence** (FTCoE), both managed and operated by NFSTC. These entities provided innovative programs and assistance to help public safety agencies improve their service and performance.


This year NFSTC launched the **Forensic Innovation Center**, a business cluster of organizations that are leaders in forensic science. The model includes a unique for-profit partnership that teams NFSTC with complementary providers.

I want to express my appreciation for the team of hard-working professionals whose energy and commitment to excellence provided the NFSTC with such strong results in 2010 and positioned the organization to continue delivering the highest level of training, research and support for the field of forensic science in the coming year.

Mitch Morrissey

A handwritten signature in black ink, appearing to read "Mitch Morrissey", with a large, stylized flourish extending from the end of the signature.





National Forensic Science Technology Center

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