

**Welcome to**  
***Interagency Use of Facial  
Recognition....  
Does it work?***

**Please record your attendance using  
the Sign In Sheet**

June 10, 10:30 a.m. - Noon  
International Salon 2

# **Interagency Use of Facial Recognition... Does it work?**

Moderator: Lance Taylor  
Georgia Department of Driver Services  
June 10, 10:30 a.m. - Noon

# Florida's Facial Recognition Network

*Hosted by Pinellas County Sheriff's Office*

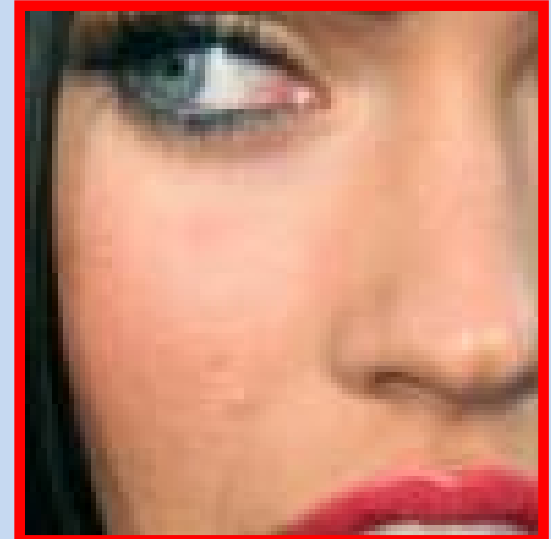
**Advances in Facial Recognition**

**Inter-agency collaboration – how does it work?**



Face Analysis Comparison & Examination System

## A quick exercise





The Pinellas County Sheriff's Office (PCSO) began efforts with FR technology in 2001 and has since emerged as a primary provider of law enforcement applications for face recognition.

PCSO uses FR for corrections processing, mobile identification, investigations, and allows access to trained authorized users via Florida's Criminal Justice Network (CJNET).



Square Miles:	279
Population:	917,000
Agency Members:	2,800
Annual Bookings:	55,000
Avg. Inmate Pop.:	3,400

Patrol Operations  
Corrections Operations  
Judicial Operations

## PCSO Facial Recognition Components:

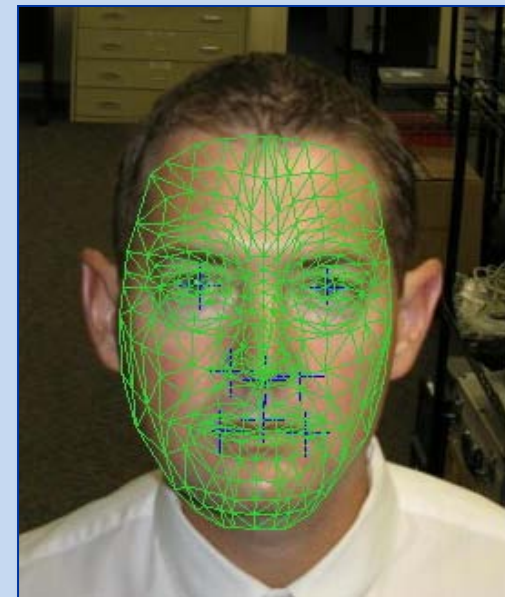
- *Corrections Processing* – Identification and Verification at Booking
- *Mobile Identification* – Street Level Identification
- *Investigations* – Investigative Browser Web Based Search Tool
- *Statewide FR Partnership* - to Authorized Users via FR-Net

### 2001 - 2008

- ✓ Implemented Facial Recognition enabled mugshot system
- ✓ Deployed web-based Image Query and Facial Search
- ✓ Initiated Statewide data sharing expansion effort
- ✓ Deployed Mobile Identification Systems (MIS)
- ✓ Contract with DoD Irregular Warfare Support Program

### 2009 - 2013

- ✓ Integrating Florida DHSMV
- ✓ Contract with DoJ Community Oriented Policing Services
- ✓ NIJ Grant with Michigan State University on Sketch Matching
- ✓ Contract with DoD Biometric Identity Management Agency (BIMA)
- ✓ FACES – Face Analysis, Comparison, and Examination System
- ✓ Online user training



PCSO participates with emerging and novel face recognition tools and processes that benefit law enforcement, military and federal government through involvement with:

- ✓ DoD Irregular Warfare Support Program (IWSP)
- ✓ DoJ Community Oriented Policing Services (COPS)
- ✓ DoD Biometric Identity Management Agency (BIMA)
- ✓ FBI's Facial Identification Scientific Work Group (FISWG)
- ✓ National Institute of Justice
- ✓ DHS Biometrics TWG
- ✓ IEEE – Certified Biometrics Program



## Ybor cameras won't seek what they never found

After two years  
facial-recognition  
led to a single

By BRADY DENNIS  
© St. Petersburg Times  
published August 20,

### Firm defends

By Lisa M. Bowman  
Staff Writer, CNET News

### Face-Re Results

By ANDY NEWMAN  
Published: May 3,

## Call It Super Bowl Face Scan I

Declan McCullagh 02.02.01



packed into a Florida stadium for Super  
were also being watched.

passing through turnstiles and flashed  
screens of a police control room.

### Records Reveal on Technology

em, ACLU Reports

Post a comment

***Early Facial Recognition Systems met with mixed results and reviews. Public scrutiny assisted the direction of future successful use and outcomes.***



## Facial recognition technology proving effective for Pinellas deputies

By Kameel Stanley, Times Staff Writer  
In Print: Tuesday, July 21, 2009

Pinellas Deputy Mark Eastty, who got his mobile facial-recognition unit in May 2008, has "used it over 100 times now." He said, "I've actually never had anyone give me grief over it."



## The Pinellas County system is the largest database of its kind in the country



Video | Photo  
SHARETHIS  
Recommend 57 people recommend this. Sign up to see what your friends recommend.  
Tweet 2  
+1 0

Posted: 04/17/2013



By: Alison Morrow

**CLEARWATER** Several pictures of the Boston Marathon bombings are circulating Facebook. One shows an unknown person on the top of a building during the explosions. The caption asks people if they know anything.

It's one of thousands of images facing FBI agents as they comb through faces of terror and try to find one that might look more suspicious.

## Face recognition next in terror fight

Updated 5/10/2007 8:01 AM | Comments 5 | Recommend 1 | E-mail | Print | Reprints & Permissions | RSS



Enlarge

By Mike Carlson for USA TODAY

Scott McCallum, system analyst for the Pinellas County Sheriff's Department, demonstrates facial-recognition software using a collection of his own images. The software can compare a digital photo taken in a surveillance area with a database of more than 4.5 million photos.

By Thomas Frank, USA TODAY

In states such as Florida and Virginia, law enforcement officers experiment with facial-recognition technology and uncover systems' pros and cons

Police in one of Florida's largest counties are hoping that a digital camera may be the crime-fighting weapon of the future.

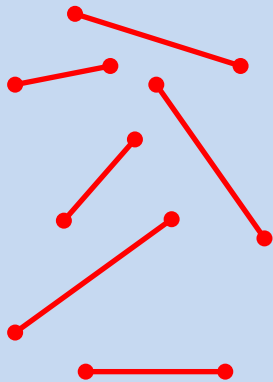
The \$200 cameras do more than photograph people questioned on Pinellas County streets along Florida's west coast. Deputy sheriffs transmit a mug shot from car laptops to a database holding 4.5 million digital photos of people who've been arrested in Pinellas and five other Florida counties.

**FACIAL RECOGNITION:** Next weapon against terrorism?

*The public views face recognition technology as a force multiplier for law enforcement operations.*

Facial recognition analyzes the characteristics of a person's facial features. It measures the overall facial structure, including distances between eyes, nose, mouth, and jaw.

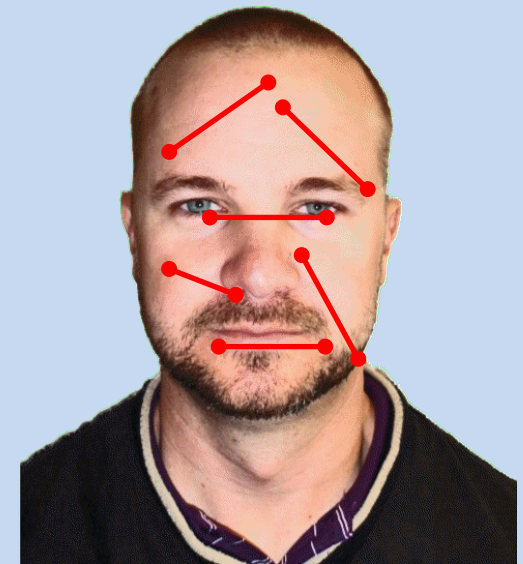
## Fingerprint



## AFIS for Faces

Produces a mathematical value to uniquely represent and identify a face

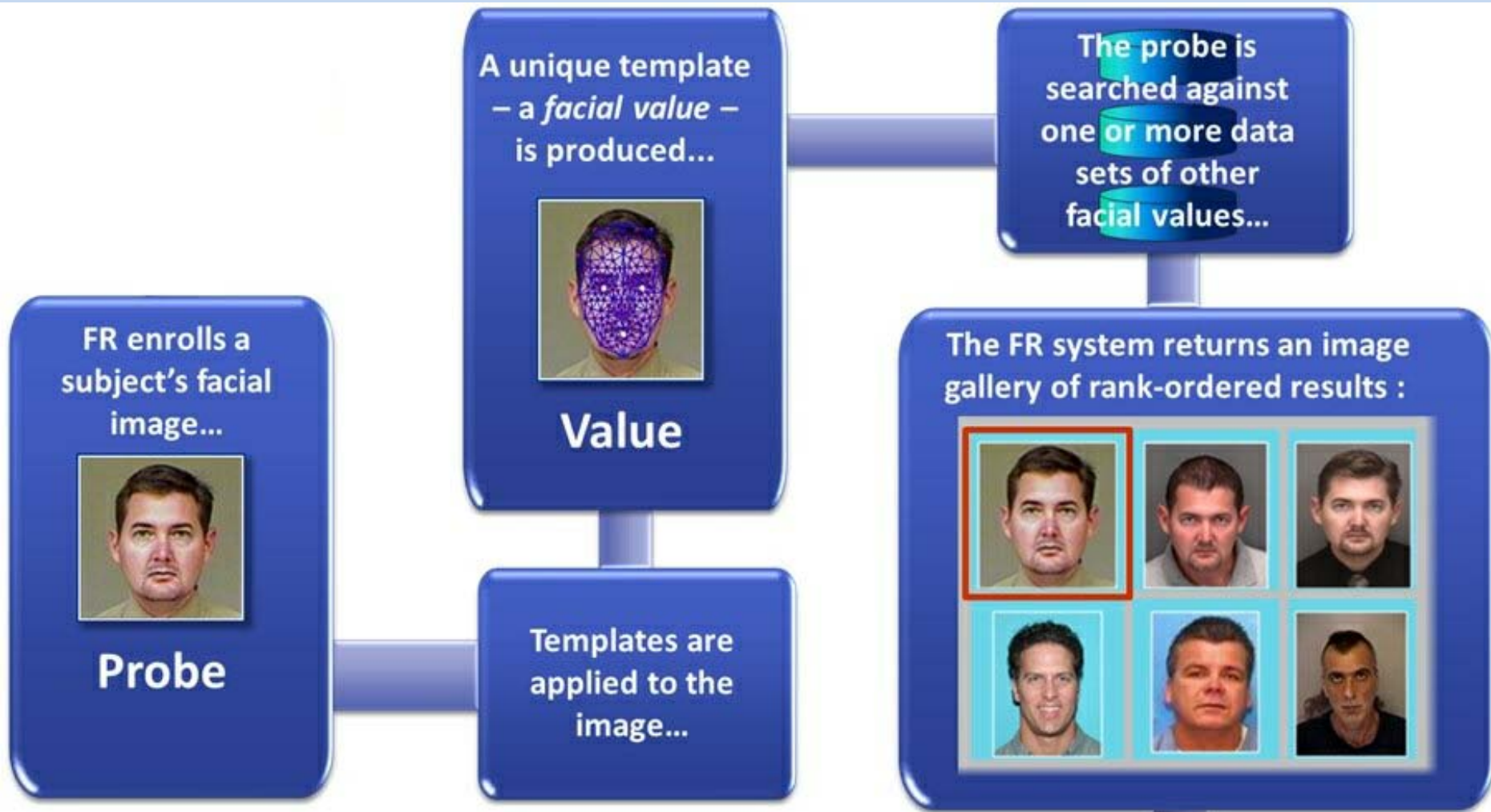
## Faceprint



**Advantages:** minimal user interaction, non-intrusive, verification or identification can be accomplished

**Disadvantages:** image quality dependent, public perception





What is driving the need  
for facial recognition...

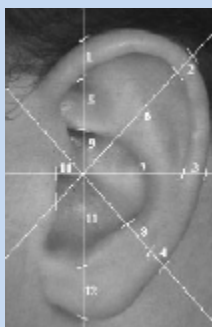


## With other biometric solutions available, why FR?

- Face is the most collected Biometric
- Less constraint for sharing face data (Within law enforcement)
- Lack of physical evidence (Sometimes face is all we have)
- Interaction at safe distance.



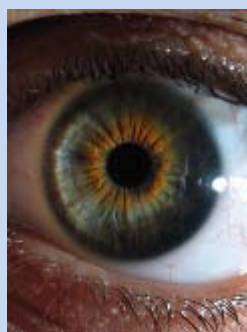
Vein Pattern



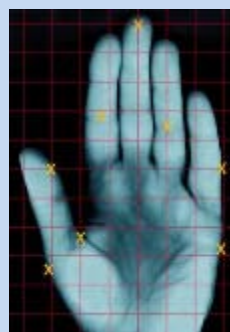
Ear Pattern



Fingerprint



Iris



Hand Geometry



Gait



Vein Pattern

## Affects Review

- ✓ Twins
- ✓ Aging



## Will not work:

- ✓ Masks

## Affects Performance:

- ✓ Poor Image Quality
- ✓ Significant Aging
- ✓ Sunglasses
- ✓ Facial Hair
- ✓ Plastic Surgery





# Misconceptions

## In Hollywood Facial Recognition:

Can use any equipment.

Can be used anywhere.

Can search against anyone.

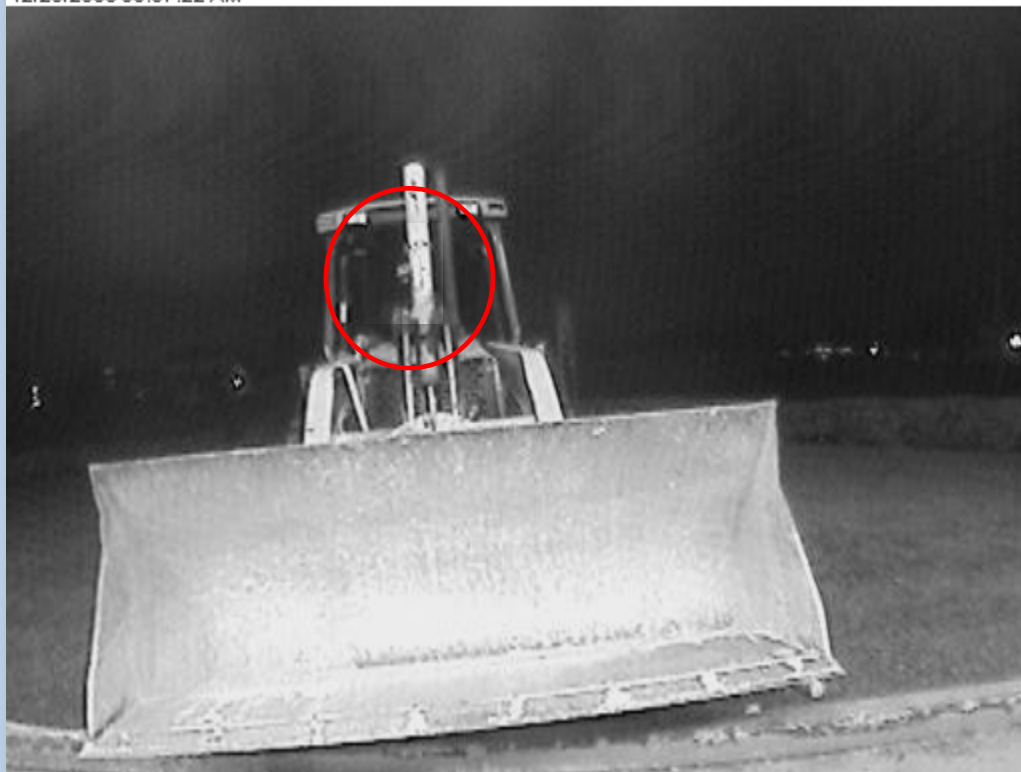
Can use any image.





## User Expectations for Face Recognition

Site[0080080001, Midway Drive Thru FL]  
Dvr[ 1, Midway Drive Thru FL, unit 1 ]  
Camera[ 4, DU ATM IFLN1450 ]  
12/23/2009 03:57:22 AM



**ATM Robbery**

**Unknown Subject**

# No Match

## Reasons that you can't find a match:

The suspect is not in the database

Poor quality image

Poor quality enrollment

The suspect's appearance has changed significantly

They're there but you don't see them

## Automated Face Recognition and obvious matching



**YOU... determine what a match is...**

What helps the operator with comparison?

# Face Identification Training

Images redacted

The proliferation of automated FR systems is driving the need for education in Facial Identification.

Facial Recognition is a valuable enhancement to law enforcement identification and verification processes.

Law Enforcement must have a realistic understanding of the technology.

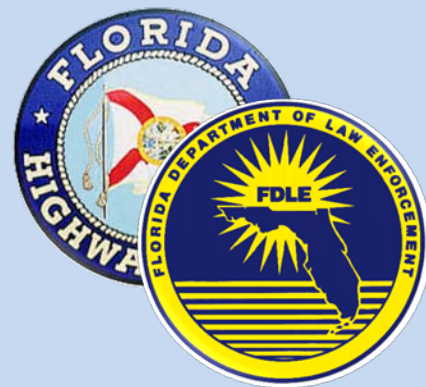




# *Face Recognition Components at Pinellas*



Face Analysis Comparison & Examination System







At age 27

At age 14

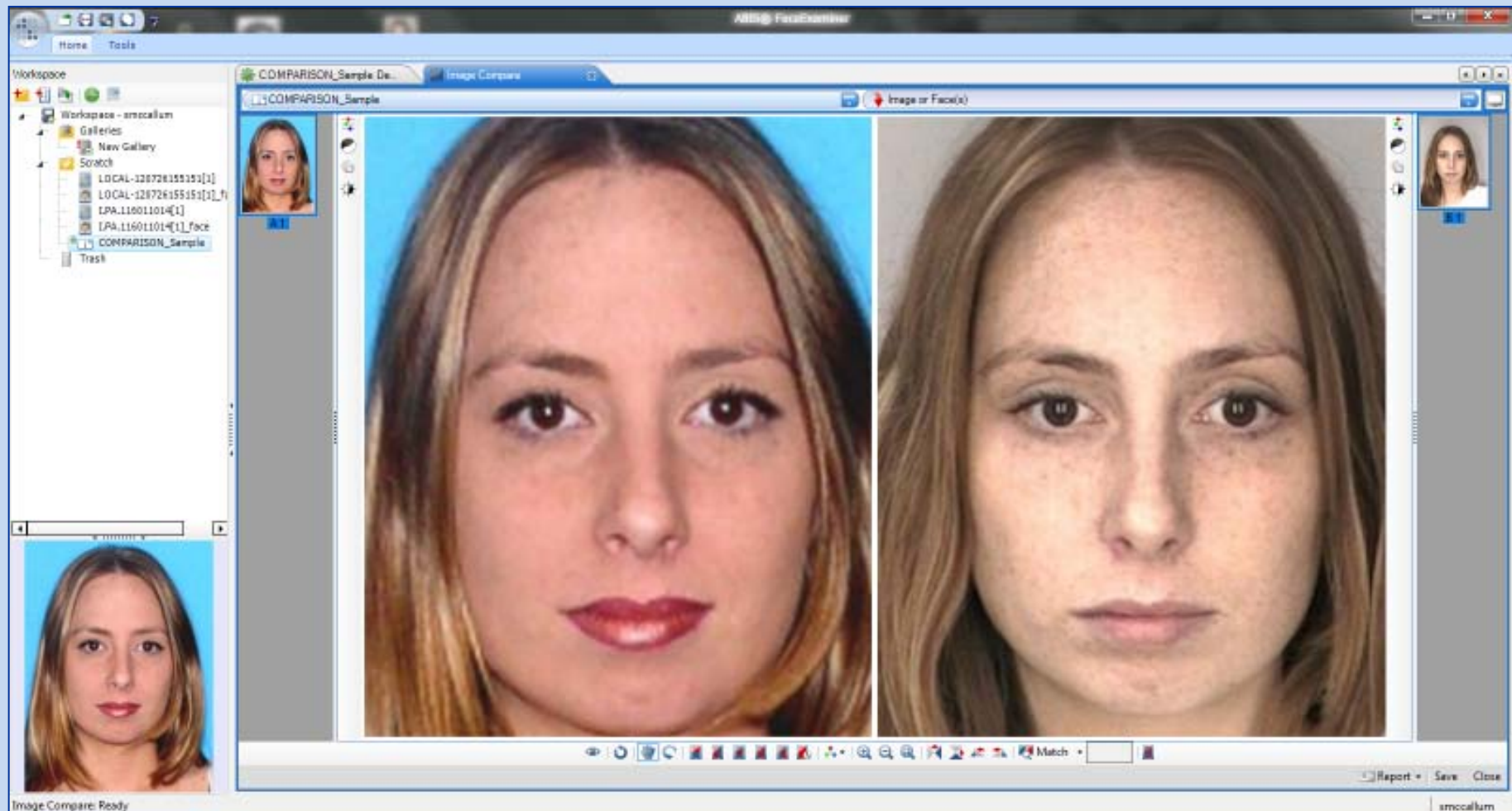
Inm

Fac  
al

Facia  
of



Manual examinations of face image sets to assist in determining identity.



Identity Comparison Report dispensed to requesting agency.

Images redacted



**FACES**

Pinellas County Sheriff's Office

FR•NET

Application DB-Query Demographics Reset Help

Logout User: PCSO\test

+

-

R

PROBE

S

T

<-

->

TARGET (gallery)

C

Q

N

Small

Large

LargeTx

Matches

Enrolled 07/09/2012 10:00. Name: CASANDRA LEIGH TELLING  
 DOB: 10/10/1981 (now:30)  
 ImgDate: 09/16/2003 09:06 (age:21)  
 Source: Pinellas

Search

Filter


Enroll

Remove

WORKSPACE







FACES
Pinellas County Sheriff's Office  
FR•NET

## Florida's Facial Recognition Network

### Hosted by the Pinellas County Sheriff's Office

The Pinellas County Sheriff's Office (PCSO) has implemented the largest Facial Recognition (FR) system dedicated to law enforcement and corrections in the country. PCSO's FR project began in 2001 and has grown to include biometric components for identification and verification in booking processes, investigations and mobile identification. PCSO provides open access to Image Query and authorized access to Facial Recognition via the FACES application.

[Find out how to access the new FACES application!](#)



Face Analysis Comparison and Examination System

\*\*Authorized Users\*\*

[Image Query](#)

Multi-jurisdictional image query and retrieval tool

[Help, Support, Contact Information](#)

**DHSMV IS ONLINE FOR FR SEARCH:**  
 DHSMV is currently enrolling all Florida DL's and expects completion at the end of January.  
 Search is available during enrollment, note (YOUR COUNTY MAY NOT BE ENROLLED YET).  
 As of 1/23/13, 50+ counties are enrolled. We will provide periodic updates.

PCSO processes search requests from local, state and federal agencies.

*Request process is simple:*

*email submission from agency email with original/best quality image to:*

**FRNET@pcsonet.com**

Images redacted

Image enhancement is performed to *adjust non-standard* or “in the wild” images to better perform with automated facial recognition searches.



- ✓ Normalize and enhance to improve search performance
- ✓ Occlusion removal if possible
- ✓ 3D renders for pose correction

# *FR-Net Partnerships & Expansion*

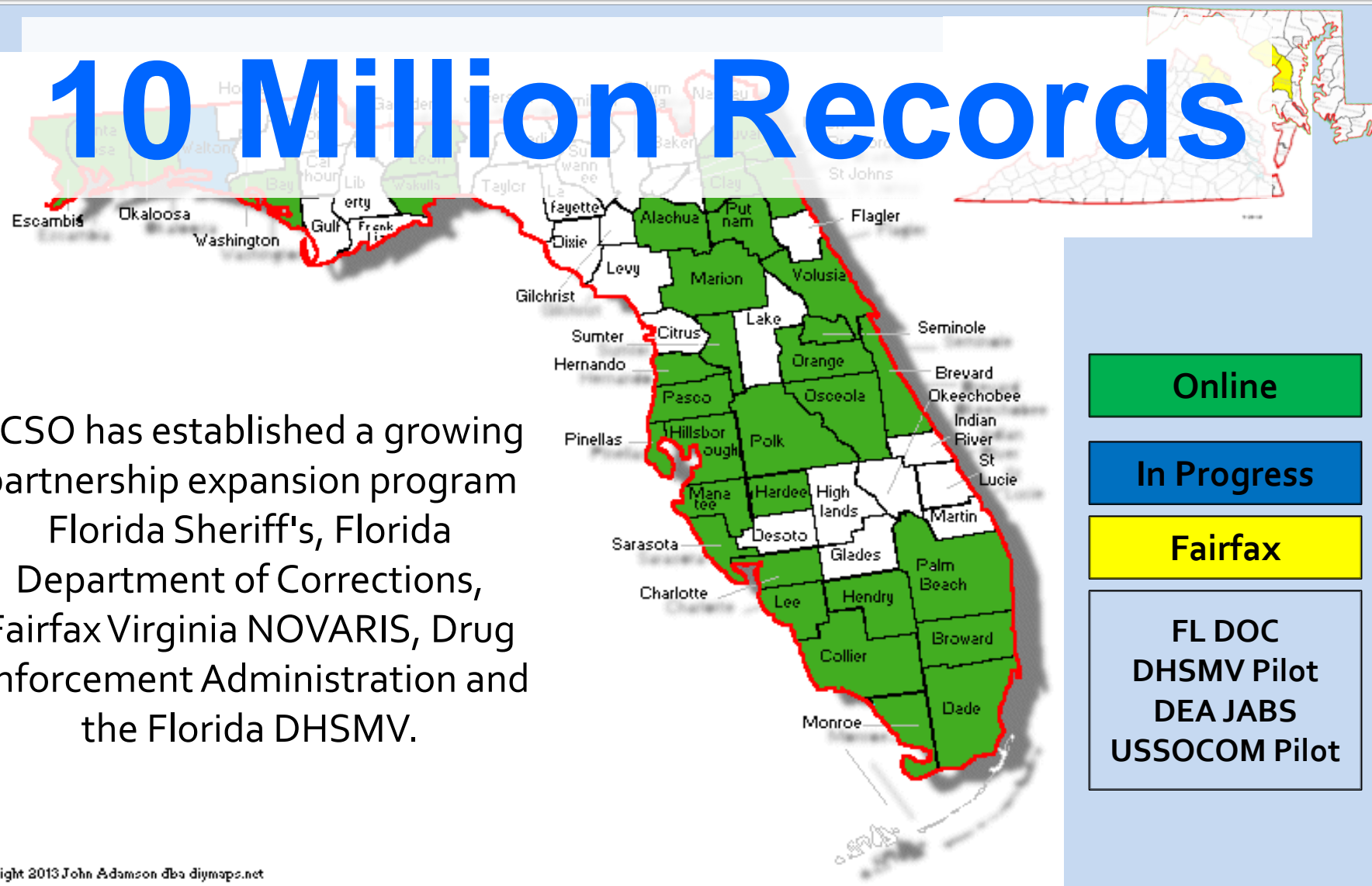


Face Analysis Comparison & Examination System



# 10 Million Records

PCSO has established a growing partnership expansion program  
Florida Sheriff's, Florida  
Department of Corrections,  
Fairfax Virginia NOVARIS, Drug  
Enforcement Administration and  
the Florida DHSMV.



**Online**

**In Progress**

**Fairfax**

**FL DOC  
DHSMV Pilot  
DEA JABS  
USSOCOM Pilot**



# Million Records

**CHALLENGE**

of civilian data into  
ment FR system.

*data is paramount to LE  
and identification processes.*

0 pilot with 2 counties  
ed ABIS and enrolled full state

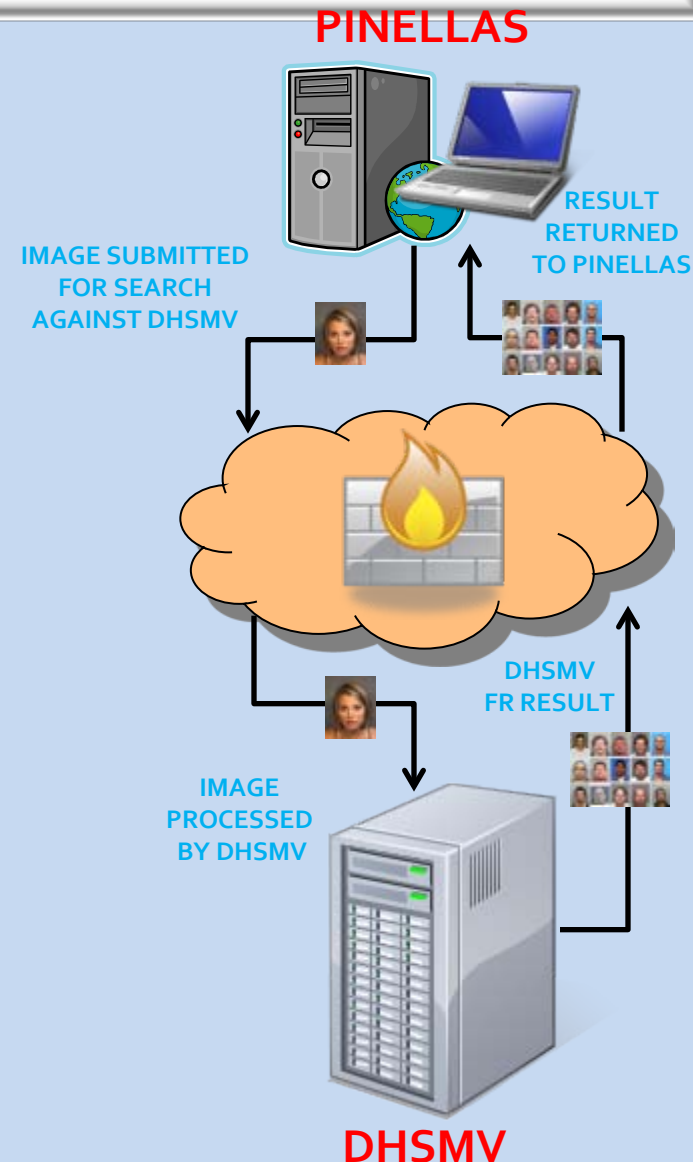
# Integration of civilian data into a law enforcement FR system.

***Driver's license data is paramount to LE investigations and identification processes.***

## 2009 – DHSMV/PCSO pilot with 2 counties

## 2013 – DHSMV updated ABIS and enrolled full state

- ✓ DHSMV provides a web service to Pinellas to submit probes and return galleries
- ✓ All records remain with DHSMV
- ✓ PCSO submits an image for search against the DHSMV FR system
- ✓ DHSMV returns the FR result to PCSO's FACES application



# The Florida Driver License

## *Biometric Identification Operating System:*

Facial Recognition Solution (FDL-BIOS-FRS) provides a facial recognition solution for use by the Department and other stakeholder partners to combat identity related crime and terrorism by leveraging Florida Driver License images contained in the Florida Driver License Information System (FDLIS).

## Current Status:

- Allows for analytical (investigative) comparisons against the full data-set of active driver license and ID card holders' latest digital image.
- Current image count +/- 17.2 million images
- Interface with the Pinellas County Sheriff's Office (PCSO)
- FACES System allows for investigative probe of the full DHSMV data set and Pinellas FACES data set

## **Current Project Enhancements:**

Recent project enhancements have resulted in:

- Expanded access to law enforcement in both tactical (roadside) and analytical (investigative) environments
- Upgraded system to the latest version of system web interface (4.3)
- Upgraded system to the latest version of the MorphoTrust FR solution ( ABIS 7)
- Increased web interface concurrent user license from 15 to 90 concurrent users



## Current Project Enhancements: cont'

- Increased image count to +/- 21.5 million images (latest image from each active record)
- Added 6 Facial Examiner Workstations for deep analytics and adjudication (equipment and software)
- Provided Facial Examiner Workstation Training
- Provided 1,500 digital cameras to Patrol Operations Troopers for tactical deployment (training and deployment in process – cameras received)

## Future Project Enhancements:

- 1:N (one to many) System Scrub and Flag
- 1:N and 1:1 Counter Matching will allow DHSMV to compare images at the time of license issuance to detect and prevent fraud
- Can interface with other facial recognition systems which contain images from corrections and/or local law enforcement agency records management systems (RMS)
- Can interface with other government systems to prevent fraud, waste, and abuse
- Addition of other biometrics (Iris, Fingerprint, etc.)

- ✓ PCSO provides training, administers access, audits use for FR-Net
- ✓ All Florida Fusion Centers have access
- ✓ PCSO continues to expand partnership and collaborative efforts with:
  - FDLE's MEPIC
  - FDLE's Sex Offender & Predator
- ✓ Successes are shared with the LE Community to demonstrate how to utilize the technology



## TIPS AND HINTS...

In preparing an image to be facially searched, the normalization process sometimes includes cropping the face out of a wide field of view. Users may adjust orientation by rotating the face so that the eyes are leveled. Common image enhancements may include adjusting brightness, contrast, sharpening or blurring the image. Some common tools used to perform these enhancements include Adobe Photoshop, Paint, Net, and VuePrint to name a few. A simple application such as Microsoft PowerPoint can be used to superimpose images or overlay two images to align facial features to help with the review process.

*In 2010 PCSO established Florida's Face Recognition Network (FR-Net) with a purpose to inform the LE community on pertinent FR activities, educate users, demonstrate successes and collaborate via a quarterly newsletter.*

**"Law Enforcement Sentinel"**

**FR-NET QUARTERLY**

Thank You for Your Contributions to the FR-Net Quarterly Newsletter

By Bob Gendron, Sheriff's Office, FL

Thank you for an outstanding year of facial recognition information during the past year of the Florida Law Enforcement Face Recognition Network (FLERN) Quarterly Newsletter. It has been a great success thanks to your partnerships and contribution of articles and information across the state. The FR-Net Quarterly Newsletter is now being distributed to hundreds of law enforcement personnel across the state.

I am pleased to tell you that the law enforcement community in Florida has joined together to create the nation's largest collaborative law enforcement facial recognition system. We will soon have thousands of law enforcement agencies working together to share images into the FR-Net database. With over a million images of individuals arrested in Florida, this database is being successfully used to solve all types of crimes.

I encourage you to continue sharing your success stories with the FR-Net community as we are all here to help each other and share information, techniques and ideas. I am still excited to have started this FR-Net in being used to identify criminal suspects.

FR-Net has also become a tool to help law enforcement agencies with DNA, FTS, FIMS and other information that is shared in their investigations. The FR-Net database can also help in the identification and tracking of individuals who are wanted for criminal justice or may enter the state and help law enforcement identify them.

Bob Gendron, Sheriff's Office, FL

**"Law Enforcement Sentinel"**

**FR IN JAILS**

Using Face Recognition to Identify Inmates at Time of Booking

By Scott McCabara, Pinellas County Sheriff's Office

The use of facial recognition has become an important identity management tool for law enforcement agencies. It can be used to identify inmates at the time of booking, which helps to ensure that the correct inmate is being processed. This is a critical step in the criminal justice system, as it helps to prevent the release of dangerous individuals and ensures that the correct inmate is being processed.

The Pinellas County Sheriff's Office has implemented a facial recognition system that allows inmates to be identified at the time of booking. This system has been successful in identifying inmates and preventing the release of dangerous individuals. It has also helped to ensure that the correct inmate is being processed, which is a critical step in the criminal justice system.

**"Law Enforcement Sentinel"**

**IDENTIFICATION**

Decedent Identification

By [Name], [Agency]

Medical Examiner

This article discusses the use of facial recognition technology in the identification of decedents. It highlights the challenges faced by medical examiners and how facial recognition can be used to assist in the identification process. The article also discusses the importance of maintaining accurate records and the role of facial recognition in the criminal justice system.

**"Law Enforcement Sentinel"**

**FR SUCCESSFUL**

Escort Suspected in Theft Is

Provided By Patricia Maloney, Palm Beach Sheriff's Office

On July 17, 2013, Palm Beach Sheriff's Office (PBCSO) received a report of a theft in progress. The suspect was identified using facial recognition technology, which allowed the PBCSO to quickly locate and arrest the suspect. This was a successful use of facial recognition technology in the criminal justice system.

**BIOMETRICS WORKSHOP**

PCSO Hosts Cooperative Biometrics Workshop

By David Anderson

The workshop was held to discuss the use of biometrics in law enforcement and to share best practices. It was attended by representatives from various law enforcement agencies and provided a valuable opportunity for collaboration and information sharing.

Attendee Quotes...

"This was a great workshop and I learned a lot from the experts in the field. It was a great opportunity to share our experiences and learn from others. The workshop was well-organized and the speakers were very knowledgeable. I highly recommend this workshop to all law enforcement agencies." - [Name], [Agency]



**DO YOU KNOW?**

The Florida, Illinois, and Texas law enforcement agencies are working together to share information and resources. This collaboration is helping to improve the effectiveness of law enforcement agencies and to ensure that the public is kept safe.

**FR SUCCESSFUL**

Escorted Suspect in Theft Is

Provided By Patricia Maloney, Palm Beach Sheriff's Office

This section contains several small photographs of individuals, likely suspects or victims, used in the context of the FR-Net database. It also includes text describing the successful use of facial recognition technology in identifying and locating a suspect.

**DOES YOUR AGENCY HAVE FACIAL RECOGNITION?**

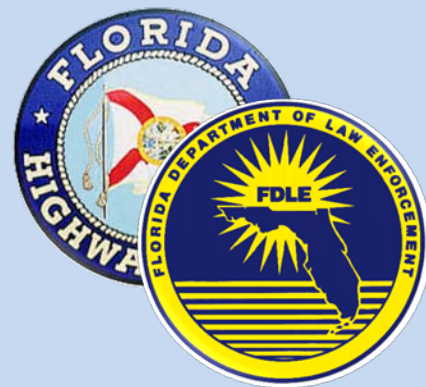
If your agency does not have facial recognition capabilities and would like to partner with PCSO and the FR-Net, please contact: FRNET@pcsonet.com for information.



## *Pinellas County Sheriff's Office Collaborative Face Activities*



Face Analysis Comparison & Examination System





## National Institute of Justice, PCSO collaborative with MSU

### Project goal:

- MSU to build a sketch FR system
- Develop algorithm leading to higher sketch match accuracy
- Install prototype system at PCSO
- Evaluate performance
- **Completion: September 2013**

U.S. Department of Justice  
Office of Justice Programs  
National Institute of Justice

OMB No. 1121-0329

The U.S. Department of Justice (DOJ), Office of Justice Programs (OJP), National Institute of Justice (NIJ) is pleased to announce that it is seeking applications for funding to conduct research and development and/or evaluation of sensor, surveillance, and biometrics technologies for law enforcement applications. This program furthers the Department's mission by sponsoring research to provide objective, independent, evidence-based knowledge and tools to meet the challenges of crime and justice, particularly at the State and local levels.

**Solicitation for Sensor, Surveillance, and Biometrics Technologies for Criminal Justice**

Eligible Applicants

In general, NIJ is authorized to make grants to, or enter into cooperative agreements with, States (including territories), unincorporated territories, and recognized Indian tribal governments as determined by the Department of the Interior, and for-profit organizations (including tribal non-profit organizations). For-profit organizations must agree to provide a portion of the funding for the project. For-profit organizations must agree to provide a portion of the funding for the project.

Deadlines

Registration with [Grants.gov](http://Grants.gov) is required prior to the submission of an application.

All applications are due by 11:59 p.m. eastern time on the date specified in the announcement.

Contact Information

For technical assistance with submitting the application, contact the Grants.gov Support Hotline at 800-518-4726 or via e-mail to [grantsgovsupport@grants.gov](mailto:grantsgovsupport@grants.gov).

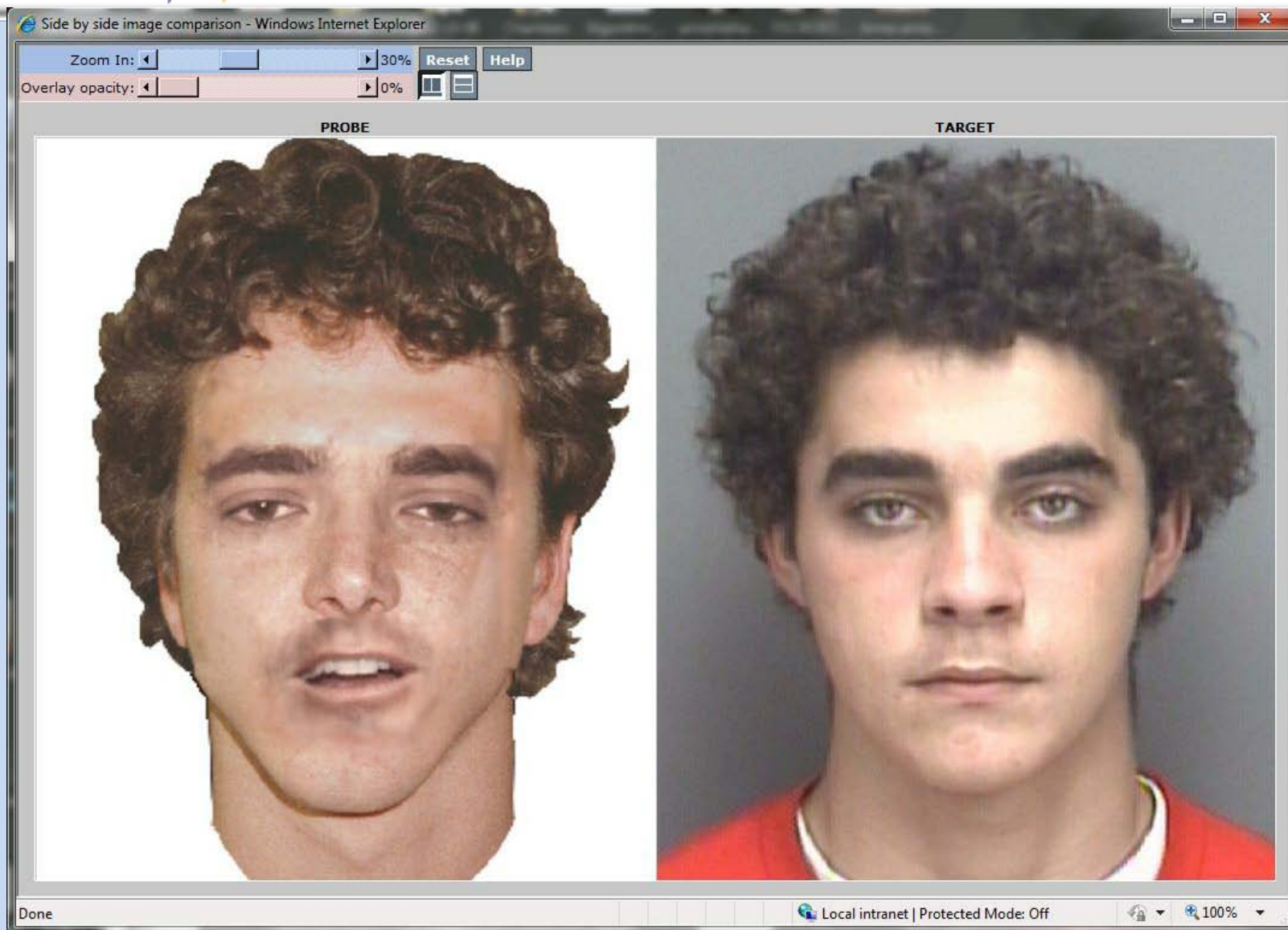
**Note:** The [Grants.gov](http://Grants.gov) Support Hotline hours of operation are 8 a.m. to 5 p.m. eastern time, except Federal holidays.

For assistance with any other requirement of this solicitation, contact Frances Scott, Physical Sciences and Technology Division, at [Frances.Scott@usdoj.gov](mailto:Frances.Scott@usdoj.gov). For assistance with a reference to biometrics, contact Mark Greene, Physical Sciences and Technology Division, at [Mark.Greene@oip.usdoj.gov](mailto:Mark.Greene@oip.usdoj.gov).

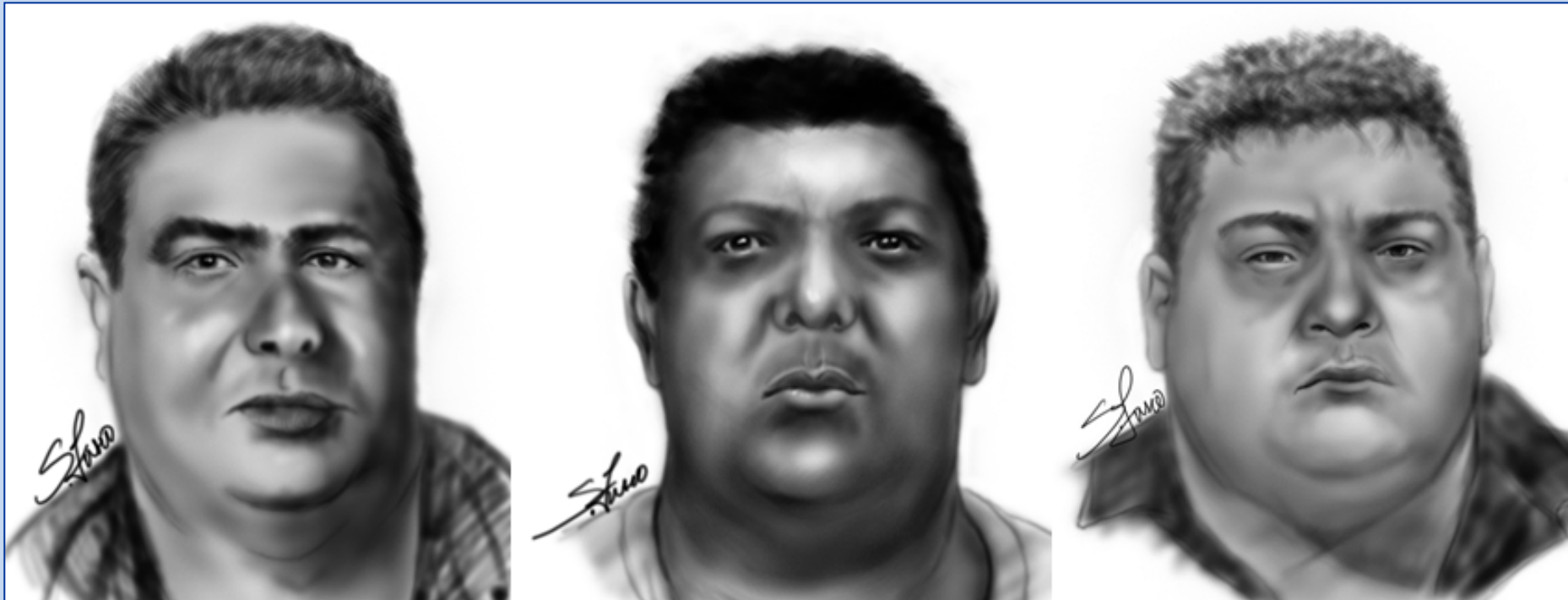
Grants.gov number assigned to this solicitation is SL# 001-13-0001.



Efforts led by Dr. Anil Jain and Dr. Brendan Klare



Florida case involving 3 composites generated by the same artist from different victims.



PCSO searches composites, but is doubtful on yielding successful results with the current ABIS





**Pinellas County Sheriff's Office**  
Facial Recognition Program  
**Pinellas County Sheriff's Office**

Image Query | Search Criteria | Search | Demographics | Reset | Enroll Image | Help

USER: PCSOINET\smccallum

remove

Datasource: MIAMI DADE POLICE DEPT.  
Name: DUNIEL CARBIAL



Composite searched with binning – no match in top 300



# Department of Justice, Community Oriented Policing Services

Project goal:

- Develop law enforcement FR best practices
- Viewed sketch match performance
- Child to adult match performance
- Decedent identification
- Real-time identification against VLDB
- Covert collection and search
- Expand FR in Florida (10 additional agencies)
- Develop new search and comparison tools
- Develop online FR/FI training program
- **Completion: August 2013**



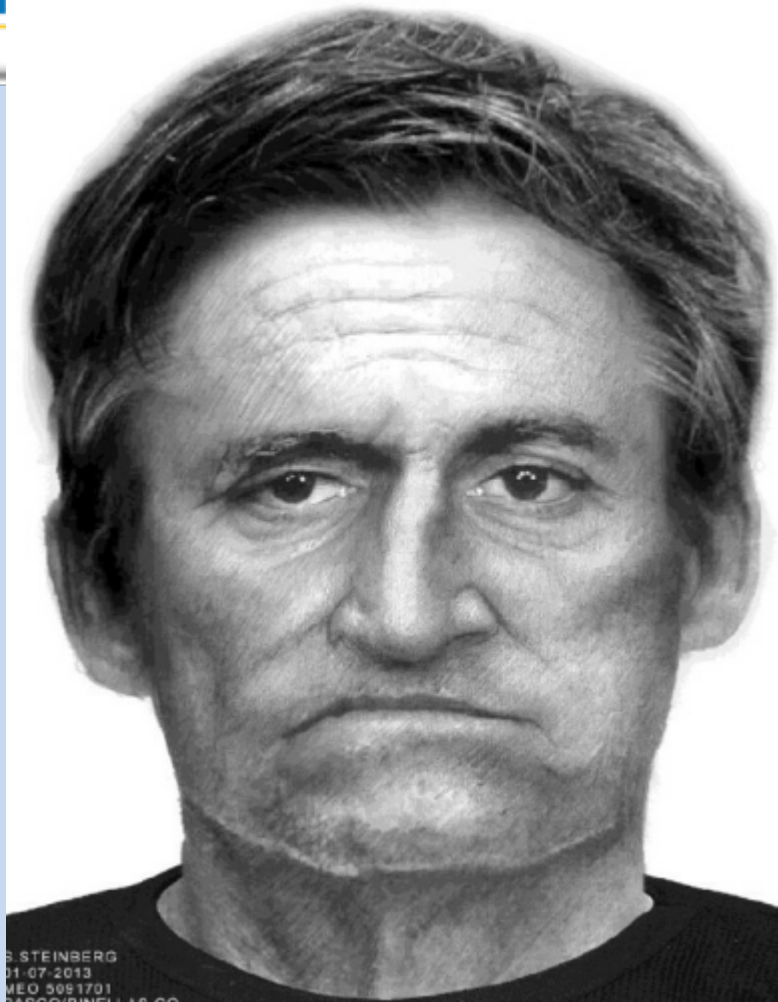
## PCSO started decedent searches in 2010 to address:

- ✓ Medical Examiner image collection and quality assessment
- ✓ In field forensic image collection and quality assessment
- ✓ Rapid in field identification
- ✓ Assist with best practices for post mortem image collection

2013  
**regional  
conference**

Atlanta, GA | June 8-13





Top Ranking Candidate

Facial Recognition accuracy on composites and sketches is based upon the precision of facial landmark and feature placement. Minute changes in feature set placement can significantly affect FR accuracy. Comparisons between sketch and subject pairs is subjective and for lead purposes.

Images redacted

### **NO PROBABLE MATCH CANDIDATES FOUND**

Reconstructions from post mortem images prove most promising due to retention of core landmark and feature set placement. Post mortem images demonstrate with non-standard image capture as compared to images contained within the FR system. Mugshot/DL images adhere to collection practices that differ from the ME capture process.



Images redacted

**POSITIVE IDENTIFICATION FOUND**

## POSITIVE IDENTIFICATION FOUND

Images redacted

NOMINAL QUALITY

IPD 293  
No occlusion

Even illumination  
On axis

Non-neutral expression

## POSITIVE IDENTIFICATION FOUND

Images redacted

**GOOD QUALITY**

IPD 293  
No Occlusion

Even illumination  
On axis

Neutral expression  
Individual characteristics

DATE: 2/19/2013

DETAILS: Miami-Dade Police Department Forensic Artist Samantha Steinberg requested assistance with identification of an unknown suicide victim. Ms. Steinberg forwarded the post mortem image and her reconstruction depicting the subject in life. The subject was positively identified from the DHSMV dataset and information immediately provided to the MDPD Detective working the case. Information was also provided to the Medical Examiner's Office since fingerprints were met with negative results.

FACES Facial Gallery With Matches

Images redacted

Original Post Mortem Image and Forensic "In Life" Reconstruction

Matching Images From FACES

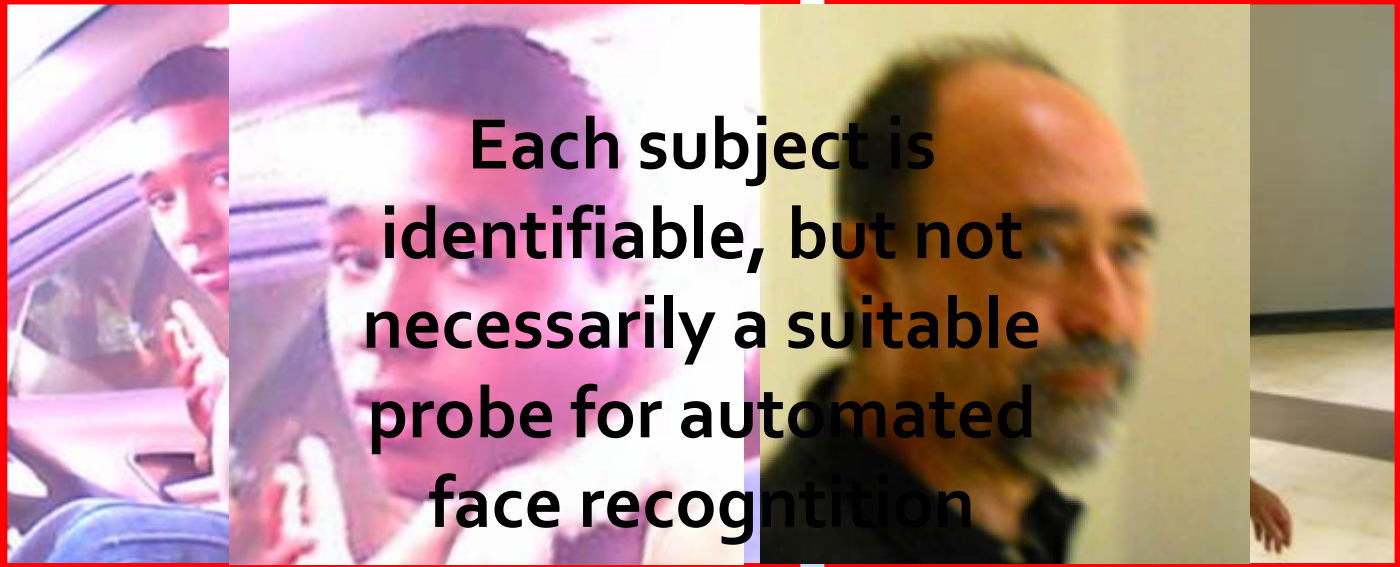
# *Image Quality Basics*



Face Analysis Comparison & Examination System







Each subject is  
identifiable, but not  
necessarily a suitable  
probe for automated  
face recognition



User training and image  
assessment practices  
assist with user  
expectations

Lighting



Sharpness



Pose



Latent Print



Expression



Resolution



Occlusion

- Lighting

If photographing a subject for facial recognition place the flash mode to "Fill Flash" as to reduce daylight shadowing.

- Pose

Subject should demonstrate a relaxed or neutral facial expression. Smiles and other facial expressions should be dissuaded.

- Angle

Subject should be straight and on axis.

- Occlusion

Facial photos should be unobstructed by hats, glasses, and hair when possible.



Daylight without Flash



Daylight with Flash



Poor pose & angle



Good pose & angle



**Aspherical Distortion:** The aspherical elements of a lens help compensate for many lens aberrations common in simpler lens designs. Distortion presents in non-spherical lens and may demonstrate distortion at close distances. To compensate for distortion take the image at a minimum distance of 4 feet from subject without a zoom or greater than five feet and with a zoom.

Automated Facial Recognition search outcomes can be significantly affected by aspherical distortion due to the nature of the enrollment/template generation of a distorted probe image. PCSO database images are collected via standardized collection processes and not prone to distortion.



Distorted image < 3 feet



Image at 4 feet



Image at > 4 feet with zoom

Images redacted

DETAILS: Pinellas County Sheriff's Office responded to a non-responsive bicycle accident victim. PCSO deputies took multiple photos of the subject and were advised medical equipment could not be removed. MDPD Forensic Artist Samantha Steinberg assisted with generated a reconstruction of the subject with medical equipment removed. The subject was positively identified from the DHSMV dataset.





# *Face Recognition & ICAC*



Face Analysis Comparison & Examination System



- ✓ Identify victims depicted in child pornography/prostitution
- ✓ Identify subjects extracted from social media sites
- ✓ Identify subjects extracted from cell phones
- ✓ Identify subjects from escort services advertised on websites
- ✓ Identify subjects captured on video during undercover operations
- ✓ Identify child pornography perpetrators

Images redacted

*"During an Internet Cyber Operation involving adults interacting with children an unknown subject was "chatting" with what he thought was a juvenile but in fact an investigator. The investigator wanted to try and identify the subject and only had the web image."*

Images redacted

*"One of the pictures was good enough to crop the face and utilize for FR. This is the positive result we received."*

*"Face recognition can assist with victim identification."*

Images redacted



*"Face recognition can assist with victim identification."*

Images redacted

*"Face recognition can assist with victim identification."*

Images redacted

*"Face recognition can assist with victim identification."*

Images redacted

*"Face recognition can assist with victim identification."*

Images redacted

Images redacted

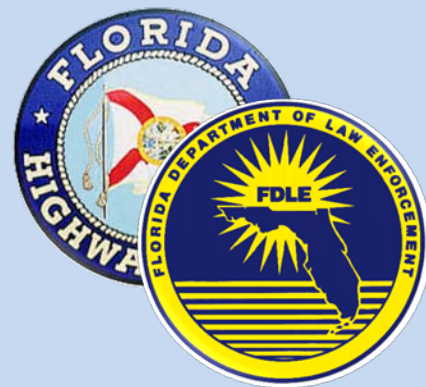
*"Backpage.com notified NCMEC believing subject may be a minor. NCMEC forwarded to PCSO ICAC investigator for assistance."*



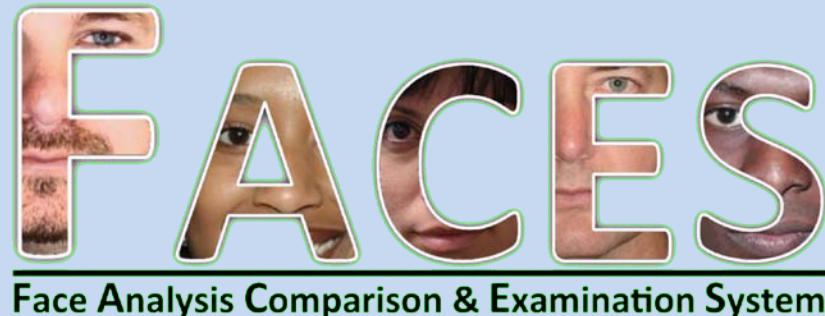
# *The FACES Application*



Face Analysis Comparison & Examination System



- ✓ FACES is a web-based tool allowing LE to easily enroll and search face images to assist investigations with identification and verification.
- ✓ FACES allows online training to show you the best practices to enroll, search, and compare face images.
- ✓ FACES is user-friendly and directed toward users who are familiar with the Internet Explorer.
- ✓ FACES is available through CJNET
- ✓ FACES is authorized access only



Through CJNET's Law Enforcement Links, you can access FACES: [www.flcjn.net](http://www.flcjn.net)

home applications web sites downloads & publications services technical support

Tuesday, November 27, 2007

**CJNet**

search:  **GO**

**Calendar of Events...**

**law enforcement links**

- [DAVID \(formerly DLIRS\)](#)
- [JusticeXchange](#)
- [Intelligence](#)
- [Mutual Aid](#)
- [nexTEST: On-Line CJIS Testing](#)
- [Sexual Predators Search](#)
- [Career Offender Search](#)
- [More...](#)

**judicial links**

- [Attorney General](#)
- [LOGAN Submit Disposition Data](#)
- [FDLE General Counsel](#)
- [Public Defenders](#)
- [State Courts Administrator](#)
- [More...](#)

**corrections links**

- [Corrections Offender Search](#)
- [Juvenile Justice Information System](#)
- [Parole Commission](#)
- [Recidivism Report](#)
- [More...](#)

**Training & Events**

**News & Announcements**


Follow the link for Law Enforcement links (more...) this will take you to the Law Enforcement links page.

Click "SOPICS - Florida Sheriff's Consolidated Mugshots & Facial Recognition System."

- [SOPICS - Florida Sheriffs Consolidated Mugshot & Facial Recognition System](#) Pinellas County Sheriff's Office
- [South Florida Investigative Support Center CJNet Site](#) South Florida Investigative Support Center
- [Southeast Law Enforcement Information Exchange](#) Naval Criminal Investigative Service
- [State and Local Government Information on the Net](#) Piper Resources- Law Enforcement
- [Stolen Vessels](#) Florida Fish and Wildlife Conservation Commission
- [UCR Data Submission Standards](#) Florida Department of Law Enforcement
- [Volusia County Sheriff's Office CJNet Site](#) Volusia County Sheriff's Office

FACES is available to trained authorized users


Image Query is open access and allows demographic data search of all subjects in FACES


**FACES**
Pinellas County Sheriff's Office  
FR-NET

**Florida's Facial Recognition Network**  
 Hosted by the Pinellas County Sheriff's Office

The Pinellas County Sheriff's Office (PCSO) has implemented the largest Facial Recognition (FR) system dedicated to law enforcement and corrections in the country. PCSO's FR project began in 2001 and has grown to include biometric components for identification and verification in booking processes, investigations and mobile identification. PCSO provides open access to Image Query and authorized access to Facial Recognition via the FACES application.

[Find out how to access the new FACES application!](#)


**FACES**  
 Face Analysis Comparison & Examination System

Face Analysis Comparison and Examination System  
"Authorized Users"

[Image Query](#)  
Multi-jurisdictional image query and retrieval tool

[Help, Support, Contact Information](#)

DHSNV IS ONLINE FOR FR SEARCH:  
DHSNV is currently enrolling all Florida DL's and expects completion at the end of January.  
Search is available during enrollment, note (YOUR COUNTY MAY NOT BE ENROLLED YET).  
As of 1/23/13, 50+ counties are enrolled. We will provide periodic updates.



# FACES

Pinellas County Sheriff's Office  
FR•NET

### FACES Registered user login

Agency code:  ...

User name:

Password:

☐ I agree with the [Terms and Conditions](#)

Login to FACES

[Forgot password](#)

[Forgot user name](#)

[DB-Query](#)

[Newsletter](#)

[Help, Support, Contact information](#)

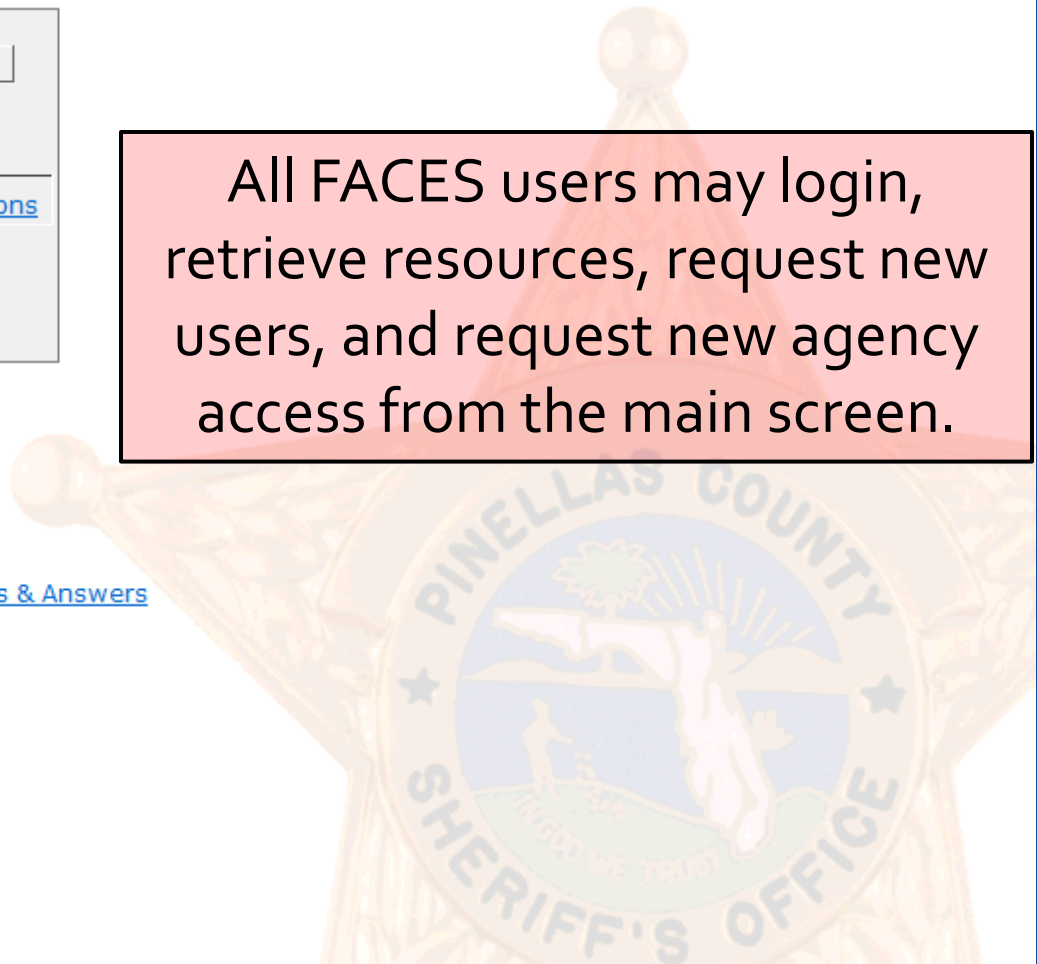
[Send Request for Information, Questions & Answers](#)

[Request New User Account](#)

[Request New Agency](#)

[Login to FR-NET training](#)

All FACES users may login, retrieve resources, request new users, and request new agency access from the main screen.







**FACES**

Pinellas County Sheriff's Office  
FR-NET Training

### New User account request / FACES Training registration

#### INSTRUCTIONS:

1. Fill in all information below and submit the form. Upon clicking "submit" you will be redirected to the FACES training user entry page and automatically receive an email with instructions and a key granting access (make sure you put your email correctly).
2. Enter the email provided key to begin the FACES online training. The training content should take you less than 2 hours to complete and will contain questions with multiple choices answers in each module.
3. Upon completion of the FACES online training your username will be automatically generated and emailed to you to begin using FACES.

If you are already registered and have received the training key [click here to enter training](#).

#### New User information form

Select Your Agency:

(If your agency is not on the list above [click here to contact Pinellas County Sheriff's Office](#) to register your agency first.)

First name:  [required]

Middle name:

Last name:  [required]

Your Title:  [required]

Your Agency provided email:  [required]

Confirm Your email:  [required]

Your office phone:

Your cell phone:

Need help? [Click here](#) or call Scott McCallum at 727-453-7193 or Jake Ruberto at 727-453-7893.

**FACES Self-registration for Training Program**

New Users may self register for training. If your agency isn't in the agency listing contact Scott.

**FACES** Pinellas County Sheriff's Office  
FR-NET Training

**FACES Training**

If you have not registered for FACES training [click here to register](#).

To begin the FACES online training enter your last name, the training key that was emailed to you upon registration, and then click Start.

Last Name:

Training Key:

FACES Training Login

Users are provided a key via email to access training.

Online materials instruct on FACES use.

**FACES User Training**

- Introduction
- Getting Started
- Image Query
  - Image Query demo
- FACES
  - DB-Query
  - DB-Query demo
  - Demographics
  - Demographics demo
  - Enrollment
  - Enrollment demo
  - Search
  - Search demo
  - Filter
  - Filter demo
- Comparison Tool

**FACES: Techniques**

*Detailed Facial Image Analysis and Comparisons*

To view images side-by-side:


- Click the **S** navigation button (above the Probe image) to launch a detailed comparison module
- Use the **Move**, **Zoom**, **Overlay**, and **Split** screen tools to examine face images in fine detail, and with a high degree of precision
- You can click **Reset** to clear your changes

Application: DB-Query Demographics Reset Help  
PROBE TARGET (workspace)

FR-NET FACES User Training Module 6

20:30 / 25:27

Training consists of 6 self pace modules that may be completed within 15 days of registering.



# FACES

Pinellas County Sheriff's Office  
FR•NET Training

*FACES Training Modules:*

Module 1 - Introduction	Completed	<a href="#">Revisit</a>
Module 2 - Expectations and your role with FR	Completed	<a href="#">Revisit</a>
Module 3 - Successful outcomes with FR	Completed	<a href="#">Revisit</a>
Module 4 - Facial Identification and Comparison	Completed	<a href="#">Revisit</a>
Module 5 - Image Assessment and Quality	Completed	<a href="#">Revisit</a>
Module 6 - The FACES Application	Incomplete	<a href="#">Start</a>

*FACES Self-paced Modules*





**FACES**

Pinellas County Sheriff's Office  
FR-NET Training

**Congratulations, FACES Training is complete!**

[Print certificate of completion](#)

Your login information was sent to your email on Monday, December 10, 2012 9:10 AM.

Here is your login information:

Agency Code:	FDLE
User Name:	STest1
Password:	your password was sent to your email.

[Login to FACES](#)

[Re-send your login information](#)

*FACES Training Completion*

All users may print/save a personalized certificate of completion for their records.

Credentials to access FACES are automatically emailed upon successful completion of training.

Pinellas County Sheriff's Office

*Certificate of Completion*

is hereby granted to

**Scott Test**

to certify that he/she has completed to satisfaction 4 hours of

**Automated Facial Recognition and  
Face Comparison Training**

December 10, 2012



Instructor: Scott McCallum

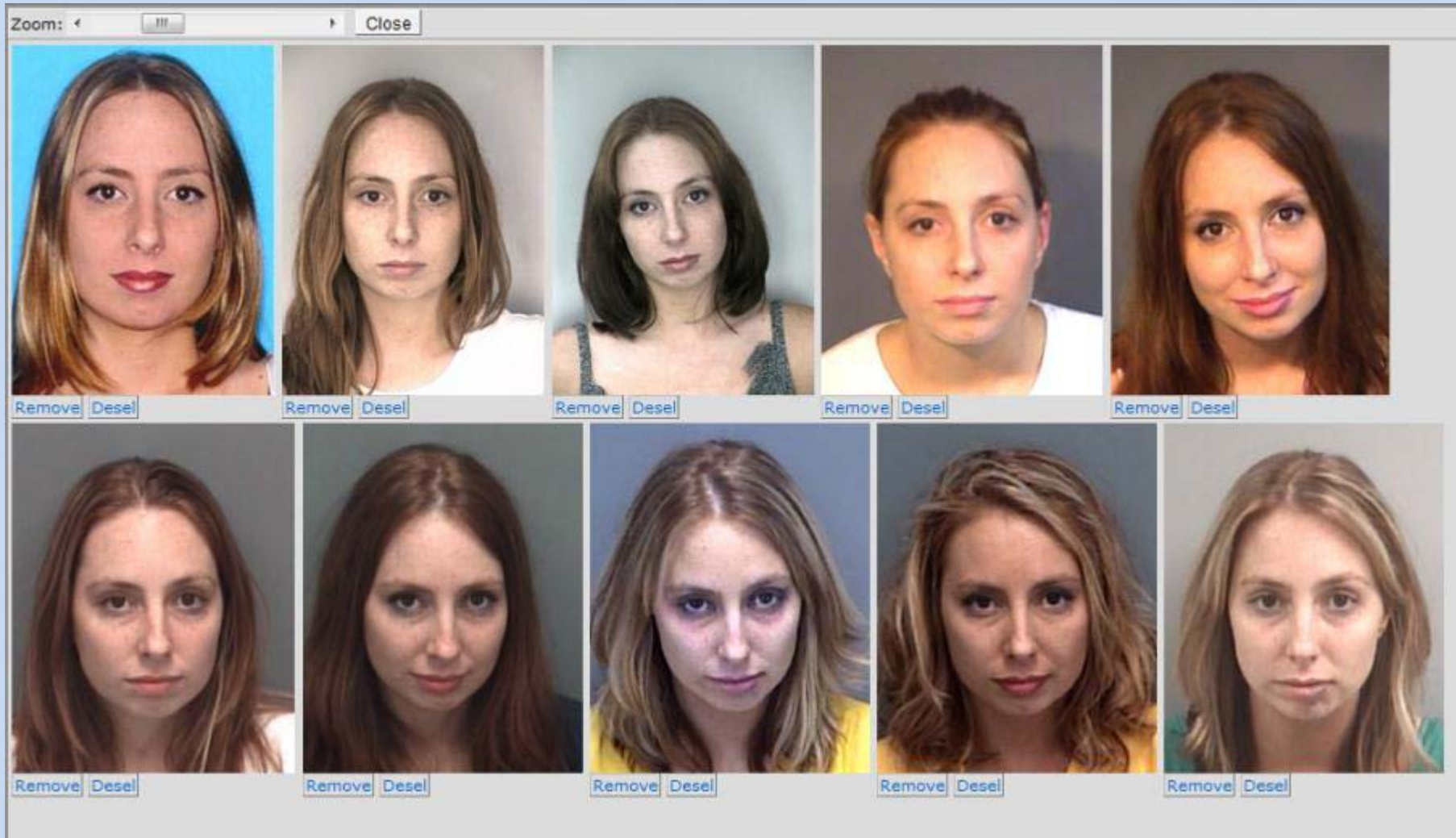


Instructor: Jake Ruberto

*FACES Certificate of Completion*

Images redacted





Multiple Side By Side Comparison With Scaling

Zoom: ◀



Print

Close

## Pinellas County Sheriff's Office

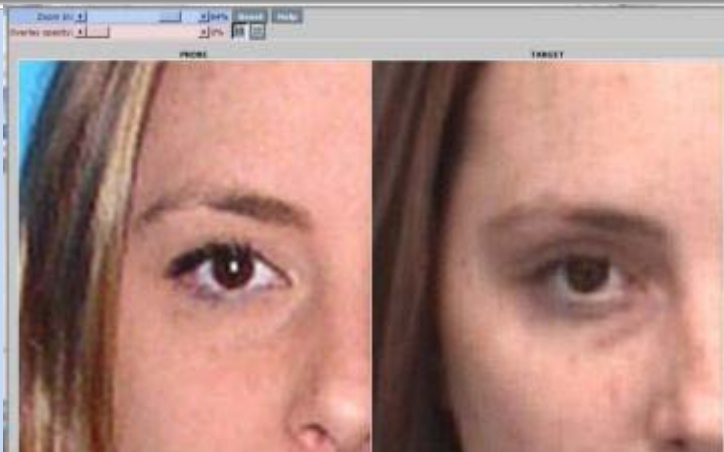
11/26/2012 22:33:10

### MEGAN E PARSON - Hillsborough County (Partners)



First Name: MEGAN  
Middle Name: E  
Last Name: PARSON  
DOB: 09/06/1981  
Gender: Female  
Height: 5' 08"  
Weight: 127 lbs  
Eye Color: BRO  
Hair Color: RED  
Race: White  
SSN:  
Address1:  
Address2: PINELLAS CO  
City: ST PETERSBURG  
State:  
Zip:  
Country:  
Datasource: Hillsborough County (Partners)  
Image Date: 10/19/2005 00:00:00  
Record#: 05068333  
ImageID: I.PA.116011014

Multiple Demographic  
Details With Scaling,  
Printing, and Saving



Detailed Zooming



Detailed Zooming



Image Overlay



Split Screen Comparison





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**Face Analysis Comparison & Examination System**

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**Demonstration**

DATE: 1/10/2013

DETAILS:

FACES Facial Gallery With Matches

Images redacted

Original Image Provided and Normalized

Side By Side Comparison



DATE: 12/19/2012

DETAILS:.

FACES Facial Gallery With Multiple Matches

Images redacted

Original Image Provided By Det. Lopez

Side By Side Comparison With Similarity Indicators

DATE: 1/8/2013

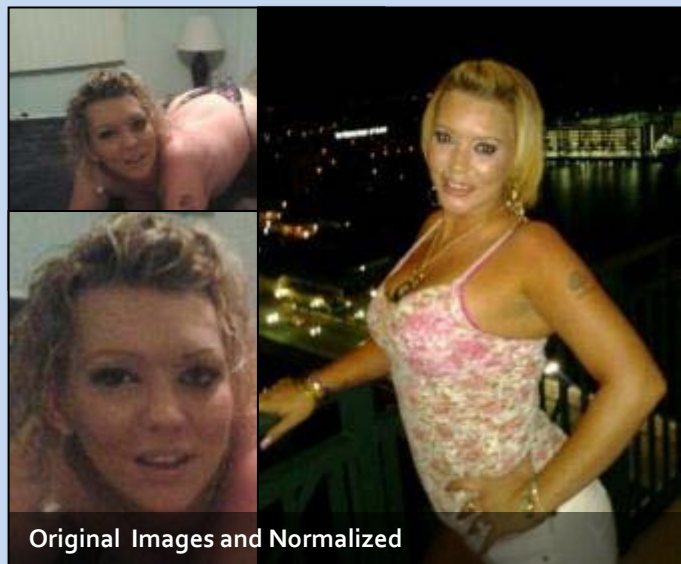
DETAILS:

Original Images Provided

Images redacted

FACES Facial Gallery With Match

Side By Side Comparison With Similarity Indicators



DATE: 4/4/2013

DETAILS:

Facebook photos from multiple accounts and normalized probe

Images redacted

FACES Gallery

Side By Side Comparison

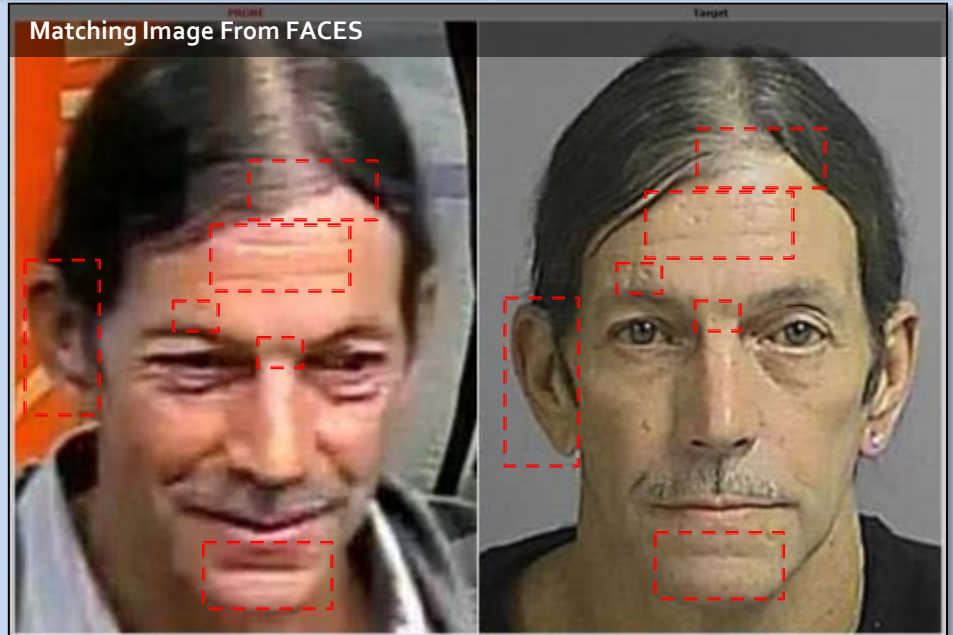
DATE: 3/21/2013

DETAILS:



Original Images From Bank Surveillance and Normalized Probe

Matching Image From FACES



FACES Gallery With Matches



DATE: 3/20/2013

DETAILS:

FACES Facial Gallery With Match

Images redacted

Original Image and Match Candidate Comparison

Pennsylvania DOT Images Used in Manual Comparison

DATE: 1/30/2013

DETAILS:

FACES Facial Gallery With Matches

Images redacted

Original Images and Normalized

Side By Side Comparison

DATE: 3/21/2013

DETAILS: PCS

FACES Facial Gallery With Matches

Images redacted

Bolo with iPad images and enhanced image of subject

Side by Side matches

Major Steven A. Williams, Sr.  
Florida DHSMV  
Chief Technology Officer

[SteveWilliams@flhsmv.gov](mailto:SteveWilliams@flhsmv.gov)

850.617.2391 (Office)

Scott McCallum  
Pinellas County Sheriff's Office  
FR System Analyst

[smccallum@pcsonet.com](mailto:smccallum@pcsonet.com)

727.453.7193 (Office)



Face Analysis Comparison & Examination System

