

## Familial DNA Database Searches

**Familial DNA**

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## Familial DNA Database Searches

- Investigators use the DNA database to search for near matches to solve crimes committed by relatives of the people in the database.
- Siblings, parents, and even uncles and cousins can be linked to crimes because their relative's DNA closely resembles DNA found at a crime scene.



## Why is Familial DNA Searching Important

- It saves time
- It saves money
- It saves victims



## Familial DNA Searches in the UK

- In Great Britain, Familial DNA intelligence packages have been produced for 122 specific serious crime investigations.
- Confined to 'cold case reviews' and 'hard to solve' serious crime investigations.



## Familial DNA Searches in the UK

- In 28% of the cases there was a relative on the list (32 out of 122).
- 17 convictions
- 5 other positive ID's (e.g. dead offender, etc.)
- 2 sub judice
- 9 detected by other means but relative subsequently found on the list.



## Familial DNA Searches in the UK

- 17 convictions directly as a result.
- 1 acquittal.
- 3 where the offender was dead.





### Twenty-Two Perpetrators Identified by Familial Investigations

Solved:  
 8 - Murders  
 32 - Rapes  
 3 - Child Abandonments

### Successful Familial Searches in New Zealand

Two Rapes

- The rape of a 27-year-old woman in 1988 and a 90-year-old woman in 1996 by the same man.
- After charges were brought against him, Wayne Jarden pled guilty to both rapes.

Murder

- A 2001 murder was solved in 2009.
- After charges were brought him, Joseph Reekers pled guilty to the murder.

### Denver Familial Search Research Project

- Searched all unknowns against Denver's DNA database.
- Used a familial search software.
- In five separate cases there was a 90% chance that two individuals were related.
- Y-STR DNA testing showed that the individuals had the same Y-DNA type.

### Denver DNA Database Familial Searches First Conviction in the US

- A 90% chance that the DNA profile from a car break-in and a DNA profile in the local DNA database from a convicted car thief were from brothers.
- Y-STR DNA types matched.
- A conventional investigation led to the car thief's brother and a warrant was obtained for the brother's DNA.

Car Thief

### Denver DNA Database Familial Searches First Conviction in the US

## Denver DNA Database Familial Searches First Conviction in the US



## Denver DNA Database Familial Searches First Conviction in the US

- Jaimes-Tinajero was charged with two car break-ins and pled guilty.
- This is the first conviction in the United States where the results from a familial search software program aided in solving a crime.



Luis Jaimes-Tinajero

### What does a partial match look like?

STR Locus	2006 Stolen Motor Vehicle Case #2-1 Cigarette butt	2008 TFMV #190890-1 Blood swab
D3S1358	15, 15	15, 15
vWA	15, 16	15, 16
FGA	22, 25	20, 25
AMEL	X, Y male	X, Y male
D8S1179	10, 15	10, 13
D21S11	31.2, 32.2	31.2, 32.2
D18S51	15, 15	15, 18
D5S818	10, 12	10, 12
D13S317	8, 11	8, 12
D7S820	12, 12	9, 10
D16S539	11, 11	11, 11
TH01	6, 9.3	7, 9.3
TPOX	8, 12	12, 12
CSF1PO	10, 11	10, 11

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## A Familial DNA Search Nabs a Serial Murderer in the US

- The serial killer know as the "Grim Sleeper" raped and murdered eleven victims in Los Angeles over a 25 year span.
- The investigation dated back to 1985 - and he last struck in 2007.
- A twelfth victim escaped after she was shot and raped.
- A familial DNA database search in California led to the killer's son.
- During the follow up investigation detectives used a piece of discarded pizza with Franklin's DNA to make the link to the DNA profiles from the crime scenes.



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Lonnie Franklin Jr.

## Exonerations

## DNA Exonerations Become Cold Cases

- In 81 of the first 212 exonerations, DNA led to the real perpetrator.
- Rape victims and families of murdered victims deserve answers.
- Familial investigations may provide those answers.

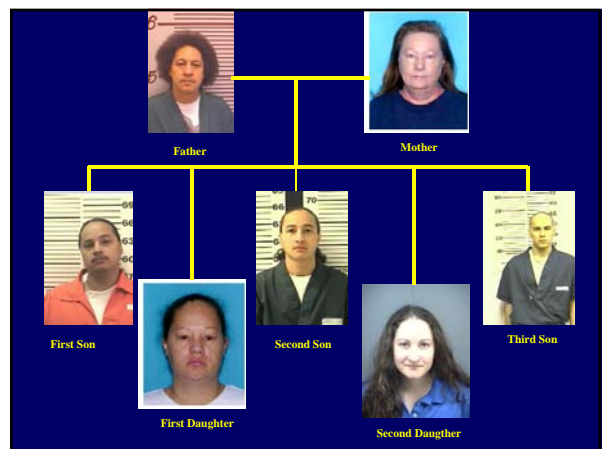
## Denver DNA Database Familial Searches

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## Denver DNA Database Familial Searches

- The search showed that there was a 90% chance that a DNA profile in an unsolved burglary came from a male offspring of a known sample.
- The father was in the DNA database for a 2002 aggravated assault.
- Y-STR DNA types matched.

Searches Done	Searches	County	Link No.	Offense
12/18/2008	PT JT	ADAMS	89CR48	ADULT ATTENDP
12/20/2002	84Y-44Y	DEWEY	82CR126	ADULT MARIJU
12/20/2002	84Y-86Y	DEWEY	82CR126	MURDER ATTEMPT MARIJU
12/20/2002	82Y-82Y	DEWEY	82CR126	ADULT MARIJU





Search Date	Searcher	County	Case No.	Offense
08-19-2009	LEILA LISA	DENVER	04CR426	SHOTGUN VEHICLE THEFT
08-22-2009	RYAN JEFFERSON	JEFFERSON	04CR3217	THEFT

### Colorado's DNA Human ID Research - Familial Searches

- Conducted a search of all forensic unknowns against the Colorado DNA database (about 2,000 against 80,000).
- Used our familial search software program.
- Found 12 separate cases where there is a 90% chance that two individuals are related.
- Also found 15 separate cases where there is a 75% chance that two individuals are related.

### Colorado's DNA Human ID Research - Familial Searches

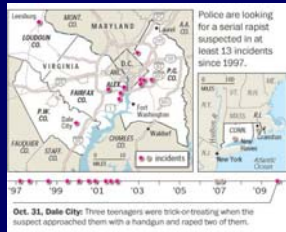
- The State of Colorado has developed a DNA familial search policy.
- [http://www.denverda.org/DNA/Documents/Familial\\_DNA/CBI%20DNA%20Familial%20Search%20Policy%20Oct%2009%20-%20Signed.pdf](http://www.denverda.org/DNA/Documents/Familial_DNA/CBI%20DNA%20Familial%20Search%20Policy%20Oct%2009%20-%20Signed.pdf)

### Reached Out to Other Jurisdictions

- We have offered the use of our software free of charge to other jurisdictions.
- Wisconsin - serial murderer.
- Texas - the "Twilight Rapist".
- Virginia - the "East Coast Rapist".
- Minnesota - 3 child deaths.

## "East Coast Rapist"

- Has struck 19 times since 1997 - along major highways in four states, including the rape of two teenage girls on Halloween night 2009.
- DNA links him to sexual crimes in Virginia, Maryland, Connecticut and Rhode Island, but his DNA is not in the national database.



Oct. 31, Dale City: Three teenagers were trick-or-treating when the suspect approached them with a handgun and raped two of them.

## No Constitutional Privacy Issues



## No Constitutional Privacy Issues

- "It is questionable whether the rights of the perpetrator (if ultimately identified through the use of familial comparisons) are violated...or whose familial comparison helped focus the inquiry, has suffered any invasion of his or her constitutional right to privacy." *US v. Pool*, 9th Circuit Court of Appeals, 9/14/10
- Analogous to a witness viewing photographs of similar looking suspects.



## Crime Scene DNA is Abandoned

- To establish a violation of the Fourth Amendment, a person must show that he had a legitimate expectation of privacy in the item seized. *Minnesota v. Carter*, 525 U.S. 83, 88, 119 S.Ct. 469, 472, 142 L.Ed.2d 373, 379 (1998).
- When individuals voluntarily abandon property, they forfeit any expectation of privacy in it that they might have had. *United States v. Jones*, 707 F.2d 1169, 1171 (10th Cir.1983).
- A seizure of abandoned property does not violate the Fourth Amendment. *Abel v. United States*, 362 U.S. 217, 241, 80 S.Ct. 683, 698, 4 L.Ed.2d 668 (1960).

## Familial Search of DNA Database Profiles

- Constitutional rights are personal and may only be asserted by one whose rights are infringed. *Rakas v. Illinois*, 439 US 128, 133-134; 99 S.Ct.421; 58 L.Ed.2d 387 (1978).
- The offender who left DNA at the crime scene has no standing to challenge the familial DNA search.
- The offender in the database will never be charged; the DNA from the crime does not match.

## DNA Database - Race and Ethnic Issues

- The composition of the database accurately reflects the racial breakdown of those who have been imprisoned.
- Cold hits routinely identify offenders proportional to this breakdown.



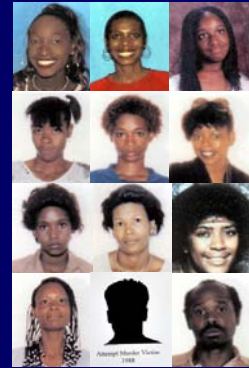
## DNA Database - Race and Ethnic Issues

- While blacks accounted for 13% of the U.S. population in 2005, they accounted for nearly half of all homicide victims (49%). *Homicide trends in the U.S. - Trends by race Bureau of Justice Statistics [www.ojp.usdoj.gov/bjs/](http://www.ojp.usdoj.gov/bjs/)*



## DNA Database - Race and Ethnic Issues

- Between 2001 and 2005, the average victimization rate of blacks in sexual assaults was double that of whites and Hispanics. *Black Victims of Violent Crime - Special Report August 2007, NCJ 214258.*



## DNA Database - Race and Ethnic Issues

- Victims in these crimes are most often persons of color.
- To create artificial constraints on the use of the database because of its minority composition would result in a violation of the rights of those minority victims.

