



# INVESTIGATIVE REVIEW

The Official Newsletter of the International Homicide Investigators Association

www.ihia.org

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## FAMILIAL DNA SEARCHING

A Powerful Tool that is seldom being utilized by Law Enforcement

by Rock Harmon



National Library of Medicine

Familial DNA searching burst into the limelight with its recent success leading to the identity of the "Grim Reaper" in Los Angeles, a serial killer who had terrorized the area for over 18 years and committed at least 10 murders. The topic of familial DNA searching was not a new one, however, having been discussed in various public meetings for the past four years. Surprisingly only two states have formally adopted familial DNA search policies, California and Colorado. Meanwhile, in late 2010, a serial

killer preys on women in the Kensington part of Philadelphia, another case that clearly calls for the use of familial DNA searching.

**CODIS** (Combined DNA Index System) has provided the means to solve previously unsolved cases when DNA evidence profiles match convicted offenders. However, these offender matches (cold hits) only occur about 25 percent of the time. Familial DNA searching is based on well-known principles of genetic inheritance. People inherit half of their DNA from their mother, half from their father. Familial DNA searching provides an opportunity to develop investigative leads for some of the remaining 75 percent of the cases that have been uploaded (approximately 200,000) and remain unsolved. It is a simple choice between trying to do something to solve these crimes, or simply waiting until the offender is included in the database, if that latter would ever happen.

The process is relatively straightforward. Once the profile is searched and no direct offender hit occurs, special software can be used to try to determine if the CODIS database contains a DNA profile indicative of a possible close relative of the person who left the DNA at the crime scene. There are two parts to this process. First, the software ranks candidate offenders in order of likelihood that they are closely related to the person who left the DNA. There will always be an appreciable number of candidates on this list. For example, in California

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### International Homicide Investigators Association 18<sup>TH</sup> ANNUAL TRAINING SYMPOSIUM

July 31 - August 5, 2011 (Registration: 2 - 7pm on July 31)

Hyatt Regency Washington D.C., on Capitol Hill

400 New Jersey Ave. NW, Washington DC 20001

What a great privilege it is to host the 18th Annual Training Symposium in our nation's capital. Washington D.C. offers a variety of attractions including the Lincoln Memorial, the White House and the Smithsonian. These will leave lifetime impressions, as do some somber moments spent at the Arlington National Cemetery, the U.S. Holocaust Museum, National Law Enforcement Museum or the Vietnam Veterans Memorial. There's always something going on in Washington, DC. From festivals to touring its vast monuments, there are tons of ways for locals and tourists to fill their days with wild sights and vibrant activities.

Among the many events will be the IHIA's 18th Annual Training Symposium. In planning each year's courses, we thoroughly read your critiques and listen to the concerns of the members and Board of Directors to better address the training needs and learning-style preference of IHIA's membership. This year's training week incorporates many of those preferences. We will address points of interest such as cutting edge forensics and technology, investigative resources, child abduction and murder, victim issues, serial homicide investigations, death and unidentified remains, terrorism and our role in catastrophic circumstances.



We look forward to seeing everyone again in Washington, D.C., July 31-August 5, at the 2011 IHIA Training Symposium. The Washington, D.C. Symposium is a great location for learning and it offers a truly unforgettable historical and fun filled venue for all symposium attendees and their families and friends.

*Come to D.C. with Us!*

# IHIA BASIC HOMICIDE TRAINING COURSE

Monday, April 11 - Friday April 15, 2011, 8am to 5pm

Hosted by the Hoover Police Department, Hoover, Alabama



Working in partnership with the U.S. Department of Justice through a grant, the IHIA designed a 40-hour Basic Homicide Investigations Course. This course is offered via hosting agencies on a regional basis throughout the country thus substantially reducing costs normally associated with attending other avenues of high caliber training courses offered at more distant venues. The quality of training provided in the IHIA's Basic Course is second to none. Local, regional, and nationally renowned experts in their respective field of homicide investigation provide the course instruction. Attendees come from law enforcement agencies, coroner/medical examiner offices, forensic labs, and prosecutors' offices.

The next IHIA Basic Homicide Investigators Course will be in Hoover, Alabama April 11-15, 2011. The hosting agency is

the Hoover Police Department. Anyone interested in attending are asked to contact the Hoover Police Department, Lieutenant Tommy Stuart, (205) 739-7235 or by contacting the IHIA's Southern Regional Director, Capt. Steve Buras, via the IHIA web site at: [ihia.org](http://ihia.org).

Additionally if any law enforcement agency is interested in hosting an IHIA Basic Homicide Investigators Course they can contact the IHIA Office by telephone at 877-843-4442 or by email at [ihia@ihia.org](mailto:ihia@ihia.org).

## THE FOLLOWING COURSE TOPICS ARE COVERED:

- Responsibilities of the Homicide Investigator
- First Responder Issues
- Crime Scene Processing
- Laboratory Capabilities & Evidence Processing
- Investigative Resources
- Investigative Techniques
- Interview & Interrogation
- Suspect Development & Elimination
- Crime Scene Analysis
- Homicide Types & Offender Motivation
- Ethics
- Stress Management
- Documentation & Report Writing
- Media Relations
- Prosecution & Legal Concerns
- Victim Issues
- Serial Murder Investigation
- Case Management
- Responsibilities of Coroner/Medical Examiner's Office

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with a database of well over 1 million offenders, the candidate list typically is set as the top 150 candidates. Next, all of the offender candidates' samples are subjected to additional DNA typing, using existing Y chromosome testing. This testing can strongly establish the existence of a close familial relationship (typically father-son or brother-brother) between the person who left the evidence and the offender in the database.

In California's protocol, law enforcement is not involved in the familial search part of the process. The list of 150 candidates is not disclosed to law enforcement. Only after the Y chromosome testing is performed, and only if the results strongly support the likelihood that the evidence was left by a close relative of the offender, is the name of the offender disclosed to law enforcement. At that point law enforcement can utilize this powerful investigative lead to determine which close family member to focus their investigation on. Law enforcement can then use any number of lawful investigative techniques to identify the suspect family member, obtain a DNA sample, and determine whether there is a match between the reference sample and the crime scene evidence.

The process is not guaranteed to succeed. Prior to the "Grim Reaper" success, California had performed familial DNA searching in nine cases. Each search produced its list of about 150 candidates and Y chromosome testing failed to establish the existence of a close familial relationship in any of those cases; thus no investigative leads were provided to law enforcement in any of those nine cases. The first search done for the "Grim Reaper" case produced no leads. At the time of the first search, the DNA profile of the son of the ultimate suspect had not yet been added to the DNA offender database.

The success in California produced immediate interest in the subject in states

such as Virginia and Texas. After conducting several public hearings, Virginia authorities have recently decided to develop and implement familial DNA searching without the need for any explicit legal authorization. While it might seem that law enforcement has a vested interest in seeing the full potential of DNA realized through this technique, few law enforcement agencies or entities have weighed in on the subject of familial searching to date. Perhaps there is a lack of awareness of its potential. Certainly the potential will not be realized if only two states out of 50 develop and adopt the process. The FBI, which regulates searches of the national network of states' databases, has not yet played a role in developing this new tool that would assist states in adopting their own familial DNA searching protocols. Perhaps the recent introduction of H.R. 6011 and funding to support it will allow the F.B.I. to move forward.

Law enforcement in the United Kingdom has been utilizing familial searching for several years. In previous public presentations, U.K. law enforcement has shown that familial DNA search investigative leads have resulted in convictions in about 12 percent of the cases. How does this compare with how often CODIS offender hits result in criminal convictions in the U.S.? Little is known on the ultimate contribution CODIS makes towards solving crimes and attaining convictions. California endeavored to track offender cold hit data to case disposition in 2005. During that project, known as "CHOP" (Cold Hit Outcome Project), it was determined that California's offender cold hits resulted in conviction about 13.5 percent of the time. While the UK measure of efficiency is based on a small number of familial search efforts, 157, it should provide encouragement to U.S. law enforcement that familial DNA searching might double the efficiency of what CODIS currently

provides in helping solve cold cases.

Some law professors have suggested that familial DNA searching constitutes an invasion of some parties' privacy. In response, the 9th U.S. Circuit Court of Appeals recently commented that, "...it is not clear that familial comparisons raise a constitutional privacy issue or, if they do, whose interests are violated... The familial match is not implicated; by definition the match is not perfect, so the government knows that the match is not the perpetrator. It is questionable whether the rights of the perpetrator (if ultimately identified through the use of familial comparisons) are violated" in response to defendant Jerry Pool's challenge to the federal arrestee sample collection process. United States v. Pool, 2010 DJDAR 14485.

The Innocence Project was opposed to forensic DNA typing until they realized the potential it provided to exonerate deserving inmates. It is simply a matter of time before all parties in the legal system recognize that familial DNA searching can provide the same truth-finding process for everyone that straightforward DNA comparisons have been providing for years.

**ROCKNE HARMON** retired in 2007 after 33 years as a prosecutor for the Alameda County District Attorney's Office. He was the driving force behind the California Attorney General's decision to implement familial DNA searching in California that led to the arrest of the "Grim Reaper" serial killer in 2010. He has been a long time member of the IHIA and has served on the Advisory Board. He is currently a consultant to law enforcement and an instructor of Forensic Science at the University of California. Mr. Harmon is a graduate of the US Naval Academy and the University of San Francisco School of Law. He is a highly decorated military veteran who commanded a U.S. Navy swift boat during wartime.