Familial DNA Searching

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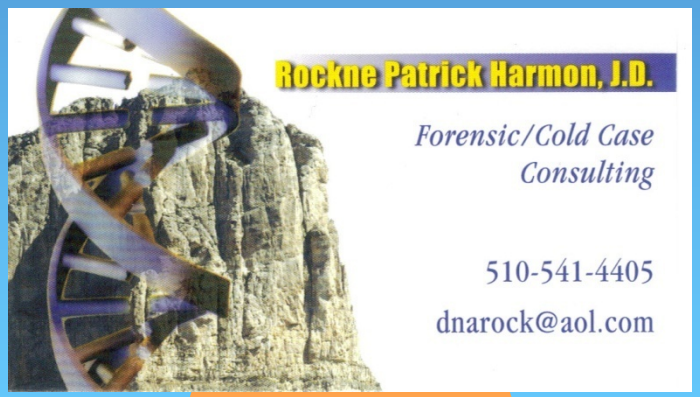


Familial DNA Searching

- Does it work?
- How/how well?
- Can it be done? – legal
- Should it be done? – policy
- California approach

In Grim Sleeper case, a new tack in DNA searching

It's the first successful use of controversial 'familial' matching in a high-profile U.S. case.

July 10, 2010 | By Maura Dolan, Los Angeles Times

Use of familial DNA searches in Va. debated

By FRANK GREEN | TIMES-DISPATCH STAFF WRITER

July 18, 2010

Forensic scientists working on unsolved Virginia crimes are not using a proven - if still controversial -- investigative tool that can crack the toughest and deadliest of cases.

AP

CODIS—NDIS Statistics

Measuring Success

The National DNA Index (NDIS) contains over 8,649,605 offender profiles and 328,067 forensic profiles as of July 2010. Ultimately, the success of the CODIS program will be measured by the crimes it helps to solve. CODIS's primary metric, the "Investigation Aided," tracks the number of criminal investigations where CODIS has added value to the investigative process. As of July 2010, CODIS has produced over 122,300 hits assisting in more than 119,700 investigations.

Codis Measures of Efficiency

- Offender hit rate– 27%
- *Familial searching*
- Case to case
  - Investigative leads
- Partial match disclosure

Cold Hit to Conviction

- No national tracking
- Few states track
- California's C.H.O.P.
  - Fewer than 50% lead to conviction
- "Conviction rate" 27% x .50= 13.5%

Latest familial search stats (UK)

- Total cases submitted: **157** (to date), **93** are currently ‘Active’
- **42** ‘Closed’ or ‘Solved’ by other means
- **8** ‘Solved’ by other means but a relation was in familial results
- Individual who left the DNA has been located in **18** cases so far:
  - **1** sub judice
  - **4** resulted in no conviction
  - **13** resulted in convictions (12% success rate)

Familial Searching- Cons

- Privacy invasion – “genetic surveillance”
- Racial disparity
- Too much work already
- Cops will abuse it
- Statute precludes it

FBI Position

"The FBI would be more comfortable with congressional authorization to conduct familial searches," said Thomas Callaghan, head of the FBI's national DNA database.

"**From DNA of Family, a Tool to Make Arrests**"

FBI Position

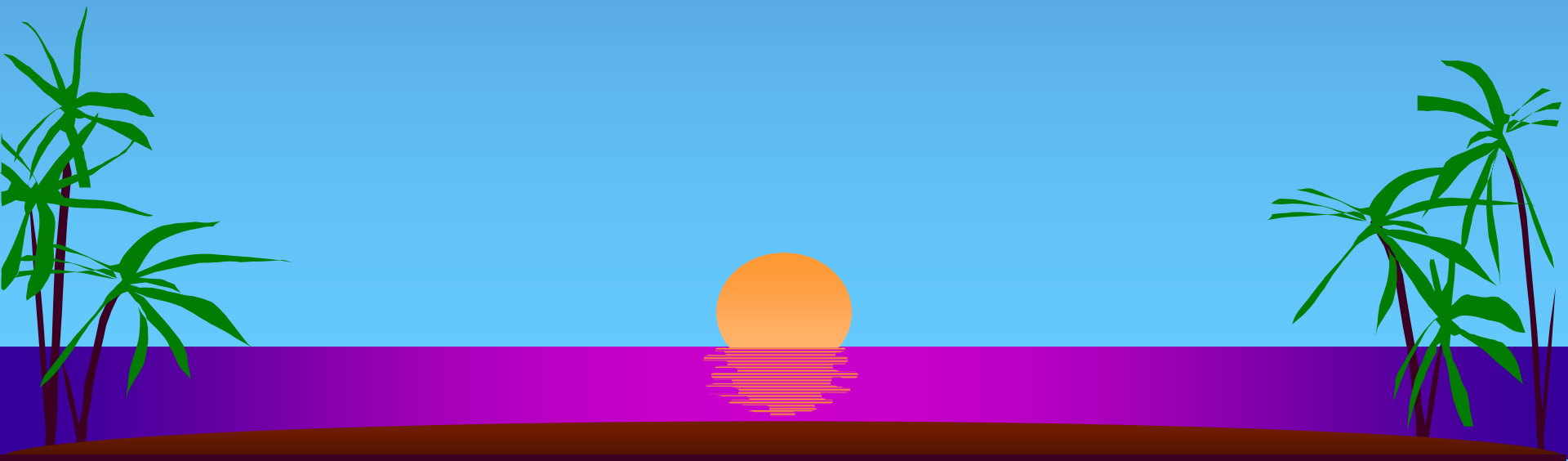
- The DNA Identification Act of 1994 does not explicitly authorize familial searches on the Federal level.
- Given the lack of explicit authorization…the FBI does not conduct familial searches.
- Each state must determine if familial searching is authorized in accordance with state laws.

DNA Identification Act (42 U.S.C. 14132)

"…for law enforcement identification purposes…"

California Penal Code 296

"…for law enforcement identification analysis…"



Virginia Statute

The results of an analysis and comparison of the identification characteristics from two or more samples of human biological evidence shall be made available directly to federal, state and local law-enforcement officers upon request made in furtherance of an official investigation of any criminal offense,

Different Statutory "Purpose"

- Legislative history
  - Restrictions on use, disclosure
  - Not for insurance, employment…
- "Criminal identification" purpose
  - Cold hit directly identifies true suspect
  - Cold hit leads indirectly to true suspect
  - Mixture "match" leads to suspect
  - Familial Search leads to suspect

MEANS VS. PURPOSE

U.S. v. Pool (9/14/10)

"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." p. 14030.

Federal Legislation

Legislation Introduced in the House to Permit Familial DNA Searches

- Wednesday August 04, 2010

"Implement a national standard by creating a system whereby a state can request a familial search of the national DNA database; Implement a number of procedures to protect the privacy and civil liberties of individuals, and ensure that familial searching is implemented in such a way as to provide the maximum amount of oversight of how the evidence is used; and Report annually to Congress on the number of familial searches requested and their outcomes."

FALSE LEADS?

- 10 searches to date
- 1 million + per search
- Ratiometer– 150 samples
- Specimen ID # only
- “Grim Sleeper” #1
- Y-STR – 1 concordant
- One name- Lonnie Franklin

Conflict with Justice System

- Withhold real investigative leads
- Might help convict innocent
- Undermine post-conviction exoneration process
- Conviction reversed, new trial – Brady

Post-Conviction Testing

- Test evidence
- If inconsistent with defendant-
  - Search Codis/NDIS – Descovic/Westchester, Krone/Az
  - Partial match
  - Familial search
- Arizona, Virginia multi-million $ grants
- N.C. Innocence Commission

Juan Rivera

- Convicted for third time
- Confession
- Foreign DNA in 11 yr. old victim
- Prosecution – “promiscuous”
- Court-ordered search of NDIS

California Familial Search Policy

- Written request to the Bureau Chief
  - Describes the case
  - All investigative leads have been exhausted
  - Investigating agency and prosecutor's office are committed to further investigate the case if the name of an offender is eventually released
  - MOU between DOJ and law enforcement agency
- Crime Scene Profile is a single source profile
  - 15 loci
- Y-STR typing of the crime scene evidence has been completed

California Familial Search Policy

- Modified search conducted by DOJ must result in a manageable number of candidates
- Candidates are prioritized by relatedness (Ratiometer)
- Y-STR analysis performed on offender samples
- If Y-STR profile of crime scene sample and offender are a match, identity of “related” offender is disclosed

Familial Search Investigations

- Investigative lead
- Family structure
- Criminal history
- In/out of custody
- Abandoned/owed samples
- No “genetic surveillance”

The “Grim Sleeper”

- First familial search
- No investigative lead
- Son convicted, in database
- Tenth familial search case
- One investigative lead
- Father-son
- Abandoned DNA
- Arrested/charged

Proposal

- Discuss policy among all vested parties – not just Codis
- Select/design software
- Develop investigative/legal protocol
- Educate – DA/Investigator team
- Implement familial search tool
- Follow leads, if any

The Inevitability of familial searching

- California/Colorado/Virginia?
- Innocence Project- Ariz., Va.
- North Carolina Innocence Commission
- Court ordered - Juan Rivera case
- Enhance Codis – justice served