

DNA Hit OF THE YEAR

Spotlight on Cases that Exemplify the Power of DNA Databases

Tim Schellberg

GTH – DNA

DNA Forensic Symposium

Cape Town, South Africa

June 14, 2023





A GTH Consulting Company

- www.dna.gth-gov.com
- Global experts on DNA database policy, legislation and law.
- GTH DNA has advised over 60 countries on DNA database policy and project implementation for over 20 years.
- GTH DNA advisors are located throughout the U.S., Europe, Latin America, Africa, and Asia.





DNA

HIT OF THE YEAR

EST. 2017



59 COUNTRIES HAVE NATIONAL PROGRAMS (2023)

Over 175 Million Offender Samples

DNA Database Hit of the Year

Recognition

Awareness

Action



5th Place Case 2017

1990 Rape and Murder of Robin Cornell and Lisa Story
Cape Coral, Florida
Hit occurred September 2016



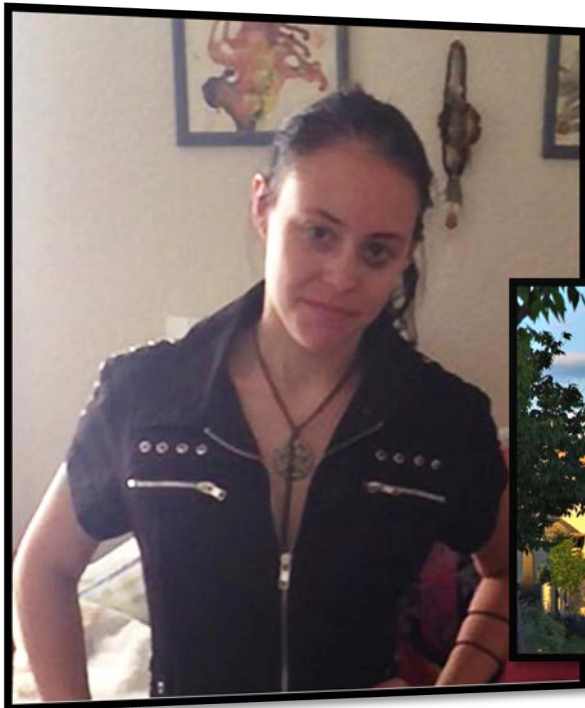
Database hit the result of arrestee testing law in Florida

Vicky Bellino, FDLE DNA Analyst and CODIS Manager: “I would like to explain why this case is important to me...”

Suspect awaiting trial.

2nd Place Case

2017 Sexual Assault and Murder of Heather Hoffman
Fort Collins, Colorado
Hit occurred June, 2017

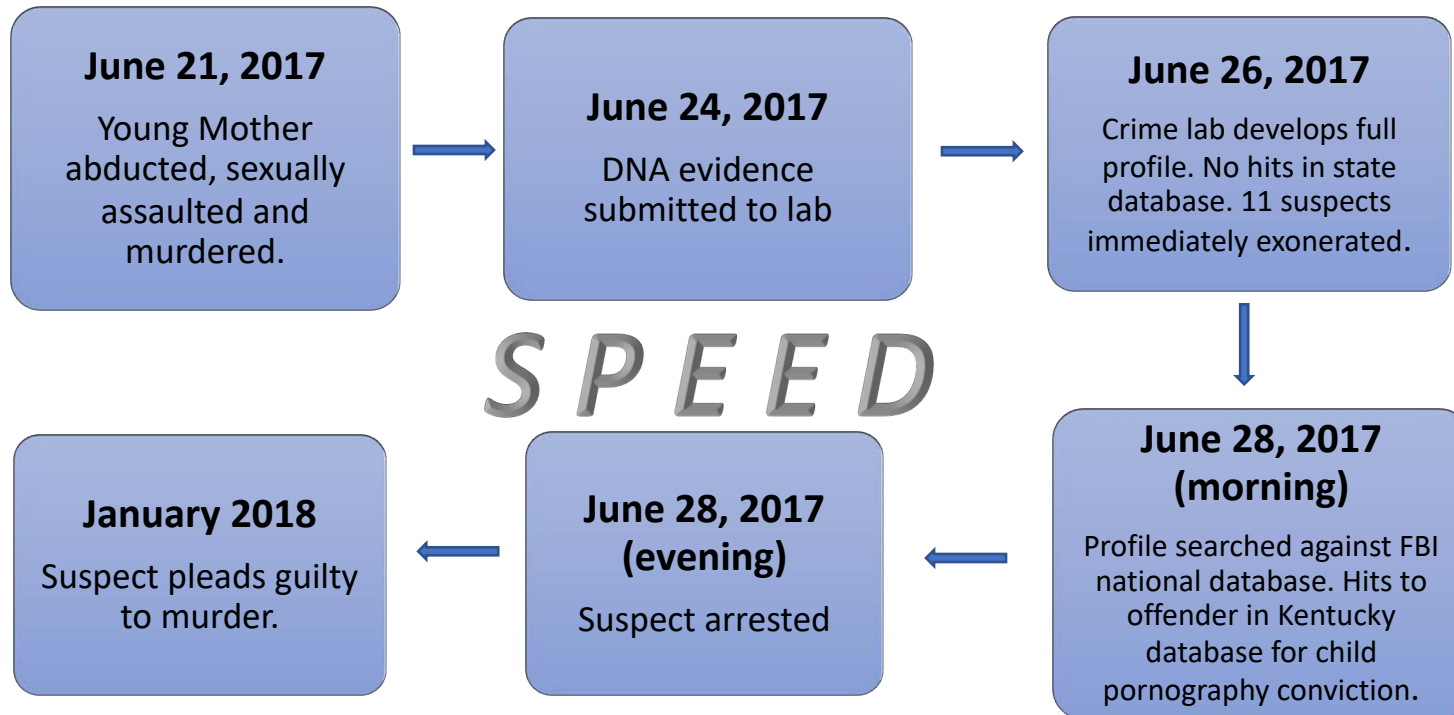


Speed

Institutional
Precision

Confidence

2nd Place Case



“This is the way DNA databases are supposed to work” - Jayann Sepich, Co-Founder, DNA Saves and 2018 DNA Hit of the Year Judge

The State of Colorado is well known in the United States as having one of the best DNA programs in the country.

HIT OF THE YEAR

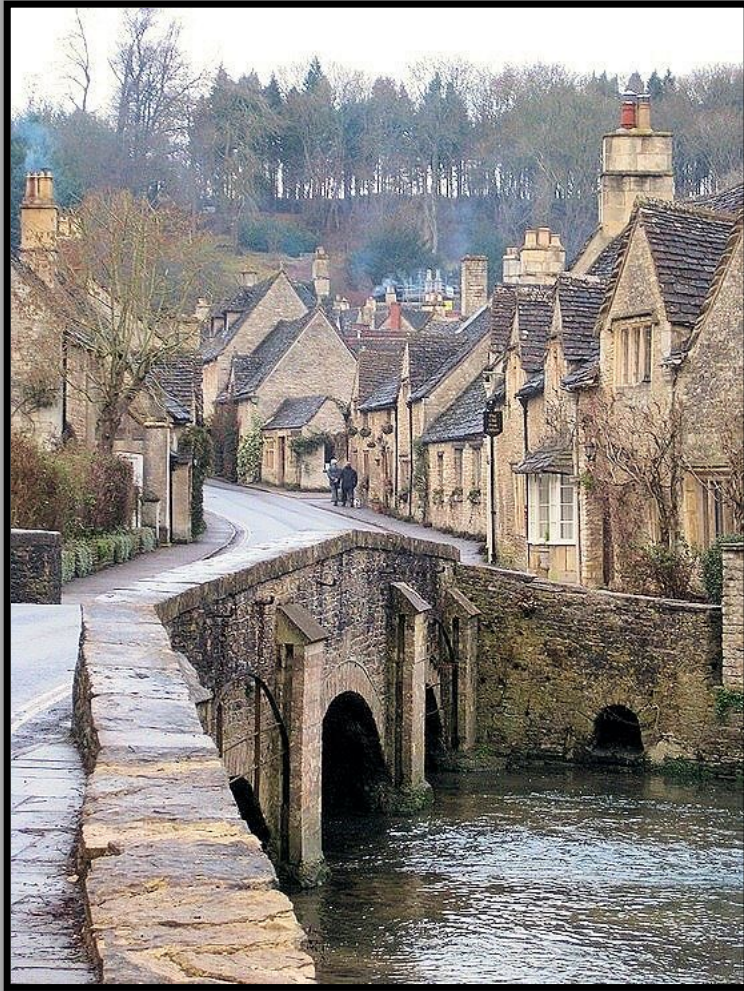
1984 Sexual Assault and Murder of Melanie Road
Bath, United Kingdom



Bath, United Kingdom

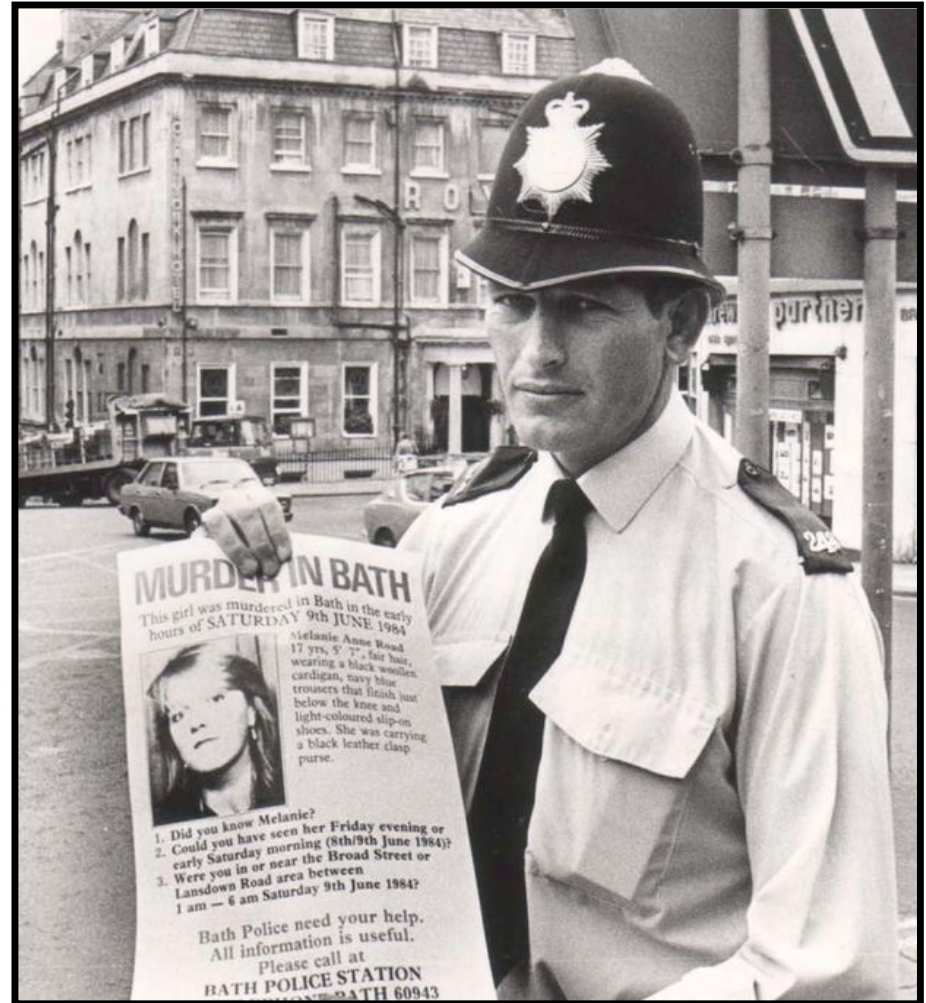


Bath, United Kingdom



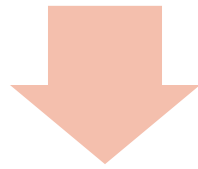
Melanie was Sexual Assaulted and Murdered on 9 June, 1984

- Attacked while walking home at night
- Only 200 meters from house
- Sexual Assaulted
- Fought for her life – caused significant amount of offenders blood to be collected
- Brutally murdered - Stabbed 26 times



The Evidence at the Crime Scene

Primary Evidence:
Attacker's Blood



Meticulous blood
Swabbing due to
blood type focus in
1984

Committed Police with a Never Give up Attitude

One of UK's Most Aggressive Criminal Investigations Ever (1984-2016)

25,744

documents linked to
the case

3,000

Crime scene exhibits

1,080

voluntary swabs given

2,555

people who were
forensically eliminated

95

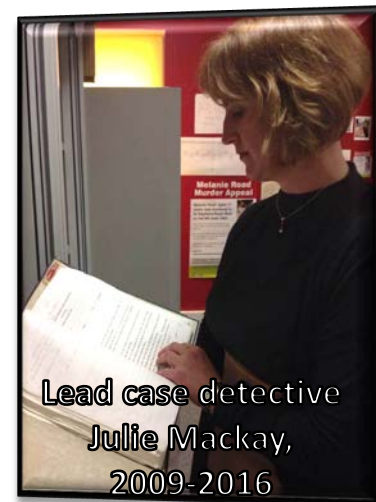
arrests made in the
case

1,410

calls from members of
the public

7,723

investigative actions or
inquiries



Lead case detective
Julie Mackay,
2009-2016



The DNA Story behind the Melanie Road Case

1995

Creation of UK DNA Database. Crime scene DNA profiled and uploaded –
No Hits



2011

Becomes one of the UK's first cases to go through familial searching process –
No usable results



2013

Second familial search approved. Geographic analytics utilized. Candidate list reduced, but still no usable results.

Continuous Mass Screenings and elimination sample testing –

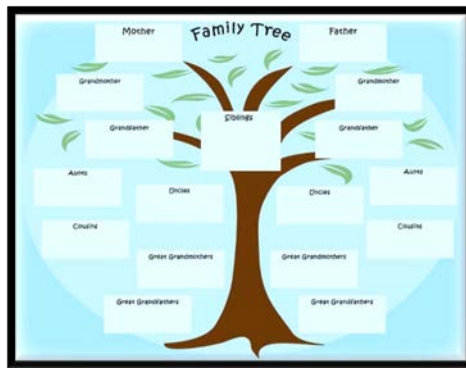
1,080 samples collected and profiled

The DNA Story behind the Melanie Road Case



2014

Daughter of offender gets Criminal “infraction” for breaking a neckless during a domestic dispute – Under UK’s aggressive DNA testing law, she is added to the database.



March 2015

Third familiar search approved. Using geographic analytics, only 200 candidates and daughter is first on the list.



June 2015

Police approach offender to provide a DNA sample. It’s a perfect match to crime scene DNA. Christopher Hampton is arrested.



The DNA Story behind the Melanie Road Case



May 2016

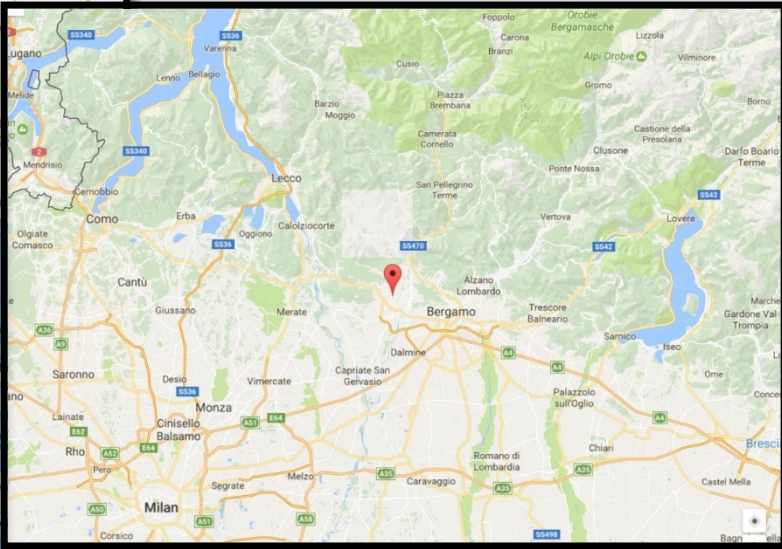
Christopher Hampton
pleads guilty and will
spend rest of his life
in prison

HIT OF THE YEAR 2017

2010 Murder of Yara Gambirasio
Brembate di Sopra, Italy



Brembate di Sopra, Italy



Brembate di Sopra, Italy



Brembate di
Sopra

Bergamo



Yara Gambirasio



Yara Is Missing – 26 November, 2010

ΕΞΑΦΑΝΙΣΗ - MISSING Μπορείτε να βοηθήσετε;



ΠΡΟΣΩΠΙΚΑ ΧΑΡΑΚΤΗΡΙΣΤΙΚΑ

ΓΚΑΜΠΙΡΑΣΙΟ ΓΙΑΡΑ
Ημ. Γέννησης: 21/05/1997
Σημερινή ηλικία: 13 ετών
Εξαφανίστηκε: 26/11/2010
Από: Brembate Sopra στην πόλη
Bergamo της Ιταλίας, στις 18:30
Μάτια: Καστανά
Μαλλιά: Καστανά
Ύψος: 1,50 μ.
Φοράει σιδεράκια.

GAMBIRASIO YARA
Born: 21/05/1997
Age: 13 years old
Missing: 26/11/2010
From: Brembate Sopra-Bergamo
Italy, at 18:30 p.m.
Eyes: Brown Hair: Brown
Height: 150 cm
The girl carries a fixed orthodontic
apparatus.

Όποιος γνωρίζει οτιδήποτε, παρακαλείται να καλέσει σε οποιοδήποτε Αστυνομικό Τμήμα ή στην Ευρωπαϊκή Γραμμή Για Τα Εξαφανισμένα Παιδιά.



☎ 116000

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116000@hamogelo.gr



Missing
Children
Europe



International Centre
FOR MISSING & EXPLOITED CHILDREN



ΑΦ.ΕΞΑΦ.ΑΡ.ΑΝ.110-04/01/11

Yara's body found 26 February, 2011



The Evidence at the Crime Scene

Full STR profile
found in
underwear



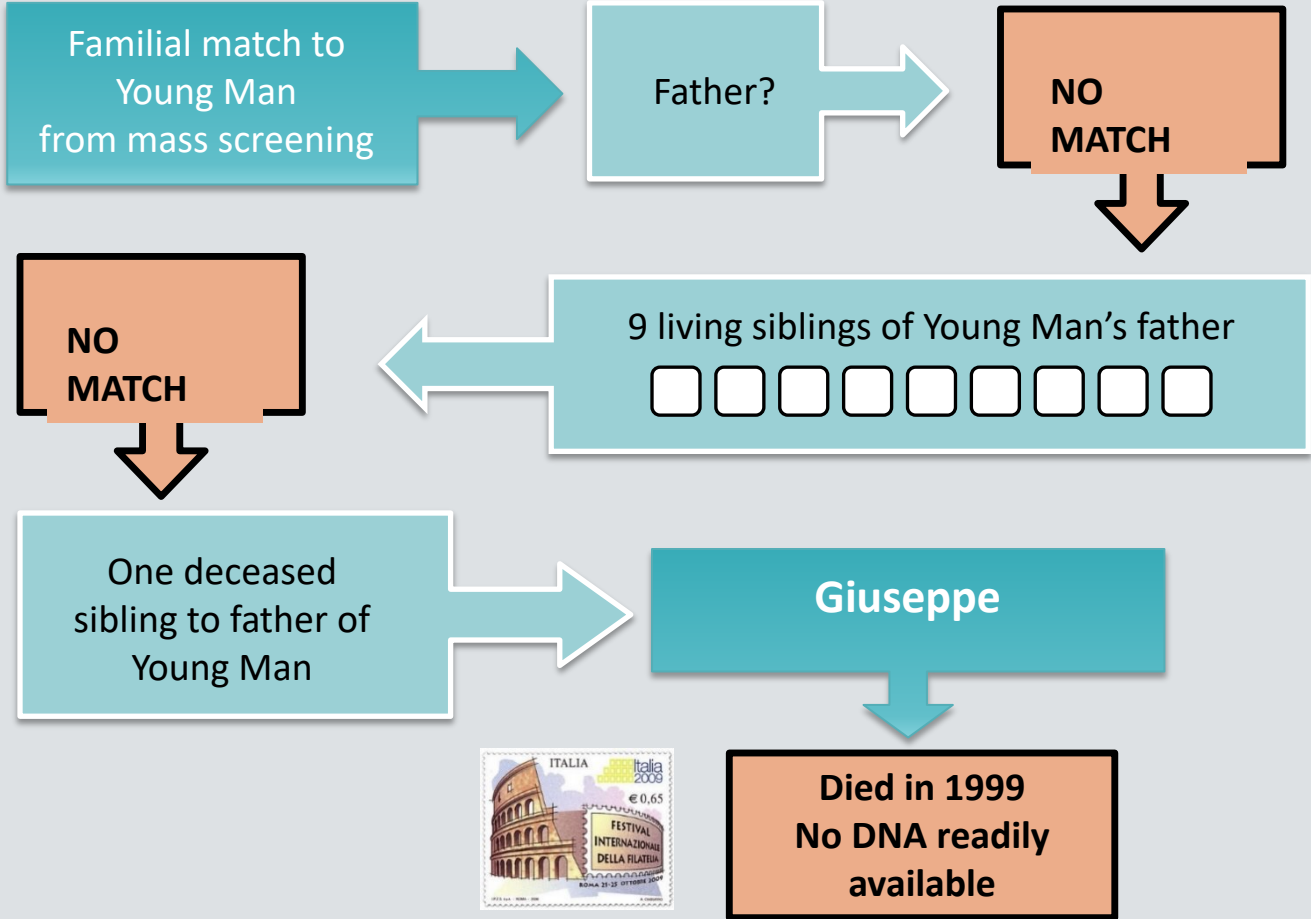
Find who
belongs to the
profile

Largest mass screen ever conducted
(Spring 2011 – Summer 2012)
15,000 samples

No Direct Hits



Familial Hit
Summer 2012



Giuseppe

3 KNOWN children



Conclusion: Suspect is
a child born out of
wedlock

Find the mother, identify the suspect

**CHALLENGE:
FIND THE MOTHER**

Family members not
aware of a child born out
of wedlock

Community not talking

Second mass screening:
532 women
(Fall 2012 – Winter 2014)

MATCH: Ester
Winter 2014



Ester



3 known children
□ □ □



Massimo Bossetti
Arrested
June 16, 2014



Massimo Bossetti convicted July 1, 2016



Giallo, 9 October 2014



The Guardian, 2 July 2016



Giallo, 23 October 2013



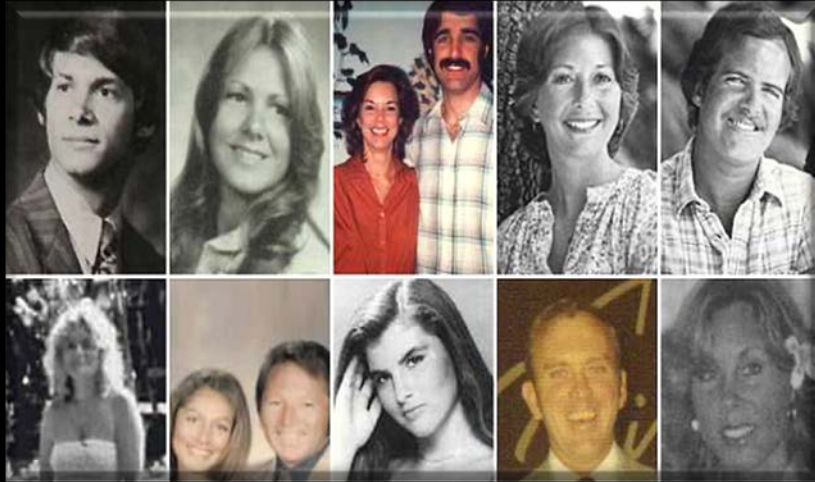
Oggi, 16 November 2015



Ultime Notizie Flash, 9 October, 2014



La Cronaca, 15 June, 2015



1973 - 1986 "The Golden State Killer" Case
13 Murders and more than 50 Sexual Assaults
California, USA
Hit 2018

HIT OF THE YEAR



HIT OF THE YEAR 2019

Three separate crime sprees linked to one offender

Visalia Ransacker
1973 - 1975
120 Burglaries
1 murder

East Area Rapist
1976 - 1979
50 Sexual Assaults
2 murders

Original Night Stalker
1979 - 1986
10 murders
Sexual Assaults



HIT OF THE YEAR

Golden State Killer – Terrifying Predator



**Sophisticated
Planning**

**Taunting
Stalking**

Psychopathic



HIT OF THE YEAR



Sacramento County Sheriff's Department organized an EAR-focused community meeting on November 8, 1977, at Mira Loma High School in Sacramento, where frightened residents voiced their concerns.
Sacramento County Sheriff's Department



Paul Holes, early in his career as a criminalist at the Contra Costa County Sheriff's Office.
Courtesy of Paul Holes



Detective Richard Shelby, the original lead investigator in the EAR series, types a report at the Sacramento County Sheriff's Department.
Courtesy of Richard Shelby



Detective William McGowen, Visalia Police Department.
Courtesy of Mary Lou McGowen



Larry Pool, in a photo taken during his swearing-in as a Senior Investigator at the Riverside County District Attorney's Office in August 2017.
Courtesy of Larry Pool

Sergeant Larry Crompton of the EAR Task Force in Contra Costa County, pouring plaster to create a cast of a footwear impression.
Courtesy of Larry Crompton

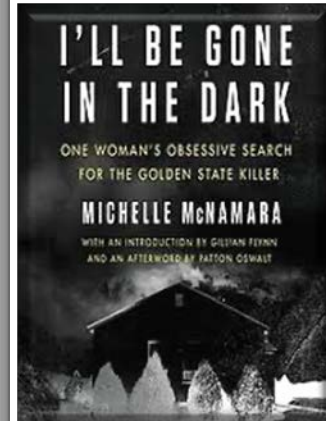


Photo credit: McNamara, Michelle, "I'll Be Gone in the Dark"
Pub. Feb. 2018, HarperCollins



HIT OF THE YEAR

The DNA path of the **Golden State Killer Case**

East Area Rapist
Original Night
Stalker
DNA Links cases to
one offender



CODIS/Interpol
searching
Began in late 1990's
No hits



2004 - Proposition
69 passes requiring
all felons arrested to
provide DNA



California becomes
5th largest DNA
database in the world



Despite larger
database no,
matches in CODIS



After two decades of trying,
government DNA database searching
fails to produce a suspect



Y-STR, voluntary
samples
Phenotype SNPs
likely tried
No success

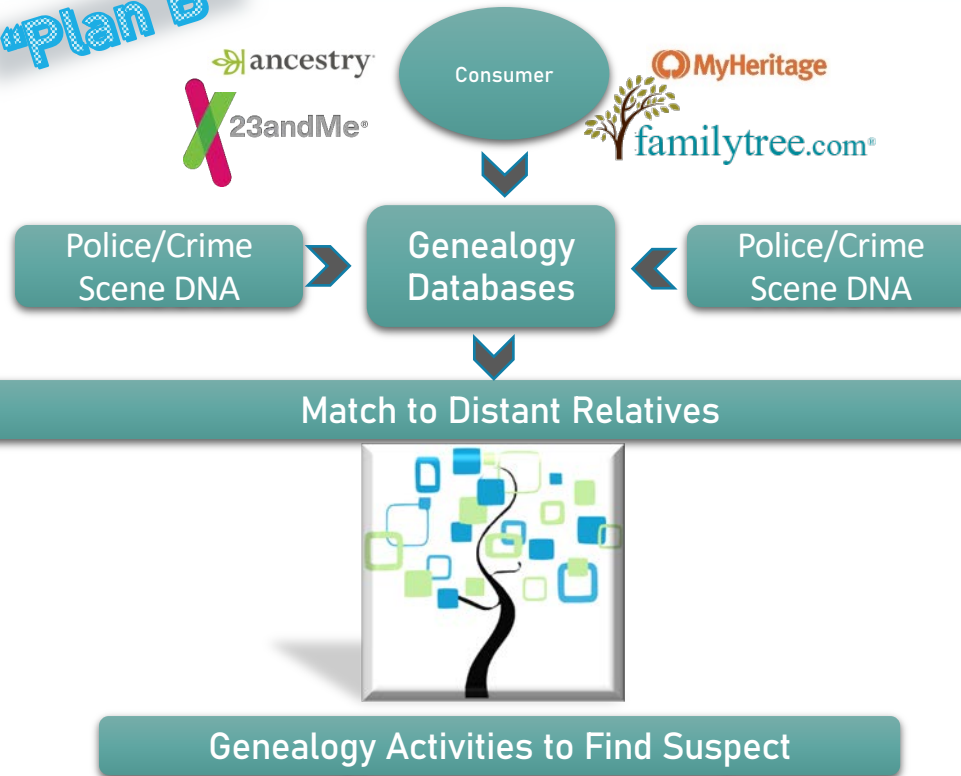
Familial searching
No useful matches



HIT OF THE YEAR

Golden State Killer Investigators Introduce the World to
Genealogy Searching

"Plan B"



HIT OF THE YEAR



HAWLETT

BEASLEY

Over 150 cases have identified suspects with genealogy searching since the Golden State Killer case arrest



4th Place Case

2008 Murders of Zhan and Fang Mou

Guangzhou, China



2008: Mother and daughter murdered in upscale neighborhood during home burglary. DNA profile typed and put into database – no hits.



YSTR

Testing

Between 2010 and 2020, it is estimated that China has added 10 million YSTR profiles to its national DNA database.

