

## Curriculum Vitae

### **Theron L. Vines III, MS**

Updated: November 2023

#### **Formal Education**

*January 2014*

**National University, La Jolla, CA**

Master of Forensic Science - Specialization in Criminalistics

Coursework includes: Crime Scene Investigation, Criminal Profiling, Forensic Pathology, Forensic Psychology, Forensic Photography, Major Case Investigation, Trace Evidence, Advanced Forensic Toxicology, Forensic Serology and DNA, Forensic Anthropology

Thesis: "SECONDARY TRANSFER OF DNA FROM SWEAT"

*June 2009*

**California State University, San Bernardino, CA**

Bachelor of Science Biology

Minor Degree in Chemistry

Coursework includes: Genetics, Biochemistry, Organic Chemistry, Molecular Biology and Biology of Populations

#### **Formal Education - Post-Graduate**

*February 2021*

**Straighter Line**

Introduction to Statistics

## Employment

08/11 - Current

### **Pure Gold Forensics, Inc., Redlands, CA**

Attained A2LA Accreditation to ISO 17025:2017 and F.B.I. QAS 2020. Certificate #4918.01 for Pure Gold Forensics, Inc.

Attained full FSC Accreditation by the Texas Forensic Science Commission for Biology in Body Fluid Identification and DNA for Pure Gold Forensics, Inc.

Assisted in validation studies for STRmix™, DNA Extraction, Quantifiler Trio Quantitation on the QuantStudio 5, validation of Globalfiler and Yfiler Plus on the ABI 3130 Genetic Analyzer.

Assisted in the validation of a Bone Material Modification for the DNA extraction of bone and teeth.

Assist in writing protocols and updating the Quality Assurance Manual in order to comply with ISO 17025 Accreditation requirements.

President/DNA Technical Leader/Quality Assurance Officer

As President:

- Serve as point of contact for all A2LA accreditation inquiries
- Oversee all business and laboratory operations
- Ensure quality assurance compliance
- Evaluate scientific equipment and processes
- Supervise laboratory staff
- Recruit Forensic Scientists and other staff

As Quality Assurance Officer:

- Ensure that the quality requirements of the management system implemented and maintained
- Maintain quality logs
- Coordinate quality audits

As Technical Leader:

- Perform forensic biology (DNA) testing
- Perform consultative services
- Generate scientific reports detailing evidence, examinations, results and conclusions
- Peer review other Forensic Scientists work for correctness and completeness
- Testify in courts of law as required by clients
- Collect reference (buccal) samples from clients
- Technical reviews of forensic scientist's reports
- Accountable for technical operations of the laboratory

10/09 – 07/16

**Human Identification Technologies, Redlands, CA**

Forensic Scientist

- Perform forensic biology (DNA) testing
- Perform consultative services
- Generate scientific reports detailing evidence, examinations, results and conclusions
- Peer review other Forensic Scientists work for correctness and completeness
- Testify in courts of law as required by clients
- Collect reference (buccal) samples from clients

**Expert Witness Testimony**

Qualified as an expert in Forensic DNA Analysis in the following states:

- California
- Arizona
- Florida
- Montana
- Oklahoma

## Specialized Training

- October 2023*      **Cognitive Bias in Forensic Decisions: Understanding What It Is, Its implications, And What Can Be Done About It**
- 1 hour webinar
- May 2023*      **An Elephant Walks into a Bar...Testimony Guidance to Avoid Transposing the Conditional**
- 1 hour webinar
- March 2023*      **Forensic Investigative Genetic Genealogy & DNA Summit**
- Specialized instruction in forensic investigative genetic genealogy and DNA updates/capabilites
- October 2022*      **International Symposium of Human Identification – National Harbor, MD**
- General Session
- September 2021*      **International Symposium of Human Identification – Orlando, FL**
- General Session
- October 2020*      **STRmix Virtual Workshop**
- This 4-day workshop will provide participants with extensive and full STRmix™ user training, covering likelihood ratios and sampling uncertainty, introduction to STRmix™, and a detailed description of the molecular models and mathematics on which STRmix™ is based. Also included are ample “hands on” sessions to allow participants to use and familiarise themselves with STRmix™ under the guidance of the instructors.
- July 2020*      **FBI 2020 QAS Quality Assurance Standards Auditor Assessment**
- The Quality Assurance Standards (QAS) for Forensic DNA Testing Laboratories and the Quality Assurance Standards for DNA Databasing Laboratories were issued on July 1, 2020 by the FBI Director. The

standards describe the quality assurance requirements that a laboratory performing DNA analysis or utilizing the Combined DNA Index System (CODIS) shall follow to ensure the quality and integrity of the data generated by the laboratory. These standards also apply to vendor laboratories that provide DNA analysis services to another laboratory or agency but do not take ownership of the DNA data for purposes of entry into CODIS.

The QAS/Auditor training sponsored by the FBI is a computer-based training (CBT) course that familiarizes the participants with the forensic and databasing standards, as well as techniques for preparing and performing QAS audits, and identifies documentation requirements for demonstrating compliance with the standards. Current or previously qualified DNA analysts are required to successfully complete this course in order to be qualified to conduct QAS audits.

*February 2020*

**American Academy of Forensic Sciences – Anaheim**

General Session

*September 2019*

**International Symposium of Human Identification – Palm Springs**

General Session

*September 2019*

**International Symposium of Human Identification – Palm Springs**

The Revised FBI Quality Assurance Standards for Forensic DNA Testing and Databasing Laboratories

*July 2019*

**Promega Technology– San Diego Sheriff’s Department**

Various presentations involving Y23 Validations and Direct to DNA validations. Interesting cases presented.

*June 2019*

**Forensic Technology Center of Excellence**

Probabilistic Genotyping in Court

*November 2018*

**ThermoFisher – HID University – Glendale, CA**

Full day discussing future trends in forensic DNA technology

*October 2018*

**CAC Seminar – San Diego, CA**

DNA Workshop

Full day including advancement in technologies in the forensic DNA field. New statistical approaches presented.

*September 2017*

**CAC Seminar – Newport Beach, CA**

DNA Workshop

Full day including advancement in technologies in the forensic DNA field. New statistical approaches presented.

*August 2017*

**QuantStudio 5 Real-Time PCR System installation training given by ThermoFisher Scientific – Pure Gold Forensics, Redlands, CA**

QuantStudio 5 Real-Time PCR System instrumentation overview

HID Real-Time v1.3 PCR Analysis Software overview

Instrument maintenance

Hands-on review of instrument, software and data

*August 2017*

**CAC DNA Study Group and Meeting – San Bernardino, CA**

“Soaking Method User to Recover DNA from Live and Discharged Cartridges.”

Discussion Involving Mega Loci Kits and the Probabilistic Genotyping Software Associated.

“The Last Day – The Erin Corwin Murder Case.” Guest Speaker – Trevis Newport

*June 2017*

**FBI Quality Assurance Standards Auditor Assessment**

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performing DNA analysis or utilizing the Combined DNA Index System (CODIS) shall follow to ensure the quality and integrity of the data generated by the laboratory. These standards also apply to vendor laboratories that provide DNA analysis services to another laboratory or agency but do not take ownership of the DNA data for purposes of entry into CODIS.

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*April 2017*

### **ASCLD Webinar: DNA Standards and Guidelines**

Forensic DNA Analysis, and in particular interpreting complex DNA mixtures and calculating statistics, can be challenging. The technology is ever more sensitive and analysts are testing a wider variety of samples than ever before. The FBI's Scientific Working Group on DNA Analysis Methods (SWGDM) has issued a new version of the autosomal DNA STR interpretation guidelines that most of the DNA laboratories in the country look to for guidance in analyzing DNA profiles. Mr. Sutton will be presenting information on the changes to the interpretation Guidelines including the background and scope of the changes. Specific examples will be presented. Mr. Heidebrecht and Ms. Conway will be answering questions and providing additional comments. In addition, Ms. Jocelyn Carlson will be presenting on the efforts of FBI and SWGDM to revise the FBI's Quality Assurance Guidelines for DNA Testing Laboratories.

*March 2017*

### **CAC DNA Study Group and Meeting**

Validation of IntegenX RapidHIT 200 at the Orange County DA's Office

Fusion6C and Globalfiler Validations

STRMix and other Probabilistic Software

Keeping it “All in the family.” How a Son and a Piece of Pizza Unmasked the Grim Sleeper Serial Killer. By Deputy in Charge Marguerite Rizzo Los Angeles District Attorney’s Office

*November 2016*

**CAC Seminar – Palm Springs, CA**

General Session

*November 2016*

**CAC Seminar – Palm Springs, CA**

DNA Workshop

Full day including advancement in technologies in the forensic DNA field. Interesting cases presented

*October 2016*

**CAC Seminar – Palm Springs, CA**

SERATEC Biology Workshop

Using SERATEC Products to Identify Saliva Stains

*May 2016*

**CAC Seminar – North Hollywood, CA**

General Session

*May 2016*

**CAC Seminar – North Hollywood, CA**

Full day workshop covering new and emerging trends in DNA analysis and interpretation, such as advancements in capillary electrophoresis instrumentation; optimal collection of trace biological samples from evidence exemplars; validation and implementation of probabilistic genotyping systems, including STRmix and Armed Expert. DNA case studies from multiple agencies also presented

*March 2016*

**CAC DNA Study Group and Meeting**

Case study presentation from Patricia Huck, LAPD Crime Lab

5 - 10 min presentations on DNA-related topics or interesting/bizarre cases. (Please contact the chair through email before the study group if you are interested in presenting something)

Discussion of the following papers:



Comparison of Four Saliva Detection Methods to Identify Expectored Blood Spatter

Educating Jurors about Forensic Evidence: Using an Expert Witness and Judicial Instructions to Mitigate the Impact of Invalid Forensic Science Testimony

“The Scent Discriminating K-9 and The Scent Transfer Unit 100” by Ann Anderson and Mike Grossman. Both are LASD contracted bloodhound handlers.

*August 2015*

**CAC Workshop – Orange County, CA**

Probabilistic Genotyping Workshop

*May 2015*

**CAC Seminar – Ventura, CA**

DNA: Mixture Interpretation and Probabilistic Genotyping

*May 2015*

**CAC Seminar – Ventura, CA**

Identification of Semen and Other Bodily Fluids

*February 2015*

**AAFS Conference – Orlando, FL**

Obtaining Successful DNA Profiles From Challenging Samples

*February 2015*

**AAFS Conference – Orlando, FL**

Quality Assurance in Human Identification

*August 2014*

**Promega Technology Tour Seminar**

Various presentations involving low-template DNA recovery, inhibition and new massively-parallel systems.

*August 2014*

**CAC DNA Study Group and Meeting**

Detective Orlando Martinez with the LAPD Homicide Division presentation on the investigation of the Michael Jackson death

Erick Reisinger (OCSD) on the STRMix

Shawn Montpetit or Patrick O'Donnell (SDPD) DNA from cartridge cases

Pia Rosner (LAPD) probabilistic workshop taken in St Louis

*February 2014*

**CAC DNA Study Group and Meeting**

Erik Bieschke - World Trade Center Mass Fatality Identifications at the City of New York Office of Chief Medical Examiner (OCME)

*February 2014*

**AAFS Conference – Seattle, WA**

Development of Emerging DNA Technologies for Identification:  
Expanding the Capabilities of a Missing Persons Laboratory

*February 2014*

**AAFS Conference – Seattle, WA**

Applications of Next Generation Sequencing in Forensic DNA Analysis

*January 2014*

**CAC DNA Study Group and Meeting**

Dr. Cynthia Bir - Injury Biomechanics - Engineering An Approach to Forensics

Promega - Examination of proposed manufacturing standards using low template DNA.

*May 2013*

**CAC DNA Study Group and Meeting**

Various presentations on new and improved technologies involving new chemistry, technology and statistics.

*March 2013*

**CAC DNA Study Group and Meeting**

The legal consequences of changed expert opinions after trial, as well as updates on other legal issues of interest to forensic scientists. Given by CA Deputy Attorney General Mike Chamberlain

*February 2013*

**AAFS Conference – Washington, D.C.**

Calculating Likelihood Ratios Incorporating a Probability of Drop-Out.  
Introducing Lab Retriever

*February 2013*

**AAFS Conference – Washington, D.C.**

DNA in Real Time: Amplifying Productivity in Today's Forensic Laboratory

*June 2012*

**CAC DNA Study Group and Meeting**

The Bomb House presented by Richard Legler

Largest cache of homemade explosives found in United States history.

*January 2012*

**CAC DNA Study Group and Meeting**

LAPD Robbery Homicide Detectives (RHD) Paul Coulter and Dennis Kilcoyne

Serial Murder Investigation - The Grimm Sleeper

*2011*

**Forensic Training Network partnered with NIJ**

13 Module DNA Course

*2011*

**Forensic Training Network partnered with NIJ**

Principles and Thought Processes of Crime Scene Investigation

*2011*

**National Institute of Justice**

Intro to Uncertainty in Forensic Chemistry and Toxicology

*2011*

**National Institute of Justice**

Mapping and Exhumation of Clandestine Burials

**Membership in Professional Organizations**

- American Academy of Forensic Sciences (AAFS)
- California Association of Criminalists (CAC)
- California Attorneys for Criminal Justice (CACJ)

**Licenses**

- Forensics Biology/DNA Analyst - Texas FSC License #0000736