

DAVID HANSEN
Forensic DNA Analyst
Curriculum Vitae

PROFESSIONAL EXPERIENCE

Mr. Hansen joined Forensic Analytical Crime Lab in December 2012. He specializes in the examination of physical evidence for human biological material and the isolation, extraction, quantification, amplification, and genetic analysis of DNA using state-of-the-art PCR-based autosomal and Y chromosome STR analyses via capillary electrophoresis. He has experience in the examination of evidence from both criminal and civil casework.

PROFESSIONAL AFFILIATIONS

California Association of Criminalists Associate Member, current

American Board of Criminalistics – Molecular Biology, current

EDUCATION

Master of Science, Forensic Science, University of California, Davis, CA, 2012

Bachelor of Science, Public Health, minors in Biology and Chemistry, Cum Laude, Utah State University, UT, 2005

OTHER PROFESSIONAL EXPERIENCE

Assistant Forensic Serologist, Serological Research Institute (SERI), Richmond, CA. 2011 – 2012

- Assisted Senior Serologists in the examination of evidence, performing presumptive and confirmatory tests, and STR genetic analyses on human biological material from both criminal and civil cases. Extracted DNA using both manual (organic) and automated methods. Used the ABI 7500 Real-Time PCR system with both Quantifiler Human and Duo commercial kits to quantify DNA and amplified extracted DNA using Identifiler, Identifiler Plus, Yfiler, MiniFiler, Profiler Plus, and COfiler commercial kits. Analyzed and interpreted STR and Y typing results using Genemapper ID and Genotyper on data collected from the ABI 310 and 3130xl genetic analyzing instruments.
- Aided in the validation of Qiagen EZ1 Advanced XL Robot by comparing its DNA extraction capability against manual organic extraction.

SPECIALIZED TRAINING

DNA Typing and Analysis

- STRmix™ v2.11 internal validation, FACL, 2024-2025
- GlobalFiler™ internal validation, FACL, 2024-2025
- KIn CALc v5.0.14 BETA internal validation, FACL, 2024
- GeneMapper™ *ID-X* v1.7.1 internal validation, FACL, 2024
- YHRD (R69) internal validation, FACL, 2024
- Yfiler™ Plus internal validation, FACL, 2024
- Quantifiler™ Trio internal validation, FACL, 2024
- YHRD webinar; The YHRD Database: How it Works and How To Use It In Casework, August 28, 2023
- 3500 Genetic Analyzer Data Collection Software v4 training, Applied Biosystems HID specialist virtual training, May 25, 2023
- QuantStudio™ 5 Real-Time PCR System install training with HID Real-Time PCR Analysis Software v1.4, Applied Biosystems HID specialist on-site (FACL) training, May 22, 2023
- STRmix™ Refresher Training Workshop, virtual, October 26–27, 2021
- STRmix™ v2.5.11 internal validation, FACL, 2017-2018
- Investigator 24plex STR analysis internal vendor training/internal validation, FACL, 2017
- STRmix™ USA Training Workshop, Oakland Police Department, Oakland, CA, February 21–24, 2017
- ABI 3500 Genetic Analyzer/GeneMapper *ID-X* data analysis: internal vendor training/internal validation, FACL, 2016
- R500 Kinship Analysis, California Criminalistics Institute, California Department of Justice, Richmond, CA, August 15–19, 2016.
- Identifiler/Identifiler Plus STR analysis, SERI, 2011
- Yfiler STR analysis, SERI, 2011
- Profiler Plus/COfiler STR analysis, SERI, 2011
- MiniFiler STR analysis, SERI, 2011 and internal validation, FACL, 2014
- ABI 310 & 3130xl Genetic Analyzers/Genotyper/GeneMapper *ID* data analysis, SERI, 2011
- EZ1 Advanced XL DNA extraction internal validation, SERI, 2011
- ABI 7500 qPCR DNA quantification, SERI, 2011

FBI QAS 2020 Auditor Training, FBI Virtual Academy, July 2022.

ANAB ISO/IEC 17025 and Audit Preparation Workshop for Forensic Test Agencies, Tampa, FL, March 23–25, 2015

PUBLICATIONS & PRESENTATIONS

STRmix™ collaborative exercise on DNA mixture interpretation, co-author, Forensic Science International: Genetics 40 (2019) 1-8.

Low-Level Biological Evidence and Complex DNA Mixture Issues presented at the Forensic Analytical Sciences DNA Seminar, May 2014.

Low-level DNA: An Investigation of Collection and Extraction Methods from Various Substrates presented to the UC Davis Forensic Science Graduate Program, 2012 Fall Seminar, Davis, CA.