

Curriculum Vitae

Suzanna Ryan, MS, ABC

Updated: May 2023

Formal Education

December 1998 **Virginia Commonwealth University, Richmond, VA**

Master of Forensic Science

May 1997 **Lock Haven University of Pennsylvania**

Bachelor of Science Biology

Minor Degree in Chemistry

Employment

03/17 - Current **Pure Gold Forensics, Inc., Redlands, CA**

Laboratory Director/Forensic DNA Analyst

- Devised and implemented validation studies for DNA Extraction, Quantifiler Trio Quantitation on the QuantStudio 5, Globalfiler Amplification, and Y-Filer Plus Amplification.
- Assist in writing protocols and updating the Quality Assurance Manual in order to comply with ISO 17025 Accreditation requirements.
- Perform forensic DNA casework using Globalfiler™ and YFiler Plus™ STR DNA analysis methods
- Interpret mixtures using STRmix™ Probabilistic Genotyping Software

03/08 – Current **Ryan Forensic DNA Consulting**

Independent Forensic DNA Consultant

- Provide Forensic DNA and Serology consultation services and Expert Witness testimony to law enforcement, prosecution and defense agencies

- Perform complete review of Forensic DNA casework including bench notes, DNA data, mixture interpretations, and statistical conclusions
- Review of electronic DNA data utilizing Applied Biosystems' GeneMapper IDX or Softgen's GeneMarker HID software
- Offer pre-trial and trial assistance
- Present educational programs and DNA training for trial counsel and others in the legal system

11/15 – Current

Ryan Forensic/Advanced Serology Laboratory, Red Lodge, MT

Forensic Serologist

- Perform biological evidence screening on casework evidence
- Collect DNA samples using the M-Vac Wet Vacuum DNA Collection System

10/09 – 03/10

Human Identification Technologies, Redlands, CA

Interim Technical Leader/Forensic Scientist

- Performed serological screening on casework submitted by prosecution and defense agencies
- Performed forensic DNA analysis on casework submitted by prosecution and defense agencies
- Reviewed other analyst's work
- Acted as interim technical leader and aided in maintaining ASCLD/LAB International accreditation

09/06 – 03/08

Crime Scene Technologies, San Diego, CA

Forensic DNA Technical Leader & Quality Assurance Manager

- Responsible for maintaining ASCLD/LAB accreditation of the laboratory
- Wrote and revised laboratory methods and quality assurance procedures

- Devised and performed validation studies for new serology and DNA methodologies
- Screened evidence items for the presence of blood, semen, urine, and saliva
- Performed STR DNA typing on evidentiary items submitted to the lab
- Utilized Organic, Chelex, and DNA IQ extraction methods with Quantifiler quantitation and electrophoresis on an ABI 310 with analysis using GeneMapper ID
- Fully trained to use and interpret Identifiler, YFiler, and Minifiler amplification kits/results
- Wrote detailed reports based upon findings
- Testified in court as an expert witness when needed
- Technically reviewed all other analysts' work
- Responsible for all technical aspects of the lab including troubleshooting problems

08/09 – 12/12

VLETA.net

Instructor

- Created online Serology and DNA-related training programs for attorneys and for members of the law enforcement community via the Virtual Learning and Training Academy

10/09 – 03/10

LawOfficer.com

Contributing Author

- Wrote a monthly column for LawOfficer.com concentrating on DNA-related topics

10/09 – 03/10

National University, San Diego, CA

Adjunct Professor

- Created course syllabus and all test materials for a course entitled “Advanced Forensic Serology and DNA” for the Master of Forensic Science program at National University
- Created course syllabus and all test materials for an online course entitled “Advanced Criminalistics” for the Master of Forensic Science program at National University
- Instruct students on techniques of serological testing, sperm cell identification, and hair identification
- Instruct students on all aspects of forensic DNA analysis including historical techniques
- Designed laboratory exercises to augment student learning

10/09 – 03/10

National Forensic Science Tech. Center, Largo, FL

DNA and GPA Auditor/Assessor

- Trained by FBI personnel to perform DNA Audits of forensic DNA laboratories following the FBI’s National DNA Quality Assurance Standards

11/05 – 08/06

Charlotte-Mecklenburg Police Dept. Crime Lab, Charlotte, NC

Criminalist II

- Screened evidence items for the presence of blood, semen, and saliva
- Performed microscopic examination of hairs
- STR DNA typing of evidence and reference items utilizing PowerPlex 16 amplification kits
- Entered qualifying profiles into the CODIS database
- Technically reviewed other analyst’s work
- Wrote reports based upon serology and DNA findings
- Attended Homicide Investigators morning meetings to render assistance when needed

07/05 – 11/05

Hillsborough Community College, Tampa, FL

Adjunct Instructor

- Created and taught a course entitled “Introduction to Criminalistics” for two semesters
- Course provided overview of multiple forensic disciplines including: blood spatter analysis, latent print identification, firearms identification, crime scene analysis techniques, fiber and hair testing, glass and soil testing, and serology and DNA typing

11/04 – 11/05

University of Florida, Gainesville, FL

Teaching Assistant

- Teaching Assistant for the online Master of Science in Forensic Science program with UF
- Graded papers, tests, and quizzes and answered student’s questions in the Forensic DNA course

05/02 – 01/05

Florida Department of Law Enforcement, Tampa, FL

Crime Laboratory Assistant

- Received complete training in serological testing techniques
- Performed serology and STR DNA testing on evidence submitted by agencies in 18 counties
- Utilized Profiler Plus and COfiler amplification kits with analysis on ABI 310, AB 3100 and AB 3130
- Attended crime scenes when requested
- Provided training to investigators and attorneys on Forensic Serology and DNA capabilities
- Attended Cold Case Squad meetings to answer biological evidence-based questions
- Wrote case reports based upon findings and testified in court as an expert witness when needed

01/99 – 05/02

The Bode Technology Group, Springfield, VA

Forensic DNA Analyst 2

- Received training in STR DNA typing techniques
- Received Top Secret security clearance and performed DNA testing as part of a federal government contract
- Performed STR DNA testing on evidence and reference samples
- Utilized PowerPlex 1.1, 2.1, Profiler Plus and COfiler amplification kits with electrophoresis performed on the FMBIO II or ABI 377 followed by analysis with STaRCall software or GeneScan/Genotyper
- Managed a project in conjunction with the International Commission on Missing Persons to identify remains found in mass graves in Bosnia
- Assisted with mass disaster identification projects such as the Alaska Air flight 261 crash in 2000 and the World Trade Center disaster on 09/11/01
- Testified in court as an expert witness when needed

06/98 – 08/98

Pennsylvania State Police, Greensburg, PA

Crime Laboratory Intern

- Completed a summer internship program at the Pennsylvania State Police Crime Laboratory. Assisted in validation procedures, observed HLA-DQalpha testing, Southern blots, and RFLP testing

Expert Witness Testimony

Qualified as an expert in Serology and/or Forensic DNA Analysis in the following States: California (in Fresno, Kern, Los Angeles, Orange (State and Federal), Placer, San Diego (State and Federal), Santa Clara, Imperial, Monterey, Siskyou and Ventura Counties), Idaho, Maryland, Rhode Island (Superior and Supreme Court), Texas (Superior and Military Court), Washington (Seattle and Walla Walla), Iowa, Connecticut (Federal Court), Arizona (Maricopa County

Superior and Juvenile Court), New York (Federal and Military Court), Wisconsin, Washington, D.C. (Military Court), Louisiana, Florida (in Alachua, Polk, Pinellas, Pasco, Duval, Citrus, Sarasota, Hillsborough, Hernando, Highlands, Collier, Lee, Charlotte, and St. Lucie Counties and Federal Court in Tampa), North Carolina (Military and Federal Court), Georgia, and in Kaiserslautern, Germany and Okinawa, Japan (Military Court) for a total of over 135 times, as well as more than 25 expert deposition experiences in both civil and criminal trials.

Specialized Training

- Statistics Seminar, The Bode Technology Group, Inc. December 2000
- Third Annual Fluorescent STR MegaPlex Technology Workshop, Hilton Head, NC. March 2000
- ABI Prism 377 DNA Sequencer training given by Applied Biosystems at The Bode Technology Group, April 2000
- STR Analysis Seminar, The Bode Technology Group, November 2000
- American Academy of Forensic Sciences 53rd Annual Meeting, Seattle, WA. February 2001
- DNA STR Workshop, Northeastern Association of Forensic Scientists 28th Annual Meeting, Atlantic City, NJ.
- November 2002
- Florida Dept. of Law Enforcement Forensic Biology Discipline Meeting, Tampa, FL March 2003
- Introduction to Bloodspatter Analysis Training, Florida Dept. of Law Enforcement, Tampa, FL February 2004
- NIJ's 5th Annual DNA Grantee's Workshop, Washington, D.C. June 2004
- SAFS/MAAFS/MAFS/CFC Combined Meeting & Paternity Statistics Workshop, Orlando, FL September 2004
- MAAFS annual meeting & LCN Workshop, Richmond, VA May 2006
- ABI Future Trends in Forensic DNA Technology, Research Triangle Park, NC May 2006
- FBI Auditor Training Course, National Forensic Science Technology Center, Largo, FL, June 2006
- Forensic Consultants Association Annual Meeting, - "New Developments in Forensic DNA Testing", San Diego, CA, December 2006.
- California Association of Crime Laboratory Directors Spring 2007 Meeting, Temecula, CA, April 2007
- FBI DNA Auditor Refresher Training and Annual Training for Grant Progress Assessment (GPA) Assessors, Washington DC, June 2007
- American Academy of Forensic Sciences 60th Annual Meeting, Washington, DC. February 2008
- National Forensic Science Training Center DNA Mixture Interpretation Workshop, online training, October 2011

- Advanced DNA Mixture Interpretation and Statistical Approaches Workshop. American Academy of Forensic Sciences 64th Annual Meeting, Atlanta, GA. February 2012
- Transforming Investigative Potential - DNA Technology Today. Held at DNA:SI Lab, Burlington, NC. August 2012
- Tenth Annual Advanced DNA Technical Workshop sponsored by Bode Technology, San Diego, CA March 2013
- First Annual American Investigative Society of Cold Cases Conference, Fayetteville, NC. May 2014
- Promega 25th International Symposium on Human Identification and Probabilistic Software Workshop, Phoenix, AZ. October 2014
- Implementing Next Generation Sequencing for Forensic DNA Analysis. Webinar presented by Forensic Magazine and Battelle. June 2015
- Second Annual American Investigative Society of Cold Cases Conference, St. Louis, MS. July 2015.
- MSI M-Vac Systems training given by Jared Bradley of MSI at Advanced Serology Laboratory, Carlsbad, CA. November 2015
- American Academy of Forensic Sciences 68th Annual Meeting, Las Vegas, NV. February 2016
- Third Annual American Investigative Society of Cold Cases Conference, St. Louis, MS. July 2016
- American Academy of Forensic Sciences 69th Annual Meeting, New Orleans, LA. February 2017
- DNA Standards and Guidelines. Webinar presented by ASCLD. April 2017
- QuantStudio 5 Real-Time PCR System installation training given by ThermoFisher Scientific at Pure Gold Forensics. August 15, 2017.
- California Association of Criminalists Fall Seminar, DNA Workshop, Newport Beach, CA. September 2017
- Promega 29th International Symposium on Human Identification. Phoenix, AZ. September, 2018
- California Association of Criminalists Fall Seminar, DNA Workshop, San Diego, CA. October 2018
- Promega 2019 Technology Tour Seminar, San Diego, CA. July 2019
- Promega 30th International Symposium on Human Identification and Revised FBI Quality Assurance Standards for Forensic DNA Testing and Databasing Laboratories Workshop. Palm Springs, CA. September 2019
- American Academy of Forensic Sciences 72nd Annual Meeting, Anaheim, CA. February 2020
- STRmix™ 4-day Virtual Workshop, October 2020
- American Academy of Forensic Sciences 73rd Annual Meeting, Virtual. February 2021
- Bode X-traction Technology: DNA from Rootless Hairs and Shell Casings, presented virtually by Bode Technology, June 8, 2021
- Promega 32nd International Symposium on Human Identification, Virtual. September 2021.
- Promega 33rd International Symposium on Human Identification, Virtual, October 2022.
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Publications and Presentations

- Eleni N, Levedakou, Freeman, D.A., Budzynski, M.J., Early, B.E., Damaso, R.C., Pollard, A.M., Townley, A.J., Gombos, J. L., Lewis, J.L., Kist, F.G., Hockensmith, M.E., Terwilliger, M.L., Amriott, E., McElfresh, K.C., Schumm, J.W., **Ulery, S.R.**, Konotop, F., Sessa, T.L., Sailus, J.S., Crouse, C.A., Tomsey, C.S., Ban, J.D., and Nelson, M.S. Characterization and Validation Studies of PowerPlex 2.1, a Nine-Locus Short Tandem Repeat (STR) Multiplex System and Penta D Monoplex, *Journal of Forensic Sciences*, July 2002.
- **Ryan, S.R.** and Kelepecz, B.K., “DNA on Guns; How Do You Preserve the Evidence?”, *Law Officer Magazine*, pp 48- 51 Vol. 4 (9) September 2008.
- Ryan, S.R., “Using DNA to Solve Cold Cases”, www.LawOfficer.com, July 15, 2008.
- Ryan, S.R., “Maximize the Usefulness of Sexual Assault Kit Evidence”, www.LawOfficer.com, August 19, 2008.
- Ryan, S.R., “Y Chromosome DNA Testing”, www.LawOfficer.com, September 16, 2008.
- Ryan, S.R., “Familial DNA Searching”, www.LawOfficer.com, October 21, 2008.
- Ryan, S.R., “Mini-STR Technology”, www.LawOfficer.com, November 20, 2008.
- Ryan, S.R., “The DNA Database Problem”, www.LawOfficer.com, December 16, 2008.
- Ryan, S.R., “Transfer Theory in Forensic DNA Analysis”, www.LawOfficer.com, January 20, 2009.
- Ryan, S.R., “Latent Prints or DNA?”, www.LawOfficer.com, February 17, 2009
- Ryan, S.R. “Understanding DNA Evidence; Why It Is Important To Do a Case Review”, presented at the National Defender Investigator Association, West Regional Conference, September 17, 2009.
- Ryan, S.R. “Defense Attorney’s Guide to Forensic Serology and DNA Analysis” presented to the San Diego Public Defender’s Office, Vista, California, October 21, 2009.
- Ryan, S.R. “DNA: Get It Right”, *Law Officer Magazine*, pp. 28-29 Vol. 5 (11) November 2009.
- Ryan, S.R., “The Defense Investigator and Paralegal’s Guide to Forensic Serology and DNA Analysis” presented at the National Defender Investigator Association National Conference, April 9, 2010.
- Ryan, S.R. “Understanding DNA Evidence: Analysis Through Interpretation and Beyond” presented for CLE credit to the Kern County Public Defender’s Office, November 11, 2011.
- Ryan, S.R. “DNA Testing and Mixture Interpretation: an Overview of DNA Analysis & Discussion of the 2010 SWGDAM Guidelines” presented for CLE credit to the Orange County Alternate Defender’s Office, February 29, 2012.
- Ryan, S.R., “Touch DNA Analysis: Using the Literature to Help Answer Some Common Questions”, *Forensic Magazine*, pp. 31-33 Vol. 9 (3) June/July 2012.
- Ryan, S.R., “Investigative Potential: Using Touch DNA to Generate Leads”, presented at the Transforming Investigative Potential - DNA Technology Today conference held at DNA:SI Labs in Burlington, NC. Aug. 2012
- Ryan, S.R., “The Value and Collection of Touch DNA and Potential Investigative Pitfalls”, presented at the LODIS Users Group Meeting held in Palm Bay. December 4, 2012

- Ryan, S.R., “Identifying, Collecting, and Packaging DNA Evidence”, presented to the Palm Bay Police Department, Palm Bay, FL. December 4, 2012
- Ryan, S.R., “Cold Case DNA Evidence - The Progresses and Perils”, presented at the First Annual American Investigative Society of Cold Cases Conference held in Fayetteville, NC. May 2014.
- Ryan, S.R. “Creative Uses of DNA in Cold Cases and Recent Advances in the Field of Forensic DNA Analysis”, presented at the Second Annual American Investigative Society of Cold Cases Conference held in St. Louis, MS. July 2015.
- Ryan, S.R. Advances in forensic DNA analysis: A brief review. *Journal of Cold Case Review*. Vol.1(1), July 2015.
- Ryan, S.R., “Defending Against Potentially Inculpatory Sexual Assault Kit Evidence”, presented at the National Defender Investigator Association Regional Conference held in Las Vegas, NV. September 10, 2015.
- Ryan, S.R., “Understanding and Interpreting DNA Results”, presented at the National Defender Investigator Association Regional Conference held in Las Vegas, NV. September 10, 2015.
- Ryan, S.R., “A Guide to Understanding and Interpreting DNA Results” and “Forensic DNA Experts”, presented at the
- National Defender Investigator Association Regional Conference held in Newport Beach, CA, September 8-9, 2016.
- Ryan, S.R. “Forensic Serology and DNA: An Overview for Officers” and “Using DNA to Solve Cold Cases” presented at the Cold Case Homicide Seminar, Myrtle Beach, SC. February 10, 2017.
- Kadash, K. Plourd, CJ, Hunt, TR, Connors, K. **Ryan, SR**, Cotton, R. “DNA Testimony in the Past, Present, and Future”. Panel presentation at the 69th Annual AAFS Conference, New Orleans, LA. February 17th, 2017
- Ryan, S.R. “DNA Discoveries: Using New DNA Techniques to Help Solve Cold Cases” presented at the Fourth Annual American Investigative Society of Cold Cases Conference held in St. Louis, MS. June 26-27th, 2017.
- Ryan, S.R. “Forensic Serology and DNA: An Overview for Officers” and “Using DNA to Solve Cold Cases” presented at the Cold Case Homicide Seminar, Myrtle Beach, SC. February 9, 2018.
- Ryan, S.R. “Emerging DNA Technology” presented at the ROCIC 27th Annual Homicide Conference, Nashville, TN. October 2, 2018.
- Ryan, S.R. “Defense Review of DNA Data” presented at the Orange County Public Defender’s office, Santa Ana, CA. January 9, 2019.
- Ryan, S.R. “DNA Deconstructed” presented to the North Orange County Bar Association for MCLE credit. Fullerton, CA. May 22, 2019.
- Ryan, S.R. “Meeting the Challenge of DNA Evidence in the Courtroom” presented at the San Bernardino Public Defender’s office for MCLE credit, San Bernardino, CA. June 6, 2019.
- Ryan, S.R. “Understanding Serology and DNA Evidence in Sexual Assault Cases” presented to Marine Judge Advocates of the Western Region DSO, San Diego, CA. July 2, 2019.

- Ryan, S.R. “DNA Evidence in Sexual Assault Cases” presented in the Defense of Sexual Assault Cases Training at Marine Corp Recruiting Depot, San Diego CA. August 29, 2019.
- Li, VWH, Toogood, H. ,**Ryan, S.**, and Meakin, GE. The effects of various household cleaning methods on DNA persistence on mugs and knives. Forensic Science International: Genetics Supplement Series, <https://doi.org/10.1016/j.fsigss.2019.09.109>.
- Chen, C., Pistono, A., **Ryan, S.**, Szkuta, B., and Meakin, GE. The effect of climatic simulations on DNA persistence on glass, cotton, and polyester. Forensic Science International: Genetics Supplement Series, <https://doi.org/10.1016/j.fsigss.2019.09.108>.
- Ryan, S.R. “Serology in the Modern Forensic Laboratory” presented via video to the Los Angeles County Public Defender’s Office for MCLE credit, May 21, 2020.
- Ryan, S.R. “DNA Evidence in Sexual Assault Cases” presented at the Defense of Sexual Assault Cases Training (Virtual), Camp Lejeune NC August 27, 2020.
- Ryan, S.R. “DNA Evidence in Sexual Assault Cases” presented at the Defense of Sexual Assault Cases Training, Camp Pendleton CA September 25, 2020.
- Ryan, S.R. “DNA Testing Capabilities in the Modern Forensic DNA Laboratory” presented to the North Orange County Bar Association for MCLE credit. Fullerton, CA. June 23, 2021
- Ryan, S.R. “Understanding Forensic DNA Evidence” presented virtually to the United States Marine Corps Defense Services Organization, July 22, 2021
- Ryan, S.R. “DNA Evidence in Sexual Assault Cases” presented virtually to the United States Marine Corps at the Defense of Sexual Assault Cases Training, August 24, 2022.
- Ryan, S.R. “Forensic DNA Evidence” presented at the Worldwide Defense Services Organization Training at Camp Pendleton, CA. September 22, 2022.
- Ryan, S.R. “DNA Testing Capabilities in the Modern Forensic DNA Laboratory” presented to Bozeman and Livingston Montana Police Departments, Nov 15, 2022.

Membership in Professional Organizations

- American Academy of Forensic Sciences 1997-present
- Certified as a Diplomat in Molecular Biology - American Board of Criminalistics, 2012 - 2019
- Certified as a Fellow in Molecular Biology - American Board of Criminalistics, 2019 to present
- Selected as a Member of the Review Board of the American Investigative Society of Cold Cases, 2013-2019
- Selected as the Director of Forensic Consulting on the Board of Directors of the American Investigative Society of Cold Cases, Oct 2019 - Oct 2022
- Associate Member California Association of Criminalists 2015-present

- Licensed as a Forensic Biology/DNA Analyst by the Texas Forensic Science Commission, October 2021.

Awards

- Awarded the 2004 Davis Productivity Award from the State of Florida
- Awarded a Commendation from the Sarasota Police Department for Outstanding Assistance in the 2004 Wishart Murder Investigation, March 2005
- Awarded a Certificate of Appreciation for Outstanding Contributions in the Field of Drug Law Enforcement by the Drug Enforcement Agency, April 2007