

EDUCATION:

**Master of Science - Forensic Science**  
*December, 1998*

**Virginia Commonwealth University**  
Richmond, VA

**Bachelor of Science - Biology**  
Minor in Chemistry  
*May, 1997*

**Lock Haven University of Pennsylvania**  
Lock Haven, PA

EXPERIENCE:

**Independent Forensic DNA Consultant**  
*March 2008 - Present*

**Ryan Forensic DNA Consulting**  
Carlsbad, CA

Provide Forensic DNA and Serology consultation services and Expert Witness testimony. Perform complete review of Forensic DNA casework including bench notes, DNA results, mixture interpretations, and statistical conclusions. Review of electronic DNA data utilizing Applied Biosystems' GeneMapper ID-X Software. Offer pre-trial and trial assistance and present educational programs and DNA training for attorneys and investigators.

**Laboratory Director/Forensic DNA Analyst**  
*March 2017 - Present*

**Pure Gold Forensics**  
Redlands, CA

Devised and implemented validation studies for Chelex DNA extraction, Quantifiler Trio Quantitation on the QuantStudio 5, Globalfiler Amplification, and Y-Filer Plus Amplification. Assisted in writing protocols and updating the Quality Assurance Manual in order to achieve ISO:IEC 17025(2005) accreditation requirements and to comply with FBI Quality Assurance Standards for Forensic DNA Testing Laboratories. Assist in maintaining ISO:IEC 17025(2005) accreditation. Perform forensic DNA casework using Globalfiler and Y-Filer Plus STR DNA analysis methods.

**Forensic Serologist**  
*November 2015-Present*

**Advanced Serology Laboratory**  
Carlsbad, CA

Collect DNA from evidentiary items using the M-Vac Wet Vacuum DNA Collection System.

**Interim Technical Leader/Forensic Scientist**

*October 2009 - March 2010*

**Human Identification Technologies**

Redlands, CA

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

**Forensic DNA Technical Leader &  
Quality Assurance Manager**

*September, 2006 - March, 2008*

**Crime Scene Technologies**

San Diego, CA

As Technical Leader/QA Manager, was responsible for maintaining ASCLD/LAB accreditation of the laboratory and for writing and revising laboratory methods and quality assurance procedures and validating laboratory procedures. Performed forensic serology and DNA casework. Screened evidence items for the presence of blood, semen, urine, and saliva and performed STR DNA typing on evidentiary items utilizing 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 and testified in court as an expert witness when needed. Technically reviewed all other analysts' work and was responsible for all technical aspects of the lab including troubleshooting any laboratory problems or issues that arose.

**Instructor**

*August 2009 - December 2012*

**VLETA.net**

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.

**Contributing Author**

*July 2008 - February 2009*

**LawOfficer.com**

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

**Adjunct Professor**

*July 2007 - May 2010*

**National University**

San Diego, CA

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

**DNA and GPA Auditor/Assessor**

*June, 2006 – August 2011*

**National Forensic Science Tech. Center**

Largo, FL

Trained by FBI personnel to perform DNA Audits of forensic DNA laboratories following the FBI's Quality Assurance Standards for Forensic DNA Testing Laboratories. Assisted in conducting FBI QAS audits as a technical auditor.

**Criminalist II**

*November, 2005 – August, 2006*

**Charlotte-Mecklenburg Police Dept. Crime Lab**

Charlotte, NC

Screened evidence items for the presence of blood, semen, saliva and hairs. Performed forensic DNA casework on evidence and reference items utilizing PowerPlex 16 amplification kits and prepared reports based upon serology and DNA findings. Entered qualifying profiles into the CODIS database. Technically reviewed other analyst's work.

**Adjunct Instructor**

*July, 2005 – November 2005*

**Hillsborough Community College**

Tampa, FL

Created and taught a course entitled "Introduction to Criminalistics" which provided an 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.

**Teaching Assistant**

*November, 2004 – November 2005*

**University of Florida**

Gainesville, FL

Teaching Assistant for the online Master of Science in Forensic Science program with UF. Graded papers, tests, and quizzes and answered students questions in the Forensic DNA course.

**Crime Laboratory Analyst**

*May, 2002 – November, 2005*

**Florida Department of Law Enforcement**

Tampa, FL

Received complete training in serological testing techniques. Following completion of training program performed serology and STR DNA testing on evidence submitted by agencies in the 18 surrounding counties. Utilized Profiler Plus and Cofiler amplification kits with analysis on ABI 310, AB 3100 and AB 3130 Genetic Analyzers. Wrote case reports based upon findings and testified in court as an expert witness when needed. Provided training to investigators and attorneys on forensic serology and DNA capabilities. Volunteered to attend Cold Case Squad meetings to answer biological evidence-based questions.

**Forensic DNA Analyst 2**

January, 1999- May, 2002

**The Bode Technology Group, Inc.**

Springfield, VA

Completed an ~9 month training program in STR DNA typing techniques and began performing forensic DNA casework. Received Top Secret security clearance and performed DNA testing as part of a federal government contract. Conducted STR DNA testing on evidence and reference samples utilizing PowerPlex 1.1, PowerPlex 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 Software. Testified in court as an expert witness when needed. 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 including the Alaska Air flight 261 crash in 2000 and the World Trade Center disaster on 09/11/01.

**Crime Laboratory Intern**

June, 1998 - August, 1998

**Pennsylvania State Police**

Greensburg, PA

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:**

Testified as an expert in Serology and/or Forensic DNA Analysis over 130 times in the following jurisdictions:

Arizona	Maricopa County Superior and Juvenile Court
California	Fresno, Kern, Los Angeles, Orange (State and Federal), Placer, San Diego (State, Federal, and Civil), Santa Clara, Imperial, Monterey, Siskyou and Ventura Counties
Connecticut	Federal Court
Florida	Alachua, Polk, Pinellas, Pasco, Duval, Citrus, Sarasota, Hillsborough, Hernando, Highlands, Collier, Lee, and Charlotte Counties and in Federal Court
Georgia	Richmond County
Idaho	Payette County
Iowa	Hamilton County
Louisiana	Iberia Parish
Maryland	Cecil County
New York	Federal and Military Court (Ft. Drum)
Rhode Island	Providence County Superior Court and Supreme Court
Texas	Travis County Superior Court and Military Court (Fort Hood, Fort Bliss)
Washington	Pierce, Walla Walla, and Spokane County
Washington, D.C.	Military Court (US Navy Yard)
Wisconsin	Outagamie County
Kaiserslautern, Germany	Military Court
Okinawa, Japan	Military Court

## CONTINUING EDUCATION/TRAINING:

1. Statistics Seminar, The Bode Technology Group, Inc. December 2000
2. Third Annual Fluorescent STR MegaPlex Technology Workshop, Hilton Head, NC. March 2000
3. ABI Prism 377 DNA Sequencer training given by Applied Biosystems at The Bode Technology Group, April 2000
4. STR Analysis Seminar, The Bode Technology Group, November 2000
5. American Academy of Forensic Sciences 53<sup>rd</sup> Annual Meeting, Seattle, WA. February 2001
6. DNA STR Workshop, Northeastern Association of Forensic Scientists 28<sup>th</sup> Annual Meeting, Atlantic City, NJ. November 2002
7. Florida Dept. of Law Enforcement Forensic Biology Discipline Meeting, Tampa, FL March 2003
8. Introduction to Bloodspatter Analysis Training, Florida Dept. of Law Enforcement, Tampa, FL February 2004
9. NIJ's 5<sup>th</sup> Annual DNA Grantee's Workshop, Washington, D.C. June 2004
10. SAFS/MAAFS/MAFS/CFC Combined Meeting & Paternity Statistics Workshop, Orlando, FL September 2004
11. MAAFS annual meeting & LCN Workshop, Richmond, VA May 2006
12. ABI Future Trends in Forensic DNA Technology, Research Triangle Park, NC May 2006
13. FBI Auditor Training Course, National Forensic Science Technology Center, Largo, FL, June 2006
14. Forensic Consultants Association Annual Meeting, - "New Developments in Forensic DNA Testing", San Diego, CA, December 2006.
15. California Association of Crime Laboratory Directors Spring 2007 Meeting, Temecula, CA, April 2007
16. FBI DNA Auditor Refresher Training and Annual Training for Grant Progress Assessment (GPA) Assessors, Washington DC, June 2007
17. American Academy of Forensic Sciences 60<sup>th</sup> Annual Meeting, Washington, DC. February 2008
18. National Forensic Science Training Center DNA Mixture Interpretation Workshop, online training, October 2011
19. Advanced DNA Mixture Interpretation and Statistical Approaches Workshop. American Academy of Forensic Sciences 64<sup>th</sup> Annual Meeting, Atlanta, GA. February 2012
20. Transforming Investigative Potential - DNA Technology Today. Held at DNA:SI Lab, Burlington, NC. August 2012
21. Tenth Annual Advanced DNA Technical Workshop sponsored by Bode Technology, San Diego, CA March 2013
22. First Annual American Investigative Society of Cold Cases Conference, Fayetteville, NC. May 2014
23. Promega 25<sup>th</sup> International Symposium on Human Identification and Probabilistic Software Workshop, Phoenix, AZ. October 2014
24. Implementing Next Generation Sequencing for Forensic DNA Analysis. Webinar presented by Forensic Magazine and Battelle. June 2015
25. Second Annual American Investigative Society of Cold Cases Conference, St. Louis, MS. July 2015.

26. MSI M-Vac Systems training given by Jared Bradley of MSI at Advanced Serology Laboratory, Carlsbad, CA. November 2015
27. American Academy of Forensic Sciences 68th Annual Meeting, Las Vegas, NV. February 2016
28. Third Annual American Investigative Society of Cold Cases Conference, St. Louis, MS. July 2016
29. American Academy of Forensic Sciences 69th Annual Meeting, New Orleans, LA. February 2017
30. DNA Standards and Guidelines. Webinar presented by ASCLD. April 2017
31. QuantStudio 5 Real-Time PCR System installation training given by ThermoFisher Scientific at Pure Gold Forensics. August 15, 2017.
32. California Association of Criminalists Fall Seminar, DNA Workshop, Newport Beach, CA. September 2017
33. Promega 29th International Symposium on Human Identification. Phoenix, AZ. September, 2018
34. California Association of Criminalists Fall Seminar, DNA Workshop, San Diego, CA. October 2018
35. Promega 2019 Technology Tour Seminar, San Diego, CA. July 2019
36. 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
37. American Academy of Forensic Sciences 72nd Annual Meeting, Anaheim, CA. February 2020

## PUBLICATIONS AND PRESENTATIONS:

1. 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., Amiott, 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.
2. **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.
3. Ryan, S.R., "Using DNA to Solve Cold Cases", [www.LawOfficer.com](http://www.LawOfficer.com), July 15, 2008.
4. Ryan, S.R., "Maximize the Usefulness of Sexual Assault Kit Evidence", [www.LawOfficer.com](http://www.LawOfficer.com), August 19, 2008.
5. Ryan, S.R., "Y Chromosome DNA Testing", [www.LawOfficer.com](http://www.LawOfficer.com), September 16, 2008.
6. Ryan, S.R., "Familial DNA Searching", [www.LawOfficer.com](http://www.LawOfficer.com), October 21, 2008.
7. Ryan, S.R., "Mini-STR Technology", [www.LawOfficer.com](http://www.LawOfficer.com), November 20, 2008.
8. Ryan, S.R., "The DNA Database Problem", [www.LawOfficer.com](http://www.LawOfficer.com), December 16, 2008.
9. Ryan, S.R., "Transfer Theory in Forensic DNA Analysis", [www.LawOfficer.com](http://www.LawOfficer.com), January 20, 2009.
10. Ryan, S.R., "Latent Prints or DNA?", [www.LawOfficer.com](http://www.LawOfficer.com), February 17, 2009
11. 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.
12. 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.

13. Ryan, S.R. "DNA: Get It Right", Law Officer Magazine, pp. 28-29 Vol. 5 (11) November 2009.
14. 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.
15. 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.
16. 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.
17. 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.
18. 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
19. 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
20. Ryan, S.R., "Identifying, Collecting, and Packaging DNA Evidence", presented to the Palm Bay Police Department, Palm Bay, FL. December 4, 2012
21. 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.
22. 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.
23. Ryan, S.R. Advances in forensic DNA analysis: A brief review. *Journal of Cold Case Review*. Vol.1(1), July 2015.
24. 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.
25. 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.
26. 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.
27. 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.
28. Kadash, K., Plourd, C.J., Hunt, T.R., Connors, K., **Ryan, S.R.**, Cotton, R. "DNA Testimony in the Past, Present, and Future". Panel presentation at the 69th Annual AAFS Conference, New Orleans, LA. February 17th, 2017
29. 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.

30. Ryan, S.R. "DNA Mixtures and DNA Transfer and their Possible Impacts on Cases with DNA Evidence" presented at the United States Marine Corps Defense Services Organization Regional Training. December 14, 2017.
31. 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.
32. Ryan, S.R. "Emerging DNA Technology" presented at the ROCIC 27th Annual Homicide Conference, Nashville, TN. October 2, 2018.
33. Ryan, S.R. "Defense Review of DNA Data" presented at the Orange County Public Defender's office, Santa Ana, CA. January 9, 2019.
34. Ryan, S.R. "DNA Deconstructed" presented to the North Orange County Bar Association for MCLE credit. Fullerton, CA. May 22, 2019.
35. 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.
36. 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.
37. 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.
38. 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>.
39. 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>.
40. 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.

## PROFESSIONAL ASSOCIATIONS AND CERTIFICATIONS:

- American Academy of Forensic Sciences 1997-present
- Certified as a Diplomate in Molecular Biology - American Board of Criminalistics, 2012 - 2019
- Certified as a Fellow in Molecular Biology - American Board of Criminalistics 2019 - 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
- Associate Member California Association of Criminalists 2015-present

## 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