

Curriculum Vitae – Nathan Von Rentzell

Denver Police Department Crime Laboratory
1371 Cherokee Street
Denver, CO 80204
Office phone: 720.337.2064
Office email: nathan.vonrentzell@denvergov.org

Experience & Qualifications:

09/19 – Present	Forensic Scientist II, Firearm/Toolmark Unit Denver Police Department Crime Laboratory, Denver, CO Qualifications: Firearm Examination and Comparison Serial Number Restoration Distance Determination Toolmark Examination
03/16 – 09/19	Forensic Scientist I, Firearm/Toolmark Unit Denver Police Department Crime Laboratory, Denver, CO Qualifications: Firearm Examination and Comparison Serial Number Restoration
10/15 – 03/16	Crime Gun Intelligence Coordinator Shearwater Systems LLC, Denver, CO Qualifications: Evidence Triage and Entry for NIBIN (National Integrated Ballistic Information Network) database
07/13 – 08/13	Laboratory Intern, Firearm/Toolmark Unit Colorado Bureau of Investigation, Denver, CO
08/12 – 12/12, 08/13 – 12/13	Laboratory Assistant Intro to Forensic Science, Concordia University, Seward, NE

Certification:

Certified by the Association of Firearm and Tool Mark Examiners
Area of Certification: Firearm Evidence Examination and Identification
Date of Certification: August 22, 2025

Education:

Concordia University- Seward, NE
Bachelor of Science in Biology, Forensic Science Emphasis. 2014

Training:

Seminars, Workshops and Courses Attended

February 17–22, 2014	American Academy of Forensic Sciences (AAFS) Annual Meeting, Seattle, WA
April 7–8, 2015	Nebraska Division of the International Association for Identification (NE-IAI) Annual Conference, Mahoney State Park, Ashland, NE
October 5–9, 2015	Integrated Ballistics Identification System (IBIS) and NIBIN Training, Walnut Creek, CA
Oct. 2016–Sept. 2017	National Firearms Examiner Academy (NFEA), Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF), Beltsville MD
May 14, 2017	Scientifically Defensible Criteria for the Identification of Striated Toolmarks (workshop)
May 18, 2017	Basic Armorer Course, Springfield Armory M1911A1, Denver, CO
May 19, 2017	Glock Armorer's Course, Denver, CO

May 14–19, 2017	Association of Firearm and Tool Mark Examiners (AFTE) training seminar, Denver, CO
December 7–8, 2017	Firearm Examiner Workshop, Center for Statistics and Applications in Forensic Science (CSAFE), Ames, IA
June 3, 2018	Subclass Characteristics Workshop, Nashville, TN
June 3, 2018	Quantofix Nitrite Workshop, Nashville, TN
June 7, 2018	3D Virtual Microscopy and Objective Identification for Firearms Identification (workshop), Nashville, TN
June 3–8, 2018	Association of Firearm and Tool Mark Examiners training seminar, Charleston, WV
May 26, 2019	Hi-Point Armorer’s Course, Nashville, TN
May 26–31, 2019	Association of Firearm and Tool Mark Examiners training seminar, Nashville, TN
December 17, 2020	Effective Preparation for Evidentiary Hearings (workshop)
August 22–27, 2021	Association of Firearm and Tool Mark Examiners training seminar (virtual), Miami, FL
July 12-13, 2022	Courtroom Admissibility, Error Rates, Critics, and other Contemporaneous Issues (virtual workshop), Anchorage, AK
May 26, 2024	3D Virtual Comparison Microscopy and Correlation Algorithm Hands-on Practicum With Cadre Forensics (workshop)
May 28, 2024	Ring of Fire Armorer's Course, Anchorage, AK
May 26–31, 2024	Association of Firearm and Tool Mark Examiners training seminar, Anchorage, AK
March 31, 2025	Ring of Fire/ Hi-Point Armorer’s Course With Interesting Case Study Workshop, Grand Junction, CO

Laboratories and Other Institutions Visited

April 2013	Colorado Bureau of Investigation Crime Laboratory, Denver, CO
November 2014	South Carolina State Law Enforcement Division, Columbia, SC
January 2015	Kansas Bureau of Investigation Crime Laboratory, Topeka, KS
October 2015	ATF, Forensic Science Laboratory, Walnut Creek, CA
January 2016	Wyoming State Crime Laboratory, Cheyenne, WY
January–May 2017	ATF, Forensic Science Laboratory, Beltsville, MD
February 2017	Remington Arms, Lonoke, AR
March 2017	Yankee Hill Machine, Florence, MA
March 2017	Remington Arms, Ilion, NY
March 2017	Sturm, Ruger & Company Inc., Newport, NH
March 2017	Sig Sauer, Exeter, NH
April 2017	Standard Manufacturing Company, New Britain, CT
April 2017	Connecticut Shotgun, New Britain, CT
April 2017	Charter Arms Corp., Shelton, CT
April 2017	Savage Arms, Inc., Westfield, MA
April 2017	Smith & Wesson, Springfield, MA
April 2017	Deep River Plastics, Deep River, CT
April 2017	O.F. Mossberg & Sons, Inc., North Haven, CT
April 2017	Lyman Products, Middletown, CT
April 2017	Drill Masters Eldorado Tools, Milford, CT
May 2017	National Institute of Standards and Technology (NIST), Gaithersburg, MD
July 2017	Federal Premium Ammunition, Anoka, MN
May 2019	Beretta USA, Gallatin, TN
February 2023	Phoenix Police Department Crime Laboratory, Phoenix, AZ
July 2023	Nebraska State Patrol Crime Laboratory, Lincoln, NE
June 2024	Wisconsin State Crime Laboratory, Milwaukee, WI
March 2025	Colorado Bureau of Investigation Crime Laboratory, Grand Junction, CO

Court Testimony Experience:

Presented testimony on multiple occasions in Colorado District Courts and once in federal court.

Major Projects/Research & Publications:

Von Rentzell, N., “The ‘Lipstick Round’: An Evaluation of Total Synthetic Jacketed Bullets, a New Lead-free Primer, and Their Effects on Firearms Identification,” AFTE Journal, Vol. 50, No. 4, Nov. 2018, pp. 198-211.

Presentations:

“Forensic Value of Gunpowder Stippling: A Comparison between Spherical Ball and Unperforated Flake Gunpowder” Lecture presented at the Concordia University Undergraduate Research Symposium, Seward, NE, March 2012.

“The “Lipstick Round”: An Evaluation of Total Synthetic Jacketed Bullets, a New Lead-free Primer, and Their Effects on Firearms Identification” Lecture presented at the Association of Firearm and Tool Mark Examiners (AFTE) training seminar, Charleston, WV, June 5, 2018.

“Can We Be Confident in Our NIBIN Associations?” Lecture presented at the Association of Firearm and Tool Mark Examiners (AFTE) training seminar, Nashville, TN, May 29, 2019.

Awards:

May 2010 *Eagle Scout rank*, Boy Scouts of America.

September 2017 *Best Research Award*. Awarded by the National Firearms Examiner Academy (NFEA) in recognition of the best research paper and subsequent technical presentation of the 2017 NFEA class. Part of this award included the NFEA program sponsoring this research to be presented at the 2018 AFTE training seminar.

June 2018 *Best Technical Paper Award*. Awarded by the AFTE board of directors at the 2018 AFTE training seminar in recognition of the best technical presentation at this week-long conference.

Professional Affiliations

2016 – Present Association of Firearm and Tool Mark Examiners (AFTE; Member #3183)

Updated: 3/4/26