

BRANDON A. BEST
Best Forensics
Maplesville, Alabama
Brandon.Best@Best-Forensics.com

PROFESSIONAL EXPERIENCE

August 1, 2024 to Present
BEST FORENSICS

Chief Forensic Scientist – Firearm/Tool Mark

At Best Forensics we offer forensic consultation for trial preparation, independent expert analysis of firearms related evidence, as well as expert qualified testimony at trial. Services include testing of firearms operability, bullet and cartridge case comparisons, and tool mark analysis. Best Forensics is the first, and only, provider of 3D Virtual Comparison Microscopy in the State of Alabama.

January 3, 2016 to August 1, 2024

Forensic Scientist – Firearm/Tool Mark

ALABAMA DEPARTMENT OF FORENSIC SCIENCES
Birmingham Regional Laboratory

Analysis of firearms, bullets, cartridge cases, tool marks, fracture match, serial number restoration, drop testing, functions testing, trigger pull, barrel length, and distance determination. Successfully pass annual proficiency testing in the analysis methods listed above. Other activities include evidence handling, tracking chain of custody in a laboratory management system, preparing written reports of results, and testimony as an expert witness in trial. Performed analysis in 1,300+ cases with 600+ being homicides. Tendered an expert in the field of Firearms and Tool Marks in 98+ cases in nearly one-third of the Circuit Courts of Alabama.

November 14, 2008 to November 13, 2016

Sergeant – Platoon Sergeant

U.S. ARMY RESERVE
Fort Benning, GA

Conducted Engineering operations in the U.S. Army Corp of Engineers. Maintain readiness of 41 soldiers and \$5 million of equipment/weapons.

EDUCATION

LOUISIANA STATE UNIVERSITY IN SHREVEPORT

Masters of Business Administration, Awarded December 2021
Project Management Concentration

UNIVERSITY OF ALABAMA AT BIRMINGHAM

Masters of Science in Forensic Science, Awarded May 2020
Phi Kappa Phi Honor Society – Member
Embry Scholar

AUBURN UNIVERSITY

Bachelor of Science in Laboratory Science, Awarded December 2015

Lambda Tau Honor Society – President

CERTIFICATIONS

Firearms Evidence Examination and Identification – AFTE

July, 2022

Tool Mark Evidence Examination and Identification – AFTE

July, 2022

Gunshot Residue Evidence Examination and Identification – AFTE

May, 2022

One of less than 30 scientists internationally that currently holds all three AFTE Certifications. The first and only scientist in the State of Alabama to do so.

SPECIALIZED TRAINING

ADFS FIREARM AND TOOL MARK EXAMINER TRAINING

Montgomery, AL, February 2016-July 2017

ADFS LEADERSHIP ACADEMY

Birmingham, AL, March 2019-October 2019

FIREARM MANUFACTURER FACTORY TOURS

Glock, Smyrna, Georgia, August 2019

Ruger, Manchester, New Hampshire, June 2017

SIG Sauer, Manchester, New Hampshire, June 2017

Kahr Arms, Worcester, Massachusetts, June 2017

Yankee Hill, Florence, Massachusetts, June 2017

Smith & Wesson, Springfield, Massachusetts, June 2017

Savage Arms, Westfield, Massachusetts, June 2017

Colt Firearms, Hartford, Connecticut, June 2017

Mossberg Arms, New Haven, Connecticut, June 2017

Springfield Armory, Springfield, Massachusetts, June 2017

Drill Master Eldorado, Milford, Connecticut, June 2017

Lyman, Branford, Connecticut, June 2017

Charter Arms, Shelton, Connecticut, June 2017

Connecticut Shotgun, New Britain, Connecticut, June 2017

Standard Arms, New Britain, Connecticut, June 2017

Glock, Smyrna, Georgia, July 2016

CRIME SCENE TRAJECTORY AND RECONSTRUCTION TRAINING

Alabama Dept. of Forensic Sciences, Montgomery Alabama, November 2016

Alabama Dept. of Forensic Sciences, Ozark Alabama, September 2016

Alabama Dept. of Forensic Sciences, Opelika Alabama, March 2016

FORENSIC TECHNOLOGY CENTER OF EXCELLENCE (FTCOE NIJ) COURSES

Audio Forensics of Gunshot Sounds, Aug. 2019

Restoration of Defaced Serial Numbers Using Infrared Thermal Imaging, Aug. 2019

NIBIN Challenges and Opportunities, Aug. 2019

A Close Look at 3D Microscopy for Firearms Identification, Aug. 2019

False Positive and False Negative Error Rates in Cartridge Case Comparisons, Aug. 2019

VALIDATION STUDIES PARTICIPATED IN

Houston Forensic Science Center, Advancing the Understanding of 3D Imaging for Firearm Analysis, January 2024

Louisiana G2 RIP Ammo Study, July 2019

West Virginia University Cartridge Case Cast Comparison Reproducibility, June 2019

Prince George's County Police Department/CTS Barrel Validation Study, December 2018

ADFS Trigger Scan Validation, October 2017

Ames-FBI Bullet and Cartridge Case Study for Examiner Error Rate, August 2017

EBIS 1 Study, Ten Consecutively Made Barrels, November 2016

EBIS 2 Study, Ten Consecutively Made Barrels, November 2016

Ruger 1 Study, Ten Consecutively Made Barrels, November 2016

Ruger Slide Study, Ten Consecutively Made Slides, November 2016

Ruger Slide Study Phase II, Ten Consecutively Made Slides, November 2016

Ruger Vaquero Study, Ten Consecutively Made Breech face, November 2016

FIREARMS MUSEUMS VISTIED

Scottish National War Museum, Edinburgh Castle, Edinburgh Scotland, May 2018

British Imperial War Museum, London England, May 2018

National Museum of Arms and Armour, White Tower Royal Armouries, Tower of London, London England, May 2018

Musée de l'Armée, Paris France, November 2017

Musée Mémorial de la Bataille de Normandie, Bayeux France, November 2017

Springfield Armory Museum, Springfield Massachusetts, June 2017

Germanisches Nationalmuseum, Nuremberg Germany, August 2015

ARMORER CERTIFICATIONS

Benelli Armorer Course, AFTE May 2023

CZ Armorer Course, AFTE May 2023

Colt Armorer Course, Vestavia Hills Police Department, Vestavia Hills, Alabama, October 2016

STATE MORTUARY RESPONSE TEAM (SMORT) TRAINING

Emergency Management Agency, Cullman Alabama, January 2017

Troy Police Department, Troy Alabama, January 2016

U.S. ARMY BASIC WEAPONS ARMORER'S TRAINING

U.S. Army, Fort Benning Georgia, July 2015

U.S. Army, Fort Rucker Alabama, June 2014

U.S. Army, Fort Jackson South Carolina, November 2008

AFTE CONFERENCE AND WORKSHOPS

Blind Testing and Blind Verification, AFTE, May 2023, Houston PD Lab

Barrel Making, AFTE, May 2023, Al Offringa ATF

Implementation and Practical Applications of 3D Technology, Analysis and Statistics for FATM Examiners, AFTE, May 2023, Alan Zheng NIST, Erich Smith FBI, Ryan Lilien Cadre

A Discussion About Recent Studies Including Whether Inconclusive are Errors, AFTE, April 2022, Tod Weller

Subclass Evaluation and Documentation Workshop, AFTE 2019, Mike Neel

INTERNAL AUDITOR TRAINING

Lead Auditor FATM MB, ADFS Nov. 2020
ISO/IEC 19011:2018, ADFS, Sept. 2019
ISO/IEC 17025:2017, ADFS, Sept. 2019
AR3125, ADFS, Sept. 2019

PROFESSIONAL AFFILIATIONS

AMERICAN ACADEMY OF FORENSIC SCIENCE (AAFS), *February 2017-Present*

ASSOCIATION OF FIREARM AND TOOL MARK EXAMINERS (AFTE), *July 2016-Present*
Editorial Committee Review Panel – Member, December 2023 – Present
Distinguished Member – March 2025

PRESENTATIONS

EXAMINATION OF POSTMORTEM STIPPLING PATTERN TO DETERMINE MUZZLE TO TARGET DISTANCE

Alabama State Association of Forensic Sciences Annual Conference, Lecture, Gulf Shores AL, June 2021

GUN PRIMER RESIDUE AND ANSWERING THE FORENSIC QUESTION

Alabama Dept. of Forensic Sciences, Departmental Paper, March 2016

GLOCK TOUR NOTES

Alabama State Association of Forensic Sciences Annual Conference, Brass Town, GA, Aug. 2016

SPEAKING ENGAGEMENTS

Essentials in Forensic Science Seminar, ADFS Tuscaloosa, Dec. 2022
University of Alabama at Birmingham, Power Point, Nov. 2021
Essentials in Forensic Science Seminar, ADFS Birmingham, April 2019
Auburn University, Power Point, Nov. 2018
Pike Road Middle School, Power Point, Jan. 2017
Flowers Elementary, Power Point, Nov. 2016
Auburn University Montgomery, Power Point, Oct. 2016
Auburn University, Power Point, Sept. 2016

COURSE WORK GUEST LECTURER

LAW623 SCIENTIFIC EVIDENCE – GUEST LECTURER CUMBERLAND SCHOOL OF LAW MARCH 2026

Overview of Firearms Identification as a science, emerging 3D technologies, and introduction to standards and error rates.

UAB FS671 CONVENTIONAL CRIMINALISTICS – GUEST LECTURER UAB SEPTEMBER. 2025

In-depth discussion of Firearms Identification as a science, emerging 3D technologies, and hands on 3D analysis introduction.

UAB CJ250 INTRODUCTION TO CRIMINALISTICS – GUEST LECTURER UAB OCT. 2024

Overview of distance determination and trajectory methods.

UAB FS672 ADVANCED CONVENTIONAL CRIMINALISTICS – CO-LECTURER UAB APRIL. 2024

In-depth discussion of Firearms Identification as a science, conduct comparison lab, and serial number restoration lab.
In-depth discussion of distance determination methodologies with a laboratory practical portion.

UAB JS336 CRIMINAL INVESTIGATION: TECHNIQUES AND ANALYSIS - GUEST LECTURER UAB FEB. 2024
Overview of Firearms Identification to include basics of firearms and ammunition, firearm manufacturing, and methodologies.

UAB CJ170 INTRODUCTION TO CRIME SCENE ANALYSIS – SUBSTITUTE/GUEST LECTURER UAB OCT. 2023
Overview of Firearms Identification to include basics of firearms and ammunition, firearm manufacturing, and methodologies.

UAB CJ170 INTRODUCTION TO CRIME SCENE ANALYSIS – GUEST LECTURER UAB NOV. 2021
Overview of distance determination methodologies and bullet trajectory.

UAB FS670 ELEMENTS OF FORENSIC SCIENCE – GUEST LECTURER UAB OCT. 2021
Introduction to Firearms Identification as a scientific discipline, methodologies, and basics of testimony.

GRANTS

RECEIVED

Best, BA (PI), Gardner, EA (Co-PI). AFTE (\$1,875). An Assessment of the Foundational Validity of Firearms Identification Using Ten Consecutively Button Rifled Barrels.

UNDER REVIEW

Best, BA (PI). National Institute of Justice (\$181,000). An Objective Evolution of Firearm Surface Topography: A 3D Longevity Study of Firearm Surface Wear and Deformation Using Five Consecutively Manufactured Glock Slides. O-NIJ-2025-172598.

Gardner, EA (PI), McGrath, S (Co-PI), Best, BA (Technical Leader). National Institute of Justice (\$611,000). Firearm Examinations: Signal Detection Theory Combined with Probability Analysis of 3D-VCM to Analyze Validity of and Examiner Comfort Level with Determinations of Inconclusive. O-NIJ-2025-172598.

CONSULTING WORK

UAB MSFS PROGRAM AD HOC FACULTY/TECHNICAL CONSULTANT
Taylor Girourad – Fingerprints on Fired Cartridge Cases. 2025 MSFS non-thesis research.
Rubeen Charania – Statistical Analysis of 3D VCM. 2025 MSFS thesis research/defense.

1ST LT. KIM HUN CASE

Review of 1998 mysterious death of Lt. Hun on the 38th Parallel between North and South Korea while on guard duty. Case reviewed for Munhwa Broadcasting Corp. Documentary 2023. May 2023.

NOTABLE CASES WORKED

MASON SISK QUINTUPLE MURDER W/DAUBERT HEARING, LIMESTONE COUNTY – LIFE WITHOUT PAROLE
CHRISTOPHER HENDERSON QUINTUPLE MURDER, MADISON COUNTY – DEATH PENALTY
CASEY WHITE & VICKY WHITE NATIONAL MANHUNT, LAUDERDALE COUNTY – LIFE WITHOUT PAROLE
MICHAEL POWELL CAPITAL MURDER, SHELBY COUNTY – DEATH PENALTY
CORTEZ MITCHELL DOUBLE MURDER, MORGAN COUNTY – LIFE WITHOUT PAROLE
FRANK STEELE CAPITAL MURDER W/ DAUBERT HEARING, JEFFERSON COUNTY – LIFE WITHOUT PAROLE
FREDRIC ROGERS “SEVEN DEADLY SINS” MURDERS, MORGAN COUNTY DEFENSE CASE – LIFE WITHOUT PAROLE
HUNTSVILLE POLICE OFFICER BILLY CLARDY MURDER – DEATH PENALTY

BIRMINGHAM POLICE OFFICER WYTASHA CARTER MURDER
MOODY POLICE OFFICER STEVEN WILLIAMS MURDER
SHEFFIELD POLICE OFFICER NICK RISNER MURDER
JERRELL BROWN SENTENCE VACATED AFTER 18 YEARS OF WRONGFUL CONVICTION – FIRST 48 SEASON 8, Ep. 18

PUBLICATIONS

Best, B.A. *An Assessment of the Foundational Validity of Firearms Identification Using Ten Consecutively Button Rifled Barrels. Thesis. The University of Alabama at Birmingham, 2020.*

Best, B.A, Gardner, E.A. *An Assessment of the Foundational Validity of Firearms Identification Using Ten Consecutively Button Rifled Barrels. AFTE Journal. Spring 2022; 54 (1): 27-36.*

Best, B.A, Gardner, E.A. *Reproducibility of Bullet Comparison Conclusions. AFTE Journal. Winter/ Spring 2024; 56 (1): 63-66.*

Best, B.A, Gardner, E.A. *The Origin of Individual Characteristics and the Persistence of Reaming Marks After Button Rifling. AFTE Journal. Summer/Fall 2024; 56 (2): 197-205.*

Best, B.A. *Virtual Comparison Microscopy: A Review of Methods, Validity, and Admissibility. Forensic Science Review Journal. Winter 2026; 38 (1): 63-72.*

Stinson J, Best B.A, Gardner E.A, *The Effect of Analyst Experience on the Similarity Scores Produced by 3-Dimensional Virtual Comparison Microscopy (VCM), AFTE 2026 Meeting, Baltimore MD, May 24-28.*

Girouard T, Gardner E.A, Best B.A, *Comparison of Four Fingerprint Development Methods on Fired and Unfired Cartridge Cases. 2026 (Master's Thesis, The University of Alabama at Birmingham).*

Charania R, Gardner E.A, Best B.A, *Applying Signal Detection Theory Using Evofinder to a 10-Consecutively Manufactured Barrel Study That Included Damaged Bullets. 2026 (Master's Thesis, The University of Alabama at Birmingham).*

Best, B.A, Gardner, E.A. *The Effect of Damaged Bullets on Microscopic Comparisons. AFTE Journal. Under Review.*

Best, B.A, Gardner, E.A. *Class Exclusion Threshold for Land and Groove Impression Measurement. AFTE Journal. Under Review.*

CURRENT RESEARCH

Best, B.A. *A Meta-Analysis of Firearms Identification Validation Studies.*

Best, B.A. *An Objective Evolution of Firearm Surface Topography: A 3D Longevity Study of Firearm Surface Wear and Deformation Using Five Consecutively Manufactured Glock Slides.*

Best, B.A. *3D Similarity Score Threshold for Weight-of-Evidence in Comparison Conclusions.*

AWARDS

Association of Firearm and Toolmark Examiners Distinguished Member Award – May 2025

Alabama Department of Forensic Sciences Golden Round Award – 2018, 2019, 2020, 2022

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MSFS, MBA, FA/TM/GSR-AFTE
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