**Brandon A. Best**

Best Forensics, LLC

Maplesville, Alabama

Brandon.Best@Best-Forensics.com

**PROFESSIONAL EXPERIENCE**

**August 1, 2024 to Present Senior Forensic Scientist – Firearm/Tool Mark**

Best Forensics, LLC

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. Analysis that we perform includes firearms operability, bullet and cartridge case comparisons, tool mark analysis, fracture matching, muzzle to target distance testing, drop testing for functionality of firearms safeties, trigger pull and barrel length analysis, and ejection patterning. A report will be generated to all of the analysis results performed. The methods used are the same as those at ADFS to include operating procedures, review by a second qualified scientist, and annual proficiency testing.

**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 80+ 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, Worchester, Massachusetts, June 2017*

*Yankee Hill, Florence, Massachusetts, June 2017*

*Smith & Wesson, Springfield, Massachusetts, June 2017*

*Savage Arms, Westfield, Massachusetts, June 2017*

*Colt Firearms, Harford, 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 Armories, 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*

**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**

UAB FS672 Advanced Conventional Criminalistics – Co-Lecturer 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 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 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 Nov. 2021

*Overview of distance determination methodologies and bullet trajectory.*

UAB FS670 Elements of Forensic Science – Guest Lecturer 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

*Gardner, EA (PI), McGrath, S (Co-PI), Best, BA (Technical Leader). National Institute of Justice ($611,000). An Empirical Examination of the Potential for Cognitive Bias in Firearms Identification Using Virtual Comparison Microscopy.*

**CONSULTING WORK**

UAB MSFS Program Technical Consultant

*Graduate research and firearms consulting. June 9th, 2023-Present.*

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

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

**PUBLICATIONS**

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

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

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

*Best, BA, Gardner, EA. The Origin of Individual Characteristics and the Persistence of Reaming Marks After Button Rifling. AFTE Journal. Summer/Fall 2024; 57 (1): 40-48.*

*Best, BA, Gardner, EA. The Effect of Damaged Bullets on Microscopic Comparisons. AFTE Journal. Summer/Fall 2024; 57 (1):*

*Best, BA, Gardner, EA. Class Exclusion Threshold for Land and Groove Impression Measurement. AFTE Journal. Under Review.*

**CURRENT RESEARCH**

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

*Best, BA, Gardner, BA, McGrath, SA. An Empirical Examination of the Potential for Cognitive Bias in Firearms Identification Using Virtual Comparison Microscopy*

*Best, BA. Virtual Comparison Microscopy: A Review of Methods, Validity, and Admissibility.*

**AWARDS**

ADFS Golden Round *2018, 2019, 2020, 2022*

Brandon A. Best, MSFS, MBA, FA/TM/GSR-AFTE

Senior Forensic Scientist