



## Michael T. Neel

DEPARTMENT OF JUSTICE  
BUREAU OF ALCOHOL, TOBACCO, FIREARMS AND EXPLOSIVES  
FORENSIC SCIENCE LABORATORY – ATLANTA  
2600 CENTURY PARKWAY, SUITE 400  
ATLANTA, GEORGIA 30345

**Job Title:** Firearm/Toolmark Examiner

**Discipline:** Microscopic examinations of firearms, ammunition, and ammunition components. Toolmark examinations, Serial Number Restorations, and Distance Determinations

**Education:** Master of Science in Forensic Science, 1998, University of Alabama at Birmingham, Birmingham, AL  
  
Bachelor of Science in Natural Science, 1996, University of Alabama at Birmingham, Birmingham, AL

**Other Training:** Please see attached appendix.

**Court Experience:** Since 1999, expert testimony in Federal, State and County Courts  
  
Firearm/Tool Mark/Gunshot Residue Examinations: (44) times

**Professional Affiliations:** Current membership

Association of Firearm and Toolmark Examiners

### Employment History:

Firearm/Toolmark Examiner, U.S. Department of Justice      October 2001 – Present

Responsible for the visual, microscopic, and chemical analysis of firearms, ammunition, ammunition components and toolmarks. Responsible for the analysis of obliterated marking on firearms, and the chemical, magnetic, and electrolytic restoration of these markings. Conduct distance determinations utilizing microscopic and chemical procedures to determine the range of fire of the muzzle to the victim at the time of the shot(s).

Criminalist IV, Texas Department of Public Safety      June 2001 - Sept. 2001

Criminalist III, Texas Department of Public Safety      June 1999 - May 2001

Criminalist II, Texas Department of Public Safety      June 1998 - May 1999

# **Michael T. Neel**

## **Training Profile**

AFTE 2024 annual conference Anchorage, Alaska - May 2024

Toured H&K factory in Columbus, GA – September 29<sup>th</sup>, 2022

Toured Glock factory in Smyrna, GA - August 5<sup>th</sup>, 2019

Courtroom Testimony: A Practical Approach from a Firearm Examiner and Prosecutor's Point of View - AFTE 2018 - Charleston, WV – Jeff Goudeau – May 2018

Toured Jagemann Stamping Company in Manitowoc, WI – August 2015

Metallurgy for the Non-Metallurgist - AFTE 2015 – Dallas, TX – Dr. Dana Medlin – May 2015

ASCLD/LAB Measure of Uncertainty - AFTE 2012 – Buffalo, NY – Laurel Farrell – June 2012

Toured Hi-Point Firearms in Mansfield, OH – September 2010

ASCLD/LAB-International Assessor Training – ASCLD/LAB - Denver, CO - Anja Einslen and Laurel Farrell – August 2010

Machining for Firearm and Toolmark Examiners – Precision Forensic Testing – Miamisburg, OH – Chris Monturo – August 2010

Contemporary Issues in Firearms Identification – AFTE 2010 - Henderson, NV – Ron Nichols and Andy Smith – May 2010

Testifying as an Expert – Art or Science? – AFTE 2010 – Henderson, NV, - Stephen Cribari and Marc DiGiacomo – May 2010

Glock Armorer's Course - Smyrna, GA – Phil Goldsmith - Sept. 2009

Shooting Incident Reconstruction – Gunsite – Paulden, AZ – Mike and Lucien Haag – October 2007

ASCLD/LAB ISO Standards for Firearms and Tool Marks Workshop - AFTE 2007 - San Francisco, CA - Larry Lorsbach - May 2007

Integrity, Character, and Ethics in the Forensic Sciences - AFTE 2006 - Springfield, MA - Dan Gunnell – June 2006

Digital Photography for Firearms Examiners – AFTE 2006 – Springfield, MA – Ray Kusumi - June 2006

Glock Armorer's Course - Smyrna, GA – Phil Goldsmith - Sept. 2005

## **Michael T. Neel**

Toolmark Module - NFEA 2004 - Beltsville, MD – Jerry Miller/George Stanley – September 28 – October 10<sup>th</sup>, 2003

Instructional Techniques for New Instructors: Becoming a Dynamic Trainer – Atlanta, GA - Ken Elazier (Langevin Learning Services): June 10 –12, 2003

Shooting Reconstruction Course - AFTE 2003 Conference- Philadelphia, PA - Carlo Rosati - May 2003

Toolmark Comparison Criteria Course – Beltsville, MD- John Murdock/Fred Tullners: April 14-18, 2003

Toured ZERO Ammunition company in Cullman, AL - January 28<sup>th</sup>, 2003

Toured Drill Master, Colt, Winchester, Kahr Arms, Charco 2000, Connecticut Shotgun, H&R, and US Firearms Manufacturer – October 2002

Toured Ruger, SigArms, Mossberg, Marlin, Smith and Wesson, Springfield Armory Museum, US Revolver, and Savage firearms plants in New England – August 2002

Visited Remington’s Ammunition plant in Lonoke, AR – August 2002

Beretta Armorer’s Course - US Army Crime Lab - C.R. VanDerscoff - Oct. 12-14, 2002

Wound Ballistics - AFTE Conference - San Antonio, TX - Dr. Demaio - May 31, 2002

Ricochet Analysis - AFTE Conference - San Antonio, TX – Lucian Haag - May 26, 2002

Courtroom Testimony Techniques - Austin DPS - Ron Smith - August 13 - 14, 2001

Beretta Armorer’s Course - SWAFS Colorado Springs, CO - VanDerscoff - Nov. 2000

Trace Evidence Collection and Evaluation Workshop - Austin, TX - Steve Robertson - Sept. 2000

Shooting Incident Reconstruction- Richardson PD.-Max Courtney / Ed Hueske-Oct. 1999

Firearms and Toolmark Training -Texas DPS Tyler Laboratory - Glen Johnson - June 1998 – Feb. 1999

Glock Armorer’s Course - SWAFS Little Rock, AR - Oct. 1998

Post Blast Examination of Explosives - SWAFS Little Rock, AR- Oct. 1998

Wound Ballistics and Ammunition Testing - SWAFS Little Rock, AR- Oct. 1998

## **Michael T. Neel**

Firearms and Toolmark Training/Internship/Research – Alabama Department of Forensic Sciences Laboratory, Birmingham, AL - David Higgins - Feb. 97 – May 98

### **Technical Leader**

Firearm and Toolmark Technical leader for the ATF Laboratory system since October 2015.

### **Certifications:**

*Tool Mark Evidence Examination and Identification* - Association of Firearm and Tool Mark Examiners - August 20<sup>th</sup>, 2004

*Gunshot Residue Evidence Examination and Identification* - Association of Firearm and Tool Mark Examiners - August 13<sup>th</sup>, 2003 (Voluntarily relinquished 2/2021)

*Firearms Evidence Examination and Identification* - Association of Firearm and Tool Mark Examiners - August 20<sup>th</sup>, 2002

### **Publications:**

*The Development and Application of Random Match Probabilities to Firearm and Toolmark Identification*; Journal of Forensic Sciences, Volume 62, Issue 3, May 2017 pp. 619.

*A Comprehensive Statistical Analysis of Striated Tool Mark Examinations Part 2: Comparing Known Matches and Known Non-Matches using Likelihood Ratios*, AFTE Journal: Volume 43, Number 2, Spring 2011, pp. 137.

*“The Effect of Subclass Characteristics Involving Shotgun Ammunition on IBIS™ Entries and Correlation Results”*, AFTE Journal: Volume 42, Number 4, Fall 2010, pp. 364.

*“A Comprehensive Statistical Analysis of Striated Tool Mark Examinations Part 1: Comparing Known Matches and Known Non-Matches”*, AFTE Journal: Volume 39, Number 3, Summer 2007, pp. 176.

*“Criteria For Identification of Toolmarks Part III: Supporting the Conclusions”*, AFTE Journal: Volume 36, Number 1, Winter 2004, pp. 7.

*“The Unique Modular System of the Infinity Firearm”*, AFTE Journal: Volume 34, Number 2, Summer 2002, pp. 205.

### **Courses Taught:**

#### ***Crime Laboratory Educational Workshop (C.L.E.W.)***

- Forensic Science Laboratory Atlanta – September 2010
- Forensic Science Laboratory Atlanta – June 2008
- Forensic Science Laboratory Atlanta – June 2005

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### ***NFEA Module M: Toolmark Examinations, Comparisons and Identifications***

- National Firearms Examiner Academy: Ammendale, MD – March 2010 - present
- National Firearms Examiner Academy: Ammendale, MD – Sept. 2009
- National Firearms Examiner Academy: Ammendale, MD – Sept. 2007

### ***Serial Number Restoration:***

- Baton Rouge, LA: March 17<sup>th</sup> - 19<sup>th</sup>, 2012
- USACIL – April 26<sup>th</sup> -28<sup>th</sup>, 2011
- Ocala, FL: November 2<sup>nd</sup> - 4<sup>th</sup>, 2010
- Atlanta, GA (USACIL): August 4<sup>th</sup>- 6<sup>th</sup>, 2009
- Battle Creek, MI: May 4<sup>th</sup> - 8<sup>th</sup>, 2009
- San Salvador, El Salvador: July 17<sup>th</sup> – 25<sup>th</sup>, 2008
- Baton Rouge, LA: October 22<sup>nd</sup>- 24<sup>th</sup>, 2007
- El Paso, TX: July 24<sup>th</sup> -26<sup>th</sup>, 2007
- National Firearms Examiner Academy: Ammendable, MD – May 17<sup>th</sup>-19<sup>th</sup>, 2006
- Frankfort, KY: August 9<sup>th</sup> – 11<sup>th</sup>, 2005
- Miami, FL: February 7<sup>th</sup> -11<sup>th</sup>, 2005
- National Firearms Examiner Academy: Ammendable, MD – October 21<sup>st</sup> –22<sup>nd</sup>, 2004
- Raleigh, NC: August 23<sup>rd</sup> –27<sup>th</sup>, 2004
- Birmingham, AL: July 26<sup>th</sup>-30<sup>th</sup>, 2004
- Natick, MA: June 7<sup>th</sup> –June 11<sup>th</sup>, 2004
- National Firearms Examiner Academy: Beltsville, MD – October 23<sup>rd</sup>-28<sup>th</sup>, 2003
- New Orleans, LA: July 21<sup>st</sup>– July 25<sup>th</sup>, 2003
- Birmingham, AL: April 21<sup>st</sup>-25<sup>th</sup>, 2003
- Mexico City, Mexico: Nov. 11<sup>th</sup>-15<sup>th</sup>, 2002
- National Firearms Examiner Academy: Rockville, MD – October 16<sup>th</sup>-18<sup>th</sup>, 2002
- Utica, Michigan: May 13<sup>th</sup> - 17<sup>th</sup>, 2002
- Memphis, TN: April 29<sup>th</sup>- May 3<sup>rd</sup>, 2002
- Salt Lake City, UT: April 1<sup>st</sup>-5<sup>th</sup>, 2002
- New Castle DE: Feb. 15<sup>th</sup> -19<sup>th</sup>, 2002

### ***Moot Court Testimony***

- National Firearms Examiner Academy: Ammendable, MD – September 11<sup>th</sup> -15<sup>th</sup>, 2009
- National Firearms Examiner Academy: Ammendable, MD – September 11<sup>th</sup> -15<sup>th</sup>, 2008
- National Firearms Examiner Academy: Ammendable, MD – September 11<sup>th</sup> -15<sup>th</sup>, 2006
- National Firearms Examiner Academy: Ammendable, MD – March 7<sup>th</sup>-11<sup>th</sup>, 2005
- National Firearms Examiner Academy: Ammendable, MD – March 1<sup>st</sup> - 4<sup>th</sup>, 2004

### ***Committees:***

- Current member of the Organization of Scientific Area Committees (OSAC) Subcommittee on Firearms and Toolmarks
- Past Chairman and current member of the AFTE Certification Committee
- Past Chairman of the AFTE Scholarship Committee
- Past member of the AFTE Editorial Review Panel
- AFTE Optical Character Recognition Committee member

## Michael T. Neel

### Presentations:

- *A Comprehensive Statistical Analysis of Striated Tool Mark Examinations Part I: Comparing Known Matches and Known Non-Matches*, AFTE 2007 – May 2007
- *Toolmark Evidence, Preservation, Collection, and Submission*, Georgia Fire Investigator Association Conference – March 21, 2006
- *Introduction to Firearms and Ammunition*, National Violent Death Reporting System Seminar (NVDRT) – January 2005
- *Criteria for Identification of Toolmarks Part III: Supporting the Conclusion* presented at the AFTE 2003 – May 2003

### Validation Studies:

- A Validation Study of the Accuracy, Repeatability, and Reproducibility of Firearm Comparisons (Ames/FBI study)
- Glock model 17 Gen 5 Marksman barrel study (consecutively rifled)
- Ruger LCP .380 Breechface Study
- Glock Enhanced Bullet Identification System (EBIS) study - Part 2
- Glock Consecutively Rifled Enhanced Bullet Identification System (EBIS) study
- AFTE Knife Identification Project (K.I.P.)
- Consecutive Extractor Study
- Consecutively Rifled Ruger barrel study