

MELISSA A. OBERG

OPERATIONS DATA ANALYST

SUMMARY OF QUALIFICATIONS

Operations Data Analyst at TRIMEDX, Indianapolis, Indiana April 17th, 2023

Forensic Firearms Identification Unit Indianapolis Laboratory until April 14th, 2023

Examination and identification of firearms and ammunition components, toolmark identification, distance determination, and serial number restoration.

Integrated Ballistics Identification System (IBIS)

Have examined approximately 4,402 cases, involving 18,202 Items of evidence, 6594 Comparisons

EDUCATION

M.S. in Applied Data Analytics from the University of Indianapolis 2021-2023

Saint Joseph's College, Bachelor of Science, Chemistry, Rensselaer IN, 2001-2005

Interned at the American Institute of Toxicology May 2004-August 2004

PROFESSIONAL TRAINING AND EXPERIENCE

1/2006	Began 7 month Internship in the Field Drug Examination	Lowell, IN
5/2006	Basic Drug Identification Workshop (MAFS)	Kansas City, KS
8/2006	Completed training for Drug Examination	Lowell, IN
11/2006	Began 12 month Internship in the Field of Firearms Identification	Lowell, IN
12/2006	Ammunition training	Indianapolis, IN
4/2007	IBIS/NIBIN training	Largo, FL
5/2007	Began IBIS casework	Lowell, IN
6/2007	Glock Armorers School	Indianapolis, IN
8/2007	Winchester Ammunition Tour	East Alton, IL
10/2007	East Coast Tour of Manufacturers	CT, MA



10/2007	Completed 10 Barrel test	Lowell, IN
11/2007	Completed 12 month Internship in the Field of Firearms Identification	Lowell, IN
4/2008	Serial number restoration training	Lowell, IN
4/2008	ISO/Ethics/Daubert training	Lowell, IN
5/2008	Ballistic Gel shooting	Greenwood, IN
7/2008	Toolmark training	Indianapolis, IN
9/2008	Targeting Firearms Violence Workshop	South Bend, IN
10/2008	Distance determination/Gunshot residue training	Indianapolis, IN
4/2009	Remington 870 Armorers course	Indianapolis, IN
11/2009	Beretta Armorers course	Indianapolis, IN
1-3/2010	Viewed AFTE 2009 Training Seminar	Lowell, IN
2/2011	Attended American Academy of Forensic Sciences	Chicago, IL
5-6/2011	Attended Association for Firearms and Toolmark Examiners	Chicago, IL
7-8/2011	In-house retraining as a Drug Chemist in suspected plant material	Lowell, IN
12/2011	Hi-Point Armorers course	Indianapolis, IN
1/2012	Springfield Armory	Geneseo, IL
6/2012	Attended AFTE	Buffalo, NY
6/2013	Attended AFTE	Albuquerque, NM
11/2013	Hi-Point Manufacturer tour	Mansfield, OH
5/2014	Attended AFTE	Seattle, WA
9/2014	Confirmation Bias Training	Indianapolis, IN
9/2014	Shooting Reconstruction: 4 Elements of Trajectory RTI Web based training	Indianapolis, IN
9/2014	Forensic Science Consultants Forensic Shooting Incident Reconstruction Course	Putnamville, IN
12/2014	Sig Sauer Armorer's Course	Indianapolis, IN
5/2015	Attended AFTE	Dallas, TX

6/2015	In-House Black Powder Training	Indianapolis, IN
5/2016	Attended AFTE	New Orleans, LA
7/1/2016	Ballistic Gel Shoot	Indianapolis, IN
5/2017	Attended AFTE	Denver, CO
6/2018	Attended AFTE	Charleston, WV
10/2018	Midwest Firearm Training Seminar	Indianapolis, IN
5/2019	Attended AFTE	Nashville, TN
10/2019	Midwest Firearm Training Seminar	Indianapolis, IN
11-12/2020	Center for Statistics and Applications in Forensic Science (CSAFE) workshop	Virtual
11/2020	Midwest Firearm Training Seminar	Virtual
11/2021	Midwest Firearm Training Seminar	Virtual
10/2022	Midwest Firearm Training Seminar	Fort Wayne, IN

MEMBERSHIP IN ASSOCIATIONS AND CERTIFICATIONS

- ◆ Midwestern Association of Forensic Science (MAFS) October 2006-2007
- ◆ Association of Firearms and ToolMark Examiners (AFTE) since 1/9/08
- ◆ Became a Distinguished member of the Association of Firearms and Toolmark Examiners 8/2013, Provisional Member 1/2008, Regular Member 7/2011
- ◆ Indiana division of International Association for Identification (INIAI) 2/3/08-4/1/12
- ◆ Individually Certified by the American Board of Criminalistics as a Comprehensive Criminalistics Fellow 11/2009-2023
- ◆ Individually Certified by Association of Firearms and Tool Mark Examiners (AFTE) as a firearm examiner 12/2012- 2023 voluntary leave
- ◆ Organization of Scientific Areas (OSAC) Firearm and Toolmark Subcommittee member 10/1/2017-October 2023 (As voting member)
- ◆ Organization of Scientific Areas (OSAC) Firearm and Toolmark Subcommittee member 10/1/2023 -Currently an Affiliate Member

ACCREDITATION

The Indiana State Police Laboratory is accredited by ANSI National Accreditation Board (ANAB). Accredited since 1991.

ADDITIONAL PROFESSIONAL ACTIVITIES

Laboratories Toured

- ◆ Lowell Regional Laboratory
- ◆ Fort Wayne Regional Laboratory
- ◆ Indianapolis Regional Laboratory
- ◆ Johnson County Crime Lab
- ◆ South Bend PD and Crime Lab
- ◆ Oregon State Police Crime Laboratory in Portland
- ◆ Marion County Crime Lab
- ◆ Illinois State Police-Chicago
- ◆ Kentucky State Police-Louisville
- ◆ Evansville Regional Laboratory

Manufacturers Toured

- ◆ Mossberg Firearms (North Haven, CT)
- ◆ Marlin Firearms (North Haven, CT)
- ◆ Charter Arms (Shelton, CT)
- ◆ Wilson Arms (Branford, CT)
- ◆ Colt Firearms (West Hartford, CT)
- ◆ US Firearms (Hartford, CT)
- ◆ Savage Arms (Westfield, MA)
- ◆ Springfield Armory (Springfield, MA)
- ◆ Winchester (East Alton, IL)
- ◆ Rock River Arms (Colona, IL)
- ◆ Springfield Armory (Geneseo, IL)
- ◆ Hi-Point (Mansfield, OH)

Presentations/Teaching/Committees

- ◆ Created and presented a firearms presentation to Law Enforcement in Lake County and other surrounding counties at the Hobart substation 11/2007
- ◆ Presented a firearms presentation to Law Enforcement at Lowell State Police Post to local and state police agencies in June 2008
- ◆ Completed FSIV Mitzi Templeton's training in the Field of Firearms Identification in May 2008
- ◆ Completed training FSIV Nicole Mazur in the Field of Firearms Identification in May 2010
- ◆ Member of the ISO (International Organization for Standardization) readiness committee for the Indiana State Police FFIU 2009
- ◆ Member of the AFTE R&D Committee from September 2009-May 2014
- ◆ Created and presented National Academy of Sciences Report on Forensic Science to Lake County Prosecutors at the Hobart substation 12/2010
- ◆ Presented at AFTE 2011 Poster Presentation
- ◆ Presented information on Firearms Identification to local defense attorneys June 2011
- ◆ Presented at AFTE 2012 Poster Presentation
- ◆ Created and Presented subclass information in the Field of Firearms Identification to Indiana Firearms Examiners at the Indiana State Police Laboratory Indianapolis 12/2012
- ◆ Created and Presented investigative firearms information to investigators in South Bend Indiana 12/2012
- ◆ Presented at AFTE 2013 Poster Presentation

- ◆ Presented Indiana State Police firearms identification information to local law enforcement and prosecutors at the Lowell Regional Laboratory 9/26/13
- ◆ Served as Treasurer Elect for the Association of Firearms and Toolmark Examiners June 2013-May 2014
- ◆ Treasurer of AFTE May 2014-October 2020
- ◆ Presented at AFTE 2014 Poster Presentation
- ◆ Presented Isolated Pairs Research at AFTE 2015
- ◆ Guest Speaker for Valpo University in the Introduction to Forensic Science Course October 2013 and November 2015
- ◆ Guest Speaker for Valpo University in the Policing course offered through the Sociology Dept. February 2014 and 2016
- ◆ Participated in the OSAC Firearm and Toolmark Subcommittee meeting held 3/20-3/23/2018
- ◆ Participated in the OSAC Firearm and Toolmark Subcommittee meeting held 12/11-12/14/2018
- ◆ Presented Expedited IBIS entry to local law enforcement and prosecutors in Hamilton county May 20th, 2019 and October 22nd, 2019
- ◆ Participated in the OSAC Firearm and Toolmark Subcommittee meeting held 7/23-7/26/2019
- ◆ Presented Expedited IBIS entry to local law enforcement and prosecutors in Hamilton county October 22, 2019
- ◆ Presented Firearm Casting & Subclass Identification Workshop at Midwest Training seminar 10/24/2019 (2.5 hours)
- ◆ Presented Expedited IBIS entry to local law enforcement in Hamilton county March 10th, 2020
- ◆ Presented OSAC updates at the Midwest training conference 2020
- ◆ Presented Expedited IBIS entry to local law enforcement in Marion and Hamilton county (April/July) 2021
- ◆ AFTE website committee 2021-currently
- ◆ AFTE Ad-hoc certification committee 2021-currently
- ◆ Presented OSAC updates at the Midwest training conference 2021
- ◆ Participated in the OSAC Firearm and Toolmark Subcommittee meeting held 5/16-5/20/2022

STUDIES PARTICIPATED IN

10 barrel test: International study consisting of 10 consecutively rifled Ruger barrels

1 of 700+ firearms examiners, 21 countries and 49 states to complete the test correctly

Participated in the AMES Iowa Study (2013) conducted by Dr. Baldwin- Study was designed to measure examiner error rates for false identifications and false eliminations when comparing unknown to a collection of three unknown cartridge cases (218 participants)

Angela Stroman's Empirically Determined Frequency of Error in Cartridge Case Examinations using a Declared Double-Blind Format (2014-article published, Study conducted in 2010)

Palm Beach County Sheriff's Office (Omar Felix) two phase study involving the comparison of bullets April-July 2017

AMES Iowa/FBI/USDOE 2017- validation study of forensic comparisons to assess the accuracy, repeatability, and reproducibility of decisions involving forensic comparisons (phase I completed September 2017-Finished August 2018)

Virtual Comparison Microscopy Error Rate Study (VCMERS)- Finished October 2018

Virtual Comparison Microscopy Topography Resolution Study – Finished December 2019

PUBLISHED ARTICLES

Duplicate Headstamps, but Different Hull Markings AFTE Journal Volume 40 Number 4, Fall 2008 pgs. 401-402

A Review of SCCY (SKYY) Industries Firearms AFTE Journal Volume 42 Number 3, Summer 2010 pgs. 278-280

A Case Study Involving a Bryco Arms Firearm with a Partial Grip Plate AFTE Volume 44 Number 2, Spring 2012 pgs. 180-181

Identifiable Marks on a Rifled Slug through a 410-bore Derringer AFTE Volume 45 Number 4, Fall 2013 pgs. 370-372

Isolated Pairs Research Study AFTE Volume 48 Number 50 Number 1, Winter 2018 pgs. 56-58

Isolated Pairs Research Study-Letter to the Editor AFTE Volume 50 Number 3, Summer 2018 pg. 131

WORKSHOPS ATTENDED AT CONFERENCES

Identifying and Managing Errors in Case Analysis: Introduction to Human Error Analysis, 63rd Annual AAFS meeting Chicago IL, Monday February 21, 2011 (6.25 hours)

Metallurgy Seminar 42 Annual AFTE meeting Chicago IL, May 29th 2011 (4 hours)

Firearms Markings-What do they Indicate? Workshop 42 Annual AFTE meeting Chicago IL, June 2nd 2011 (4 hours)

DS Arms FAL SA58 Rifle Armorer's Course 42nd Annual AFTE meeting Chicago IL, June 3rd 2011 (8 hours)

Subclass Characteristics Workshop 44th Annual AFTE meeting Albuquerque NM, June 23rd 2013 (8 hours)

Science Behind Firearm Individualization Workshop 44th Annual AFTE meeting Albuquerque NM, June 28th 2013 (4 hours)

Demystifying Error Rates 45th Annual AFTE meeting Seattle WA, May 11th 2014 (4 hours)

Law & Forensic Science Indiana, Indiana University Robert H. McKinney School of Law, IUPUI June 26th 2014 (6 hours)

Projectile Deflection Caused by Intermediate Targets AFTE meeting Dallas TX, May 24 2015 (4 hours)

The Legal History and Status of the Admission of Expert Testimony in Federal and Indiana Courts- Indianapolis Laboratory taught by Judge Cale J. Bradford 12/15/16 (2 hours)

Practical Shooting Incident Reconstruction: Techniques for Analyzing, Documenting, and Testifying Denver CO, May 14 2017 (8 hours)

Machining for the Firearm / Toolmark Examiner Charleston WV, June 3 2018 (4 hours)

Subclass Evaluation & Documentation Nashville, TN May 26th, 2019 (8 hours)

Machining Lecture Indianapolis, IN October, 24 2019 (Chris Monturo) (4 hours)

Forensic Evaluation of Gunshot Wounds January, 6th 2020 (Doctor Bill Smock) (7 hours)