

**ASCLD/LAB-International**

**STATEMENT OF QUALIFICATIONS**

<b>Name</b>	Robert J. Shem	<b>Date</b>	January 28, 2011
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<b>Laboratory</b>	State of Alaska Scientific Crime Detection Laboratory
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<b>Job Title</b>	Forensic Scientist III
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**Indicate all disciplines in which you do casework:**

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|---|--|
| <input type="checkbox"/> <b>Controlled Substances</b>         | <input type="checkbox"/> <b>Toxicology</b>           |
| <input checked="" type="checkbox"/> <b>Firearms/Toolmarks</b> | <input type="checkbox"/> <b>Biology</b>              |
| <input type="checkbox"/> <b>Trace Evidence</b>                | <input type="checkbox"/> <b>Questioned Documents</b> |
| <input type="checkbox"/> <b>Latent Prints</b>                 | <input type="checkbox"/> <b>Crime Scene</b>          |
| <input type="checkbox"/> <b>Digital Evidence</b>              |  |

**List all sub-disciplines in which you do casework:**

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**Education:** List all higher academic institutions attended (list high school only if no college degree has been attained)

Institution	Dates Attended	Major	Degree Completed
Southern Illinois University-Carbondale	1977-1979	Zoology	B.S.
Joliet Junior College	1975-1976	Biology	A.S.

**Other Training:** List continuing education, workshops, in-service and other formal training received.

<p>Graduated from a two year training program in Forensic Firearm and Toolmark Identification conducted by the Illinois Department of State Police Training and Applications Laboratory at Joliet, IL. The course was completed ahead of schedule due to proficiency, for 82. This training included all facets of Forensic Firearm and Toolmark I de: classroom instruction, independent study, microscope handling, report wording, tours of gun, ammunition, and lock factories, report writing, courtroom testimony, supervised casework, etc.</p> <p>AFTE Annual Training Seminars:      1981   1991   1995   1999   2003   2007             1987   1992   1996   2000   2004   2008             1988   1993   1997   2001   2005   2009             1990   1994   1998   2002   2006   2010</p> <p>Armorer's schools:      Smith &amp; Wesson             Glock             Remington             Beretta             Ruger             Colt</p> <p>1989:    Specialized Techniques in Firearm Identification, FBI Training Academy, Quantico, Virginia (1 week)</p>
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- Footwear Impression Processing, MAFS school, Springfield, Illinois (1 week)
- Footwear/Tiretrack Training Program, Illinois Department of State Police, Carbondale, Illinois (2 weeks)
- 1992: Gunpowder and Primer Residues, FBI Training Academy, Quantico, Virginia (1 week)
- 1994: Ballistic Measurement Workshop, Oehler Research, Inc. Testing Range, Fredericksburg, Texas (1 week)
- 1996: Shooting Crime Scene Processing and Reconstruction Seminar, FBI Training Academy, Quantico, Virginia (3 days)
- 1997: Quality Assurance in the Laboratory, FBI Training Academy, Quantico, Virginia (5 days)
- 1998: Laboratory Accreditation Inspector School, American Society of Crime Laboratory Directors, Laboratory Accreditation Board (ASCLD/LAB), Minneapolis, MN (4 days)
- 2003: Forensic Digital Imaging, Imaging Forensics, George Reis, Anchorage, Alaska (3 days)
- 2005: NIBIN Image Acquisition Training, Forensic Technologies, Largo, FL (5 days)
- 2005: Forensic Video Examinations on the dTect System, Ocean Systems, Laurel, MD (4 days)
- 2008: Gunshot Residue Analysis: Interesting Scenarios & Problems Encountered Workshop, AFTE Seminar, John Webb, Honolulu, HI (3 hours)
- 2008: Expert Witness Testimony Techniques, Ron Smith & Associates, Inc., Ron Smith, Anchorage, AK (2 days)
- 2008: Gunpowder and Gunshot Residue School, FBI, John Webb, Spokane, WA (4 days)

**Courtroom Experience:** List the discipline(s) in which you have qualified to testify as an expert witness and indicate over what period of time and approximately how many times you have testified in each.

1980-present: Has presented expert testimony in excess of 200 times in the state and federal courts of Alaska and Illinois.

**Professional Affiliations:** List any professional organizations of which you are or have been a member. Indicate any offices or other positions held and the date(s) of these activities.

Chairman, Vendor Committee, AFTE Training Seminar 2008  
 Advisory Committee, AFTE 2004-2008  
 Chairman, Advisory Committee, AFTE 2003-2004  
 President, Board of Directors, AFTE 2002 - 2003  
 First Vice President, Board of Directors, AFTE, 2001-2002  
 Second Vice President, Board of Directors, AFTE, 2000-2001  
 Member, Steve Molnar/Key Person Award Committee, AFTE, 1998-2000  
 Chairman, Board of Admissions, 2001-2002  
 Member, Scientific Working Group of Firearm and Toolmark Examiners, 1999-2006  
 Officer, Board of Admissions, AFTE, 1993-1995, 2000-2001  
 Member, Research & Development Committee (Ad-hoc), AFTE, 1999-2001  
 Member, Glossary Sub-Committee, (ad-hoc), AFTE, 1999-2001

Member at Large, Board of Directors, AFTE, 1998-2000  
 Member, Midwestern Association of Forensic Scientists (MAFS)  
 Member, Association of Firearm and Tool Mark Examiners (AFTE), life-paid  
 Member, Northwest Association of Forensic Scientists (NWAFS)

**Employment History:** List all scientific or technical positions held, particularly those related to forensic science. List current position first. Be sure to indicate employer and give a brief summary of principal duties and tenure in each position.

<b>Job Title</b>	Forensic Scientist III	<b>Tenure</b>	11/86 - present
<b>Employer</b>	State of Alaska Scientific Crime Detection Laboratory		
Provide a brief description of principal duties:			
Firearm Identification Toolmark Identification Muzzle-to-Target Distance Determination Shooting Incident Reconstruction Ballistics Testing Physical Matching Serial Number Restoration			

<b>Job Title</b>	Forensic Scientist (I, II & III)	<b>Tenure</b>	1982 - 1986
<b>Employer</b>	Illinois Department of State Police, Maywood and Fairview Heights, Illinois		
Provide a brief description of principal duties:			
Firearm Identification Toolmark Identification Muzzle-to-Target Distance Determinations Physical Matching Serial Number Restoration			

<b>Job Title</b>	Forensic Scientist Trainee	<b>Tenure</b>	1980 - 1982
<b>Employer</b>	Illinois Department of Law Enforcement, Joliet, Illinois		
Provide a brief description of principal duties:			
Received training to prepare for journeyman's position.			

<b>Job Title</b>		<b>Tenure</b>	
<b>Employer</b>			
Provide a brief description of principal duties:			

<b>Job Title</b>		<b>Tenure</b>	
<b>Employer</b>			
Provide a brief description of principal duties:			

**Other Qualifications:** List below any scientific publication and/or presentation authored or co-authored, research in which you are or have been involved, academic or other teaching positions you have held, and any other information which you consider relevant to your qualification as a forensic scientist.  
 (Use additional sheets if necessary.)

**INSTRUCTOR CERTIFICATION:**  
 Alaska Police Standards Council Certified Police Instructor: Firearms (expired),  
 Toolmark Identification (expired)  
 Crime Lab Utilization (expired)

ASCLD/LAB Laboratory Accreditation Inspector

Member, New York City Crime Lab ASCLD/LAB Inspection Team, 1999

Member, Indiana State Police Lab system ASCLD/LAB Inspection Team, 2007

PROFICIENCY:

Randomly selected completed cases were reviewed for quality by the Illinois Firearm/Toolmark Training and Applications Coordinator from 1980 until the mid 1980's when this duty was taken over by the Illinois Firearm/Toolmark Quality Assurance Coordinator until December 1986. From December 1986 until present, participated in the Collaborative Testing Services Firearms and Toolmarks Proficiency Examinations. From December 1986 until present participated in the NWAFS Firearms Proficiency Tests. Designed, assembled, distributed, compiled, and analyzed the October 1991 and October 1992 NWAFS Firearms Proficiency Tests.

AWARDS:

Governor's Commendation, 1993

Crime Laboratory Employee of the Year, 1992

Distinguished Member, AFTE, 1988

Certificate of Commendation, Illinois Dept. of Law Enforcement, 1983

University High Honors, SIU, 1979

Phi Beta Kappa, SIU

Liberal Arts and Sciences Honor Society, SIU

INVENTIONS & U.S. PATENTS:

U.S. Patent Number 5,348,759, Apparatus For Cyanoacrylate Fingerprint Development and Method Of Use Therefore, co-invented with David E. Weaver, Everett Clary, and George M. Taft Jr., September 20, 1994.

U.S. Patent Number 5,424,092, Apparatus For Cyanoacrylate Fingerprint Development and Method Of Use Therefore, co-invented with David E. Weaver, Everett Clary, and George M. Taft, Jr., June 13, 1995.

PUBLICATIONS & SCIENTIFIC PRESENTATIONS:

"An Experimental Silencer For a Charter Arms AR 7 Explorer Rifle," AFTE Journal, October 1982, Vol. 14, No. 4, Pp 46 9.

"Comparison of 501 Consecutively Fired Bullets and Cartridge Cases From a 25 Caliber Raven Pistol," AFTE Journal, July 1983, Vol. 15, No. 3, Pp 109 12, co authored with Peter P. Striupaitis.

"Fireformed Chamber Striations on Rimfire Cartridge Cases," AFTE Journal, July 1987, Vol. 19, No. 3, Pp 282 3.

"Fireformed Chamber Striations on Rimfire Cartridge Cases," AFTE Seminar, June 1988, Seattle, WA.

"The Relationship of a Bullet Jacket to Its Core," AFTE Seminar, June 1990, Omaha, NE.

"Primer Residues: Why Are We Wasting Our Time?" NWAFS Seminar, May 1991, Anchorage, AK.

"Recovering High Powered Rifle Bullets at Full Velocity Without Damage," AFTE Seminar, June 1991, Houston, TX.

"The Pathological and Firearm Identification Aspects of Mag Na Port," AFTE Journal, October 1991, Vol. 23, No. 4, Pp 903-7, co authored with Donald R. Rogers, M.D.

"Firing Pin Striations," AFTE Journal, October 1991, Vol. 23, No. 4, Pp 968-9.

"Expert Witnesses Who Give Questionable Courtroom Testimony," AFTE Seminar, April 1992, Miami, FL.

"Patina Patterns on Brass Cartridge Cases," AFTE Journal, April 1992, Vol. 24, No. 2, Pp 160-1.

"Factory Installed Trace Material on Bullets and Cartridge Cases," AFTE Journal, July 1992, Vol. 24, No. 3, Pp 244-5.

"Preserving Trace Evidence from Blood Extracted Garments," AFTE Journal, July 1992, Vol. 24, No. 3, Pp 304-5.

"Wounds Caused by Contact with Muzzle Lift Relief Ports (Mag Na Port)," American Journal of Forensic Medicine and Pathology, Vol. 13, No. 4, 1992, Pp 284-287, co authored with Donald R. Rogers, M.D.

"The Vaporization of Bullet Lead by Impact," AFTE Jour 5, No 2, Pp 75-8.

"Modifying Mushroomed Bullet Jackets to Facilitate Comparisons," AFTE Journal, April 1993, Vol. 25, No. 2, Pp 149-50.

"Computer Enhanced Infrared Videography for the Examination of Clothing Items Containing Gunpowder Residue Patterns," AFTE Seminar, May 1993, Raleigh, NC.

"Cartridge Caliber Conversions," AFTE Journal, July 1993, Vol. 25, No. 3, Pp 209-13.

"Another Source of Lead Particulates Found in Clothing Examined for Muzzle-to-Garment Distance Determinations," AFTE Seminar, June 1994, Indianapolis, IN.

"Bleeding as a Source of Lead Particulates on Clothing," AFTE Journal, October 1994, Vol. 26, No. 4, Pp 269-75.

"Bleeding as a Source of Lead Particulates on Clothing," American Journal of Forensic Medicine and Pathology, Vol. 16, No. 2, 1995, Pp 127-31.

"Exceeding the Practical Limits in Shooting Incident Reconstructions," Federal Bureau of Investigation Shooting Crime Scene Processing and Reco Seminar, September 1996, Quantico, VA.

"When Experts Go Beyond Scientific Objectivity in Crime Reconstructions," District Attorney's Annual Training Conference, November 1997, Girdwood, AK.

"The Physics of Firearms," Dimond High School Physics Class, Colleen Tysinger, instructor, January 1998, Anchorage, AK.

"Computerized Worksheets for Firearm and Toolmark Examiners," AFTE Seminar, June 1998, Tampa, FL.

“Understanding the Work Product of the Firearms Expert,” The 1999 Alaska Investigators Conference, September 1999, Anchorage, AK.

“How Alaskans Kill,” The 2001 Left Coast Crime Conference, February 2001, Anchorage, AK.

“A Simplified Griess and Sodium Rhodizonate Test,” AFTE Journal, Winter 2001, Vol. 33, No. 1, Pp 37-9.

“Understanding the Work Product of the Firearms Expert,” The 2008 Alaska Investigators Conference, April 2008, Girdwood, AK.

## WORKSHOPS

A Simplified Protocol for the Examination of Materials that Possess Gunshot Discharge Products, NWAFS Seminar, Spokane, WA – ~10 students

A Simplified Protocol for the Examination of Materials that Possess Gunshot Discharge Products, AFTE Seminar, Indianapolis IN, Tuesday, June 21, 2005 and Wednesday, June 22, 2005 – 40 students

A Simplified Protocol for the Examination of Materials that Possess Gunshot Discharge Products, AFTE Seminar, Springfield MA, Tuesday, June 27, 2006 – 20 students

A Simplified Protocol for the Examination of Materials that Possess Gunshot Discharge Products, AFTE Seminar, Miami FL, Monday, June 1, 2009 and Tuesday, June 2, 2009 – 40 students