

AWARD WINNING, INTERNATIONALLY RENOWNED FORENSIC EXPERT AND CONSULTANT

Award winning forensic scientist with 40+ years aiding in thousands of criminal and civil investigations, art investigations and art fraud cases. Advised or joined thousands of prosecutor and defense attorney death investigations, and has given civil or criminal court expert testimony in over 500 trials. Expert in paint pigments, binders, resins and finishes, glass, synthetic and natural fibers, human and animal hair, and diverse other materials of interest. Sought after speaker and media personality. Cases of note:

- **Authentication of the Lost 9-11 WTC Flag.** History Channel, “America’s 9/11 Flag: Rise from the Ashes,” premiered Sunday, September 11, 2016 at 10:30e/9:30c, Program No. 174633.
- **Authentication of the Miracle on Ice Flag.** Smithsonian Channel – Sports Detective Authenticating the Miracle on Ice Flag, <https://www.smithsonianchannel.com/shows/sports-detectives/miracle-on-ice-flag/1004307/3432376>.
- **Authentication of the Last Jackson Pollock Painting.** The New York Times, “A Real Pollock? On This, Art and Science Collide” By [PATRICIA COHEN](#), Nov. 24, 2013. <http://www.nytimes.com/2013/11/25/arts/design/a-real-pollock-on-this-art-and-science-collide.html>.
- **Other:** Wendy’s Homicide, Son of Sam, John Lennon, Metropolitan Opera, FALN Bombings, BLA Shootings, SDL Bombings, World Trade Center (1993 & 2001), Statue of Liberty Bombing, Columbine, Terrorist Bombings, Angela Davis, Lufthansa Robbery, Brinks Robbery, Pizza Connection

Feb. 2018 - American Academy of Forensic Sciences Criminalistics Section Recipient of the Dr. Paul L. Kirk award for excellence in work and research in criminalistics, February 2018

Feb. 2014 - American Society of Trace Evidence Examiners Recipient of the Dr. Edmond Locard award for excellence in trace evidence work and research in trace evidence, February 2014

- AWARDS:**
- American Library Association for Life Sciences 2004 for book “Color Atlas and Manual of Microscopy for Criminalists, Chemists, and Conservators”
 - National Law Enforcement Association Award, 1989
 - New York City Police Academy Distinguish Lecture’s Award in Criminalistics, 1987
 - Nikon Small World Contest Award Recipient, 1983
 - Dean Hawley’s Award for Scholarship, John Jay College, 1979

EDUCATION AND SPECIALIZED TRAINING

John Jay College of Criminal Justice (JJCCJ), **M.S. in Forensic Sciences, (Terminal Degree), 1979, B.S. in Analytical Chemistry, 1974**

Additional Undergraduate Majors in: **Criminal Justice** at New York City Police Academy and John Jay College of Criminal Justice, CUNY; **Secondary Education in Science & Technology Education** Stony Brook University, SUNY and John Jay College of Criminal Justice, CUNY; **Over 80 Credit Hours in Fine Arts and Art History** at FIT SUNY.

Additional Specialized Training Courses in Forensic Science & Identification, over 2000 hours:

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| Examination & Comparison in Footwear and Tire Tread | Crime Scene Examination and Reconstruction |
| Forensic Glass Examination | Forensic Paint Analysis |
| Gunshot Residue Analysis | Forensic Hair, Fiber and Textile Analysis & Comparison |
| Ballistics Examination | Gemstone Identification |
| Tool Mark Examination | Post Blast Management |
| Fingerprint Examination and Comparison | Forensic Paint and Pigment Identification |
| Fingerprint Development | Light Microscopy |
| Hair, Fiber and Textile Analysis | Electron Microscopy |
| Photography-Film and Digital | Firearms Training: Hand Guns, Rifles, Shot Guns |

Numerous Education and Test Question Preparation Courses; New York City Police Academy Recruit Training Program, November 1968; New York City Detective Bureau Homicide Course, 1980; New York City Police Academy Detective Criminal Investigation Course, 1982

PROFESSIONAL EXPERIENCE

PETRACO CONSULTING, *Principal and Consultant*, April 1990 to Present

Founded and lead consulting business in Forensic Science & Criminalistics. Provide services as Forensic Consultant, Forensic Microscopist and Instructor in Forensic Sciences and Crime Scene Investigation for the following agencies and institutions as well as hundreds of private clients.

Innocence Project Cases in: New York, Tenn., Texas, New Jersey	The State of Florida Capital Defender's Office
UN Legal Team Attorneys Forensic Science Training, NYU Law School	The State of New Jersey's Capital Defender's Office
Ethiopia Federal Police at the Federal Police Facility	The State of New Hampshire Public's Defender Office
Dominican Republic Federal Police Institution	The State of Illinois Capital Defender's Office
Dominican Republic Legal Department UASD	The State of Delaware Attorney General Capital Prosecutor
Uruguay National Police and Department of Justice	The County of Suffolk, NY District Attorney's Office for Capital Cases
NYPD Forensic Investigation Division	The Smithsonian Institution
NYPD Crime Scene Unit	The Metropolitan Museum of Art
Exxon Corporation	Saint John the Divine Textile Laboratory
Nissan Corporation	John Jay College School of International Studies
NYPD Ballistics Unit	National Law Enforcement Association
U. S. Assistant Federal Attorney's Prosecutor Offices	Virgin Island US Federal Public Defender
U.S. Federal Public Defender's Offices	Numerous Private and Public Defense and Prosecuting Attorneys Offices
New York State Capital Defender's Office	Cardozo Law School, Innocence Project
New York City Prosecutor's Office	New Jersey State Police Ballistics Unit
New York City Legal Aid Offices	
FBI Academy	
NYPD Forensic Investigation Division	

NYPD FORENSIC LABORATORY, *Contracted Forensic Consultant to New York City Police Department*, January 1999 to 2016

Technical Leader/Supervisor for Criminalistics Trace Evidence and Hair and Fiber Sections, Instructor Forensic Investigation Division, NYPD Crime Scene Personnel. Forensic Laboratory Assignments.

- Technical Leader in Criminalistics and Trace Evidence Section
- Preparation of SOP for Trace Evidence Analysis and Criminalistics
- Training of new personnel in criminalistics, microscopy and Hair/Fiber Analysis
- Involved in the Preparation of Training Manuals and SOP's for Crime Scene, Footwear, Tool Mark Examination, Paint, Glass Analysis, Soil Analysis, Digital Photography, Hair and Fiber Analysis, Glass Examination, and Evidence Collection
- Training of new personnel in Footwear and Tool Mark Analysis
- Preparing and conducting Mock Trial Training Sessions
- Preparation of Digital Photography SOP and training personnel in digital photography
- Training Ballistics personnel in basic Microscopy and Tool Mark Examination
- Training new Crime Scene Unit personnel in collection and preservation of Physical Evidence
- Casework in trace evidence, hair and fiber analysis, textiles, tool marks and footwear examinations, explosive residues, soils, and comparisons
- Given expert witness testimony at trials
- Given lectures to outside groups, and agencies i.e., NYC Chief Medical Examiners

NEW YORK CITY POLICE DEPT. CRIME LABORATORY/DETECTIVE BUREAU, *Detective/Forensic Scientist*, July 1974 to April 1982, ***Senior Forensic Examiner***, April 1982 to April 1990

Worked on thousands of criminal/civil investigations and testified as an expert witness over 500 times in State and Federal Courts

Duties

Expert Areas

Instrumentation & Criminalist Trace Evidence Section
General Instrumentation & Criminalistics Analysis
Trace Evidence: Paint, Hairs, Fibers, Glass, Soil, Minerals, Dust
Gunshot Residue Analysis: Shooter's Hand and Muzzle to Target Distance
Principal Operator SEM/EDXA-used in GSR, paints, soils and tool mark cases
Explosive Residues
Footwear Examiner and Tire Tread Examiner
Tool Mark Examiner - Physical Matches
Latent and Patent Fingerprint Development: Used all methods including laser
Forensic Photography Macroscopic
Crime Scene Investigation and Reconstruction's
Trained unit personnel – assigned, supervised and oversaw casework, signed reports
Trained Outside Agency Personnel in: Hair/Fiber, Trace Evidence, Footwear, etc.
Prepared: Hair Manual, Analytical Protocols
Research and Development
Ordered Capital Equipment and Trace Evidence Unit Supplies
Prepared technical reports on results of analyses,
Prepared NIJ Grants

Trace Evidence: Glass, Soils, Paint, Dust, Minerals
Hair Examinations
Natural fibers, Synthetic Fibers, Textiles, Paper, Ropes and Cordage
General Criminalistics, Evidence Collection and Crime Scene Procedures
Light and Electron Microscopy
Tool Mark Examination
Footwear & Tire Tread Examination
Gunshot Residue Examinations Muzzle to Target Distance
Gunshot Primer Residue Examinations
Narcotics Analysis
Explosive Analysis
Wet Chemical & Instrumental Methods of Analysis
Inorganic Salts, Volatile Organics & General Unknown
Bullet Trajectory
Crime Scene Reconstruction

NEW YORK CITY POLICE DEPARTMENT, *Police Officer* on precinct uniform patrol, November 1968 to July 1974; ***Police Trainee–Fingerprint Technician*** for Firearms Control Board, February 1968 to November 1968

MEDIA EXPERIENCE

Movie Consultant
Mystery Writer Consultant
Newspapers & Magazines: New York Times, McCall's Magazine, People Magazine
Television: Court TV, History Channel, Nova, CBS, ABC, Discovery Channel, CSI New York

CERTIFICATIONS

Certified Criminalist, Diplomat of American Board of Criminalistics - Certificate #101, April 1993

Certified NYS Science Teacher in Biology, Chemistry and General Science, February 1991

C14 Certificate to be in charge of Chemical Laboratory issued January 1997 by NYCFD

TEACHING EXPERIENCE / ACADEMIC APPOINTMENTS

Appointed to John Jay College Science Dept. - Assistant Professor – Life Equivalent Background and Experience to Ph.D. - CUNY Committee on Staff and Administration – March 26, 2007 – Minutes page 4 (J.) Appointment with a Waiver of Section 11.11 of the Bylaws Lack of Ph.D.

Appointed to the Ph.D. Forensic Science Faculty Committee, CUNY Graduate Center, NY, NY, 2004.

Invited Lecture, FBI Academy, Quantico Virginia, Forensic Examination on various Occasions

Sir Winston Churchill Fellowship Preceptor for Ms. Debra Croft, University of London

Adjunct Associate Professor at St. John's University, Queens, NY, in Forensic Science for Criminal Justice Majors, January 1990

Adjunct Assistant Professor Forensic Science, Criminalistics Laboratory, Instrumental Laboratory, Microscopy and Trace Evidence, John Jay College of Criminal Justice, CUNY, taught following courses from Sept. 1982 to Present

Lecture and Laboratory Instructor Undergraduate

Natural SCI 107 – Natural Science

FOS 108 – Forensic Science

FOS 320 – Instrumental Analysis

FOS 721 – Advanced Instrumental Analysis

FOS 321 – Instrumental Analysis

FOS 720 – Advanced Instrumental Analysis

FOS 410 – Criminalistics Microscopy & Trace Evidence

FOS 411 – Criminalistics Serology

Lecture and Laboratory Instructor Graduate

FOS 710 – Advanced Criminalistics PLM/Trace Evidence

FOS 711 – Advance Criminalistics Serology

Instructor FOS 313 Impression Evidence

Instructor for FOS 790 - Trace Evidence Analysis, PLM

Instructor FOS 800 (Ph.D. Level) – Impression Evidence

Developed numerous instructional and training courses designed and given for NYC Police Department's: Detective Bureau, Crime Scene Unit, Forensic Investigation Division and Police Academy in criminalistics, forensic criminal investigation and crime scene investigation for:

- NY State University at Albany, **Trace Evidence Graduate Instructor**, 2008
- NY State University at Albany, **NERFI Forensic Science/Crime Scene Series**, 2007
- State Education Dept. BOCES at NY State University at Albany, **NERFI**, 2006
- Dominican Republic National Police for John Jay College at John Jay College, NYCPD Forensic Investigation Division Facility and **National Police in Dominican Republic**, 2006
- Training of **DNA Analysts in Hair and Fiber Evaluation** Penn State Police 2004, and New York State Police 2006
- Training Instructor in **Footwear Examination** for NYPD Criminalistics Unit, Sept. 2001 to present
- Training Instructor in **Digital Photography for NYPD Trace Evidence** Unit, Sept.2001 to 2016
- Training Instructor in **Tool Mark Analysis** for NYPD Firearms Section, Oct. 1997 to 2016
- Training Instructor in **Microscopy for NYPD Ballistics Unit**, Sept. 1997 to 2016
- Instructor in **Forensic Sciences for Criminal Investigation Course** given by the NYPD Detective Bureau, January 1983 to retirement
- Instructor in Forensic Sciences for **Homicide Investigation Course** given by the NYPD Detective Bureau, January 1985 to retirement
- Instructor in **Forensic Sciences Crime Scene Techniques** for NYC Crime Scene January 1982 to 2016
- January 1981 to retirement - **Instructor in Forensic Sciences for NYC Police Academy**, Distinguished Lecture, NYC Police Recruit Training Academy

PROFESSIONAL AFFILIATIONS

- Diplomat of American Board of Criminalistics (ABC) – Prepare Test questions for ABC Trace Evidence General and Specialty Criminalistics Certification Examination on test national writing committee from 1985 to present
- Fellow of the American Academy of Forensic Sciences - Criminalistics Section, 1984
- Fellow of the New York Microscopical Society - Past Board Member, 1979 – 1985
- Member of the NEAFS, Board Director in 1980's

MISCELLANEOUS

- Member of PhD Forensic Science Committee, CUNY Graduate Center
- Chairperson SWGMAT Subgroup Hair- National Forensic Methods Standards Committee sponsored by the Dept. of Justice, FBI. Jan. 1996 to Jan. 2001
- Committee Member 1st Forensic Hair Group, FBI, Oct. 1983 to 1986
- Technical Advisor for “American at Home” an educational television documentary series created by Dr. Hugh R. Crean, Chairman Restoration Dept. FIT, and Don W. Walters, Project Director
- Section Chairperson (Microscopic Analysis) Eastern Analytical Symposium, Summerset, NJ, Fall 1993
- American Board of Criminalistics (ABC) Specialty Examination - Content Specialist for the Certification Proficiency Test - Prepare Protocol & Test Questions for National Certification Examination.
- NEAFS Chairperson for Hair and Fiber Peer Group ABC Certification Test Committee - Prepared
- Member of ad hoc committee on Forensic Hair Comparison formed by the FBI to standardize Forensic Hair Examination
- Guest Reviewer for the Journal of Forensic Science
- Reviewer of Research Proposals for the Forensic Science Research and Training Center, FBI Academy
- Reviewed Research Grant Proposal for CUNY Graduate Research Center.

PUBLICATION

Member of Forensic Science Journal Editorial Board, Department of Forensic Science, Central Police University, Taiwan ROC

Presentations 100's of papers, poster sessions at scientific meetings, workshops and scientific symposia and training classes for the following groups or organizations:

Eastern Analytical Association	New York Microscopical Society,
American Academy of Forensic Scientists	Cardozo Law School
Northeastern Association of Forensic	Various D.A.'s Offices
FBI Academy	Various Legal Aid Societies
New York Microscopical Society	Various Federal Prosecutors
Dr. Henry Lee Institute of Forensic Science	National Law Enforcement Groups
New Haven University, Conn.	Professional Security Agencies, Military, Police and Investigation Groups
John Jay College, CUNY	NYC Police Dept. Police Academy
New York University	NYPD Detective Bureau
Columbia University	NYPD Crime Scene Unit
Fordham University	SUNY Albany
St. John's University	NERFI
NYC Chief Medical Examiner's Office (OCME)	
Manhattan Legal Aid Society	

PUBLISHED TEXT BOOKS AUTHORED AND CO-AUTHORED

1. Color Atlas of Forensic Tool Mark Examination, Taylor Francis Boca Raton, FL, Sept. 2010
2. Forensic Science – Laboratory Experiment Manual and Workbook, Taylor Francis, Boca Raton, FL., totally revised 3rd edition, 2009.
3. Forensic Science – Laboratory Experiment Manual and Workbook, Taylor Francis, Boca Raton, FL., totally revised 2nd edition, March 2005
4. An Illustrated Guide to Crime Scene Investigation, CRC Press, Boca Raton, FL., June 2005
5. Color Atlas and Manual of Microscopy for Criminalists, Chemists, and Conservators, CRC Press, Boca Raton, FL. January 2004
6. Forensic Science – Laboratory Experiment Manual and Workbook, CRC Press, Boca Raton, FL., 1st ed. Sept. 2003, 2nd ed. April 2015, 3rd ed. April 2009
7. Chemical-Instrumental Analysis for Forensic Scientists, Laboratory Manual, 4th Edition, 2000.

PUBLISHED BOOK CHAPTERS, CONTRIBUTIONS AND CD'S AUTHORED AND CO-AUTHORED

1. Basic Light Microscopy, Chapter 2, in Forensic Science Handbook Vol. 1, R. Saferstein, and A.B. Hall editors, CRC Press Boca Raton, FL Feb. 2018
2. A Guide to the Analysis of Forensic Household Dust Specimens and Their Statistical Significance, Chapter 4, in Forensic Science Handbook Vol. I, R. Saferstein, and A.B. Hall editors, CRC Press Boca Raton, FL Feb. 2018
3. Impression Evidence: Tool Marks and Footwear from the Crime Scene to the Courtroom, Chapter? in Forensic Science Handbook Vol. II, R. Saferstein, and A.B. Hall editors, CRC Press Boca Raton, FL, in press.
4. A Guide to the Analysis of Forensic Dust Specimens, Chapter 2, in Forensic Science Handbook, Volume III, 2nd edition, R. Saferstein, editor, Prentice-Hall, NJ, 2009.
5. Microanalysis and Examination of Trace Evidence,” Chapter 14 in Forensic Science – An Introduction to Scientific and Investigative Techniques, James. S.H. and Nordby, J.J., Editors, CRC Press/Taylor Francis, Boca Raton, FL, 1st ed. 2003, 2nd ed. 2005, 3rd ed. 2009.
6. Criminalistics - An Introduction to Forensic Science, R. Saferstein, 3rd ed., 4th ed., 5th ed., 6th ed., 7th ed., 8th ed., 9th ed., Prentice-Hall, NJ, 1987 to 2008.
7. Human Hair Atlas, Ogle and Fox, Atlas of Human Hair – Microscopic Characteristics, CRC Press, 1999.
8. Atlas of Human Hair, CD Rom., SWGMAT, Hair sub-committee, 2001.
9. Forensic Hair Examination Guidelines, Hair Subgroup, SWGMAT, Washington, D.C., April 2004.
10. Forensic Dust Analysis, History of Forensic Science, Chapter 4, Ed. S. Gerber, American Chemical Society, Washington, DC, August 1997.
11. A Guide to the Analysis of Forensic Dust Specimens, Chapter 2, in Forensic Science Handbook, Volume III, R. Saferstein, editor, Prentice-Hall, NJ, 1st edition 1993, and 2nd edition April 2009.

JOURNAL ARTICLES AUTHORED AND CO-AUTHORED

1. Authenticating the Lost World Trade Center, Special Session, AAFS meeting in Seattle, WA, Feb. 26, 2018
2. The Evolution of Forensic Household Dust Analysis Over the Past Century, Paper No. B119, New Orleans, Feb. 17, 2017
3. A Study of the Formation, Collection, and Microscopic Trace Material and Genetic Makeup of Household Dust Specimens, Paper No. B89, Las Vegas, Feb. 26, 2016
4. Casting of 3-Dimensional Footwear Prints in Snow with Foam Blocks, Forensic Science international, [Volume 263](#), June 2016, pp. 147-51
5. Novel method for the Detection of Nitroglycerin in Smokeless Powders, Science and Justice, Volume 55, Issue 6, Dec. 2015, pp. 467-71.
6. The Utilization of Forensic Science Principles and Microscopic Trace Evidence Techniques to Unequivocally Prove That a Long-Suspected Painting by Jackson Pollock Was Crafted at the Pollock-Krasner Home and Studio — a National Historic Landmark Paper No. A92, Seattle, WA, Feb. 20, 2014

7. The Statistical Significance of the Household Dust Specimens, AAFS, Paper No.186, Feb. 22, 2013, Wash. D.C.
8. Revisiting Glass Fracture Examination and Interpretation in Forensic Casework, AAFS Meeting in Wash., D.C., Paper No. 142, Feb. 22, 2013
9. Estimates of Striation Pattern Identification Error Rates by Algorithmic Methods, AFTE Journal -- Volume 45 Number 3 -- Summer 2013
10. The Statistical Significance of the Household Dust Specimens, AAFS Meeting in Chicago, IL. Paper No. 155, Feb. 2011.
11. Forensic Surface Metrology-Tool Mark Analysis, Scanning, "Forensic Surface Metrology: Toolmark Evidence," Scanning, Vol. 33, 2011, pp. 1-7.
12. Addressing the National Academy of Sciences Challenge- A Method for Statistical Pattern Comparison of Striated Toolmarks, JFS submitted Dec. 2010.
13. World Trade Center Dust, Paper No. A180, AAFS meeting in Denver CO., Feb. 2009.
14. Statistical Discrimination of Footwear: A Method for the Comparison of Accidentals on Shoe Outsoles Inspired by Facial Recognition Techniques, Journal of Forensic Sciences, Jan. 2010, 55, No. 1, pp. 34-41.
15. The Statistical Significance of the Aggregated Trace Evidence Found in Household Dust Specimens, NIJ Trace Evidence Symposium, Post Session, Aug. 2009.
16. Preparation of Toolmark Standards with Jeweler's Modeling Wax, Part 2, in Journal of Forensic Science, vol. 54, No. 2, March 2009, pp. 353-58.
17. Case Studies in Forensic Soil Examination, Forensic Science International, vol. 178, No. 2-3, July 2008, pp. e23-e27.
18. An Ideal Material for the Preparation of Known Toolmark Test Impressions - Part 1, Journal of Forensic Sciences, 50, No. 6, pp.1407-10.
19. Analysis of WTC Dust, NIJ Trace Evidence Symposium, Post Session, July 2007.
20. A Comparison Study of Hair Examination Methodologies, Journal of Forensic Sciences, 49, No. 6, pp 1253-55.
21. The Confirmation of (Architectural) Layer Determination by Micro-Diamond ATR, AAFS meeting, Dallas Texas, Feb. 2004.
22. Forensic Human Hair Identification and Comparison Guidelines, Poster B62, AAFS meeting, Seattle, Washington, Feb. 2001.
23. "A Density Gradient Technique for Use in Forensic Soil Analysis, Journal of Forensic Sciences, 45, p. 872, 2000.
24. Forensic Fiber Examination Guidelines, Fiber Subgroup, TWGMAT, Washington, D.C., 1998.
25. A Casework Proven Method for the Analysis of Forensic Soil Specimens, Poster, FBI Symposium, San Antonio, Tex., June 1996.
26. Gemological Abstract, Gems & Gemology, Vol. XXX1, Spring 1995, p. 290.
27. The Enhancement of Fine Two-Dimensional Residual Soil and Dust Footwear Prints Encountered on Low Contrast Surfaces, Poster, FBI Symposium, Quantico, Va., June 1994.
28. Microscopic Examination of Mineral Grains in Forensic Soil Analysis: American Laboratory, Part 1, 26(6) 1-68 April 1994, pp.35-40.
29. Microscopic Examination of Mineral Grains in Forensic Soil Analysis: American Laboratory, Part 2, 26(14) 1-64 Sept1994, pp.33-35.
30. Gemological Abstract, Gems & Gemology, Vol. XXX, Winter 1994, p. 290.
31. A Technique for Comparing Soil Colors in the Forensic Laboratory, Journal of Forensic Sciences, 38. No. 2, March 1993, pp. 437-41.
32. Trajectory Reconstructions I. - Trace Evidence in Flight, Journal of Forensic Sciences, 35, No. 6, Nov. 1990, pp. 1284-96.

33. The Morphology and Forensic Significance of Human Hair Roots, *Journal of Forensic Sciences*, 33, No. 1, Jan. 1988, pp. 68-76.
34. Plastic Slide Crossectioning Technique, *Micro-Notes II*, 9, No. 1, Jan. 1987, pp. 26 & 27.
35. A Method for the Rapid Screening and Identification of Synthetic Fibers in Dust, *JFSCA*, 32, No. 3, May 1987, pp. 768-77.
36. A Simple Trace Evidence Trap for the Collection of Vacuum Sweepings, *JFSCA*, 32, No. 5, Sept. 1987, pp. 1422-25.
37. A Microscopical Method to Aid in the Identification of Animal Hairs, *The Microscope*, 35, No. 1, Winter 1987, pp. 83-91.
38. Melmount 1.539 as a Mounting Medium for Hair, *The Microscope*, 35, 3rd Quarter 1987, No. 3, pp. 249-59.
39. Melmount Stick Mounting Medium, *The Microscope*, 35, 3rd Quarter 1987, No. 3, pp. 261-66.
40. *Techniques of Crime Scene Investigation*, Ed. Barry Fisher, 4th ed., Elsevier, NY, 1987.
41. *Clinical Chemistry News*, 13, No. 11, Nov. 1987, (Cover) p. 11.
42. The Replication of Hair Cuticle Patterns in Melmounts, *The Microscope*, 34, No. 4, Dec. 1986, pp. 341-45.
43. *Trace Evidence*, *Micro-Notes II*, 8, No. 2, July 1986, pp. 15-21.
44. *Forensic Science*, Hair Protocol, Chapter 37, Ed. Cyril Wecht, Mathew, NY, NY, 1986.
45. Trace Evidence - The Invisible Witness, *Journal of Forensic Sciences*, 31, No. 1, Jan. 1986, pp. 321-28.
46. The Occurrence of Trace Evidence in One Examiner's Casework, *Journal of Forensic Sciences*, 30, No. 2, April 1985, pp. 485-93.
47. Committee on Forensic Hair Comparison, *Proceedings of the International Symposium on Forensic Hair Comparison*, US Dept. of Justice, 1985.
48. A Computerized Human Head Hair Database, *Journal of Forensic Sciences*, 24, 1984, p. 451.
49. A Rapid Method for the Cross-Sectioning of Multi-layered Paint Chips, *Journal of Forensic Sciences*, 29, No. 2, April 1984, pp. 597-600.
50. *Forensic Science - An Introduction to Criminalistics*, P.R. De Forest, R.E. Gaensslen and H.C. Lee, McGraw-Hill, NY, 1983.
51. The Use of Cross Sections in Forensic Fiber Examinations, *Crime Laboratory Digest*, Dec. 1983, pp. 1& 2.
52. Chemistry and the Challenge of Crime, Chapter 5 in *Chemistry and Crime*, Ed. Samuel M. Gerber, American Chemical Society, Washington, DC, 1983.
53. A Rapid Method for the Preparation of Transparent Footwear Test Prints, *Journal of Forensic Sciences*, 27, No. 4, Oct. 1982, pp. 935-37.
54. Possible use of Carbon Fibers in Explosive-Incendiary Devices, *The Detonator*, 8, No. 1, Feb. 1981, p.7.
55. A Method for the Quantitative Determination of Nitrites in Gunshot Residue Cases, *Forensic Science International*, 18, 1981, pp. 85-92.
56. A Modified Technique for the Cross-Sectioning of Hairs and Fibers in Forensic Cases, *Journal of Police Science and Administration*, 9, No. 4, Dec. 1981, pp. 448-50.
57. An Interesting Arson Case Involving a Plastic Fingerprint, *Identification News*, XXXI, No. 6, June 1981, p. 9.
58. Fiber Optics Illuminator for use in Dispersion Staining, *The Microscope*, 28, 1980, pp. 51-55.
59. Interesting Evidence Find in New York, *Crime Laboratory Digest*, FBI, Washington, DC, December 1980, pp. 11-13.
60. A New Approach to the Microscopical Examination and Comparison of Synthetic Fibers Encountered in Forensic Science Cases, *Journal of Forensic Sciences*, (JFSCA), 25, No. 3, July 1980, pp. 571-82.