Brooke Weinger Kammrath
Curriculum Vitae

Professor of Forensic Science, Henry C. Lee College of Criminal Justice and Forensic Sciences
Executive Director, Henry C. Lee Institute of Forensic Science
University of New Haven
300 Boston Post Rd
West Haven, CT 06516
Phone (office): 203-931-2989
Phone (mobile): 917-414-3232
Email: bkammrath@newhaven.edu

EDUCATION

The Graduate Center, CUNY, New York, NY **2007-2012**
Ph.D. in Criminal Justice, Forensic Science Specialization.
Dissertation: A study of the molecular chemistry of glasses by infrared microspectroscopy and its use in forensic glass discrimination and classification
M.A. in Criminal Justice awarded in September 2010 from John Jay College of Criminal Justice.
M.Phil. in Criminal Justice awarded in May 2011 from the Graduate Center.

John Jay College of Criminal Justice, CUNY, New York, NY **2005-2007**
M.S. in Forensic Science.
Thesis: A novel approach to the examination of soil evidence: mineral identification using infrared microprobe analysis.

New York University, New York, NY **2002-2003**
M.A. in Teaching Chemistry 7-12 from the Steinhardt School of Education.
Independent Study: A handbook for high school chemistry teachers, "Dynamic demos and their chemical equations".

Northwestern University, Evanston, IL **1996-2000**
B.A in Chemistry.

EMPLOYMENT HISTORY

Henry C. Lee Institute of Forensic Science at the University of New Haven, West Haven, CT
September 2023 - present
Executive Director
January 2020 – August 2023
Assistant Director

- Responsibilities include the development and teaching of training workshops and seminars for scholars, researchers, students, forensic scientists, law enforcement, and the legal community, forensic science research, case evidence analysis, and case document review.

- Collaborator on the $120,000 Federal grant "Forensic Science Training and Workshop Program" which is part of the 2022 BJA FY22 Invited to Apply — Byrne Discretionary Community Project Funding/Byrne Discretionary Grants Program, awarded by the U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Assistance. July 2022 – Dec. 2023.
- Collaborator on the $499,981 Federal grant "BJA FY20 Postconviction Testing of DNA Evidence" with CUNY Law School and The Legal Aid Society, awarded by the U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Assistance. Jan. 2021 – Dec. 2022.
- Instructor:
    - "Advanced Crime Scene Reconstruction". August 2024
    - "Forensic Science for Teachers". June 2024
    - "Criminal Investigation and Forensic Science at Yale". Summer Springboard Camp, July 2022, July 2023, June-July 2024
    - "Forensic Investigation of Hate Crimes". July 2023
    - "Shooting Reconstruction". July 2023
    - *"CSI 2022*". In-Person Camp. July 2022.
    - "Law and Natural Science", 15-hour virtual course, Shanghai University Law School, May-June 2022.
    - "Forensic Statistics Workshop". 3-day Virtual & In-person Workshop. Connecticut State Forensic Science Laboratory. November 2021.
    - *"CSI 2021*". Virtual Camp. July 2021.
    - "Basics of Forensic Science". Naïf Arab University. Sep - Dec 2020.
    - *"CSI 2020*". Virtual Camp. August 2020.
- Speaker:
    - "Panel: The Forensic Investigation of Incidents of Domestic Violence" with Claire Glynn, Elaine M. Pagliaro and Kenneth Zercie, *The 46th Advanced Homicide Investigation Symposium: Domestic Violence: Intervention & Investigation* Oct 23, 2023.
    - "Panel: The Forensic Investigation of Hate Crimes" with Lisa Dadio, Robert Fried, Claire Glynn, Elaine M. Pagliaro and Kenneth Zercie, *The 45th Advanced Homicide Investigation Symposium: Forensic Investigation of Hate Crimes*. Oct 25, 2022.
    - "A Case for Trace", Shanghai University Law School, May 25, 2022.
    - "Valuable Physical & Chemical Traces in Homicide Cases". *Virtual Spring Symposium: Can New Forensic Technology Solve the JonBenet Ramsey Case?.* Apr 26, 2022.
    - "Valuable Physical & Chemical Traces in Shooting Cases". *The 44th Advanced Homicide Investigation Symposium: Forensic Investigation of Police-Involved Shootings*. Dec 11, 2021.
    - "Current Practices and Problems". Webinar: *Advancing the Field Detection & Identification of Illicit & Counterfeit Drugs with Portable Instruments*. Jun 18, 2020.
    - "Drugs: Understanding Presumptive Field Testing and Associated Pitfalls vs. Confirmatory Laboratory Testing". Webinar: *Forensic Science for Attorneys*. Mar 19, 2021.
    - "The Staircase: Interpretation of Trace Evidence". *The 43rd Advanced Homicide Investigation Symposium: Investigation of Staircase Deaths*. Oct 20, 2020.
    - "Trace Evidence in Solving Crimes" at *The Advanced Forensic Science: 5-Part Webinar Series*. Jun 24, 2020.
    - "Trace Evidence, Advanced Instrumentation & Microscopy" at *The Advanced Forensic Science: 5-Part Webinar Series*. Jun 24, 2020.

University of New Haven, West Haven, CT
Henry C. Lee College of Criminal Justice & Forensic Sciences
2021 - present
Professor of Forensic Science
2018 - 2021
Associate Professor of Forensic Science
2012 - 2018
Assistant Professor of Forensic Science

- Courses Taught:
  - Advanced Criminalistics II (graduate) – *both lecture and laboratory*
  - Forensic Microscopy (graduate)
  - Forensic Field Technology (graduate)
  - Criminalistics with Laboratory (undergraduate)
  - Physical Methods with Laboratory (undergraduate)
  - Introduction to Forensic Science (undergraduate)
  - Criminal Investigation, Forensic Science and Society (undergraduate, Honors)
- Organized the 1-day workshop "Introduction to Chemometrics without Equations for Forensic Scientists" with D. Dahlberg, Ph.D. (Jan. 2017, April 2019, and Nov. 2021).
- Organized and instructed the 2-day workshop "Introduction to Chemometrics without Equations & With R for Forensic Scientists" with D. Dahlberg, Ph.D. & N.D.K. Petraco, Ph.D. (Nov. 2012).
- Forensic Science Department Radiation Safety Officer (2016 – present)
- **University Service:**
  - Elected Member:
    - The University Tenure & Promotion Committee (2022-present)
    - The University Business & Finance Committee (2022-present)
    - The Faculty Senate (2018-2022)
    - The University Grievance Committee (2018-2022)
      - Elected Chair (Fall 2019, Fall 2020-Spring 2022); Elected Secretary (2018-2020)
    - The University Library Advisory Committee (2017-2019)
      - Elected Vice Chair & Secretary (2018-2019); Elected Chair (2017-2018)
    - The Facility Management Advisory Committee (2015-2017)
    - The University Information Technology Advisory Committee (2013-2015)
      - Elected Chair (2014-2015)
  - Appointed Member:
    - The University's Strategic Planning Committee (2021)
    - Committee on Family Leave Policies (2018-2019)
    - The IDEA Council Academic Subcommittee (2015-2016)
    - The IDEA Council, formerly called the Diversity Council (2013-2015)
  - Committee member of the Institute of Social Justice (2014-2016)

BWK Forensic Science Consulting, Scarsdale, NY
2009 - present
Principal Criminalist/Forensic Scientist

- Forensic science/criminalistics consultant, specializing in the recognition, evaluation, identification, individualization and reconstruction of physical evidence.
- Developed and instruct intermediate and advanced IlluminatIR™ infrared microprobe courses and workshops.

Forensic Consultants, Ardsley, NY
2006 - present

Criminalist/Forensic Scientist

- Forensic science/criminalistics consultant, working with Dr. Peter R. De Forest.
- Responsibilities include crime scene reconstruction and analysis, trace evidence (hair, fibers, paint, etc…) analysis, illicit drug identification and analysis, body fluid identification, fingerprint analysis and identification, and physical evidence documentation and analysis.

Smiths Detection, Danbury, CT
2011 - 2016

IlluminatIR™ Trainer

- Instruct professionals on the science, proper use, and applications of the IlluminatIR™ infrared microprobe. Attendees of these workshops are beginner or intermediate-level users, and come from either military, law enforcement, academic, industrial or pharmaceutical backgrounds. Relevant applications are the analysis of fibers, paints, polymers, drugs and general unknowns by criminalists and potential bioterrorism and chemical agents by Civil Support Teams.

Thomas A. Kubic & Associates (TAKA), Northport, NY
2007 - 2013

Criminalist/Forensic Scientist

- Forensic science/criminalistics consultant, working with Dr. Thomas A. Kubic.
- Responsibilities included the analysis of paint and fiber transfer evidence, the identification of unknown chemicals, illegal drugs and gunshot residues, and crime scene documentation.
- Assistant instructor for the course "Mathematical Concepts for Quality Data Production in a Forensic Chemical Laboratory", taught for criminalists at the New York City Police Department's Forensic Investigations Division Police Laboratory, March - April, 2009.
- Assistant instructor for the course "Forensic Glass Training Workshop", taught for trace evidence examiners at the Westchester Forensic Science Crime Laboratory and the Nassau County Forensic Evidence Bureau, June 23rd – 25th, 2009.

John Jay College of Criminal Justice, New York, NY
2006 - 2012

Adjunct Lecturer

- Courses Taught:
  - Instrumental Analysis Laboratory
  - General Chemistry Lecture, Recitation and Laboratory
  - Natural Science Laboratory
- Advanced Criminalistics Laboratory Technician
- Obtained NYC Fire Department Certificate of Fitness for Charge of Chemical Laboratory

Nassau County Police Department, Mineola, NY
Summer 2008

Forensic Science Intern in the Forensic Evidence Bureau

- Rotations included: Criminalistics, Narcotics, Toxicology/Blood Alcohol, Questioned Documents, Crime Scene Search, Latent Fingerprints, Firearms, Polygraph, and Quality Assurance.

Smiths Detection, Danbury, CT
May 2006 – May 2007
Forensic Science Intern under Dr. John A. Reffner

- Used infrared microspectroscopy to investigate clay minerals for forensic soil analysis.
- Created an ATR library of infrared spectra of minerals.

York Preparatory School, New York, NY
September 2000 – June 2006
Science Teacher

- Taught Chemistry and Physics courses to high school students.

AWARDS AND RECOGNITION

- Featured interview in Spectroscopy Magazine's series "The Future of Forensic Analysis" published as ebook and online, November 2024
    - https://www.spectroscopyonline.com/view/the-future-of-forensic-analysis
    - https://www.spectroscopyonline.com/view/the-future-of-forensic-analysis-an-interview-with-brooke-kammrath
- Featured expert in "How Portable Instruments are Changing Forensic Investigations", Forensic Colleges, March 2024
    - https://www.forensicscolleges.com/blog/handheld-devices-in-forensics
- Featured in a profile in WILEY Analytical Science Magazine (Volume 8), Dec 2022
    - https://analyticalscience.wiley.com/content/article-do/passion-forensic-science---profile-brooke-kammrath
- Outstanding Service Award, Society for Applied Spectroscopy, Oct 2022.
- Excellence in Research or Creative Activity Award, University of New Haven, May 2021.
- Winner of the Collegiate Project Competition (later re-named the Peter De Forest Student Research Competition) at the Northeastern Association of Forensic Scientists, 32nd Annual Meeting, Rye Brook, New York, 2006.

PROFESSIONAL AFFILIATIONS

- Diplomate of the American Board of Criminalistics (ABC)
- Member of:
    - Eastern Analytical Symposium (EAS) Board of Directors
        - 2025: Seminar Chair
        - 2024: Short Course Chair
        - 2023: Short Course Co-Chair
        - 2022: Program Chair
        - 2021: Program Co-Chair
        - 2020: Seminar Chair
        - 2019: Publicity Chair
        - 2018: Publicity Co-Chair
        - 2018 – 2019: Long Range Planning Committee
    - The Society for Applied Spectroscopy (SAS)
        - 2022 – 2023: Elected Member of the Governing Board
        - 2022 – 2023: Publications Committee Chair

    - 2020: Nominating Committee
    - 2019 – 2022: Membership Chair
- The New York Microscopical Society (NYMS)
    - 2016 – 2022: NYMS Secretary
    - 2013 – 2022: NYMS Board of Managers
    - 2017 – 2019: NYMS President
    - 2014 – 2018: NYMS Membership Chair
- The American Society of Trace Evidence Examiners (ASTEE)
- The Northeastern Association of Forensic Scientists (NEAFS)
- The American Academy of Forensic Sciences (AAFS)
- The Microscopy Society of America (MSA)
- The Coblentz Society
- The North American Society for Laser Induced Breakdown Spectroscopy (NASLIBS)
- American Society for Testing and Materials (ASTM) Committee E30 on Forensic Sciences
- The Council of Forensic Science Educators (COFSE)
- The International Sand Collectors Society (ISCS)
- Alpha Chi Sigma (ΑΧΣ, the professional chemistry fraternity).

EXPERT TESTIMONY

Qualified expert of Criminalistics in both Federal (Southern District of New York, Middle District of Florida) and State (New York and Connecticut) Courts.

PROFESSIONAL SERVICE

- Associate Editor, Journal of Forensic Sciences (February 2022 – present)
- Associate Editor, Applied Spectroscopy Practica (January 2023 – present)
- SciX Organizational Committee, the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS)
    - 2025 Program Chair
    - 2024 Awards Chair

EDITORIAL BOARD:
- Wiley Analytical Science Magazine (Nov 2021 – present)
- Journal of Forensic Sciences (February 2020 – present)
- Journal of Forensic Science Education (February 2019 – present)
- Journal of Forensic, Legal and Investigative Sciences (May 2015 – present)

REVIEWER:
- American Academy of Forensic Sciences, Abstract Reviewer, 2019.
- Applied Spectroscopy, Scientific Peer Reviewer, 2015.
- Applied Spectroscopy, Practica, 2023.
- Forensic Science International, Scientific Peer Reviewer, 2014, 2021.
- Forensic Science International: Reports, Scientific Peer Reviewer, 2023
- Forensic Science International: Synergy: Scientific Peer Reviewer, 2019-2021.

- Journal of Chemometrics, Scientific Peer Reviewer, 2019.
- Journal of Forensic Sciences, Scientific Peer Reviewer, 2018-2021.
- Journal of Forensic Science Education, Scientific Peer Reviewer, 2020.
- Journal of Microscopy, Scientific Peer Reviewer, 2017.
- Journal of Pharmaceutical and Biomedical Analysis, Scientific Peer Reviewer, 2021.
- National Institute of Justice, Standing Review Panel (Trace Evidence), Forensic Science Grant Applications, 2012 – 2018, 2020-2024.
- Spectrochemica Acta Part A, Scientific Peer Reviewer, 2021.
- Spectroscopy Letters, Scientific Peer Reviewer, 2019.

WORKSHOPS:

- Purcell, D. and Kammrath, B.W., Optimizing Microspectroscopy with Microscopy (1/2 day). The Great Scientific Exchange (SciX), 51st Annual Scientific Meeting, Raleigh, NC. 2024.
- Kammrath, B.W., Pagliaro, E.M., Lee, H.C., Glynn, C.L., Leary, P.E., San Pietro, D., De Forest, P.R., Transfer and Persistence of Physical Evidence: Deciphering Implications (1-day). American Academy of Forensic Sciences 75th Annual Scientific Meeting, Orlando, Florida, 2023.
- Kammrath, B.W. and Dahlberg, D. Chemometrics without Equations for Forensic Scientists (1-day). The Impression, Pattern and Trace Evidence Symposium, Arlington, Virginia, 2018.
- Kammrath, B.W. and Dahlberg, D. Chemometrics without Equations for Forensic Scientists (1-day). Northeastern Association of Forensic Scientists, 40th Annual Meeting, Hershey, Pennsylvania, 2014.

CHAIR/MODERATOR:

- Eastern Analytical Symposium, Chair for the Session "Explosives & GSR: Present & Future Directions", 2023.
- Eastern Analytical Symposium, Co-Chair with John A. Reffner for the Session "New York Microscopical Society Ernst Abbe Award: Honoring Manu Prakash.", 2022.
- Eastern Analytical Symposium, Chair for the Session "1+1 = 3: Applications of Automated Particle Imaging Combined with Raman Spectroscopy", 2022.
- Eastern Analytical Symposium, Chair for the Session "3D Printing & Analytical Chemistry", 2021.
- The Great Scientific Exchange (SciX) Conference presented by FACSS, Organizer & Moderator for the Session "Chemometric Opportunities in Forensic Science", 2021.
- Eastern Analytical Symposium, Chair for the Session "EAS Award for Outstanding Achievements in Vibrational Spectroscopy: Honoring John A. Reffner.", 2020.
- Eastern Analytical Symposium, Co-Chair with John A. Reffner for the Session "New York Microscopical Society Ernst Abbe Award: Honoring Brian Ford.", 2020.
- Eastern Analytical Symposium, Co-Chair with John A. Reffner for the Session "New York Microscopical Society Ernst Abbe Award: Honoring Fran Adar, Ph.D.", 2019.
- Eastern Analytical Symposium, Chair for the Session "Chemometrics in Forensic Science", 2019.
- American Academy of Forensic Sciences 71st Annual Scientific Meeting, Criminalistics Session Moderator, "Crime Scene Evidence and Analysis", 2019.
- Eastern Analytical Symposium, Co-Chair with John A. Reffner for the Session "New York Microscopical Society Ernst Abbe Award: Honoring Professor Peter R. De Forest", 2018.
- Eastern Analytical Symposium, Chair for the Session "New Developments in GC Analysis Capabilities", 2018.
- Eastern Analytical Symposium, Chair for the Session "Nano Infrared Development", 2018.
- The Great Scientific Exchange (SciX) Conference presented by FACSS, Organizer & Moderator for the Session "Chemometrics in Forensics", 2018.
- Northeastern Association of Forensic Scientists 40th Annual Meeting, Trace and Pattern Evidence Chair and Moderator, 2014.

- The Great Scientific Exchange (SciX) Conference presented by FACSS, Organizer & Moderator for the Session "Analytical Chemistry As Detective: Case Studies in Forensic Science", 2013.
- American Academy of Forensic Sciences 63rd Annual Scientific Meeting, Criminalistics Session Moderator, "A Veritable Smorgasbord" of Trace, 2011.

INVITED SPEAKER:

- 2024 Joint Meeting of the Society for Analytical Chemists of Pittsburg (SACP) and the Spectroscopy Society of Pittsburgh (SSP), "Application of Particle Correlated Raman Spectroscopy (PCRS) for the Forensic Examination of Soil Minerals", Pittsburgh, PA (April 24, 2024)
- 2024 Forensic Science Summit, "Solving Cases with Microscopy", NJ Continuing Legal Education Program sponsored by the NJ Institute of Technology, NJ-ACDL, and NJ Office of the Public Defender, Virtual. (March 26, 2024).
- New Jersey Institute of Technology, "Forensic Applications of Portable Spectroscopy". Newark, NJ. (February 2024)
- 2023 Young Forensic Scientist Forum of the American Academy of Forensic Sciences, "Traces for Reconstruction and Investigation Leads", Special Session on Education, Training, and Experiences: The Ingredients to Make Science Work!. American Academy of Forensic Sciences, 75th Annual Scientific Meeting, Orlando, Florida.
- 2019 Society of Applied Spectroscopy (SAS) National Tour Speaker, "Morphologically-Directed Raman Spectroscopy for the Analysis of Forensic Evidence." New England Section in Boston, MA (June 4, 2019) and Brigham Young University SAS Student Section in Provo, Utah. (October 24, 2019).
- Southern Connecticut Chapter of the American Society of Metals (ASM), "Metal Analysis in Criminalistics". West Haven, Connecticut. (April 14, 2016).
- Ohio University, "Chemical Analysis of Microscopic Evidence." Athens, Ohio. (October 2014).
- Lebanon Valley College, "Analytical Chemistry as Detective." Annville, Pennsylvania. (March 2013)
- The Federal Bureau of Investigation (FBI), "A Study of the Molecular Chemistry of Glasses by Infrared Microspectroscopy and Its Use in Forensic Glass Discrimination and Classification". Quantico, Virginia. (June 2013).

ADDITIONAL TRAINING AND EXPERIENCE

- OSCR360 Training, taught by Andrew McNeill, L-Tron Corporation. Web-based training (due to COVID-19). May 26th, 2020.
- Introduction to POGIL (Process Oriented Guided Inquiry Learning), taught by Rosemary Whelan, University of New Haven, January 8, 2019.
- Bucknall Effective Teaching Strategies Conference, University of New Haven, May 16, 2018.
- Forensic Wood Identification Workshop, taught by Larry Peterson, at the Impression Pattern and Trace Evidence Symposium, Arlington, VA, January 22, 2018.
- Laser Ablation Workshop at Rensselaer Polytechnic Institute, by Applied Spectra. Inc., Troy, NY, April 12, 2017.
- Fatal Fire Investigation & Postmortem Fire Effects on Bodies, seminar by John DeHaan, the William Alvine Memorial Lecture Series at the University of New Haven, West Haven, CT, April 29-30, 2016.
- Forensic Examination of Fabric Impressions, workshop taught by Ted R. Schwartz and Jennifer Tripoli, at the Impression, Pattern and Trace Evidence Symposium, San Antonio, Texas, August 25, 2015.
- Bullet Ricochet and Critical Angle Impacts, First Annual Law Enforcement Lecture Series of the New York Microscopical Society, taught by Peter Diaczuk, Ph.D. and James M. Gannalo, Clifton, New Jersey, April 15, 2015.

- Fundamentals of Laser-Induced Breakdown Spectroscopy, workshop taught by Steve Buckley, Ph.D. from TSI, Inc., at the Great Scientific Exchange (SciX), 40th Annual Scientific Meeting, Milwaukee, Wisconsin, 2013.
- Nicolet Continuμm Microscope Operations, training course taught by Stephen Woods, Ph.D., Unity Lab Services, Part of Thermo Fisher Scientific, 2013.
- The Examination and Evaluation of Tire Tread Design and Dimension, workshop taught by William Bodziak and Lesley Hammer, at the Impression and Pattern Evidence Symposium, 2012.
- Evidence and Admissibility: Court Challenges, workshop taught by Melissa Gische, Greg Klees, Diana Harrison, Mike Smith, and Tom Griffin, at the Impression and Pattern Evidence Symposium, 2012.
- What Did You Just Step In? Use Forensic Soil Examinations to Find Out, workshop taught by Skip Palenik, William Schneck, Maureen Bottrell, Thomas Hopen, Dr. Christopher Palenik, Andrew Bowen, Dr. Kim Mooney, Marianne Stam, David Flohr, Dr. Raymond Murray, and Dr. David Stoney, at the American Academy of Forensic Sciences 64th Annual Meeting, 2012.
- Chemical and Physical Material Analysis, workshop taught by Vincent Desiderio, Andrew Bowen, and Bill Chapin, at the Trace Evidence Symposium, 2011.
- Identification of Natural Fibers, workshop taught by Amy Michaud and Leanora Bender, at the Trace Evidence Symposium, 2011.
- Introduction to Chemometrics for Forensic Scientists and Analytical Chemists, workshop taught by Dr. Donald Dahlberg, Dr. Stephen Morgan and Dr. Nicholas Petraco, at John Jay College of Criminal Justice, June 2011.
- Firearms and Toolmark Examination, workshop taught by Dr. Nicholas Petraco and Carl Rone, at the Impression and Pattern Evidence Symposium, 2010.
- Future Direction for Forensics: Issues of Bias and Statistics, workshop taught by Dr. Sargur Srihari, Glenn Langenburg, and Dr. Itiel Dror, at the Impression and Pattern Evidence Symposium, 2010.
- Identification of Animal Hairs, workshop taught by Skip Palenik and Dr. Christopher Palenik, at the American Academy of Forensic Sciences 63rd Annual Meeting, 2011.
- Polarized Light Microscopy for the Identification of Asbestos, course taught by Dr. Thomas Kubic, at TAKA Instructional Agency, 2010.
- Microscopical Thinking and Trace Evidence, workshop taught by Dr. Peter De Forest, Dr. Gary Laughlin, Peter Diaczuk, Kelly Brinsko and Wayne Moorehead, at the American Academy of Forensic Sciences 61st Annual Meeting, 2009.
- Transmission Electron Microscopy for Airborne Asbestos, course taught by Thomas Emma, at TAKA Instructional Agency, 2008.
- NIOSH 582 Equivalency Course for Sampling and Evaluating Airborne Asbestos Dust, taught by Dr. Thomas Kubic, at TAKA Instructional Agency, 2008.
- Documentation, Collection, and Examination of Fabric Impressions, workshop taught by Ted Schwartz, Clyde Wells and Donald Doller, at the American Academy of Forensic Sciences 60th Annual Meeting, 2008.
- Chemometrics Without Equations, workshop taught by Dr. Donald Dahlberg and Dr. Barry M. Wise, at Eastern Analytical Symposium, 2007.
- Advances and Changes in Forensic Paint Examinations, workshop taught by Scott Ryland, at California Association of Criminalists Semi-annual workshop, Fall 2006.
- Forensic Soil Examinations, workshop taught by Dr. Raymond Murray, Dr. Robert Graham, Marianne Stam, Dr. Lynne Macdonald, Dr. George Sensabaugh, Skip Palenik and Dr. Chris Palenik, at California Association of Criminalists Semi-annual Meeting, Fall 2006.
- The Nose Knows: Canine and Instrumental Detection of Suspects, Explosives, and Cadavers, workshop taught by Dr. Ross Harper, Dr. Allison Curran, Dr. Kenneth Furton, Dr. Brian Eckenrode,

Kip Schultz, Dr. Mark Fisher, Rex Stockham, Ann-Margaret Hinkle and David Kontny, at the American Academy of Forensic Sciences 58th Annual Meeting, 2006.

- Use of the Microscope, workshop taught by Dr. John Reffner, Jan Hinsch, Dennis O'Leary and Mary McCann, at the New York Microscopical Society, Fall 2005.

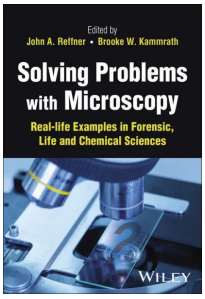
RESEARCH GRANTS

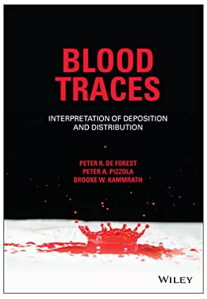
- Principal Investigator:
  - "Application of Morphologically-Directed Raman Spectroscopy (MDRS) for the Forensic Examination of Soils", U.S. Department of Justice, Office of Justice Programs, National Institute of Justice, 2019.
  - "Major Research Instrumentation (MRI): Acquisition of Laser Induced Breakdown Spectrometer (LIBS)", National Science Foundation, 2018.
  - "A Study of the Molecular Chemistry of Glasses by Infrared Microspectroscopy and Its Use In Forensic Glass Discrimination", Doctoral Student Research Grant Program, Competition #5, CUNY Graduate Center, 2010.
- Other:
  - "Application of Machine Learning to Toolmarks: Statistically Based Methods for Impression Pattern Comparisons", U.S. Department of Justice, Office of Justice Programs, National Institute of Justice, 2009.

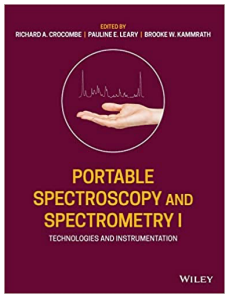
PUBLICATIONS

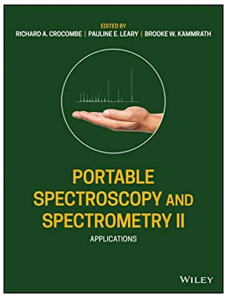
Books

1. Reffner, J.A., **Kammrath, B.W**. (Eds.) (2023). Solving Problems with Microscopy: Real-life Examples in Forensic, Life and Chemical Sciences. John Wiley & Sons. ISBN: 978-1119788225.
2. De Forest P.R., Pizzola, P. and **Kammrath, B.W.** (2021). Blood Traces: Interpretation of Deposition and Distribution. John Wiley & Sons. ISBN: 978-1119764533.
3. Crocombe, R, Leary, P.E. and **Kammrath, B.W.** (Eds.). (2021). Portable Spectroscopy and Spectrometry 1: Technologies and Instrumentation. John Wiley & Sons. ISBN: 978-1119636366.
4. Crocombe, R, Leary, P.E. and **Kammrath, B.W.** (Eds.) (2021). Portable Spectroscopy and Spectrometry 2: Applications. John Wiley & Sons. ISBN: 978-1119636403.









Laboratory Manuals

1. Petraco, N., Kubic, T.A., **Kammrath, B.W.** (2025, in preparation). Forensic Science Laboratory Manual and Workbook, 4th Edition. Taylor & Francis Group, LLC.
2. **Kammrath, B.**, De Alcaraz-Fossoul, J., Schwartz, T., O'Brien, R.C., Maxwell, V. (2024). Physical Methods Laboratory Manual. 7th Edition. Academx. ISBN: 979-8-88972-062-1.
3. **Kammrath, B.**, De Alcaraz-Fossoul, J., Schwartz, T., O'Brien, R.C., Maxwell, V. (2023). Physical Methods Laboratory Manual. 6th Edition. Academx. ISBN: 978-1-68284-993-4.

4. **Kammrath, B.**, De Alcaraz-Fossoul, J., O'Brien, R.C., Harris, H., Maxwell, V. (2022). Physical Methods Laboratory Manual. 5th Edition. Academx. ISBN: 978-1-68284-906-4.
5. **Kammrath, B.**, De Alcaraz-Fossoul, J., O'Brien, R.C., Harris, H., Maxwell, V. (2021). Physical Methods Laboratory Manual. 4th Edition. Academx. ISBN: 978-1-68284-826-5.
6. **Kammrath, B.**, De Alcaraz-Fossoul, J., O'Brien, R.C., Harris, H., Maxwell, V. (2020). Physical Methods Laboratory Manual. 3rd Edition. Academx. ISBN: 978-1-68284-739-8.
7. **Kammrath, B.**, De Alcaraz-Fossoul, J., O'Brien, R.C., Harris, H., Maxwell, V. (2019). Physical Methods Laboratory Manual. 2nd Edition. Academx. ISBN: 978-1-68284-584-4.
8. **Kammrath, B.**, Maxwell, V., O'Brien, R.C., Harris, H. (2018). Physical Methods Laboratory Manual. Academx. ISBN: 978-1-68284-410-6.
9. Maxwell, V., Powers, R., **Kammrath, B.** (2018). Criminalistics Laboratory Manual. 2nd Edition. Academx. ISBN: 978-1-68284-407-6.
10. **Kammrath, B.**, Powers, R., Maxwell, V. (2017). Criminalistics Laboratory Manual. Academx. ISBN: 978-1-68284-227-0.

Book Chapters

1. **Kammrath, B.W.,** Ted Schwartz (2025, accepted). Evidence Traces. In Dr. Lee's Forensic Science – A Case Study Approach, Lee, H.C. and Pagliaro, E. (Eds.): Cognella, Inc.
2. Webb, K., Stam, M., **Kammrath, B.W.** (2024). Wooden Matchsticks. In Forensic Botany, 2nd Edition, Coyle, H.M. (Ed.): CRC Press.
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1. ⌘**Kammrath, B.W.** (2024) Experiential Forensic Science Research with Portable Spectrometers. Eastern Analytical Symposium, Plainsboro, New Jersey.
2. ⌘Crocombe, R., **Kammrath, B.W.,** Leary, P.E. (2024) Portable Raman Spectrometers, Fluorescence, and Lego Blocks. Eastern Analytical Symposium, Plainsboro, New Jersey.
3. Kaur, J., Christensen, J., Kuroda, D., Galvin, E., Fikiet, M.A., Maxwell, V., Groves, E., Palenik, S., Palenik, C., De Forest, P.R., **Kammrath, B.W.** (2024) Forensic Soil Analysis by Particle Correlated Raman Spectroscopy (PCRS): Comparison to Traditional Methods. Eastern Analytical Symposium, Plainsboro, New Jersey.
4. Fikiet, M.A., Weinger, L.B., Carreiro, J., Rawson, J., De Alcaraz-Fossoul, J., Crocombe, R.A., Leary, P.E., **Kammrath, B.W.** (2024) Investigating Counterfeit Cannabis Edibles using Vibrational Spectroscopy. The Great Scientific Exchange (SciX), 51st Annual Scientific Meeting, Raleigh, NC.
5. Crocombe, R.A., Leary, P.E., **Kammrath, B.W.** (2024) Portable Raman Spectrometers, Fluorescence and Lego Blocks. The Great Scientific Exchange (SciX), 51st Annual Scientific Meeting, Raleigh, NC.

6. Bartley, A., Schwartz, T., **Kammrath, B.W.** (2024) The Effects of Adhesives on the Subsequent Instrumental Analysis of Various Types of Trace Evidence. Northeastern Association of Forensic Scientists, 50th Annual Meeting, Atlantic City, NJ.
7. Friday, S., Fikiet, M., Marsico, A., Naples, J., Leary, P.E, **Kammrath, B.W.** (2024) Investigating Odor Signatures of Electronic Storage Devices. Northeastern Association of Forensic Scientists, 50th Annual Meeting, Atlantic City, NJ.
8. Kuroda, D., Kaur, J., Christensen, J., Fikiet, M.A., Harrington, P., De Forest, P.R., **Kammrath, B.W.** (2024) Soil Discrimination by Particle Correlated Raman Spectroscopy (PCRS). Northeastern Association of Forensic Scientists, 50th Annual Meeting, Atlantic City, NJ.
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10. Kaur, J., Christensen, J., Groves, E., Palenik, S., Palenik, C., De Forest, P.R., Fikiet, M.A., Maxwell, V., **Kammrath, B.W.** (2024) Capabilities and Limitations of Particle Correlated Raman Spectroscopy (PCRS) for the Analysis of Forensic Soil Minerals. American Academy of Forensic Sciences, 76th Annual Scientific Meeting, Denver, CO.
11. Kaur, J. Notari, C., **Kammrath, B.W.** (2024) An Evaluation of a Comprehensive Raman Spectral Library for the Identification of Soil Minerals. American Academy of Forensic Sciences, 76th Annual Scientific Meeting, Denver, CO.
12. ⌘**Kammrath, B.W.** (2023) Forensic Applications of Portable Spectroscopy. The 4th International Law, Forensics, Investigation, and Education Conference, Rugau & Nantong, China.
13. Gong, S.A., Fikiet, M.A., De Forest, P.R., **Kammrath, B.W.** (2023) The Application of Particle-Correlated Raman Spectroscopic Analysis of Soils to Mock-Casework Scenarios. Eastern Analytical Symposium, Plainsboro, New Jersey.
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16. **Kammrath, B.W.,** Notari, C., Mendoza, M.E., Man, P.C., Brown, S., Messe, G.A., Garvin, H., Gogola, N., Gong, S., Chang, A., Maslar, G., Maxwell, V., Reffner, J.A., De Forest, P.R., Palenik, C., Harrington, P.B., Huck-Jones, D., O'Donnell, B., Whitley, A., (2023) Application of Particle Correlated Raman Spectroscopy (PCRS) for the Forensic Examination of Soils, National Institute of Justice Forensic Science Research and Development Symposium, Orlando, FL.
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21. Carter, M., **Kammrath, B.W.** (2022) The Effect of Washing on the Transfer and Persistence of Fiber Evidence. American Academy of Forensic Sciences, 74th Annual Scientific Meeting, Seattle, Washington.

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31. ⌘**Kammrath, B.W.** (July 2021) Explosives Identification with Portable Ion-Trap GC-MS, 2021 Online Forensic Symposium: Current Trends In Forensic Trace Analysis, Virtual.
32. ⌘**Kammrath, B.W.** (May 5, 2021) Combining Morphological and Chemical Identification for the Interrogation of Forensic Traces, Forensic Sciences Virtual Event by LabRoots, Virtual.
33. ⌘**Kammrath, B.W.,** Garvin, H., Gogola, N., Brown, S., Maxwell, V., Reffner, J.A., De Forest, P.R., Palenik, C., Harrington, P.B., Huck-Jones, D., O'Donnell, B., Whitley, A., (2021) Application of Particle Correlated Raman Spectroscopy (PCRS) for the Forensic Examination of Soils, Pittcon Conference and Expo, Virtual.
34. **Kammrath, B.W.,** Dillon, E., Anderson, J., Marcott, C., Kansiz, M., Schilde, K., and Reffner, J.A., (2021) Forensic Paint Analysis with Simultaneous Optical Photothermal Infrared (O-PTIR) and Raman Microspectroscopy. Pittcon Conference and Expo, Virtual.
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40. Garvin, H., Gogola, N., Brown, S., Maxwell, V., Reffner, J.A., De Forest, P.R., Palenik, C., Harrington, P.B., Huck-Jones, D., O'Donnell, B., Whitley, A., **Kammrath, B.W.** (2020) Soil Mineral Analysis by Particle Correlated Raman Spectroscopy (PCRS): Method Optimization, Northeastern Association of Forensic Scientists, 46th Annual Meeting, Virtual.
41. **Kammrath, B.W.,** Dillon, E., Anderson, J., Marcott, C., Kansiz, M., Schilde, K., and Reffner, J.A., (2020) Simultaneous Optical Photothermal Infrared (O-PTIR) and Raman Microspectroscopy of Automotive Paint, Northeastern Association of Forensic Scientists, 46th Annual Meeting, Virtual.
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43. **Kammrath, B.W.,** Rynearson, L., McMahon, M., Lawton, Z., Kizzire, K., Leary, P.E., (2020) Analysis of Illicit Drugs by Portable Ion Trap Gas Chromatography-Mass Spectrometry (GC-MS), Pittcon Conference and Expo, Chicago, Illinois.
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46. Alcaraz-Fossoul, J., Roberts, K.A., Johnson, C., Barrot, C., Tully-Doyle, R., and **Kammrath, B.W.**, (2020) Ridge Drift: The Relevance of a Not-So-Rare Fingermark Aging Phenomenon. American Academy of Forensic Sciences, 72nd Annual Scientific Meeting, Anaheim, California.
47. Leary, P.E., Davis, S.M., Sanchez-Melo, M.I., Rynearson, L., Vallee, L., Langlois, E., Lawton, Z., Kizzire, K., and **Kammrath, B.W.**, (2020) On-Scene Detection of Low-Dose Fentanyl Tablets. American Academy of Forensic Sciences, 72nd Annual Scientific Meeting, Anaheim, California.
48. Rynearson, L., Lawton, Z., McMahon, M., Leary, P.E., Kizzire, K., and **Kammrath, B.W.**, (2020) An Analysis of Illicit Drugs by Portable Ion-Trap Gas Chromatography/Mass Spectrometry (GC/MS). American Academy of Forensic Sciences, 72nd Annual Scientific Meeting, Anaheim, California.
49. Zednek, R.G., Bowen, A., Reffner, J.A., Carnasciali, M.I., and **Kammrath, B.W.** (2020) Vibrational Spectroscopic Analysis of 3D-Printed Polymers Pre- and Post- Manufacturing. American Academy of Forensic Sciences, 72nd Annual Scientific Meeting, Anaheim, California.
50. Davis, S., Rynearson, L., Lawton, Z., Leary, P., Kizzire, K., and **Kammrath, B.W.**, (2019) Detecting Low-Dose Fentanyl in Acetaminophen with Field Portable Instrumentation. Eastern Analytical Symposium, Plainsboro, New Jersey.
51. Rynearson, L., Lawton, Z., McMahon, M., Leary, P., Kizzire, K., and **Kammrath, B.W.**, (2019) Portable Gas Chromatography-Mass Spectrometry (GC-MS) Analysis of Illicit Drugs. Eastern Analytical Symposium, Plainsboro, New Jersey.
52. San Pietro, D., and **Kammrath, B.W.** (2019) Forensic Pseudoscience?. Northeastern Association

of Forensic Scientists, 45th Annual Meeting, Lancaster, Pennsylvania.

53. Zdenek, R., Bowen, A., Reffner, J.A., Carnasciali, M.I., and **Kammrath, B.W.** (2019) Vibrational Spectroscopic Analysis of 3D Printed Polymers Pre- and Post- Manufacturing. Northeastern Association of Forensic Scientists, 45th Annual Meeting, Lancaster, Pennsylvania.
54. Lieblein, D.K., McMahon, M.E., Leary, P., Massey, P., and **Kammrath, B.W.** (2019) A Comparison of Portable Infrared and Raman Spectrometers and the Narcotic Identification Kit (NIK) Field Test for the On-Scene Analysis of Cocaine HCl. Pittcon Conference and Expo, Philadelphia, Pennsylvania.
55. **Kammrath, B.W.**, Lawton, Z., Goda, S., Massey, P. (2019) Portable GC/MS Identification of Mitragynine in Kratom. Pittcon Conference and Expo, Philadelphia, Pennsylvania.
56. Moquin, K.M., Leary, P.E., **Kammrath, B.W.** (2019) Explosives Analysis with Portable Ion-Trap Gas Chromatography-Mass Spectrometry (GC-MS) for Battlefield Forensics. Pittcon Conference and Expo, Philadelphia, Pennsylvania.
57. Lawton, Z., Goda, S., Massey, P., **Kammrath, B.W.** (2019) Field Identification of Kratom by Portable Gas Chromatography/Mass Spectrometry Instrumentation. American Academy of Forensic Sciences, 71st Annual Scientific Meeting, Baltimore, Maryland.
58. **Kammrath, B.W.**, San Pietro, D., De Forest, P.R. (2019) Rise of the Machine and the Demise of the Forensic Science Laboratory?. American Academy of Forensic Sciences, 71st Annual Scientific Meeting, Baltimore, Maryland.
59. DePrimo, V., Zercie, K., Leary, P., Petraco, N., Dadio, L., **Kammrath, B.W.** (2018) Multiple Transfers of Drug Contaminated Fingermarks and Their Analysis with Raman Spectroscopy. Northeastern Association of Forensic Scientists, 44th Annual Meeting, Bolton Landing, New York.
60. **Kammrath, B.W.**, Lawton, Z., Goda, S., Massey, P. (2018) Kratom Identification by Portable GC/MS Instrumentation. Northeastern Association of Forensic Scientists, 44th Annual Meeting, Bolton Landing, New York.
61. **Kammrath, B.W.**, San Pietro, D., De Forest, P. (2018) The Role of Technology in the Possible Demise of the Forensic Science Laboratory. Northeastern Association of Forensic Scientists, 44th Annual Meeting, Bolton Landing, New York.
62. Lawton, Z., Goda, S., Massey, P., **Kammrath, B.W.** (2018) Kratom Identification by Portable GC/MS Instrumentation. The Great Scientific Exchange (SciX), 45th Annual Scientific Meeting, Atlanta, Georgia.
63. ⌘**Kammrath, B.W.**, Smale, A., and Dahlberg, D. (2018) A Spectral Transfer Method for the Forensic Analysis of Fingernail Polishes and Gels by Infrared Spectroscopy. The Great Scientific Exchange (SciX), 45th Annual Scientific Meeting, Atlanta, Georgia.
64. **Kammrath, B.W.**, Ciano, M., Powers, M., and Chen, E. (2017) The Effect of Environmental Conditions and Substrate Material on the Weathering of Gasoline and Light Petroleum Distillates. Eastern Analytical Symposium, Plainsboro, New Jersey.
65. Kruglak, K.J., Reffner, J.A., Maxwell, V., and **Kammrath, B.W.** (2017) The Evidentiary Significance of Automotive Paints from the Northeast: A Study of Red Paint. Northeastern Association of Forensic Scientists, 43rd Annual Meeting, Pocono Manor, Pennsylvania.
66. Lieblein, D.K., McMahon, M.E., Leary, P., Massey, P., and **Kammrath, B.W.** (2017) A Comparison of Portable Infrared Spectrometers and the Narcotic Identification Kit (NIK) Field Test for the On-Scene Analysis of Cocaine HCl. Northeastern Association of Forensic Scientists, 43rd Annual Meeting, Pocono Manor, Pennsylvania.
67. Moquin, K., Leary, P., and **Kammrath, B.W.** (2017) Explosives Analysis with Portable Ion-Trap Gas Chromatography-Mass Spectrometry (GC-MS) for Battlefield Forensics. Northeastern Association of Forensic Scientists, 43rd Annual Meeting, Pocono Manor, Pennsylvania.

68. ⌘**Kammrath, B.W.** (September 28, 2017). Discrimination and Classification of Nail and Gel Polishes by Microscopic and Microspectroscopic Analytical Methods. New York Microscopical Society, Shevchenko Scientific Society, New York City, New York.
69. **Kammrath, B.W.**, Tilly, S., Kovacev, K., Kuegler, N.L., Leary, P.E., and Reffner, J.A. (2016). Microcrystalline Tests in Conjunction with Vibrational Spectroscopy for the Analysis of Illicit Drugs and Their Metabolites. American Academy of Forensic Sciences, 68th Annual Scientific Meeting, Las Vegas, Nevada.
70. **Kammrath, B.W.**, Koutrakos, A.C., Castillo, J., Wolfgang, J., and Huck-Jones, D. (2015). Forensic Analyses by Morphologically Directed Raman Spectroscopy. The Great Scientific Exchange (SciX), 42nd Annual Scientific Meeting, Providence, Rhode Island.
71. **Kammrath, B.W.**, Koutrakos, A.C., Castillo, J., Wolfgang, J., and Huck-Jones, D. (2015). Forensic Analyses by Morphologically Directed Raman Spectroscopy. Pittcon Conference and Expo, New Orleans, Louisiana.
72. Koutrakos, A.C. and **Kammrath, B.W.** (2015). Forensic Analysis of Hoax Powders Using Morphologically Directed Raman Spectroscopy. American Academy of Forensic Sciences, 67th Annual Scientific Meeting, Orlando, Florida.
73. Fikiet, M.A., Cargill, K.R. and **Kammrath, B.W.** (2015). TLC-SERS of Controlled Substances: Colloid Optimization and Drug Expansion. American Academy of Forensic Sciences, 67th Annual Scientific Meeting, Orlando, Florida.
74. Guerrera, G.M., Chen, E. Valetutti, M., and **Kammrath, B.W.** (2015). Investigation of Body Products on Worn Clothing Found at a Fire Scene Conflicting with Ignitable Liquid Residue Identification by Gas Chromatography/Mass Spectrometry (GC/MS). American Academy of Forensic Sciences, 67th Annual Scientific Meeting, Orlando, Florida.
75. ⌘**Kammrath, B.W.** (January 7, 2015). The Role of the Consulting Criminalist. Connecticut Association of Licensed Private Investigators, Cheshire, Connecticut.
76. Guerrera, G.M., **Kammrath, B.W.**, Chen, E. and Valetutti, M. (2014). Investigation of Body Products on Worn Clothing Substrate Found at a Fire Scene Conflicting with Ignitable Liquid Residue Identification by GC/MS. Eastern Analytical Symposium, Somerset, New Jersey.
77. De Forest, P.R. and **Kammrath, B.W.** (2014). The Creeping Inversion. Northeastern Association of Forensic Scientists, 40th Annual Meeting, Hershey, Pennsylvania.
78. Wolfgang, J., Castillo, J., Huck-Jones, D., Koutrakos, A., **Kammrath, B.** (2014). Forensic Analysis of Hoax Powders Using Morphologically Directed Raman Spectroscopy. Northeastern Association of Forensic Scientists, 40th Annual Meeting, Hershey, Pennsylvania.
79. Cargill, K and **Kammrath, B.W.** (2013). The Identification of Controlled Substances by TLC-SERS. The American Chemical Society Northeast Regional Meeting, New Haven, Connecticut.
80. De Forest, P.R. and **Kammrath, B.W.** (2013). Revisiting the Elemental Analysis of Bullet Lead. The Great Scientific Exchange (SciX), 40th Annual Scientific Meeting, Milwaukee, Wisconsin.
81. **Kammrath, B.W.**, Reffner, J.A., Petraco, D.K.P., and Kubic, T.A. (2013). Forensic Glass Discrimination and Classification with Infrared Microprobe Analysis. American Academy of Forensic Sciences, 65th Annual Scientific Meeting, Washington, DC.
82. ⌘**Kammrath, B.W.**, Reffner, J.A., Petraco, D.K.P., and Kubic, T.A. (2012). The Use of Mid-IR Microspectroscopy for Forensic Glass Analysis. Eastern Analytical Symposium, Somerset, New Jersey.
83. Gambino, C.J., McLaughlin, P., Petillo, G., Kuo, L., Kammerman, F., Shenkin, P., Willie, E., **Kammrath, B.W.**, Purcell, D.K., Diaczuk, P.J., De Forest, P.R., Hamby, J.E., Kubic, T., Petraco, N., Pizzola, P.A., and Petraco, N.D.K. (2011). Computational Pattern Recognition of Striation Patterns on Fired Cartridge Cases and Chisel Striation Patterns. American Academy of Forensic Sciences, 63rd Annual Scientific Meeting, Chicago, Illinois.
84. ⌘**Kammrath, B.W.**, Leary, P.E. and Reffner, J.A. (2010). Collecting Quality FT-IR Spectra of

Suspicious White Powders in a Sealed Cell. Eastern Analytical Symposium, Somerset, New Jersey.

85. **Kammrath, B.W.**, Purcell, D.K., Grandison, A.A., Sekedat, K., Reffner, J.A. and Kubic, T.A. (2010). The Microscopic, Spectrophotometric, and Chemical Characterization of Eco-Fibers. American Academy of Forensic Sciences, 62nd Annual Scientific Meeting, Seattle, Washington.
86. ⌘**Weinger, B.A.**, Purcell, D.K., Grandison, A.A., Sekedat, K., Reffner, J.A. and Kubic, T.A. (2009). Green Forensic Science: The Characterization of Eco-Fibers. Eastern Analytical Symposium, Somerset, New Jersey.
87. ⌘Reffner, J.A., **Weinger, B.A.** and Leary, P.E. (2009). Infrared Petrography. Eastern Analytical Symposium, Somerset, New Jersey.
88. ⌘Leary, P.E., **Weinger, B.A.** and Reffner, J.A. (2009). Mineral Analysis using Linearly Polarized Infrared Microspectroscopy. Eastern Analytical Symposium, Somerset, New Jersey.
89. **Kammrath, B.W.**, Purcell, D.K., Sekedat, K., Grandison, A.A., Reffner, J.A. and Kubic, T.A. (2009). The Microscopic and Chemical Characterization of Eco-Fibers. Northeastern Association of Forensic Scientists, 35th Annual Meeting, Long Beach, New Jersey.
90. Grandison, A.A., Sekedat, K., **Weinger, B.**, Purcell, D.K., Reffner, J.A. and Kubic, T.A. (2009). The Characterization of Eco-Fibers by Infrared and Raman Spectroscopy. Northeastern Association of Forensic Scientists, 35th Annual Meeting, Long Beach, New Jersey.
91. Bucht, R., De Forest, P.R., Kammerman, F. and **Weinger, B.** (2008). Polarized Light Photography of Bloodstains on Dark Surfaces. The Australian and New Zealand Forensic Science Society Inc., Melbourne, Australia.
92. Bucht, R., De Forest, P.R., Kammerman, F. and **Weinger, B.** (2008). Blood on Black- Using Polarized Light to Enhance Bloodstains on Dark Surfaces. International Association of Forensic Sciences, New Orleans, Louisiana.
93. Bucht, R., De Forest, P.R., Kammerman, F. and **Weinger, B.** (2008). Blood on Black- Visualization of Bloodstains on Dark Surfaces. International Association of Identification, Louisville, Kentucky.
94. ⌘**Weinger, B.**, Reffner, J.A., De Forest, P.R. and Leary, P. (2007). Shining A New Light on Mineral Analysis. Eastern Analytical Symposium, Somerset, New Jersey.
95. **Weinger, B.**, Reffner, J.A. and De Forest, P.R. (2007). Rapid, Reliable and Reviewable Mineral Identification with Infrared Microprobe Analysis. The 2nd International Soil Forensics Conference, Edinburgh, Scotland.
96. **Weinger, B.**, Reffner, J.A. and De Forest, P.R. (2007). A Novel Approach to the Examination of Soil Evidence: Mineral Identification Using Infrared Microprobe Analysis. American Academy of Forensic Sciences, 59th Annual Scientific Meeting, San Antonio, Texas.
97. ⌘**Weinger, B.**, Reffner, J.A. and De Forest, P.R. (2006). Mineral Identification Using Infrared Microprobe Analysis with Diamond Attenuated Total Reflection. Smiths Microprobe Workshop, Pine Brook, New Jersey.
98. **Weinger, B.**, Reffner, J.A. and De Forest, P.R. (2006). The Application of Infrared Microprobe Analysis to Mineral Identification. Northeastern Association of Forensic Scientists, 32nd Annual Meeting, Rye Brook, New York.

    *Winner of the 2006 Collegiate Project Competition.
99. **Weinger, B.**, Reffner, J.A. and De Forest, P.R. (2006). Mineral Identification Using Infrared Microprobe Analysis with Diamond Attenuated Total Reflection. California Association of Criminalists, 2006 Fall Seminar, Temecula, California.

Scientific Poster Presentations and Abstracts

1. Friday, S., Fikiet, M., Marsico, A., Naples, J., Leary, P.E, **Kammrath, B.W.** (2024) Investigating Odor Signatures of Electronic Storage Devices. Eastern Analytical Symposium, Plainsboro, New

Jersey.

2. Galvan, E., Brown, D., Ostrowski, D., Leary, P.E., Crocombe, R., **Kammrath, B.W.** (2024) Discovery of False Positive Illicit Drug Identification with Portable Surface Enhanced Raman Spectroscopy (SERS). Northeastern Association of Forensic Scientists, 50th Annual Meeting, Atlantic City, NJ.
3. Crocombe, R., **Kammrath, B.W.,** Leary, P.E. (2023) Lego™ Blocks as Evaluation Samples for Raman Spectrometers. Eastern Analytical Symposium, Plainsboro, New Jersey.
4. Kaur, J., Christensen, J., Galvin, E., Fikiet, M.A., Maxwell, V., Groves, E., Palenik, S., Palenik, C., De Forest, P.R., **Kammrath, B.W.** (2023) Capabilities and Limitations of Particle Correlated Raman Spectroscopy (PCRS) for the Analysis of Forensic Soil Minerals. Northeastern Association of Forensic Scientists, 49th Annual Meeting, Mystic, Connecticut.
5. Crocombe, R., **Kammrath, B.W.,** Leary, P.E. (2023) Lego™ Blocks as Evaluation Samples for Raman Spectrometers. The Great Scientific Exchange (SciX), 50th Annual Scientific Meeting, Reno, Nevada.
6. Gong, S.A., Fikiet, M.A., De Forest, P.R., **Kammrath, B.W.** (2023) The Application of Particle-Correlated Raman Spectroscopic Analysis of Soils to Mock-Casework Scenarios. The Great Scientific Exchange (SciX), 50th Annual Scientific Meeting, Reno, Nevada.
7. Smith, K., Ambers, A., **Kammrath, B.W.** (2023) The Development of a Screening Tool to Determine Optimal Sampling Sites for DNA Recovery from Human Skeletal Remains, American Academy of Forensic Sciences, 75th Annual Scientific Meeting, Orlando, Florida.
8. Covey, J., Musselman, B., Carnasciali, M.I., **Kammrath, B.W.**, (2023) The Forensic Analysis of 3D-Printed Polymers Using Direct Analysis in Real-Time Mass Spectrometry (DART®-MS), American Academy of Forensic Sciences, 75th Annual Scientific Meeting, Orlando, Florida.
9. Covey, J., **Kammrath, B.W.**, Musselman, B., Carnasciali, M.I. (2022) Characterization of the composition of 3-D Printed Devices by using Pulsed Gas Direct Analysis in Real Time Mass Spectrometry, Eastern Analytical Symposium, Plainsboro, New Jersey.
10. Notari, C., **Kammrath, B.W.** (2022) The Importance of a Comprehensive Raman Spectral Library for the Identification of Minerals in Soil, Eastern Analytical Symposium, Plainsboro, New Jersey.
11. Covey, J., **Kammrath, B.W.**, Musselman, B., Carnasciali, M.I. (2022) Characterization of the composition of 3-D Printed Devices by using Pulsed Gas Direct Analysis in Real Time Mass Spectrometry, Northeastern Association of Forensic Scientists, 48th Annual Meeting, Niagara Falls, New York.
12. Notari, C. and **Kammrath, B.W.** (2022) The Importance of a Comprehensive Raman Spectral Library for the Identification of Minerals in Soil, Northeastern Association of Forensic Scientists, 48th Annual Meeting, Niagara Falls, New York.
13. Miller, E., **Kammrath, B.W.,** Lednev, I., Weber, A. (2022) Effect of Hormone Replacement Therapy on Sex Determination Through Raman Spectroscopy. The Great Scientific Exchange (SciX), 49th Annual Scientific Meeting, Covington, Kentucky.
14. Brown, S., Messe, G., Garvin, H., Gogola, N., Notari, C., Maxwell, V., Reffner, J.A., De Forest, P.R., Palenik, C., Harrington, P.B., Huck-Jones, D., O'Donnell, B., Whitley, A., **Kammrath, B.W.** (2022) Soil Mineral Analysis by Particle Correlated Raman Spectroscopy (PCRS): Optimized Dispersion and Double Pass Raman Analysis, American Academy of Forensic Sciences, 74th Annual Scientific Meeting, Seattle, Washington.
15. Carter, M. and **Kammrath, B.W.** (2021) The Effect of Washing on the Transfer and Persistence of Fiber Evidence, Eastern Analytical Symposium, Plainsboro, New Jersey.
16. Messe, G., Brown, S., Garvin, H., Gogola, N., Notari, C., Maxwell, V., Reffner, J.A., De Forest, P.R., Palenik, C., Harrington, P.B., Huck-Jones, D., O'Donnell, B., Whitley, A., and **Kammrath, B.W.** (2021) Soil Mineral Analysis by Particle Correlated Raman Spectroscopy (PCRS):

Optimized Dispersion and Double-Pass Raman Analysis. Eastern Analytical Symposium, Plainsboro, New Jersey.

17. Brown, S., Garvin, H., Gogola, N., Messe, G., Notari, C., Maxwell, V., Reffner, J.A., De Forest, P.R., Palenik, C., Harrington, P.B., Huck-Jones, D., O'Donnell, B., Whitley, A., and **Kammrath, B.W.** (2021) Soil Mineral Analysis by Particle Correlated Raman Spectroscopy (PCRS): Optimized Dispersion and Double-Pass Raman Analysis. Northeastern Association of Forensic Scientists, 47th Annual Meeting, Newport, Rhode Island.
18. Cassata, G., **Kammrath, B.W.,** Provatas, A., and Kizzire, K. (2021) The Development of Colorimetric Methods for Marijuana Identification Via Mobile Phone Imaging. American Academy of Forensic Sciences, 73rd Annual Scientific Meeting, Virtual.
19. Gogola, N., Garvin, H., Brown, S., Maxwell, V., Reffner, J.A., De Forest, P.R., Palenik, C., Harrington, P.B., Huck-Jones, D., O'Donnell, B., Whitley, A., and **Kammrath, B.W.** (2021) The Effects of Sample Preparation Optimization on Soil Mineral Analysis by Particle Correlated Raman Spectroscopy (PCRS). American Academy of Forensic Sciences, 73rd Annual Scientific Meeting, Virtual.
20. Notari, C. and **Kammrath, B.W.** (2021) Forensic Discrimination of Copper Metal by Laser Induced Breakdown Spectroscopy, 2021 Online Forensic Symposium: Current Trends In Forensic Trace Analysis. The Center for Forensic Science Research and Education, Virtual.
21. Notari, C. and **Kammrath, B.W.** (2021) Evaluation of Laser Induced Breakdown Spectroscopy for the Forensic Discrimination of Copper Metal, Florida International University's 10th Annual Forensic Science Symposium. The Center for Forensic Science Research and Education, Virtual.
22. Garvin, H., Gogola, N., Brown, S., Maxwell, V., Reffner, J.A., De Forest, P.R., Palenik, C., Harrington, P.B., Huck-Jones, D., O'Donnell, B., Whitley, A., and **Kammrath, B.W.** (2021) Soil Mineral Analysis by Particle Correlated Raman Spectroscopy (PCRS): Sample Preparation and Raman Analysis Optimization, Florida International University's 10th Annual Forensic Science Symposium. The Center for Forensic Science Research and Education, Virtual.
23. **Kammrath, B.W.,** Garvin, H., Gogola, N., Brown, S., Maxwell, V., Reffner, J.A., De Forest, P.R., Palenik, C., Harrington, P.B., Huck-Jones, D., O'Donnell, B., and Whitley, A., (2020) Soil Mineral Analysis by Particle Correlated Raman Spectroscopy (PCRS): Method Optimization, Eastern Analytical Symposium, Virtual.
24. Cassata, G., **Kammrath, B.W.,** Provatas, A., and Kizzire, K., (2020) The Development of Colorimetric Methods for Marijuana Identification Via Mobile Phone Imaging. Northeastern Association of Forensic Scientists, 46th Annual Meeting, Virtual.
25. Sullivan, M. and **Kammrath, B.W.** (2020) The Analysis and Characterization of Microplastics in Soil – Can Environmental Microplastics be Useful in Forensic Investigations?. The Great Scientific Exchange (SciX), 47th Annual Scientific Meeting, Virtual.
26. **Kammrath, B.W.,** Vallee, L., Sisson, C., Valentin, P., Reffner, J.A., and De Forest, P.R. (2020) Revisiting the Elemental Analysis of Bullet Lead: Laser-Induced Breakdown Spectroscopy (LIBS). Online Forensic Symposium: Current Trends in Forensic Trace Analysis. The Center for Forensic Science Research and Education, Virtual.
27. **Kammrath, B.W.,** Dillon, E., Anderson, J., Marcott, C., Kansiz, M., Kruglak, K., and Reffner, J.A., (2020) Forensic Paint Analysis with Simultaneous Optical Photothermal Infrared (O-PTIR) and Raman Microspectroscopy. Online Forensic Symposium: Current Trends in Forensic Trace Analysis. The Center for Forensic Science Research and Education, Virtual.
28. Bowen, A., Zednek, R.G., **Kammrath, B.W.**, and Carnasciali, M.I. (2020) Physical Properties of Additive Manufacturing to Combat the Illicit Use of 3D Printing Technology. American Academy of Forensic Sciences, 72nd Annual Scientific Meeting, Anaheim, California.
29. Einfalt, M.R., Alcaraz-Fossoul, J., and **Kammrath, B.W.** (2020) The Sensitivity of Fingermark

Color Contrast Between Sexes. American Academy of Forensic Sciences, 72nd Annual Scientific Meeting, Anaheim, California.

30. Scarpelli, N., **Kammrath, B.W.**, and Maxwell, V.M. (2020) The Use of Laser-Induced Breakdown Spectroscopy (LIBS) for the Identification of Bullet Holes. American Academy of Forensic Sciences, 72nd Annual Scientific Meeting, Anaheim, California.
31. Zdenek, R., Bowen, A., Reffner, J.A., Carnasciali, M.I., and **Kammrath, B.W.** (2019) Forensic Analysis of 3D Printed Polymers Pre- and Post- Manufacturing. Eastern Analytical Symposium, Plainsboro, New Jersey.
32. Vallee, L., Sisson, C., De Forest, P.R., Valentin, P., and **Kammrath, B.W.** (2019) An Evaluation of Laser-Induced Breakdown Spectroscopy (LIBS) for Comparative Bullet Lead Analysis. Northeastern Association of Forensic Scientists, 45th Annual Meeting, Lancaster, Pennsylvania.
33. Scarpelli, N., Maxwell, V., and **Kammrath, B.W.** (2019) The Use of Laser Induced Breakdown Spectroscopy (LIBS) for the Identification of Bullet Holes. Northeastern Association of Forensic Scientists, 45th Annual Meeting, Lancaster, Pennsylvania.
34. **Kammrath, B.W.**, Zdenek, R., Bowen, A., Reffner, J.A., and Carnasciali, M.I. (2019) Forensic Analysis of 3D Printed Polymers Pre- and Post- Manufacturing. The Great Scientific Exchange (SciX), 46th Annual Scientific Meeting, Palm Springs, California.
35. Lawton, Z.E., Rynearson, L., San Antonio, M.R., Davis, S.M., Goda, S.A., McMahon, M., Leary, P., Kizzire, K., and **Kammrath, B.W.**, (2019) On-site Identification of Forensic Evidence by Novel Coiled Micro-Extraction sampling device for Portable GC/MS Instrumentation, Pittcon, Atlanta, Georgia.
36. DePrimo, V., Zercie, K., Leary, P., Petraco, N., Dadio, L., and **Kammrath, B.W.** (2019) Multiple Transfers of Drug Contaminated Fingermarks and Their Analysis with Raman Spectroscopy. American Academy of Forensic Sciences, 71st Annual Scientific Meeting, Baltimore, Maryland.
37. Sanchez-Melo, M.I., Maxwell, V., Geiman, I., and **Kammrath, B.W.** (2019) Forensic Characterization and Discrimination of Manila Envelopes. American Academy of Forensic Sciences, 71st Annual Scientific Meeting, Baltimore, Maryland.
38. DePrimo, V., Zercie, K., Leary, P., Petraco, N., Dadio, L., and **Kammrath, B.W.** (2018) Multiple Transfers of Drug Contaminated Fingermarks and Their Analysis with Raman Spectroscopy. Eastern Analytical Symposium, Plainsboro, New Jersey.
39. Sanchez-Melo, M.I., Maxwell, V., Dahlberg, D., and **Kammrath, B.W.** (2018) Forensic Characterization and Discrimination of Manila Envelopes. Eastern Analytical Symposium, Plainsboro, New Jersey.
40. Sanchez-Melo, M.I., Maxwell, V., Dahlberg, D., and **Kammrath, B.W.** (2018) Forensic Characterization and Discrimination of Manila Envelopes. Northeastern Association of Forensic Scientists, 44th Annual Meeting, Bolton Landing, New York.
41. Kruglak, K.J., Reffner, J.A., Maxwell, V., and **Kammrath, B.W.** (2018) The Evidentiary Significance of Automotive Paints from the Northeast: A Study of Red Paint. American Academy of Forensic Sciences, 70th Annual Scientific Meeting, Seattle, Washington.
42. Lieblein, D.K., McMahon, M., Leary, P.E., Massey, P., and **Kammrath, B.W.** (2018) A Comparison of Portable Infrared Spectrometers and the Narcotic Identification Kit (NIK) Field Test for the On-Scene Analysis of Cocaine HCl. American Academy of Forensic Sciences, 70th Annual Scientific Meeting, Seattle, Washington.
43. Moquin, K., Leary, P., and **Kammrath, B.W.** (2018) An Explosives Analysis with Portable Ion-Trap Gas Chromatography-Mass Spectrometry (GC-MS) for Battlefield Forensics. American Academy of Forensic Sciences, 70th Annual Scientific Meeting, Seattle, Washington.
44. Smale, A., Dahlberg, D., and **Kammrath, B.W.** (2018) Development of a Spectroscopic Method

for the Forensic Analysis of Fingernail Polishes and Gels. The Impression, Pattern and Trace Evidence Symposium, Arlington, Virginia.

45. Kruglak, K.J., Reffner, J.A., Maxwell, V., and **Kammrath, B.W.** (2018) The Evidentiary Significance of Automotive Paints from the Northeast: A Study of Red Paint. The Impression, Pattern and Trace Evidence Symposium, Arlington, Virginia.
46. Smale, A., Dahlberg, D., and **Kammrath, B.W.** (2017) Development of a Spectroscopic Method for the Forensic Analysis of Fingernail Polishes and Gels. Eastern Analytical Symposium, Plainsboro, New Jersey.
47. Smale, A., Dahlberg, D., and **Kammrath, B.W.** (2017) Development of a Spectroscopic Method for the Forensic Analysis of Fingernail Polishes and Gels. Northeastern Association of Forensic Scientists, 43rd Annual Meeting, Pocono Manor, Pennsylvania.
48. Ciano, M., Powers, M., Chen, E. Valetutti, M. and **Kammrath, B.W.** (2017) The Effect of Environmental Conditions and Substrate Material on the Weathering of Gasoline and Light Petroleum Distillates. American Academy of Forensic Sciences, 69th Annual Scientific Meeting, New Orleans, Louisiana.
49. Ciano, M., Powers, M., Chen, E. Valetutti, M. and **Kammrath, B.W.** (2016) The Effect of Environmental Conditions and Substrate Material on the Weathering of Gasoline and Light Petroleum Distillates. Northeastern Association of Forensic Scientists, 42nd Annual Meeting, Atlantic City, New Jersey.
50. Kroon, B., Pagliaro, E.M., and **Kammrath, B.W.** (2016). Evaluation of Microscopy and Vibrational Spectroscopy for the Discrimination of Purple and Blue Nail Polishes. American Academy of Forensic Sciences, 68th Annual Scientific Meeting, Las Vegas, Nevada.
51. Koutrakos, A.C. and **Kammrath, B.W.** (2016). Forensic Soil Analysis by Morphologically Directed Raman Spectroscopy. American Academy of Forensic Sciences, 68th Annual Scientific Meeting, Las Vegas, Nevada.
52. Schlagetter, T.J., **Kammrath, B.W.**, and Glynn, C. (2016). Investigating the Use of Raman Spectroscopy for the Differentiation of Mixed Body Fluid Samples. American Academy of Forensic Sciences, 68th Annual Scientific Meeting, Las Vegas, Nevada.
53. Wagner, A.M., O'Brien, R.C., Pagliaro, E.M., and **Kammrath, B.W.** (2016). Characterization by SEM-EDX of Nail and Gel Polishes and its Real World Applications. American Academy of Forensic Sciences, 68th Annual Scientific Meeting, Las Vegas, Nevada.
54. Kroon, B., Pagliaro, E., and **Kammrath, B.W.** (2015) Evaluation of Microscopy and Vibrational Spectroscopy for the Discrimination of Purple and Blue Nail Polishes. Northeastern Association of Forensic Scientists, 41st Annual Meeting, Hyannis, Massachusetts.
55. **Kammrath, B.W.**, Bois, N., Clement, K., and Pagliaro, E. (2015). Discrimination and Classification of Nail Polishes by Microscopical and Spectroscopical Analytical Methods. The Impression, Pattern and Trace Evidence Symposium, San Antonio, Texas.
56. Petraco, D.K, **Kammrath, B.W.**, Shenkin, P., Gambino, C. and Hamby, J. (2015). Frequentist and Bayesian Measures of Association Quality in Algorithmic Toolmark Identification. The Impression, Pattern and Trace Evidence Symposium, San Antonio, Texas.
57. Koutrakos, A., **Kammrath, B.**, and Huck-Jones, D. (May 2014). Particle size distribution of chemically identified components in counterfeit medicines to help trace the source. Joint Pharmaceutical Analysis Group, Royal Pharmaceutical Society, London, England.
58. Bois, N. and **Kammrath, B.W.** (2014). Characterization and Discrimination of Nail and Gel Polishes. American Academy of Forensic Sciences, 66th Annual Scientific Meeting, Seattle, WA.
59. Briggs, R., Cortez, A.G., De Forest, P.R., Valentin, P. and **Kammrath, B.W.** (2014). Enhancing the Value of Information Derived from the Measured Diameters of Bullet Holes. American

Academy of Forensic Sciences, 66th Annual Scientific Meeting, Seattle, Washington.

60. Cargill, K. and **Kammrath, B.W.** (2014). TLC-SERS for the Identification of Controlled Substances. American Academy of Forensic Sciences, 66th Annual Scientific Meeting, Seattle, Washington.
61. Dupper, C.M., Harris, H., Powers, R.H., and **Kammrath, B.W.** (2014). Analysis of Portable Infrared Technology for the Identification of Solid Drug Samples. American Academy of Forensic Sciences, 66th Annual Scientific Meeting, Seattle, Washington.
62. Cargill, K and **Kammrath, B.W.** (2013). The Identification of Controlled Substances by TLC-SERS. Northeastern Association of Forensic Scientists, 39th Annual Meeting, Cromwell, Connecticut.
63. **Kammrath, B.W.**, Kammerman, F.L., Kuo, L., Phelps, E.W., Diaczuk, P., McLaughlin, P., Phelps, E., Hamby, J.E., Petraco, D.K. (2013). Multivariate Empirical Bayes Methods Applied to the Identification of Impression Evidence. American Academy of Forensic Sciences, 65th Annual Scientific Meeting, Washington, DC.
64. **Kammrath, B.W.**, Kammerman, F.L., Kuo, L., Phelps, E.W., Diaczuk, P., McLaughlin, P., Petraco, D.K. (2012). The Application of Empirical Bayes Methods to the Identification of Toolmarks. The Impression and Pattern Evidence Symposium, Clearwater Beach, Florida.
65. **Kammrath, B.W.**, Leary, P.E., Reffner, J.A. (2011). The Impact of Chromatic Aberration on the Infrared Microspectral Analysis of Trace Evidence. Trace Evidence Symposium, Kansas City, Missouri.
66. **Kammrath, B.W.**, Leary, P.E., Reffner, J.A. (2011). FT-IR Microprobe Analysis of Suspected Bioterrorism Hoaxes in a Sealed Cell. American Academy of Forensic Sciences, 63rd Annual Scientific Meeting, Chicago, Illinois.
67. Purcell, D.K., **Weinger, B.A.**, Kubic, T.A., Reffner, J.A., Grandison, A. and Sekedat, K. (2009) Environmentally Friendly Forensics: The Characterization of Eco-Fibers. The Trace Evidence Symposium, Clearwater Beach, Florida.
68. Reffner, J.A., **Weinger, B.A.**, Martinez, V.L. and Kubic, T.A. (2009) Applications of Diamond Internal Reflection Infrared Microspectroscopical Analysis to Mineral and Glass Trace Evidence. The Trace Evidence Symposium, Clearwater Beach, Florida.
69. Reffner, J.A., Leary, P.E., **Weinger, B.A.** (2006) The Increased Role of the Infrared Microprobe in Trace Analysis. American Society of Crime Laboratory Directors, 2006 Annual Workshop and Symposium, San Francisco, California.

RESEARCH SUPERVISION AND MENTORING

Ph.D. Student Research

1. Jasmine Kaur, Criminal Justice, May 2027 (in progress).
   University of New Haven
2. Mengbei Wang, Criminal Justice, May 2025 (in progress).
   University of New Haven
   Dissertation Title: *The Role of Forensic Evidence on Homicide Clearance and Adjudications – AN Analysis of Homicide Cases in the State of Vermont FROM 2011-2021.*
3. Andrew Koutrakos, MS, Nanosciences and Advanced Technologies, May 2018.
   University of Verona, Department of Legal Medicine
   Dissertation Title: *Phosphatidylethanol and Alcohol Biomarkers.*
   Additional Research Projects:
   - *Forensic Science Applications of Morphologically Directed Raman Spectroscopy.*
   - *Investigation of the Contamination of Arson Evidence by Tape Adhesives*.

Graduate Student Thesis Research

1. Mei Yuan, Masters of Science, Forensic Science, May 2025 (in progress).
   Thesis: *Investigation of the Odor Signatures of Electronic Devices.*
2. Samuel Friday, Masters of Science, Forensic Science, May 2025 (in progress).
   Thesis: *Identifying and Differentiating Odor Signatures of Electronic Devices.*
3. Drew Kuroda, Masters of Science, Forensic Science, May 2025 (in progress).
   Thesis: *Analysis of Variation of Soils by Particle-Correlated Raman Spectroscopy.*
4. Sam Gong, Masters of Science, Forensic Science, May 2024.
   Thesis: *The Analysis of Soil by Particle-Correlated Raman Spectroscopy.*
5. Jenna Covey, Masters of Science, Forensic Science, May 2023.
   Thesis: *Forensic Analysis of 3D Printed Polymers.*
6. Maria Elena Mendoza, Masters of Science, Forensic Science, May 2023 *(not completed)*
   Thesis: *Analysis of Variation of Soils From Remote Locations by Particle-Correlated Raman Spectroscopy.*
7. Kathleen Smith, Masters of Science, Forensic Science, May 2023.
   Thesis: *Development of a Spectroscopic Screening Tool to Determine Optimal Sampling Sites for DNA recovery from Human Skeletal Remains.*
8. Madison Carter, Masters of Science, Forensic Science, May 2022.
   Thesis: *The Effects of Washing on The Transfer and Persistence of Fiber Evidence.*
9. Hannah Garvin, Masters of Science, Forensic Science, May 2021.
   Thesis: *Soil Analysis Via Particle-Correlated Raman Spectroscopy: Optimizing the Sample Preparation and Instrumentation Parameters.*
10. Kaitlin Farrell, Masters of Science, Forensic Science, May 2021.
    Thesis: *The Extraction and Concentration of Fentanyl in Low-Dose Samples and Tablets for Field Analysis by Portable Gas Chromatography-Mass Spectrometry and Vibrational Spectroscopy.*
11. Lauren Vallee, Masters of Science, Forensic Science, May 2020.
    Thesis: *An Evaluation of Laser Induced Breakdown Spectroscopy for the Analysis of Bullet Lead.*
12. Victoria Deprimo, Masters of Science, Forensic Science, May 2019.
    Thesis: *Multiple Transfers of Drug Contaminated Fingermarks and their Analysis with Raman Spectroscopy.*
13. Maria Isabel Sanchez Melo, Masters of Science, Forensic Science, May 2019.
    Thesis: *Forensic Characterization and Discrimination of Manila Envelopes.*
14. Kaitlin Kruglak, Masters of Science, Forensic Science, May 2018.
    Thesis: *Evidentiary Significance of Automotive Paints From the Northeast: A Study of Red Paint.*
15. Matthew Ciano, Masters of Science, Forensic Science, May 2017.
    Thesis: *The Effect of Environmental Conditions and Substrate Material on the Weathering of Gasoline and Light Petroleum Distillates.*
16. Audriana Wagner, Masters of Science, Forensic Science, May 2016.
    Thesis: *Characterization and Degradation of Nail and Gel Polishes by Microscopy and Spectroscopy.*
17. Marisia Fikiet, Masters of Science, Forensic Science, May 2015.
    Thesis: *TLC-SERS of Controlled Substances: Colloid Optimization and Drug Expansion.*
18. Gina Guerrera, Masters of Science, Forensic Science, May 2015.
    Thesis: *Investigation of Body Products on Worn Clothing Substrate Found at a Fire Scene Conflicting with Ignitable Liquid Residue Identification by GC-MS.*
19. Courtney Dupper, Masters of Science, Forensic Science, May 2014.
    Thesis: *Analysis of Portable Infrared Technology for the Identification of Solid Drug Samples.*
20. Nicole Bois, Masters of Science, Forensic Science, May 2014.
    Thesis: *Characterization and Discrimination of Nail and Gel Polishes with Microscopy and*

Vibrational Microspectroscopy.

Graduate Student Independent Study Research

1. Marisa San Antonio, Masters of Science, Forensic Technology, May 2020.
   Independent Study: *Explosive Analysis with the Portable Ion-Trap Gas Chromatography-Mass Spectrometry (GC-MS)*
2. Zachary Schwartz, Masters of Science, Forensic Science, May 2015.
   Independent Study: *Roadside Detection of Marijuana for Intoxicated Drivers.*
3. SB Addison Larson, Masters of Science, Forensic Science, May 2014.
   Independent Study: *The Effects of Applied Heat on Human Head Hair: Morphology and Chemistry.*
4. Megan Fimbel, Masters of Science, Forensic Science, May 2014.
   Independent Study: *Using the Craic Flex Microspectrophotometer.*
5. Caitlin Carbone, Masters of Science, Forensic Science, May 2013.
   Independent Study: *Rigaku XRD Quick Start Guide.*

Graduate Student Thesis Committees

1. Ashlyn Bartley, Masters of Science, Forensic Science, May 2025 (in progress)
   Thesis: *The Effects of Adhesives on the Subsequent Instrumental Analysis of Various Types of Trace Evidence*
2. Pok Chan Man, Masters of Science, Forensic Science, May 2023.
   Thesis: *Evaluating the Evidentiary Significance of Microplastics in Soil.*
3. Savanah Brown, Masters of Science, Forensic Science, May 2022.
   Thesis: *Evaluation of a Facile Lefetamine Synthesis Method*
4. Griffin Cassata, Masters of Science, Forensic Science, May 2021.
   Thesis: *Analysis of Tetrahydrocannabinol (THC) Percentage in Suspected Marijuana Using Cellphone-based Field Test.*
5. Daryn Javer, Masters of Science, Forensic Science, May 2021.
   Thesis: *3D Microscopic Analysis of Fingermark Aging with Respect to Temperature as a Function of Time.*
6. Mallory Einfalt, Masters of Science, Forensic Science, May 2020.
   Thesis: *The Influence of Biological Sex on Latent Fingermark Aging.*
7. Victoria Andrade, Masters of Science, Forensic Science, December 2018.
   Thesis: *Detection and Identification of Explosive Material Residue Through Surface-Enhanced Infrared and Raman Spectroscopy.*
8. Justine Kawa, Masters of Science, Forensic Science, May 2017.
   Thesis: *Investigating the Ability to Identify Vaginal Material Using Histological, Spectroscopic and Molecular Methods.*
9. Brandon Reyes, Masters of Science, Forensic Science, May 2017.
   Thesis: *The Effects of Ethanol on Acetaminophen Glucuronidation.*
10. Corey Scott, Masters of Science, Forensic Science, May 2015.
    Thesis: *Confirmed Potential: Analysis and Comparison of Explosive Residue with Portable and Laboratory-Based Attenuated Total Reflection Fourier Transform Infrared Spectroscopy.*
11. Zachary Schwartz, Masters of Science, Forensic Science, May 2015.
    Thesis: *Detection of Cannabinoids by Voltammetry.*
12. Shanae Armstrong, Masters of Science, Forensic Science, May 2014.
    Thesis: *The Effects of Water Exposure on Typeable Human DNA From Tissue Samples.*
13. Kathleen Barra, Masters of Science, Forensic Science, May 2013.
    Thesis: *Raman Spectroscopy as a Non-Destructive Technique to Differentiate Circulatory and*

Menstrual Blood.

14. Caitlin Carbone, Masters of Science, Forensic Science, May 2013.
    Thesis: *The Use of Tannin to Characterize Plant Matter.*
15. John Culmone, Masters of Science, Forensic Science, May 2013.
    Thesis: *Surface Enhanced Raman Spectroscopic Detection of Trace Explosives In Fingerprint Residue.*
16. Jeff Dukette, Masters of Science, Forensic Science, May 2013.
    Thesis: *Soil Analysis in Forensic Science: The Use of Raman Spectroscopy as a Means of Characterizing Soil Samples Based on Their Mineral Content.*
17. Jessie Hammond, Masters of Science, Forensic Science, May 2013.
    Thesis: *Characterization of Tattoo Inks Using Raman Spectroscopy and the Use of Handheld Instrumentation at Autopsy to Aid in Identifying Decedents.*
18. Rebecca Skaglin, Masters of Science, Forensic Science, May 2013.
    Thesis: *Error Rate in Calculation of Sex Via Skeletal Measurements of a Population Over Time.*

Undergraduate Student Honors Research:

1. Anna Marrcotte, Bachelors of Science, Forensic Science, May 2024.
   Honors Thesis: *Validation of the RedWave XtractlR Test Kit on the extraction of Fentanyl from test mixtures.*
2. Patrick Ditto, Bachelors of Science, Forensic Science, May 2023.
   Honors Thesis: *Copper Wire Discrimination with Laser Induced Breakdown Spectroscopy.*
3. Noah Martineau, Bachelors of Science, Forensic Science, May 2023.
   Honors Thesis: *Comparison of Two Portable Gas Chromatography-Mass Spectrometry (GC-MS) Instruments for the Identification of Fentanyl Analogs.*
4. Emily Miller, Bachelors of Science, Forensic Science, May 2023.
   Honors Thesis: *Effect of Hormone Replacement Therapy on Sex Determination through Raman Spectroscopy.*
5. Rebecca Chan-Chao, Bachelors of Science, Forensic Science, May 2022.
   Co-mentored with Prof. Koby Kizzire.
   Honors Thesis: *The Application of Cayman Chemical's Fentanyl Analog Screening Kit toward the Evaluation of Portable Gas Chromatography-Mass Spectrometry (GC-MS) to Identify Fentanyl Analogs with Similar Retention Times.*
6. Michael Niedziejko, Bachelors of Science, Forensic Science, May 2022.
   Co-mentored with Prof. Koby Kizzire.
   Honors Thesis: *Investigating the Ability of the Portable GC-MS to Differentiate Stereoisomers of Fentanyl Analogs Using Cayman Chemical's Fentanyl Analog Screening Kit.*
7. Elizabeth Licht, Bachelors of Science, Forensic Science, May 2022.
   Co-mentored with Prof. David San Pietro.
   Honors Thesis: *Investigating DNA Degradation of Blood Deposits By Raman Spectroscopy.*
8. Mae Griffin, Bachelors of Science, Forensic Science, May 2022.
   Honors Thesis: An Investigation of the Effect of Temperature and Humidity on the Formation of Antemortem Root Banding
9. Cody Silverman, Bachelors of Science, Forensic Science, May 2022.
   Co-mentored with Prof. Angie Ambers.
   Honors Thesis: Evaluation of Raman spectroscopy as a screening tool to predict DNA recovery potential in skeletonized human remains.
10. Michaela Sullivan, Bachelors of Science, Forensic Science, May 2021.
    Honors Thesis: *The Analysis and Characterization of Microplastics in Soil – Can Environmental Microplastics be Useful in Forensic Investigations?*

11. Alexandria Ross, Bachelors of Science, Forensic Science, May 2021.
    Honors Thesis: *LIBS Analysis of Manilla Envelopes.*
12. Jessica Enos, Bachelors of Science, Forensic Science, May 2021. Co-mentored with Prof. Koby Kizzire.
    Honors Thesis: *An Evaluation of Portable GC-MS and HPMS for the Detection and Identification of Explosives*
13. Elizabeth Stellakis, Bachelors of Science, Forensic Science, December 2020.
    Honors Thesis: *An Investigation of the Differentiation of Biological Sex of Donors Based on Raman Spectroscopy of Bloodstains.*
14. Ryan Zdenek, Bachelors of Science, Forensic Science, May 2020.
    Honors Thesis: *Forensic Investigation of 3D Printed Polymers using Vibrational Spectroscopy.*
15. Leah Rynearson, Bachelors of Science, Forensic Science, May 2019.
    Honors Thesis: *Field-deployable Gas-Chromatography/Mass Spectrometry (GC/MS) Analysis of Illicit Drugs.*
16. Christine Decker, Bachelors of Science, Forensic Science, May 2019.
    Honors Thesis: *Forensic Investigation of the Microscopic and Spectroscopic Characteristics of Shimmer in Nail Polish.*
17. Dory Lieblein, Bachelors of Science, Forensic Science, May 2018.
    Honors Thesis: *A Comparison of Portable Infrared and Raman Spectrometers and The NIK Field Test for the On-Scene Analysis of Cocaine.*
18. Kayla Moquin, Bachelors of Science, Forensic Science, May 2018.
    Honors Thesis: *Explosive Analysis with Portable Ion-Trap Gas Chromatography-Mass Spectrometry (GC-MS) for Battlefield Forensics.*
19. Natasha Kuegler, Bachelors of Science, Forensic Science, May 2016.
    Honors Thesis: *Analysis and Characterization of Drug Microcrystals Using Raman Microspectroscopy and Fourier Transform Infrared Microspectroscopy.*
20. Brianna Kroon, Bachelors of Science, Forensic Science, May 2016.
    Honors Thesis: *Evaluation of Microscopy and Vibrational Spectroscopy for the Discrimination of Purple and Blue Nail Polishes.*
21. Caitlin Izzo, Bachelors of Science, Forensic Science, May 2015.
    Honors Thesis: *Analysis of drugs in thin films using Surface Enhanced Raman Spectroscopy to evaluate their detection in latent fingerprint residues.*
22. Kelly Webb, Bachelors of Science, Forensic Science, May 2014.
    Honors Thesis: *Analysis of Brand Identification of Wooden Matchsticks.*
23. Shannon Tilly, Bachelors of Science, Forensic Science, May 2014.
    Honors Thesis: *Drug Analysis Using Raman Spectroscopy in Conjunction with Microcrystalline Tests.*
24. Kaitlin Clement, Bachelors of Science, Forensic Science, May 2014.
    Honors Thesis: *Brand Classification and Discrimination of Traditional Nail and New Gel Polishes with Ultraviolet-Visible Microspectroscopy.*
25. Samantha Jenkins, Bachelors of Science, Forensic Science, May 2014.
    Honors Thesis: *Significance and Prevalence of Fiber Evidence in Dryer Lint.*
26. Rebecca Briggs, Bachelors of Science, Forensic Science, May 2014.
    Honors Thesis: *Enhancing the Value of Information Derived from the Measured Diameters of Bullet Holes*.

Undergraduate Student Capstone Research:

1. Jenna Rosario, Bachelors of Science, Forensic Science, May 2024 (in progress).
   Capstone: *Application of Particle Correlated Raman Spectroscopy (PCRS) for the Forensic*

Examination of Soils.

2. Ella Galvin, Bachelors of Science, Forensic Science, December 2024 (in progress).
   Capstone: Discovery of False Positive Illicit Drug Identification with Portable Surface Enhanced Raman Spectroscopy (SERS)
3. Joshua Christensen, Bachelors of Science, Forensic Science, December 2024 (in progress).
   Capstone: *Protocols for the Forensic Examination of Soil Minerals by Particle Correlated Raman Spectroscopy (PCRS).*
4. Gabriella Maslar, Bachelors of Science, Forensic Science, May 2023.
   Capstone: *Application of Particle Correlated Raman Spectroscopy (PCRS) for the Forensic Examination of Soils.*
5. Abigail Chang, Bachelors of Science, Forensic Science, December 2022.
   Capstone: *Potential Challenges to Particle Correlated Raman Spectroscopy (PCRS) in the Forensic Examination of Soils.*
6. Devanie Shirley, Bachelors of Science, Forensic Science, May 2022.
   Capstone: *Field Extraction and Identification of Low Concentration Illicit Drugs using Portable Infrared Spectroscopy.*
   Additional Research Projects: *Forensic Investigation of 3D Printed Polymers using Vibrational Spectroscopy.*
7. Catelin Gamelin, Bachelors of Science, Forensic Science, May 2022.
   Capstone: Investigation of Post Mortem Root Banding (PMRB) in Animal Hair.
8. Chase Notari, Bachelors of Science, Forensic Science, May 2021.
   Capstone: Evaluation of Laser Induced Breakdown Spectroscopy (LIBS) for the Forensic Discrimination of Copper Metal.
9. Alyssa Mondaca, Bachelors of Science, Forensic Science, May 2020.
   Capstone: Advancements in Forensic Analysis of Glass Fragments With a Focus on Laser-Based Methods: Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS) and Laser Induced Breakdown Spectroscopy (LIBS): A Critical Review of the Literature
10. Diana Shmul, Bachelors of Science, Forensic Science, May 2020.
    Capstone: *The Forensic Identification Of Blood: A Critical Review of the Literature*
11. Madison Conte, Bachelors of Science, Forensic Science, May 2019.
    Capstone: *The Identification of Controlled Substances by TLC-SERS.*
12. Mara Dubnicka, Bachelors of Science, Forensic Science, May 2018.
    Capstone: *A Study of Blue Automotive Paints in the Northeast for the Determination of Population Statistics*
13. Sarah Goda, Bachelors of Science, Forensic Science, May 2018.
    Capstone*: Developing Methods for Identification of Kratom Through Mitragynine and 7-Hydroxymitragynine*
14. Joseph DePalo, Bachelors of Science, Forensic Science, May 2018.
    Capstone: *An Investigation of the use of ATR FT-IR Microspectroscopy for the Classification of Biological Sex and Racial Origin of Hair*
15. Erin Murdoch, Bachelors of Science, Forensic Science, May 2017.
    Capstone: *Analysis of the Composition of Petroleum Distillates After 90% Weathering.*
16. Ashley Kuhn, Bachelors of Science, Forensic Science, May 2015.
    Capstone: *Analytical Comparison of Normal Raman Spectroscopy to Surface-Enhanced Raman Spectroscopy (SERS) on Pigments and Its Application in Forensic Science.*
17. Kara Kovacev, Bachelors of Science, Forensic Science, May 2014.
    Capstone: *Drug Analysis Using Raman Spectroscopy in Conjunction with Microcrystalline Tests.*
18. Christopher Juber, Bachelors of Science, Forensic Science, May 2013.
    Capstone: *An Investigation into the Discrimination of Safety Matches for Forensic Identification.*

Summer Undergraduate Research Fellowship (SURF):

1. Joshua Christensen, Bachelors of Science, Forensic Science, May 2025 (in progress).
   2023 SURF: *Application of Particle Correlated Raman Spectroscopy (PCRS) for the Forensic Examination of Soils.*
2. Emily Miller, Bachelors of Science, Forensic Science, May 2023.
   2022 SURF: Effect of Hormone Replacement Therapy on Gender Determination through Raman Spectroscopy.
3. Cody Silverman, Bachelors of Science, Forensic Science, May 2022.
   Co-mentored with Prof. Angie Ambers.
   2021 SURF: Compositional Analysis of Human Skeletal Samples Using Raman Spectroscopy and Correlation to DNA Recovery.
4. April Bowen, Bachelors of Science, Mechanical Engineering, May 2021.
   Co-Mentored with Prof. Maria-Isabel Carnasciali
   2019 SURF: *Physical Properties of Additive Manufacturing to Combat Illicit Use of 3D Printing Technology*
5. Ryan Zdenek, Bachelors of Science, Forensic Science, May 2020.
   Co-mentored with Prof. Maria-Isabel Carnasciali
   2019 SURF: *Forensic Analysis of 3D Printed Polymers Pre- and Post-Manufacturing.*
6. Dory Lieblein, Bachelors of Science, Forensic Science, May 2018.
   2017 SURF Project: *A Comparison of Portable Infrared Spectrometers and The NIK Field Test for the On-Scene Analysis of Cocaine.*
7. Kayla Moquin, Bachelors of Science, Forensic Science, May 2018.
   2017 SURF Project: *Explosives Analysis with Portable GC-MS for Battlefield Forensics.*
8. Kasey Cargill, Bachelors of Science, Forensic Science, May 2015.
   2013 SURF Project: *The Identification of Controlled Substances by TLC-SERS.*

Undergraduate Student Independent Study Research:

1. Arely Parra-Lopez, Bachelors of Science, Forensic Science, May 2021.
   Independent Study: *Examining the Role of Forensic Science in Wrongful Convictions.*