Jamie Spaulding
Curriculum Vitae

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Positions Held

9/2021 – Present	**Director of Forensic Science** Hamline University, Saint Paul, MN
9/2020 – Present	**Assistant Professor of Forensic Science** Hamline University, Saint Paul, MN
8/2016 – 8/2020	**Graduate Teaching Assistant** West Virginia University, Morgantown, WV
1/2020 – 5/2020	**Adjunct Instructor** Hamline University, Saint Paul, MN
1/2013 – 8/2016	**Senior Police Cadet** West Virginia University Police Department, Morgantown, WV
8/2015 – 12/2015	**Graduate Teaching Assistant** West Virginia University, Morgantown, WV
5/2014 – 8/2014	**Student Intern** Morgantown Police Department, Detective Division, Morgantown, WV

Education

2017 – 2020	**Ph.D. Forensic Science** West Virginia University, Morgantown, WV Dissertation title: *Spatio-temporal analysis of crime incidents for forensic investigation*
2015 – 2017	**M.S. Forensic and Investigative Science** West Virginia University, Morgantown, WV Thesis title: *Evidence utility in forensic intelligence models*
2010 – 2015	**B.S. Forensic and Investigative Science** **B.A. Criminology** West Virginia University, Morgantown, WV

Teaching

Courses taught at Hamline University:
   *Designates course developed

- *CJFS 1600: **Scientific Investigation of Crime.** Anticipated course under development.
- *CJFS 3400: **Survey of Forensic Science.** 35 – 40 students each semester.
- *CJFS 3410: **Crime Scene and Death Investigation.** 16 students each Fall.
- *CJFS 3420: **Forensic Biology.** 16 students alternating years.
- *CJFS 3425: **Forensic Chemistry.** 12 students alternating years.
- *CJFS 3435: **Forensic Photography.** 16 students alternating years.
- *CJFS 3440: **Forensic Fingerprint Examination.** 16 students alternating years.
- *CJFS 3445: **Latent Fingerprints.** 16 students alternating years.
- *CJFS 3450: **Forensic Firearm and Toolmark Examination.** 15 students alternating years.
- *CJFS 5400: **Professional Issues in Forensic Science.** 15 students alternating years.
- CJFS 5660: **Senior Capstone and Internship in CJFS.** 5 – 10 students each Summer.

Courses taught at West Virginia University:

- FIS 202: **Crime Scene Investigation Overview.** 30–80 students each semester.
- FIS 409: **Bloodstain Pattern Analysis** (Lecture and Lab). 16 students.

External workshops taught:

2021   **Advanced Comparison Techniques in Firearms Examination.** US DOS/INL Funded. Held four day in-person follow up workshop for firearms examiners of the Departamento de Ciencias Forenses, Organismo de Investigación Judicial.

2020   **Current State of Firearms Examination and Ballistics.** US DOS/INL Funded. Taught one day online workshop to 16 practicing forensic professionals in Costa Rica.

2020   **Probabilistics and Bayesian Statistics in Firearms Examination.** US DOS/INL Funded. Taught one day online workshop to 16 practicing forensic professionals in Costa Rica.

2020   **Advanced Comparison Techniques in Firearms Examination.** US DOS/INL Funded. Taught one day online workshop to 16 practicing forensic professionals in Costa Rica.

PUBLICATIONS

10. J Peterson, J Densley, D Riedman, **J Spaulding**, and H Malicky. "An Exploration of K–12 School Shooting Threats in the United State," *Journal of Threat Assessment and Management.* **2023**. Link.

9. **JS Spaulding** and KB Morris. "The rcrimeanalysis package: an implementation of open source crime analysis methods," *Journal of Intelligence and Analysis.* **2023**. 26(1).

8. **JS Spaulding** and KB Morris. "An Open-Source Implementation of Geographic Profiling Methods for Serial Crime Analysis," *Journal of Geographical Systems.* **2023**. Link.

7. J Peterson, J Densley, **J Spaulding**, and S Higgins. "How Mass Public Shooters Use Social Media: Exploring Themes and Future Directions," *Social Media + Society*, **2023**. 9(1). Link.

6. **JS Spaulding** and GM Picconatto. "Characterization of Fracture Match Associations with Automated Image Processing," *Forensic Science International*, **2023**, 342, 111519. Link.

5. **JS Spaulding** and KB Morris. "Prediction of serial perpetrator residence: Part II Evaluation of prediction model accuracy," *Journal of Investigative Psychology and Offender Profiling*, **2023**, 20(1):97118 Link.

4. **JS Spaulding** and KB Morris. "Prediction of serial perpetrator residence: Part I Induction of models utilizing spatio-temporal routing functions and investigative information," *Journal of Investigative Psychology and Offender Profiling*, **2023**, 20(1):318 Link.

3. KB Morris, **JS Spaulding**, and JN Ho. "The use of error rates to predict and characterize the efficacy of presumptive field tests," *Journal of Forensic Sciences*, **2022**, 67(1):169–179. Link.

2. **JS Spaulding** and KB Morris. "An optimized approach to near repeat analysis for intelligence driven crime linkage," *Journal of Policing, Intelligence and Counter Terrorism*, **2021**, 17(1):1–24. Link.

1. **JS Spaulding** and KB Morris. "Integration of DNA, fingerprint, and firearm databases into forensic intelligence networks for a real-time case assessment model," *Journal of Policing, Intelligence and Counter Terrorism*, **2019**, (14)1:39–61. Link.

Under Review:

KB Morris and **JS Spaulding**. "Statistical Analysis of Fingerprint First Level Detail using Bayesian Networks."

JS Spaulding and LS LaCasse. "Combined interpretation of objective firearm evidence comparison algorithms using Bayesian networks."

JS Spaulding. "Utilization of the World of Guns in firearms examination courses."

In Preparation:

JS Spaulding and H Lenz. "Evaluation of lighting variation on the comparison of fired bullet evidence."

STUDENT SUPERVISION/RESEARCH

Thesis/Dissertation Committees Served

West Virginia University (as External Committee Member)

2023-PRESENT   **Kay Dolan, MS** – Determination of Spatial Origin of Striations on Fired Projectiles
2020-2023   **Sarah Hester, MS** – An Assessment of the Forensic Aspects of Genetic Genealogy

Student Awards/Recognition

2023   **Nicole Agre** – Ridgway Forum Fund Partnership Award
2022   **Kay Dolan** – Holt Endowed Fellowship

Undergraduate Researchers Directed

Hamline University

2024-PRESENT	**Lydia Brassington** – Standardization of the Examination of Automotive Vinyl Wraps
2023-PRESENT	**Nicole Agre** – Quantification of Transfer for DNA Recovery
2023-PRESENT	**Natalie Seiffert** – Evaluation of Forensic Examinations using Eyetracking Technology
2022-PRESENT	**Indigo Rowland** – Rehydration of latent fingerprints on non-porous surfaces
2023	**Katie Beaudette** – Evaluation of Lighting Conditions on the Firearms Examination Process
2023	**Makenna Engebos** – Assessment of Physical Fit Features for Objective Comparison Methods
2023	**Chloe Herbst** – Statistical Analysis of Fingerprint First Level Detail using Bayesian Networks
2022-2023	**Kay Dolan** – Forensic Evaluation of 3D Printing PLA Filament
2021-2023	**Julia Hintermeister** – Statistical Evaluation of Features Used for the Comparison of Bullets
2022	**Aley Rosas-Mondragon** – Evaluation of Forensic Examinations using Eyetracking Technology
2022	**Natasha Bak** – Development of chemometric based methods for the evaluation of novel psychoactive substances
2022	**Hayley Jeuhrs** – Statistical Evaluation of Aperture Shear Marks for the Comparison of Cartridge Cases
2021	**Lauren LaCasse** – Evaluation of Objective Firearm Evidence Comparison Algorithms
2021	**Danielle Miller** – Evaluation of Forensic Anthropology Capabilities and Needs within Minnesota Law Enforcement Agencies
2021	**Stephanie Moline** – Characterization of Spatial Point Patterns for Fingerprint Identification
2021	**Carissa Rootes** – Development of Open Source Chemometric Techniques for Forensic Science
2021	**Emilie Rucker** – Persistence of Fingerprint and DNA Evidence in Minnesota Winter Climates
2020	**Haileigh Lenz** – Evaluation of Lighting Conditions on the Firearms Examination Process
2020	**Gina Picconatto** – Characterization of Fracture Match Association with Automated Image Processing
2020	**Danielle Gulden** – Forensic LEAP Project: Fingerprint and Questioned Document Examination Training for High School Students

FUNDING RECEIVED

2024	**Hamline Summer Collaborative Undergraduate Research** ($1,000 and one student funded)
2023	**Hamline Summer Collaborative Undergraduate Research** ($3,000 and three students funded)
2022	**Hamline Summer Collaborative Undergraduate Research** ($1,500 and two students funded)
2021	**Hamline Summer Collaborative Undergraduate Research** ($500 and one student funded)
2019	**Eberly College and Office of the Provost Graduate Student Travel Grant** ($1,000)
2017-2018	**Blaney Fellowship** ($5,000)
2016	**WVU Department of Forensic and Investigative Science Thesis Enhancement Funding** ($400)

INTELLECTUAL PROPERTY

2023	*rcrimeanalysis: An Implementation of Crime Analysis Tools for R*, CRAN version 0.5.0. Link.
2021	*rgeoprofile: Geographic Profiling Methods for Serial Crime Analysis*, CRAN version 0.2.2. Link.

CONFERENCE PRESENTATIONS (PRESENTER LISTED FIRST)

9. NL Agre and **JS Spaulding**. "DNA transfer via blood with varying substrates, pressures, and times" at the annual National Conference on Undergraduate Research, April 2024. (Poster).

8. IL Rowland and **JS Spaulding**. "A Compositional Analysis of Aged Latent Fingerprints Post-Rehydration" at the annual National Conference on Undergraduate Research, April 2024. (Poster).

7. NJ Seiffert and **JS Spaulding**. "Application of Eye-Tracking for Fingerprint Examination" at the annual National Conference on Undergraduate Research, April 2024. (Poster).

6. **JS Spaulding** and IL Rowland. "Rehydration of Aged Latent Prints on Non-Porous Surfaces" at Minnesota Division of the International Association of Identification Annual Conference, Duluth, MN. October 2023. (Oral).

5. IL Rowland and **JS Spaulding**. "Rehydration of Aged Latent Fingerprints on Non-Porous Surfaces" at the annual National Conference on Undergraduate Research, April 2023. (Poster).

4. JE Hintermeister and **JS Spaulding**. "Statistical Evaluation of Features used for the Comparison of Bullet Evidence" at the annual National Conference on Undergraduate Research, April 2022. (Virtual Poster).

3. **JS Spaulding** and KB Morris. "A Quantitative Investigator Driven Model for Prediction of Serial Perpetrator Residence" at the International Association of Crime Analysts Annual Conference, August 2019. (Oral).

2. **JS Spaulding** and CH Venter. "Evaluation of First Level Detail Occurrence in Fingerprints by Influences" at the Chesapeake Bay Division of the International Association for Identification Annual Conference, April 2017. (Poster).

1. **JS Spaulding**, K Menking-Hoggatt, and RK O'Brien. "CrimePad© vs. Traditional Documentation Management: Classroom Comparison of the Techniques" at the Chesapeake Bay Division of the International Association for Identification Annual Conference, April 2017. (Poster).

INVITED TALKS/LECTURES

2022   **Introduction to Forensic Biology and DNA Analysis.** North High School.

2021   **Introduction to Forensic Science and Career Pathways.** Minnesota Health Occupations Students of America (HOSA) Fall Leadership Conference.

2021   **Introduction to Forensic Biology and DNA Analysis.** Hmong College Prep Academy.

Invited Talks at Hamline University:

2024   **Defining the Future of Forensic Science.** Alumni Leo Lecture. Link

2023   **Investigative Challenges of Gunshot Residue and Propellants.** CHEM 5950: Chemistry Seminar

2022   **Applications of Scanning Electron Microscopy in Forensic Science.** PHYS 1980: Imaging the Invisible World.

2021   **The Yorkshire Ripper Investigation and Lessons Learned.** Forensic Science Society.

2020   **Forensic Digital Evidence.** CJFS 1120: Crime and Justice in America

Invited Talks at West Virginia University:

2017   **Forensic Photography Techniques: The Essentials.** FIS 302: Crime Scene Investigation I.

2017   **Crime Scene Investigation Protocol and Documentation.** FIS 302: Crime Scene Investigation I.

2016   **Alternate Light Source and Sexual Assault Investigations.** FIS 302: Crime Scene Investigation I.

2016   **Utility and Technique of Cyanoacrylate Fuming for Forensic Evidence.** FIS 405: Latent Fingerprints.

2016   **Forensic Intelligence.** FIS 409: Bloodstain Pattern Analysis.

2016   **Evidence Interpretation and Case Assessment.** FIS 409: Bloodstain Pattern Analysis.

MEDIA APPEARANCES

2023   **Star Tribune** – These Hamline University students want to become forensic investigators. One night will test them. Link

2023   **NBC KARE 11** – Inside Hamline University's 'After-Hours Crime Scene'. Link

2023   **ABC KSTP 5** – Hamline University students get hands-on experience from mock crime scene. Link

2023   **Fox 9 KMSP** – How DNA home testing kits are helping crack Minnesotas unsolved crimes. Link

PROFESSIONAL SERVICE

Academic Service:

2024 - PRESENT   **Planning and Development Committee** – Hamline University.

2023 - PRESENT   **External Advisory Board** – West Virginia University Forensic and Investigative Science.

2021 - PRESENT   **Career Integration Task Force** – Hamline University.

2023   **Faculty Search Committee** – Hamline University Criminal Justice and Forensic Science. (3 Searches, 1 Chaired).

2023   **Faculty Search Committee** – Hamline University Chemistry. (2 Searches).

2022   **Faculty Search Committee** – Hamline University Criminal Justice and Forensic Science.

2022   **Faculty Search Committee** – Hamline University Math/Computational Science.

2022   **Redwood Valley High School** – Consultant for development of forensic science course.

2021   **Faculty Search Committee** – Hamline University Criminal Justice and Forensic Science.

2021   **Curricular Innovation Work Group** – Hamline University.

2021   **Arcadia Charter School** – Advisor for Senior Research Project.

Professional Service:

2023 **International Journal of Forensic Science & Research** – Editorial Board.
2023 **Sûreté du Québec (Québec Provincial Police Service)** – Geographic Profiling Investigation Consultation.
2023 **Forensic Science International** – Reviewer.
2023 **Forensic Chemistry** – Reviewer.
2023 **Psychology, Crime & Law** – Reviewer.
2021 **National Science Foundation** – Grant Reviewer.
2021 **Hennepin County Sheriffs Office Forensic Sciences Laboratory** – Case Consultation.
2021 **Minnesota Academy of Science Winchell Symposium** – Executive Board/Planning Committee.

CERTIFICATIONS

Social and Behavioral Research Investigators Course
Collaborative Institutional Training Initiative (CITI Program)
Physical Science Behavioral Research Investigators Course
Collaborative Institutional Training Initiative (CITI Program)

TRAINING COMPLETED

2023 **Citizens Academy**
Federal Bureau of Investigation Minneapolis
2019 **Crime Scene Metal Detection Training**
Prince George's County Police Department, Crime Scene Investigation Division
2018 **Response and Prosecution of Incidents That Have Reshaped America**
Federal Bureau of Investigation National Academy
2018 **High Performance Computing Institute**
West Virginia University Research Computing
2017 **Advanced Digital Processing of Evidentiary Photography**
David Witzke - Foray Technologies
2015 **Law Enforcement Training to Interpersonal Violence on Campus**
West Virginia Foundation for Rape Information and Services
2015 **Crime Scene and DNA Basics for Forensic Analysts**
National Institute of Justice Online
2015 **Law 101: Legal Guide for the Forensic Expert**
National Institute of Justice Online
2015 **What Every Law Enforcement Officer Should Know About DNA Evidence**
National Institute of Justice Online

COMPUTER SKILLS

INTELLIGENCE ANALYSIS SOFTWARE

- **i2© Analysts Notebook©** – Development of intelligence structures and networks
- **Cellebrite© UFED Analysis** – Extraction of cell phone data and development of information linkage networks

FORENSIC ANALYSIS SOFTWARE

- **Universal Latent Workstation** – Latent fingerprint examination
- **AFIX Tracker** – Latent fingerprint examination and database searching
- **FRStat** – Statistical comparison of feature configurations of friction ridge skin impressions
- **Osiris** – STR analysis (DNA)
- **Adobe Suite** – Digital image processing
- **Norsys Netica** – Development of Bayesian networks for evidence interpretation and case assessment

PROGRAMMING EXPERIENCE

- **R and R Studio** – Programming for data science, spatio-temporal crime analysis algorithms, and statistical analysis
- **Python** – Language used to create code and scripts for program execution
- **LaTeX** – Produce technical and scientific documentation with typesetting system based code

Professional Memberships

Council of Forensic Science Educators
Minnesota Division of the International Association of Identification
International Association of Identification