With the launch of the new ASCLD website, we are excited to showcase the updated FRC section which makes your research collaborations and partnerships even easier to find. FRC can be found under the About Us tab.

The Forensic Technology Center of Excellence featured members of the FRC during their ASCLD Emerging Issues Webinar Series. The Advancing Research and Collaborative Research Partnerships in Forensic Science webinar highlighted information for forensic laboratories and universities that are interested in establishing research partnerships. Michael Marciano provided a review of data-sharing agreements and their importance in collaboration. Henry Maynard highlighted research partnerships, outlining ways individuals and organizations can collaborate on research projects. Ray Wickenheiser and Ashley Hall shared a successful research partnership between a forensic laboratory and a university, providing valuable insights on the best practices for research collaborations. View the archived webinar here.

The Forensic Laboratory Needs Technology Working Group (FLN-TWG) supports NIJ’s mission to improve knowledge and understanding of the forensic technology needs of federal, state, local, and tribal forensic practitioners, and crime laboratories. They published A Roadmap to Improve Research and Technology Transition in Forensic Science. The Forensic Technology Center of Excellence Just Science Podcast featured a three part Roadmap to Improving Technology Transition series: JUST IMPROVING FORENSIC TECHNOLOGY TRANSITION, JUST BUILDING PARTNERSHIPS TO ADVANCE FORENSIC TECHNOLOGY, JUST ENHANCING RESEARCH TO IMPROVE TECH TRANSITION.
If you are a researcher looking for practitioners to participate in your study, complete the project form to advertise your project to practitioners looking for research opportunities. If you are a practitioner looking to become involved in research opportunities, the following researchers are looking for participants:

**Advancing the Understanding of 3D Imaging for Firearm Analysis**
Research Organization: Center for Statistics and Applications in Forensic Evidence (CSAFE)
Principal Investigator: Dr. Heike Hofmann (Iowa State University), Dr. Preshious Rearden (Houston Forensic Science Center)
Email Address: hofmann@iastate.edu
Phone Number: 515-294-7278
Website/URL: [Advancing the Understanding of 3D Imaging for Firearm Analysis (Page 1 of 11) (office.com)]
Discipline: Firearms/Toolmarks
Study Dates: January 1, 2024 - July 1, 2024

**CSI and Forensic Laboratory Hiring Expectations**
Principal Investigator: Joe Trevino
Email Address: joe.cruz.trevino@gmail.com
Website/URL: https://www.linkedin.com/in/joe-trevino/
Discipline: Laboratory and Field Investigation Disciplines (except Digital Evidence)
Abstract:
I am interested in establishing current minimum expectations and hiring requirements for entry-level Crime Scene Investigators (CSIs) and forensic laboratory personnel. While there are forensic science education accreditation standards via the Forensic Science Education Programs Accreditation Commission (FEPAC), the needs of our field can change quickly and I believe it is important to report a periodic baseline to keep all systems healthy.

There is some research into how FEPAC-accredited programs deliver their promise through curriculum and instruction, but the two surveys I am conducting ideally measure what Forensic Science Service Providers (FSSPs) expect from any institution, regardless of accreditation status or program type. The target here is coursework and sequence of courses. The data collected in the surveys will identify better goals and targets for students, parents, educators, universities, FSSPs, etc.

Those who are involved in the hiring process for CSIs and forensic science laboratory personnel are encouraged to participate. This can be the public or private sector, manager or investigator/analyst, any...
level or agency type. This research is currently being done independently from my employer and any of my affiliations at this time.


Study Dates: November 13, 2023 – January 31, 2024

Support Requested: Survey participants

Estimated Participant Time Involved: 10-15 minutes

Deliverable Anticipated: Peer-reviewed article, Oral Presentation, Poster Presentation

**Crime Laboratory Personnel Hiring Requirements and Expectations**

Research Organization: New York Police Department

Principal Investigator: Joe Trevino

Email Address: joe.cruz.trevino+research@gmail.com

Website/URL: [https://qfreeaccountssjc1.az1.qualtrics.com/jfe/form/SV_6YD4Ng3WudU5C1U](https://qfreeaccountssjc1.az1.qualtrics.com/jfe/form/SV_6YD4Ng3WudU5C1U)

Discipline: Laboratory Disciplines (except Digital Evidence)

Abstract:
This survey is designed to assess current understanding and attitudes about education requirements for forensic science professionals, the role the Forensic Science Education Programs Accreditation Council (FEPAC) plays in applicant preparation, and how well applicants from all forensic science educational backgrounds navigate the employment process. Those employed in crime laboratories who play an active role in reviewing and evaluating applicants for their agencies are encouraged to participate. This can be public sector forensic science or private sector forensic science. Your involvement in the hiring process does not have to be immediately in the past.

The data collected will be used to help inform forensic science educators, forensic science professionals, forensic science students, forensic science school applicants, and other stakeholders interested in forensic science education about employment hiring requirements and what the current landscape of forensic science education is.

Study Dates: June 12, 2023 – July 7, 2023

Support Requested: Survey participants

Estimated Participant Time Involved: 10-15 minutes

Deliverable Anticipated: Peer-reviewed article, Oral Presentation

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**GOT COLLABORATION?**

“Collaboration divides the tasks and multiplies the success.” ~Unknown
TUNE IN…

Thursday, February 15th at 1:00pm EST

New Advances in GSR Analysis

Speakers: Kourtney Dalzell from West Virginia University will be presenting, "Evaluating an Alternative Workflow for GSR Analysis", Thomas Ledergerber from West Virginia University will be presenting, "Understanding the Dynamics and Deposition of pGSR and OGSR", and Christopher George from NJSP Office of Forensic Sciences will be presenting, "Incorporating GSR research into a Forensic Laboratory".

Registration Link: Register Here

Recent Lightning Talks...

Analysis of alternative Seized Drug Matrixes

Touch DNA in Activity-Level Propositions

Data-driven approaches to the forensic analysis of auto theft

Missed a Talk? All episodes can be viewed on YouTube.

Have an idea for a Lightning Talk, please email ASCLDFRC@gmail.com.
The goal of LEAP is to facilitate collaborative research between academia and forensic science laboratories. This joint effort between the American Society of Crime Lab Directors (ASCLD) and the Council of Forensic Science Educators (COFSE) identifies forensic science needs and provides a platform for laboratories, researchers, and students to seek projects aligning with their mutual research capabilities.

Take the LEAP to:
Exchange Subject Matter Expert Information
Support for Testing, Evaluation & Validations
Statistical Support/Consulting
Internship Opportunities
Curriculum Assistance/Seminar Series Speaking Opportunities

Sign up for the FRC LEAP program today or share your collaborations so others can learn how to implement these partnerships.

“Sometimes your only transportation is a LEAP of faith.”
~Margaret Shephard

OSAC RESEARCH and DEVELOPMENT NEEDS

OSAC documents and publicly shares with the forensic science community any research and development (R&D) needs that are identified during the standards development process. These needs may benefit a wide variety of stakeholders including LEAP partners.

The OSAC’s subcommittees have identified needs in Biology, Chemistry: Seized Drugs & Toxicology, Chemistry: Trace Evidence, Digital Evidence, Medicine, Pattern Identification, & Scene Examination. OSAC encourages agencies to consider these needs when developing new solicitations and research projects so that efforts can be strategically advanced in areas where they are needed most. The OSAC Research and Development Needs can be found [here](#).
Recent evaluations and validations submitted to the repository:

Foster+Freeman RECOVER LFT Validation

Keywords: RECOVER LFT, cartridge cases, metal
Laboratory: Idaho State Police
Discipline: Latent Prints
Contact Name: Tina Walthall
Email: tina.walthall@isp.idaho.gov
Web link: https://isp.idaho.gov/forensics/validation/

Validation Report for Fire Debris Analysis by GC-MS

Keywords: Fire Debris, GCMS
Laboratory: Palm Beach County Sheriff’s Office Crime Laboratory
Discipline: Trace Chemistry
Contact Name: Tate Yeatman
Email: yeatmand@pbso.org

Method Validation Report for the Identification and Quantitative Threshold Testing of Tetrahydrocannabinol (THC) in Cannabis

Keywords: THC, Cannabis, Hemp, Quantitative
Laboratory: Palm Beach County Sheriff’s Office Crime Laboratory
Discipline: Seized Drugs
Contact Name: Tate Yeatman
Email: yeatmand@pbso.org

Screening of Suspected Overdose Samples with Randox MultiSTAT Analyzer

Keywords: Toxicology, Immunoanalyser, Drugs of Abuse, Post-mortem Blood
Laboratory: Idaho State Police Forensic Services
Discipline: Toxicology
Contact Name: Tina Mattox
Email: tina.mattox@isp.idaho.gov
Web link: http://www.isp.idaho.gov/
Analysis of Benzodiazepines using Liquid-Chromatography Mass Spectrometry-Mass Spectrometry

Keywords: benzodiazepines, solid-phase extraction, LC/MS/MS
Laboratory: Wisconsin Division of Forensic Science
Discipline: Toxicology
Contact Name: Jonathan Tomko (tomkojt@doj.state.wi.us), Leah Macans (MacansLJDOJ.STATE.WI.US), or Toxicology Technical Lead
Email: tomkojt@doj.state.wi.us

STRmix V2.6.2

Keywords: STRmix, Powerplex Fusion 6C, 3500
Laboratory: Palm Beach County Sheriff’s Office Crime Laboratory
Discipline: Biology/Serology
Contact Name: Amy McGuckian
Email: mcguckiana@pbso.org

Internal Validation with PowerPlex Fusion 6C, Proflex PCR System, and 3500xL Series Genetic Analyzer Validation Report

Keywords: Fusion 6C, PowerPlex, ProFlex
Laboratory: Palm Beach County Sheriff’s Office Crime Laboratory
Discipline: Biology/Serology
Contact Name: Amy McGuckian
Email: mcguckiana@pbso.org
Validation for the Qualitative Analysis of Seized Drugs by GC-IRD

Keywords: GC-IRD, Seized Drug, Cathinones
Laboratory: Palm Beach County Sheriff’s Office Crime Laboratory
Discipline: Seized Drugs
Contact Name: Ilene Alford
Email: alforda@pbso.org

Validation Report for Quantitation and/or Qualitative Identification of Benzodiazepines, Opioids and Select Hypnotics in Whole Blood by LC MSMS

Keywords: Opioids, Benzodiazepines, Hypnotics, LC-MSMS, Whole Blood
Laboratory: Palm Beach County Sheriff’s Office Crime Laboratory
Discipline: Toxicology
Contact Name: Nick Tiscione
Email: tiscionen@pbso.org

Validation Report for Quantitation of Select Stimulants in Whole Blood by LC-MSMS

Keywords: Stimulants, LC-MSMS, Whole Blood
Laboratory: Palm Beach County Sheriff’s Office Crime Laboratory
Discipline: Toxicology
Contact Name: Nick Tiscione
Email: tiscionen@pbso.org

“The only relevant test of the validity of a hypothesis is comparison of prediction with experience.”

-Milton Friedman
FRC Innovation Award
The award recognizes innovative research studies that have been submitted to the FRC Collaboration Hub within the last two years that have or will result in new technologies, protocols, or tools that impact the forensic science laboratory.

LEAP Partnership Award
The goal of the award is to recognize an outstanding partnership between collaborating LEAP partners.

Outstanding Validation/Evaluation Award
The award will recognize an outstanding evaluation/validation study that has been submitted to the FRC Evaluation/Validation Repository within the last two years.

Winners will be recognized at the ASCLD Annual Symposium and will receive an award plaque highlighting their contribution to advancing forensic science.

USEFUL FORENSIC RESEARCH LINKS

- Center for Statistics and Applications in Forensic Evidence (CSAFE)
- RTI Forensic Technology Center of Excellence
- National Institute of Justice Office of Forensic Sciences
- International Forensic Strategic Alliance (IFSA)
- IFSA Research and Innovation Position Statement
- OSAC Research and Development Needs
- NIST Forensic Data sets
- CSAFE Forensic Data sets
- FIU Research Forensic Library
- CFSRE Publications
FRC Committee

Henry Maynard – Chair/LEAP
Kathleen Carrado – LEAP
Tracey Dawson Green – Lightning Talks
Lisa Yoshida – Evaluation/Validation Repository
Ashley Hall, Tracey Dawson Green – Awards
Mandy Tinkey, Laura Tramontin – Outreach/Bulletin
Ed Sisco, Ashraf Mozayani, Henry Swofford, Richard Meyers, David Kanaris, Shanley Garrett

FRC STRATEGIC GOALS:

➠ ADVANCE FORENSIC SCIENCE RESEARCH

➠ SUPPORT THE DEVELOPMENT OF FUTURE FORENSIC CAPABILITIES

➠ FURTHER CULTIVATE FORENSIC SCIENCE RESEARCH PARTNERSHIPS

➠ PROMOTE INFORMATION SHARING THROUGHOUT THE FORENSIC SCIENCE RESEARCH COMMUNITY

➠ IDENTIFY AND PRIORITIZE THE RESEARCH, DEVELOPMENT, TECHNOLOGY, AND EVALUATION (RDT&E) NEEDS FOR THE FORENSIC COMMUNITY
### General Forensics

- Development and validation of standardized forensic methods and conclusions in impressions, patterns, and trace evidence disciplines
- Development, evaluation, and validation of massively parallel sequencing techniques for whole genome sequences, partial genome sequencing, and other forensic casework applications such as proteomics
- Development, evaluation, and validation of statistical or other computational methods to augment interpretation and quantitatively assess the value and strength of forensic evidence
- Evaluation of accuracy and reliability of forensic examinations as a function of evidence quantity, quality, or complexity
- Exploring the best ways to communicate results generated through statistical or other computational methods to non-technical audiences, such as investigators, litigators, and factfinders
- Research to support the application of evaluative reporting (likelihood ratios-expanded conclusion scales) and testimony for forensic evidence other than DNA (e.g., trace materials)
- Development of local, National, and International ground truth data sets across a range of evidence types for source and activity inferences
- Understanding the impact of various types of biases (beyond confirmation and contextual bias) on practical decision making across all practitioner types from the scene to the courtroom within the criminal justice system by exploring risk in decision-making and harnessing knowledge in other fields such as medicine, engineering and across the social sciences

### Controlled Substances

- Development of a standardized drying procedure for plant material to ensure consistent quantitative analysis of THC
- Error rate studies on qualitative analysis (single tests and schemes) in controlled substances
- Differentiation between THC-rich and CBD-rich cannabis plants in the field (more sensitive tests) and in the laboratory (more specific tests)
- Alternative methods beyond GC-MS to distinguish fentanyl-related substances (e.g., positional isomers, analogs) including FTIR, derivatization, color test, or other widely used forensic techniques
- Applications for DNA analysis of marijuana to identify cultivar for sourcing and linkage applications
### DNA/Biology
- The ability to detect and locate sufficient biological material (e.g., epithelial cells, extracellular DNA) associated with touched or worn objects, that is not visible to the eye or with alternate light sources, for downstream DNA analysis
- Explore the use of Rapid DNA instruments for crime scene samples (e.g., touch DNA, sexual assault kits) with comparisons to traditional STR-typing methods

### Questioned Documents
- Validation of conclusion scale in forensic document examination

### Pattern and Impression Evidence
- Assessment of examiners' toolmark categorization accuracy
- Development, evaluation, and validation of methods to quantitatively assess the aptitude of candidates in pattern evidence disciplines

### Trace Evidence
- Development of an integrated and multidisciplinary approach for the advancement of data collection, data management and data analysis to aid interpretation of trace evidence
- Comprehensive GSR persistence study
- Specific identification of shooters via GSR
- Modelling the transfer and persistence of different trace evidence materials between a range of substrates