**FRC Hot Topics**

FRC Initiatives were highlighted via a recent CSAFE webinar. “The ASCLD Forensic Research Committee and You: A Collaboration Worth Investigating” reviewed opportunities the ASCLD FRC is creating to benefit the forensic science community. This webinar was presented by Henry Maynard, chair of the Forensic Research Committee. The recording is available [here](#).

Coming soon: We are putting together a few research-related articles to help promote awareness about Forensic Data Sharing, Research Support Agreements/Partnerships, and Human Subjects Research/Institutional Review Boards (IRB).

**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
COLLABORATION HUB

‘Researchers Seeking Practitioners’ concept to connect researchers with practitioners to promote and collaborate on research projects. 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, search the Researcher/Practitioner Collaboration Directory for projects in need of participants.

Recent directory submissions:

**Forensic Geology and Soil Evidence: Current status and needs in the Forensic Community**

Research Organization: Arizona State University  
Principal Investigator: Gwyneth Gordon  
Email Address: gwyneth.gordon@asu.edu  
Website/URL: https://forms.gle/N6c2qdBWxPPgh2pd7  
Discipline: Trace Chemistry

**Assessment of Forensic Footwear Impression Quality by Human Raters**

Research Organization: West Virginia University  
Principal Investigator: Dr. Jacqueline Speir (with co-investigator Ms. Lily Lin)  
Email Address: elo049@mix.wvu.edu  
Website/URL: https://wvu-speir-research-group.shinyapps.io/shiny_shoe/  
Discipline: Footwear

**Solving the DNA Mixture Conundrum with Single-Cell analysis**

Research Organization: Rutgers University Camden  
Principal Investigator: Catherine Grgicak  
Other Collaborators Involved: Desmond S. Lun; Ken R. Duffy  
Funding Source: National Institute of Justice  
Email Address: c.grgicak@rutgers.edu  
Website/URL: http://www.lftdi.com  
Discipline: Biology/Serology  
Instrumentation Involved: Bespoke Software
LIGHTNING TALKS

Lightning Talks are monthly talks given at lunchtime to provide the community with brief snapshots of new and emerging research. In each episode two or three speakers give brief (~7 min) talks on a themed topic. To date, there have been 21 “Lightning Talks” featuring speakers from 27 countries, reaching over 1,000 participants live and over 1,350 views online. Missed a Lightning Talk, watch a replay here. Stay tuned for future Lightning Talks in 2023.

LABORATORIES & EDUCATORS ALLIANCE PROGRAM (LEAP)

LEAP facilitates collaborative research between academia and forensic science laboratories. It provides a platform of laboratories, researchers, and students to seek projects aligning with their mutual research interests and capabilities.

Research Partnership things to consider:
1. Memorandum of Understanding
2. Purpose & General Scope
3. Specific Projects/Activities
4. Funding
5. Agreement Duration, Extension, Renewal
6. Key POCs
7. Confidentiality
8. Intellectual Property/Rights
9. Institutional Research Review Process
10. Progress Review Meetings
11. Data Ownership & Protection
12. Publication/Presentation Rights & Review

83 Universities – 33 Forensic Labs
116 LEAP Partners willing to collaborate on Forensic Science Research, Development, Test & Evaluation

Current World
LEAP Partners (4):
USA, Canada, Australia, & Saudi Arabia
EVALUATION AND VALIDATION REPOSITORY

A repository to compile a list of unique validations and evaluations conducted by forensic labs and universities. The listing helps foster communication and reduce unnecessary repetition of validations and evaluations to benefit the forensic community. Thirty three evaluation/validations were submitted in 2022. Our latest addition:

**ForenSeq Kintelligence Kit, MiSeq FGx Sequencing, and Universal Analysis Software Internal Validation**

Laboratory: Signature Science, LLC – Center for Advanced Genomics  
Discipline: Biology/Serology  
Contact Name: Michelle Peck  
Email: mpeck@signaturescience.com  
Web link: here

FRC AWARDS

Award submissions are due on March 3rd, 2023 for the ASCLD FRC Innovation Award, The LEAP Collaboration Award, and The Outstanding Evaluation/Validation Award. Be sure to attend the ASCLD Symposium in Austin, TX April 30 - May 4th to see who receives the three FRC Awards celebrating research within our forensic community! The Fourth Annual Innovation Award will recognize activities highlighting new technologies, protocols, or tools that impact the operational forensic science laboratory. The LEAP Collaboration Award recognizes an outstanding partnership between LEAP-participating academic and operational forensic laboratories. The Outstanding Evaluation/Validation Award recognizes an outstanding evaluation/validation study that has been submitted to the FRC repository.
The FRC Bulletin is designed to highlight research related initiatives to promote awareness and further research collaborations within the forensic science community.

You are encouraged to submit comments and suggestions regarding this bulletin to ASCLDFRC@gmail.com

Meet the FRC Committee

Henry Maynard – Chair/LEAP
Kathleen Corrado – LEAP
Ed Sisco – Lightning Talks
Lisa Yoshida, Brooke Ehlers – Evaluation/Validation Repository
Ashley Hall, Tracey Dawson Green – Awards
Mandy Tinkey, Laura Tramontin – Outreach/Bulletin
Ashraf Mozayani, Henry Swofford, David Love
### General Forensics

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<th>Research Priorities 2022-2024</th>
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<td>Development and validation of standardized forensic methods and conclusions in impressions, patterns, and trace evidence disciplines</td>
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<td>Development, evaluation, and validation of massively parallel sequencing techniques for whole genome sequences, partial genome sequencing, and other forensic casework applications such as proteomics</td>
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<td>Development, evaluation, and validation of statistical or other computational methods to augment interpretation and quantitatively assess the value and strength of forensic evidence</td>
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<td>Evaluation of accuracy and reliability of forensic examinations as a function of evidence quantity, quality, or complexity</td>
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<td>Exploring the best ways to communicate results generated through statistical or other computational methods to non-technical audiences, such as investigators, litigators, and factfinders</td>
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<td>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)</td>
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<td>Development of local, National and International ground truth data sets across a range of evidence types for source and activity inferences</td>
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<td>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</td>
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### Controlled Substances

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<td>Development of a standardized drying procedure for plant material to ensure consistent quantitative analysis of THC</td>
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<td>Error rate studies on qualitative analysis (single tests and schemes) in controlled substances</td>
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<td>Differentiation between THC-rich and CBD-rich cannabis plants in the field (more sensitive tests) and in the laboratory (more specific tests)</td>
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<td>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</td>
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<td>Applications for DNA analysis of marijuana to identify cultivar for sourcing and linkage applications</td>
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<td>DNA/Biology</td>
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