ASCLD
Forensic Research Committee
Bulletin

Volume 1 | Issue 4
September 2020

"YOU NEVER CHANGE THINGS BY FIGHTING THE EXISTING REALITY. TO CHANGE SOMETHING, BUILD A NEW MODEL THAT MAKES THE EXISTING MODEL OBSOLETE."

- BUCKMINSTER FULLER

Dear Forensic Community,

Welcome to Issue 4 of the Forensic Research Committee Bulletin. The Future Forensics Task Group has been actively reviewing the 2019 INTERPOL review papers published in FSI:Synergy listed as "in-press". Six summaries were completed and posted in FRC Bulletin Issue 3. One additional summary has been released this quarter. For the full review, visit https://www.ascld.org/forensic-research-committee/

> **_Strategic Goals_**: *Identify RDT&E needs, foster collaboration, and support the development of enduring future forensic capabilities.*

LEAP
Bridging the gap

FRC HOT TOPICS

Postdoctoral Fellow Position:

Department of Forensic Science announced a postdoctoral position in the molecular biology research group. For more information:
https://www.dfs.virginia.gov/job/postdoctoral-fellow-division-of-technical-services/

Coming Soon – Lighting Talks

ASCLD-FRC will soon begin hosting lightning talk sessions to highlight recent research and innovation in all fields of forensics. These 30-minute lunchtime sessions will feature three speakers each providing short (7 minutes or less) presentations on their research with a brief Q&A session to follow. The first session will focus on new approaches and tools for seized drug analysis.

Future Forensics

Interpol Review of Toxicology 2016-2019 Executive Summary review here:
https://www.sciencedirect.com/science/article/pii/S2589871X20300188
(by Alicia Rairden and Ashraf Mozayani)
Three major components in review:

1. Surveillance in Toxicology with focus on new standards, uncertainty of measurement, analytical methods for matrices and result interpretation
2. Challenges in selected topics of forensic interests including drug facilitated crime and new psychoactive substances (fentanyl and its derivatives, synthetic cannabinoids)
3. Advances in toxicological analyses from sample preparation to result interpretation

The FRC Bulletin is designed to highlight developments within these core priorities. The status of the LEAP project is featured in this issue. You are encouraged to submit any comments regarding this bulletin to ASCLDFRC@gmail.com

Core FRC Priorities

Fostering the development of collaborative relationships between forensic science labs and academia.

Laboratories & Educators Alliance Program (LEAP)

Objective: The objective of the Laboratories and Educators Alliance Program (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.

Status:

97 LEAP Participating Labs and Universities

25 Forensic Science Labs

72 Universities

Outreach efforts will now be taking place to socialize LEAP which is anticipated to increase the number of participating labs and universities.

Goal: To grow the number of LEAP participating labs to 150 by the end of 2020.

Evaluation and Validation Tracking

Objective: Provide a centralized location to share information that may be useful to the broader community of forensic practitioners. This will include timely evaluations of new tools or technology that labs are curious about, as well as recent validations of new tools or technology that can serve as a blueprint to help labs avoid reinventing an entire experimental design.

Status: The website collector is now live! https://www.ascld.org/validation-evaluation-repository/ Please submit your new and exciting evaluations and validations! FRC STRATEGY: This cultivated repository is designed to catalog the outstanding work of experts in the field and share these results with the forensic science community. ASCLD is excited about creating an environment to foster communication and reduce unnecessary repetition of validations which will benefit the practitioners working in the laboratory and the field.

If you find a validation or research project that you would like more information about, simply use the contact information provided to request a copy or chat with the experts who did the work.

Goal: To have at least 20 evaluations or validations of new technology available on the website by the end of 2020

Implementation

Objective: To promote and facilitate interlaboratory collaboration related to RTD&E and validation efforts to strengthen the foundations and facilitate the transitions of new technologies & capabilities into mainstream forensic science practice.

Status: Received input from forensic science laboratories regarding potential or planned implementation efforts related to standards, practices, and methods as well their challenges, capabilities, and strategies for implementation.

Responses have been received from a survey sent to ASCLD membership related to (i) the adoption and implementation of standards, practices, and methods currently on the OSAC Approved Registry and (ii)

Future Forensics

Objective: To identify new and emerging needs and pain points within forensic science practice and to identify research, processes, technology and tools with potential to address the new and emerging needs.

Immediate Goal: To publish an executive summary of the research highlights found in the recent peer-reviewed literature from sources such as the INTERPOL research reviews and FLNTWG white papers, for the benefit of the ASCLD membership.

Status: Research highlights have been published on the FRC website. at https://www.ascld.org/forensic-research-committee/

Goal: To develop the infrastructure within the ASCLD FRC to facilitate rapid communications between the

challenges and needs of the forensic science community that are barriers to implementation.

The survey results are currently being analyzed and summarized by a working group between the Forensic Research Committee and the Standards and Accreditation initiatives Committee.

Goal: To provide a central location for ASCLD members to identify, connect, and coordinate with other laboratories conducting research, development, testing, evaluation (RDT&E) and validation activities related to the implementation of new methods and technologies.

ASCLD membership regarding current and future needs in the forensic science enterprise.

The subcommittee will take the initiative to engage the ASCLD membership through outreach efforts to identify current and emerging problems that impact them, and will also review relevant literature to help identify the future of forensic science practice using a "technology roadmap".

Innovation Award

Objective: To acknowledge operational scientists who incorporate cutting-edge techniques to the practice of forensic science, and call attention to their work.

Status: The award application window will be open from December 14, 2020 to January 18, 2021. We are planning to advertise the award with the help of ASCLD and the FRC web sites, in the AAFS newsletter, and by the FTCoE. The Award Committee of the FRC will evaluate the applications and establish committees as necessary to meet demand.

Goal: To recognize activities highlighting new technologies, protocols, or tools that impact the operational forensic science laboratory. The final award decision will be made in 2021 and the winner will be recognized during the 2021 ASCLD Annual Symposium.
.

FRC Outreach
Meet with the FRC at the AAFS in 2021!

As details become available for the FRC table, updates will be provided in this section.

2021 AAFS Annual Scientific Meeting

February 15 - 20, 2021
George R. Brown Convention Center
Houston, TX

Meeting Theme: *One Academy Pursuing Justice Through Truth in Evidence*

.

Ashraf Mozayani Ashraf.Mozayani@tsu.edu

Meet the FRC Committee!

Henry Maynard – (**Chair and LEAP**), Lisa Yoshida (**Evaluation/Validation Tracking**), Ashley Hall (**Research Innovation Award**), Debbie Leben (**Outreach**), Jose Almirall (**Future Forensics**), Henry Swofford (**Implementation**), Ashraf Mozayani, Jeremy Triplett, Bruce Hoolihan (**Board member**), Tracy Dawson Cruz, Jeff Comparin, Ed Sisco

Want to ensure research is practical and fit for practitioners? The National Institute of Justice (NIJ) encourages researchers to seek guidance from, or partner with, forensic practitioners. Such associations foster a greater understanding of the issues unique to the field of forensic science and may strengthen the scope of the proposed research plan. NIJ hosts a list of labs that have expressed an interest in connecting with researchers. If you would like to add your lab to this list, send your contact information added to this list, please email grants@ncjrs.gov.If you have already joined the LEAP initiative, consider submitting your info to NIJ as well. NIJ's current forensic research grantees may work with you to fine tune and ensure that their research products are well-suited for practitioner needs, or to build relationships in anticipation of transitioning research products to the field – potentially under the annual *Research and Evaluation in Publicly Funded Forensic Laboratories* and *Research and Development in Forensic Science for Criminal Justice Purposes* solicitations.

American Society of Crime Laboratory Director's Research Priorities 2019-2021

Research Area
Practical statistical approaches for the interpretation of forensic evidence
Development and validation of standardized forensic methods and conclusions in Impressions, Patterns, and Trace Evidence disciplines
Assessment of Examiners' Toolmark Categorization Accuracy (Firearms/Toolmarks)
Research to establish validated methods for THC quantity in plant materials, edibles, extracts, etc. that also accounts for the moisture content of the plant
Error Rates in Qualitative Methods of Analysis for Controlled Substances
The ability to detect and locate sufficient biological material (e.g., epithelial cells, extracellular DNA, etc.) associated with touched or worn objects, that is not visible to the eye or with alternate light sources, for downstream DNA analysis
Examiner Reliability Study: Black and White Box Studies on Bloodstain Pattern Analysis
Error rate studies on qualitative analysis (single tests and schemes) in Controlled Substances. The conclusion of such a study will also explain its limitations
Characterizing, Designing and Constructing Integrated DNA Mixture Interpretation Solutions
Expert System for Forensic Evidence Analysis (including mixtures) in DNA
Development of an Integrated and Multidisciplinary Approach for the Advancement of Data Collection, Data Management and Data Analysis to Aid Interpretation of Trace Evidence
Validation of Conclusion Scale in Forensic Document Examination
Comprehensive GSR Persistence Study
Specific Identification of Shooters via GSR
Evaluation into the Validity of Facial Comparison Training Methods (Facial Identification)

You are encouraged to submit any comments regarding this bulletin to ASCLDFRC@gmail.com or contact the Task Group Point of Contact for more information.