ASCLD
FORENSIC RESEARCH COMMITTEE
BULLETIN

Volume 3: Issue 1
February 2022

ASCLD FORENSIC RESEARCH COMMITTEE'S MISSION:

The Forensic Research Committee (FRC) seeks to advance core forensic science by closing technology gaps and enable future forensic technologies.

FRC duties include:

- Identify responsible stakeholders for developing, sourcing, and executing forensic RDT&E requirements.
- Engage and collaborate with laboratories, other government agencies, industry, and academia.
- Synchronize and leverage multiple RDT&E efforts by various organizations and strategic partners.
- Encourage research and research collaborations within the forensic science community.
- Promote forensic related RDT&E activity to all stakeholders.

FRC Hot Topics

The next Lightning Talk will focus on Strategies for Interlab Studies and White Box/Black Box Studies on Thursday March 17th.

Check out the updated Research Resources section on the ASCLD FRC webpage to see past bulletins and available webinars!

Looking forward to seeing everyone at the ASCLD Symposium in Reno, NV!

LIGHTNING TALKS

Lightning Talks are monthly talks given at lunchtime to provide the community with brief snapshots of recent research findings across the field.

Missed a Lightning Talk, watch the replay here:

Episode 7: Cognitive Bias in Forensic Science

Episode 8: Tackling Stress and Trauma in Forensics: Starting the Path to Resilience

Episode 9: Oral Fluid Toxicology

COLLABORATION HUB

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 collaborations include:

- *Calculation of likelihood ratios from forensic comparison of fired cartdidge cases* from Dr. Rachel Bolton-King and Dr. Geoffrey Morrison of Staffordshire University and Aston University
- *DNAmix 2021* from Austin Hicklin and Jon Davoren of Noblis and Bode Technology

LABORATORIES & EDUCATORS ALLIANCE PROGRAM (LEAP)

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.

Is your laboratory interested in hosting an intern or partnering with a university? Are you interested in conducting research, assisting with evaluations/validations, or interested in internship opportunities for your students at a forensic science laboratory?
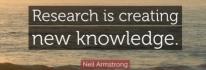

Over 100 participating LEAP Labs and Universities

Sign up for LEAP today!
Crime Lab Sign Up
University Sign Up

Research is creating new knowledge.
Neil Armstrong

FORENSICS

Peppermill Resort Reno, NV

2·0·2·2 ASCLD Symposium

Facing the Challenge:
Mission Possible

April 24-28, 2022
Reno, NV

Experience ASCLD 2022
HOME (eventscloud.com)

EVALUATION AND VALIDATION REPOSITORY

The goal is to compile a list of unique validations and evaluations conducted by forensic labs and universities. The repository will catalog these efforts and provide the contact information of the people responsible for the work. It is ASCLD's hope that this listing will foster communication and reduce unnecessary repetition of validations and evaluations to benefit the forensic community. Check the website to search for a validation or evaluation study or provide study information to be included.

Examples of Evaluations/Validations Include:

• Validation of the Thermo Fisher Gemini Handhel FT-IR & Raman Spectrometer by the MN Bureau of Criminal Appreshension Forensic Science Services; click here to learn more

• ArmedXpert Validation by the Ohio Bureau of Criminal Investigation; click here to learn more

FRC AWARDS

Be sure to attend the ASCLD Synposium in Reno, NV April 24-28 to see who receives the three FRC Awards celebrating research within our forensic community!

The Third 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.

Past Winner:

Amber K. Burns, Chemistry Section Manager for the Maryland State Police – Forensic Services Division for her work on establishing a new workflow for safely and efficiently testing fentanyl and other novel pyschoactive substances by testing swipes of the outside of the drug packaging using TD-DART-MS.

American Society of Crime Laboratory Directors Research Priorities 2022-2024

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

American Society of Crime Laboratory Directors
Research Priorities 2022-2024

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

(Updated November 2021)

RESEARCH EXECUTIVE SUMMARIES

The FRC has initiated the publication of brief executive summaries of recent literature within the forensic sciences. The initial source of the executive summaries is the proceedings of the triannual 19th INTERPOL International Forensic Science Manager's Symposium literature reviews, originally published by INTERPOL. Click on the topics below to read the reports or check out the ASCLD FRC webpage for more info.

Forensic Biology   Gunshot Residue   Firearms   Friction Ridge

Paint & Glass   Siezed Drugs   Toxicology   DART-MS

The FRC Bulletin is designed to highlight developments and initiatives that aim to expand research and research collaboration within the forensic science community.

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

Meet the FRC Committee

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Want to join the ASCLD FRC? Want to help shape the future of forensic science research?

If interested, please send an email to ASCLDFRC@gmail.com.