

OSAC RESEARCH NEEDS ASSESSMENT FORM



Title of research need:

Describe the need:

Develop processing techniques that are faster, cheaper, easier, or more effective than current solutions for forensically relevant surfaces. Consideration should be given to health and safety risks and potential for environmental impact involved with proposed techniques. Consideration should also be given to preservation of the evidence for sequential processing in other forensic disciplines, future testing, and court presentation. Of particular interest is the development of field-based techniques that can be easily and safely deployed at crime scenes.

Keyword(s):

Submitting subcommittee(s): **Date Approved:**

Background Information:

1. Does this research need address a gap(s) in a current or planned standard? (ex.: Field identification system for on scene opioid detection and confirmation)

The OSAC FRS is currently developing a standard for development techniques that would be supported by additional research in this area. The Limited Examinations document would also be supported by information on preferential sequential processing.

2. Are you aware of any ongoing research that may address this research need that has not yet been published (e.g., research presented in conference proceedings, studies that you or a colleague have participated in but have yet to be published)?

Research to develop new techniques is always ongoing. The intent of this research need is to help focus that research in ways that are of practical use to operational laboratories.

3. Key bibliographic references relating to this research need: (ex.: Toll, L., Standifer, K. M., Massotte, D., eds. (2019). Current Topics in Opioid Research. Lausanne: Frontiers Media SA. doi: 10.3389/978-2-88963-180-3)

Bécue, A., Eldridge, H., & Champod, C. (2020). Interpol review of fingermarks and other body impressions 2016–2019. *Forensic Science International: Synergy*, 2, 442-480. <https://doi.org/10.1016/j.fsisyn.2020.01.013>

Roberts, M. A., Tom, K. R., & Knorr, K. B. (2020). Publication trends in forensic science research: Friction ridge discipline. *Forensic Science International: Synergy*, 2, 76-81. <https://doi.org/10.1016/j.fsisyn.2020.01.001>

4. Review the annual operational/research needs published by the National Institute of Justice (NIJ) at <https://nij.ojp.gov/topics/articles/forensic-science-research-and-development-technology-working-group-operational#latest>? Is your research need identified by NIJ?

Development and validation of standardized forensic methods and conclusions; Novel and/or improved evidence recognition, collection, and visualization tools and analytical instrumentation for field and lab use; Evaluation of the effects of inter- and intra-disciplinary sequential evidence processing and analytical methods

5. In what ways would the research results improve current laboratory capabilities?

More efficient and effective techniques are always desirable to increase the number of suitable marks found, as well as save time and money where possible.

6. In what ways would the research results improve understanding of the scientific basis for the subcommittee(s)?

There are still areas of knowledge that need to be strengthened or understood in greater depth and breadth, such as identifying variability in the matrix composition and how different techniques target these compounds, better understanding the underlying science of how techniques work, developing more efficient techniques, etc. Research to improve this understanding will improve the development and use of these techniques.

7. In what ways would the research results improve services to the criminal justice system?

More effective services that result in more usable marks found will improve criminal justice outcomes by allowing for more probative evidence, faster turnaround times, and more cases to be worked.

8. Status assessment (I, II, III, or IV):

II

	Major gap in current knowledge	Minor gap in current knowledge
No or limited current research is being conducted	I	III
Existing current research is being conducted	II	IV

This research need has been identified by one or more subcommittees of OSAC and is being provided as an informational resource to the community.