

OSAC RESEARCH NEEDS ASSESSMENT FORM



Title of research need: Recency of Textile Damage

Keyword(s): cut, tear, textile, textile damage, fabric damage, time of damage, fiber

Submitting subcommittee(s): Trace Materials - Fiber TG **Date Approved:** Jan 31, 2025

(If SAC review identifies additional subcommittees, add them to the box above.)

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)

Yes, it will complement the draft Standard Guide for Forensic Examination of Textile Damage, which is currently in draft with the Fiber Task Group.

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)?

No

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)

Hemmings J, Carr D, and Robertson J, "Textile Damage Interpretation," Forensic Examination of Fibres, 3rd edition. Robertson J, Roux C, and Wiggins KG, editors. Boca Raton: CRC Press, 2018: 61-87.

Taupin JM, Adolf FP, Robertson JA. Examination of damage to textiles. Forensic examination of fibres. 1999 Jun 10;2:65-88.

Taupin JM and Cwiklik C, Scientific Protocols for Forensic Examination of Clothing, CRC Press, 2010.

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?

No.

There is a related need listed "Determination of the causes of textile physical damage (e.g., tear, cut, stab, shot, burn) and evaluation of the persistence of damage characteristics", however no details are provided to understand if persistence includes any study of recency.

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

The research results would improve lab capabilities by providing foundational information on the ability to determine recency of textile damage, which currently does not exist.

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

The results would improve understanding by providing data on how textile damage can occur, what factors affect the creation of textile damage, and what factors affect the condition of textile damage. This information would provide the scientific basis for evaluating and estimating recency of damage and the inherent limitations.

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

Assessing the recency of textile damage can aid and improve services to the criminal justice system by providing more information regarding when an event occurred or if it is related to a particular incident.

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

| | | | |
|---|---|--------------------------------|--------------------------------|
| I | | 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.