

OSAC RESEARCH NEEDS ASSESSMENT FORM



Title of research need:

Describe the need:

Accuracy, reliability, repeatability, and reproducibility as it relates to determination of footwear size based on an examination of questioned footwear impressions. There are four primary ways in which size determination of footwear is conducted in forensic laboratories in the United States: (1.) A statement of the specific size if the size is a part of the outsole design. (2.) A statement of a specific size or range of sizes if the outsole design changes as the size of the shoe changes. (3.) Overlays (physical or digital) are created from known shoes in a range of sizes, and are overlaid with the questioned impression using the examiner's expert determination of an acceptable tolerance of any perceived differences in size. (4.) Measurements are collected from questioned impressions and compared with measurements of known shoes in a range of sizes using the examiner's expert determination of an acceptable tolerance of any perceived differences in size.

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)

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)?

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)

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?

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

Assist in determining the validity of procedures currently being used in forensic laboratories in the United States.

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

Size determinations are currently being conducted in forensic laboratories in the United States. There is limited research that would point toward the methods being valid or invalid.

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

Validity of processes currently being conducted, and which have historically been conducted, on criminal and civil cases in the United States.

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.