

# OSAC RESEARCH NEEDS ASSESSMENT FORM



**Title of research need:**

**Keyword(s):**

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

*(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. This research need would investigate the reliability of field testing (i.e. portable or hand-held) equipment in comparison to traditional bench-top laboratory equipment. ASTM E2329-17 5.1 details the classification of a technique may be lower, if the sample, analyte, or mode of operation diminishes its discriminating power (emphasis added). The research would evaluate the limitations of field-testing equipment to determine if the mode of operation does diminish its discriminating power.

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)?

Multiple federal, state, and local agencies have conducted internal studies on individual pieces of instrumentation, but no large-scale study has been conducted on the overall discriminating power (i.e. selectivity) of field instruments when compared to their traditional benchtop counterparts.

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)

No specific papers relating to large scale comparisons of field and benchtop instrumentation.

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.

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

Knowing the limitations of field instrumentation will allow laboratories to make an informed decision on whether they can be effectively incorporated into their analytical scheme.

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

With the development and use of field testing (i.e. portable or hand-held) equipment , a comprehensive evaluation of the limitations of the instrumentation is needed in order to inform future standards. Challenges like these are the reason that the work of the Seized Drugs subcommittee is relevant and essential.

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

An understanding of field instrumentation limitations may inform the admissibility of these results in legal proceedings. Research could potentially assign discriminating power to these field techniques.

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.*