

OSAC RESEARCH NEEDS ASSESSMENT FORM



Title of research need: ACE-V Bias

Describe the need: Further studies are needed to both measure and understand the influence of bias when applying ACE-V.

Keyword(s): ACE-V, Analysis, Bias, Blind Verification, Comparison, Evaluation, Examiner Cognition, Verification

Submitting subcommittee(s): Friction Ridge **Date Approved:** 2/1/2021

(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; OSAC - Best Practice Recommendations for the Verification Component in Friction Ridge Examination (Sections 4.6 and 4.6.1)

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)?

Yes; "Evaluating the Effectiveness of Blind and Non-Blind Verification in Latent Print Examination" – Grilli, Heinrich, and Black (in progress).

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)

OSAC - Best Practice Recommendations for the Verification Component in Friction Ridge Examination; AAAS, Forensic Science Assessments: A Quality and Gap Analysis- Latent Fingerprint Examination, (Report prepared by William Thompson, John Black, Anil Jain, and Joseph Kadane), September 2017. DOI: 10.1126/srhl.aag2874

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?

Yes; "Determination of accuracy and reliability of forensic analyses and conclusions, including potential sources of error" and "Evaluation of the effectiveness of varied types of review and/or verification of casework, testimony, and investigative leads"

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

There is a general belief that bias adversely affects fingerprint examination decisions. A better understanding of how bias affects the examiner’s daily work will ultimately improve both quality and efficiency with regard to maintaining objectivity. In addition, blind verification has been suggested as a means of reducing reported errors; however, there is insufficient research to show how cost effective this technique is. Therefore, further research on blind verification would allow laboratories to make a utility-based decision regarding the implementation of this technique as both a means to mitigate bias and reduce reported errors.

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

Because it is unclear what types of examinations are affected and what types of bias have the greatest or least effect, the Friction Ridge Subcommittee will have a difficult task defining standards in this area. It is important for these committees to balance the utility of a standard versus the cost of implementation.

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

Understanding the effects of bias will assist the criminal justice system by providing a foundation for standard operating procedures. Research will improve efficiency by determining when blind verification is necessary. It will also improve confidence in the courts and public regarding fingerprint examination 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.