

OSAC RESEARCH NEEDS ASSESSMENT FORM



Title of research need:

Describe the need:

Human examiners are typically required to make the final decision in facial comparison tasks (e.g. one-to-one facial image comparison, border control and verifying one-to-many searches using an algorithm). Research has demonstrated that untrained humans have a wide range in innate ability when comparing faces. Further research is required to determine effective strategies for training in facial comparison taking into consideration time constraints (e.g. border control) and purpose of analysis (e.g. intelligence/lead generation/evidential). This includes identifying appropriate testing materials and a test delivery interface. Additional research is required to validate the methods currently used by trained examiners to compare faces (e.g. the feature-by-feature morphological approach). Unconscious bias & same race effect are recognized factors in comparison. Research is required to understand human bias & mitigation strategies and develop training for human examiners.

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)

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)

Burton, A. M., White, D., & McNeill, A. (2010). The Glasgow face matching test. Behavior Research Methods, 42, 286–291. DOI: 10.3758/BRM.42.1.286
<http://oro.open.ac.uk/59338/1/59338.pdf>

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?

Ensure agencies employ effective testing and training of facial reviewers/examiners and that facial examinations are conducted using effective and validated methods. This would likely improve efficiency and accuracy among facial image examiners.

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

Identify effective strategies for training in facial review & comparison and establish methods for the creation of proficiency tests. Facilitate the creation of standards and best practice in human facial image comparison. For 1:1 facial image comparison, this has the potential means for improving our scientific method and strengthening the application of ACE-V to facial comparison.

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

Ensure that facial review and facial comparisons are undertaken in a manner that minimizes bias and when undertaken in a real time context (such as border control) ensures that subjects are engaged/stopped only where necessary. Ensure facial examiners provide informed and objective opinions in court, mitigate bias and ensure that expert conclusions are justified.

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.