

Scientific & Technical Review Panel Final Report for 2020-S-0002 Physical Stability of Facial Features of Adults

Organization of Scientific Area Committees (OSAC) for Forensic Science





STRP Final Report 2020-S-0002

Physical Stability of Facial Features of Adults

Organization of Scientific Area Committees (OSAC) for Forensics Science
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Scientific & Technical Review Panel Members

- Daniel Heltemes, Arizona Department of Public Safety
- Jodie Linger, Federal Bureau of Investigation (FBI)
- Jonathon Phillips, National Institute of Standards and Technology (NIST)
- Kelly Sauerwein, National Institute of Standards and Technology (NIST)
- Barbara Spellman, University of Virginia
- Steve Wilkins, Pierce County Sheriff's Department

Report Summary:

The STRP for “Physical Stability of Facial Features of Adults” is an independent panel appointed by the National Institute of Standards and Technology (NIST). An STRP is established with a range of experts to consider how well a standard meets the needs of the forensic science, law enforcement, and legal communities, and to recommend improvements to the standards under review. This panel consisted of practitioners with experience as forensic facial examiners and researchers with experience in the forensic sciences. The STRP appreciates Lora Sims’, Facial Identification Subcommittee Chair, efforts while serving as the subcommittee liaison to this STRP during the review process.

The STRP began its review process with a kickoff meeting on 09/22/2020 and concluded with this STRP final report on 02/01/2021. The panel reviewed the draft standard (Version 1.1 04/20/2020) and prepared comments for the [OSAC Facial Identification Subcommittee](#). After a vigorous review process and discussion between STRP members and the Facial Identification Subcommittee, the subcommittee revised the draft standard (Version 1.2 12/09/2020) in accordance with the panel’s comments. The panel believes this draft standard is an appropriate reference companion to [ASTM 3149-18 Standard Guide for Facial Image Comparison Feature List for Morphological Analysis](#).

Report Components:

The STRP reviewed this draft standard against OSAC’s *STRP Instructions for Review* which include the following content areas: scientific and technical merit, human factors, quality assurance, scope and purpose, terminology, method description and reporting results. The details below contain a brief description of each reviewed content area and the STRP’s assessment of how that content was addressed in the Draft OSAC Proposed Standard.

- I. **Scientific and Technical Merit:** OSAC-approved standards must have strong scientific foundations so that the methods practitioners employ are scientifically valid, and the resulting claims are trustworthy. In addition, standards for methods or interpretation of results must include the expression and communication of the uncertainties in measurements or other results.

The STRP noted the small number of references in the document. The Limitations section acknowledges “the limited scientific literature available.” The panel recommended that the Facial Identification Subcommittee include studying the stability of facial features to their research needs. The Facial Identification Subcommittee concurs and has a Research Needs Assessment (dated 01/29/2016) publicly posted as of the date of this report.

- II. **Human Factors:** All forensic science methods rely on human performance in acquiring, examining, reporting, and testifying to the results. In the examination phase, some standards rely heavily on human judgment, whereas others rely more on properly maintained and calibrated instruments and statistical analysis of data.

The STRP believes this draft standard serves as a reference for ASTM E3149-18. While ASTM E3149-18 contains a human factors component, this annex document does not. Therefore, this topic was not applicable to this draft standard.

- III. **Quality Assurance:** Quality assurance covers a broad range of topics. For example, a method must include quality assurance procedures to ensure that sufficiently similar results will be obtained when the methodology is properly followed by different users in different facilities.

The STRP believes this draft standard serves as a reference for ASTM E3149-18. While ASTM E3149-18 contains a quality assurance component, this annex document does not. Therefore, this topic was not applicable to this draft standard.

- IV. **Scope and Purpose:** Standards should have a short statement of their scope and purpose. They should list the topics that they address and the related topics that they do not address. Requirements, recommendations, or statements of what is permitted or prohibited do not belong in this section.

The STRP believes this draft standard's scope and purpose are appropriate.

- V. **Terminology:** Standards should define terms that have specialized meanings. Only rarely should they give a highly restricted or specialized meaning to a term in common use among the general public.

The STRP believes the terminology in this draft standard is appropriate.

- VI. **Method Description:** There is no rule as to the necessary level of detail in the description of the method. Some parts of the method may be performed in alternative ways without affecting the quality and consistency of the results. Standards should focus on standardizing steps that must be performed consistently across organizations to ensure equivalent results. Alternatively, standards can define specific performance criteria that are required to be demonstrated and met rather than specifying the exact way a task must be done. For example, it may be enough to specify the lower limit for detecting a substance without specifying the equipment or method for achieving this limit of detection.

The STRP believes the method descriptions are consistent with the scope and purpose of the document.

- VII. **Reporting Results:** Methods must not only be well described, scientifically sound, and comprehensive but also lead to reported results that are within the scope of the standard, appropriately caveated, and not overreaching.

The STRP believes the statements for reporting results are consistent with the scope and purpose of the draft standard.