



C19 The Organization of Scientific Area Committees (OSAC) Digital/Multimedia Scientific Area Committee Standards Work—Part 1: Digital Evidence and Speaker Recognition

Lam D. Nguyen, MS, Woodbridge, VA 22192; David Brian Marks, MS*, Federal Bureau of Investigation, Quantico, VA 22135; Richard Vorder Bruegge, PhD, Federal Bureau of Investigation, Quantico, VA 22135*

Learning Overview: After attending this presentation, attendees will have learned about the latest work in developing OSAC Standards for the Digital and Multimedia Sciences disciplines of Digital Evidence and Speaker Recognition.

Impact on the Forensic Science Community: Standards are vital to ensuring the sound practice of forensic science across all disciplines. To implement these standards, community members must know of their existence and scope. This presentation will impact the forensic science community by offering newcomers an introduction to such standards, while offering more experienced practitioners with an opportunity to probe the finer details of the current work and shape the direction of future work.

OSAC for Forensic Science works to strengthen the nation's use of forensic science by facilitating the development of technically sound forensic science standards and by promoting the adoption of those standards by the forensic science community.

These standards are written documents that define minimum requirements, best practices, standard protocols, and other guidance to help ensure that the results of forensic analysis are reliable and reproducible.

OSAC forensic science disciplines are spread across seven major Scientific Area Committees (SACs). The SAC most relevant to the AAFS Digital Multimedia Sciences section is the Digital/Multimedia SAC (DMSAC). The DMSAC incorporates four subcommittees that address the following disciplines: Digital Evidence, Speaker Recognition, Video/Imaging Technology & Analysis, and Facial Identification. This presentation will focus on the work of the first two, while a companion presentation addresses the second two.

Each OSAC subcommittee maintains a “roadmap” of standards and other guidance documents for their discipline and identifies the individual standards and guidance documents considered to be of the highest priority for their work. It should be noted that only standards that have been published by an acknowledged Standards Development Organization (SDO) are eligible for publication on the OSAC Registry as approved standards. While many standards within OSAC disciplines have been published through SDOs, the work of OSAC has revealed that most of these require some modification to reflect the latest advances in forensic science. Likewise, OSAC subcommittees have identified several additional standards that have not yet been published through an SDO and therefore have begun to develop these standards themselves. Once prepared by an OSAC subcommittee, these documents are passed on to an SDO to ensure transparent input by the broadest possible community of stakeholders. As a result, individuals interested in actively developing standards have at least two opportunities to do so—either through participation in OSAC or through an SDO. The SDOs with which the OSAC Digital Evidence and Speaker Recognition subcommittees are currently engaged include: American Society for Testing and Materials (ASTM), the Acoustical Society of America, and American National Standards Institute (ANSI). It is worth noting that with changes implemented in the fall of 2020, standards developed in OSAC that have been passed to an SDO are now published on the OSAC Registry as “Standards Under Consideration.” This further enhances the transparency of the standards development process by making these documents available for all to see outside of the SDO and OSAC process.

To facilitate the process by which standards are reviewed and validated through the OSAC, the Forensic Science Standards Board (FSSB) has established an ontology to define the categories and subcategories of standards that may be included in the roadmaps. The primary categories and subcategories of standards as defined in this ontology are as follows: Competency; Physical Evidence; Method Development & Method Validation; Evidence Enhancement, Restoration or Recovery; Examination & Analysis; Interpretation; Quality Assurance; Terminology; and Reporting Results & Testimony. It is expected that individual standards may span more than one of these categories.

During this presentation, attendees will learn about various efforts to develop standards and guidance documents within the disciplines of digital evidence and speaker recognition with such topics as: Mobile Device Evidence Collection, Preservation, Handling and Acquisition; Requirements for Testing Tools Used in Digital and Multimedia Forensics; Archiving Digital and Multimedia Evidence; Internet of Things (IoT) Devices; Mobile Device Analysis; Audio Collection at a Temporary Location; Issues in Data Processing and Relevant Population Selection; Taxonomy of Mismatch Conditions for Forensic Speaker Recognition; and a Process Map of Recommended Practices in Forensic Speaker Recognition.

Digital Evidence, Speaker Recognition, Standards