

OSAC RESEARCH NEEDS ASSESSMENT FORM



Title of research need:

Describe the need:

Images extracted from video sources appear to differ in quality when the same video data is visualized on different computer systems using the same extraction technique as well as different extraction techniques. Research is needed to determine if computer hardware is a factor affecting image quality when extracting images from video.

Keyword(s):

Carve, Deinterlace, Download, Export, Image Field, Pixel Aspect Ratio, Still Frame, Still Image

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)

The following standards would likely be impacted by this research: Standard Guide for Forensic Digital Image Processing; Standard Guide for Forensic Digital Video Analysis (Draft); Standard Guide for Forensic Photogrammetry

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)?

Smith, J.M., Grigoras, C. (2014) Quantitative Comparison of Frame Extraction Methods for Motion JPEG Video, Proceedings of the 66th Annual Scientific Meeting of the American Academy of Forensic Sciences, Seattle, WA, February

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)

Retrieval of Video Evidence and Production of Working Copies from Digital CCTV Systems v2.0 Publication No 66/08 – Home Office Scientific Development Branch

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?

pg 7, under, "Crime Scene Examination" Forensic Discipline(s): "Enhanced, and cost-effective, development/improvement of technologies and capabilities for visualizing and **imaging** evidence at the scene", pg 8, under, "Forensic Pathology" Forensic Discipline(s);

Further research into the utility of advanced **imaging technologies** in post-mortem examination, assessing the cost-benefit of the imaging results with the financial burden of purchasing such technologies and hiring the expertise required, and development of standardized protocols; advanced **imaging technologies** in post-mortem examination are expensive, inaccessible for most agencies, difficult to interpret, and require specialized expertise.

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

It would assist in determining and evaluating technology for purchase by a laboratory to process video evidence.

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

It would assist in establishing standards for the forensic video analysis process of creating a working copy from proprietary video data.

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

This research would help demonstrate to the trier of fact (and the broader criminal justice system) that the quality of the video evidence was maintained at the highest possible level in the extraction process.

8. Status assessment (I, II, III, or IV):

I

	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.