

OSAC RESEARCH NEEDS ASSESSMENT FORM



Title of research need: Use of Artificial Intelligence in Bloodstain Pattern Analysis
Keywords: AI, Artificial Intelligence, Angle of Impact, Area of Convergence, Area of Origin

R&D Need Rank:

Low, Medium, High

Medium

**SAC Approved
Date:**

9/2/2025

Submitting subcommittee(s):

Bloodstain Pattern Analysis

(If SAC review identifies additional subcommittees, add them to the box above.)

Research Need Summary:

The purpose of these research needs is to build a stronger scientific foundation for forensic science standards. The information provided herein will help to evaluate and strengthen existing standards, and/or fill any standards related gaps. In the space below, please provide a brief narrative of the need to be addressed. This should include:

- The identity of any specific standards that would be affected/improved/evaluated
- A discussion on gaps that exist within the standards or standards related gaps that need to be filled
- How this work would fill those gaps
- An overview of any current or past research efforts that may be relevant to this effort
- A discussion regarding how this research might improve current laboratory capabilities and/or forensic services within the criminal justice system
- Any relevant references

With the increasing use of artificial intelligence across all facets of life, it is essential to investigate how these technologies may impact our field. Areas of particular interest include pattern classification, feature identification, and determinations such as Angle of Impact, Area of Convergence, and Area of Origin. Additionally, we must examine how disclosing the use of AI in forensic reports affects the interpretation and perception of those reports by their intended audience.

This research need has been identified by one or more subcommittees of OSAC and is being provided as an informational resource to the community.