

**Illinois Forensic Science Commission
Technology Subcommittee
Open Meeting-Via Web Ex
Wednesday, April 23, 2025, 11:00 a.m.**

Meeting Minutes

- I. Call to Order
 - 1. 10:00 a.m. by Subcommittee Chairperson Mr. Buford.

 - II. Roll-call
 - 1. Jeffrey Buford, Commission Member, Subcommittee Chairperson
 - 2. Jillian Baker, Commission Member, Subcommittee Member
 - 3. Jeanne Richeal, Commission Member, Subcommittee Member
 - 4. Caryn Tucker, Commission Member, Subcommittee Member
 - 5. Claire Dragovich, Commission Member
 - 6. Judge Art Hill (Ret.), Commission Member
 - 7. Dr. Cris Hughes, Commission Member*
 - 8. Robin Woolery, Director Designee
 - 9. Amy Watroba, Executive Director Illinois Forensic Science Commission
 - 10. Henry Swofford, NIST, Guest Speaker
 - 11. Melissa Taylor, NIST, Guest Speaker
 - 12. Peter Anzalone, ISP
 - 13. Jennifer Barrett, ISP*
 - 14. Adrienne Bickel, ISP
 - 15. Peter Brennan, ISP
 - 16. Justyna Cioch, ISP
 - 17. Casey Craven, ISP
 - 18. Jamie Edwards, ISP
 - 19. Jason George, ISP*
 - 20. Kevin Gillespie, ISP
 - 21. Gail Gutierrez, ISP
 - 22. Mandi Hornickel, ISP
 - 23. Megan Neff, ISP
 - 24. Anastasia Petruncio, ISP
 - 25. Naeemah Powell, ISP
 - 26. Dianna Pratt, ISP
 - 27. Cassandra Richards, ISP
 - 28. Amanda Shanbaum, ISP
 - 29. Larry Shelton, ISP
 - 30. Bryan Tomac, ISP
 - 31. Timothy Tripp, ISP*
 - 32. Julie Wessel, ISP
 - 33. Heather Wright, ISP
- (*denotes individual who joined meeting after roll call)

III. Review of Minutes/Adoption

1. A motion to approve the minutes from the March 5, 2025 subcommittee meeting passed.

IV. Discussion- AI Applications in Forensic Science

2. Guest Speakers: Henry Swofford and Melissa Taylor from the Forensic Science Program Office- National Institute of Standards and Technology (NIST). Mr. Buford briefly summarized subcommittee discussions related to AI applications in forensic science and noted that subject matter experts from the subcommittee suggested inviting today's guest speakers to help further those discussions. Ms. Watroba introduced the guest speakers and provided biographical information about Dr. Swofford and Ms. Taylor. Dr. Swofford is the lead scientist for the forensic science research program at NIST and is responsible for helping identify and prioritize and administer their research and he acts as a liaison between NIST researchers and the forensic science community to make sure that their research is meaningful, practical and impactful for forensic scientists. Ms. Taylor serves as the program manager for the AI and forensic science strategic initiative that began last year.
3. Dr. Swofford began the conversation related to NIST-led efforts to harness the power of AI for forensic science. Dr. Swofford explained goals for the presentation: for attendees to gain a better understanding of what NIST is doing to bring AI to the forensic science community and for members of the forensic science community to learn how they can partner with NIST to ensure that their research is meaningful to the forensic science community. Dr. Swofford provided a disclaimer that any opinions expressed during the presentation are those of the presenters and are not necessarily reflective of the opinions of NIST, the Department of Commerce, or the US Government.
4. Dr. Swofford provided background information about NIST's history of supporting forensic science and the effective and reliable use of AI technology, as well as NIST's Mission. NIST is unique in that NIST does not do any casework and NIST has the authority to bring together public and private sector entities to solve challenging problems facing a particular community. NIST has a team that is tasked with serving a key role in bringing forth responsible and trustworthy uses of AI across different industry sectors and domains. The forensic science program within NIST is building off the general work NIST has done related to supporting AI for the forensic science community. The goal of the AI in forensics strategic initiative is to stimulate AI technology innovation to modernize forensic science and law enforcement capabilities through the development and application of research, standards, and guidelines. The three supporting objectives are to: 1) promote greater awareness of the current capabilities and limitations of AI-enabled systems among forensic science service providers (FSSPs), 2) spark innovation among industry to develop AI-enabled solutions to address forensic science needs and challenges, and 3) provide guidance to crime laboratories seeking

to implement these systems. This involves bringing together forensic scientists and AI developers to spark innovation.

5. NIST is working on 5 activities related to its goal. First, NIST is developing a use-case catalog that identifies key forensic science tasks and processes where AI-enabled tools could have transformative potential. The intent is to identify tasks that could benefit from a computational system and then characterize with sufficient detail what those specific tasks are so that AI developers can develop systems that have practical applications to those tasks. Infrastructure needs for checks and balances for implementation can also be identified (i.e. quality management, standards, guidelines). This effort would benefit from mutual collaboration between NIST and forensic scientists either via laboratories or commissions.
6. Second, NIST is identifying current and emerging AI-enabled technologies that could address forensic science use cases. This includes technologies that have been marketed for non-forensic science applications but have potential dual use. These are referred to as forensic adjacent use cases. Dr. Swofford provided examples.
7. Third, NIST is conducting a landscape analysis to identify technical barriers relating to admissibility of AI-generated results and materials. NIST is seeking to understand the legal landscape- not just whether systems may be admissible, but also the reaction of courts when AI or advanced computational systems have been used to produce information that is relevant in court. This information will help with understanding technical implications of how these systems should be designed, developed, and deployed to minimize court concerns.
8. Fourth, NIST is facilitating the development of standards and guidelines for implementation of AI-enabled systems.
9. Fifth, NIST is creating an AI in Forensics Community of Practice that includes AI developers, forensic science practitioners, and the broader criminal justice community to enable communication about the priority needs of the forensic science community and downstream implications to try to get it right on the front end, so to speak, when systems are developed. Ms. Taylor noted the importance of this because there are very few places where practitioners can engage with developers to ensure that tools are fit for purpose.
10. Dr. Swofford acknowledged that "AI" has become a buzzword and that it is a challenge to decide what can be categorized as "AI." NIST defines "AI" as an engineered or machine-based system that can, for a given set of objectives, generate outputs such as predictions, recommendations, or decisions influencing real or virtual environments. In other words, AI models apply computational, statistical, or machine-learning techniques to produce outputs from a given set of inputs and they can be impacted by people, data, and context. Generally speaking, AI involves machine-learning, which has been around for decades, and deep learning, which is a subset of machine-learning, and applies natural language processing and computer vision to achieve desired outcome via advanced computation. Dr. Swofford provided examples of the wide-ranging type of outcomes that can be generated with AI systems, including decision-making purposes, digital assistance, image analysis, information

retrieval, monitoring, prediction, or recommendations. Because the outcomes that can be accomplished are wide-ranging, it is important to be very particular about what systems are designed for (what are the tasks, the purposes, and the desired outcome that we hope to achieve). This impacts how these systems are designed, developed, and deployed on the front-end. This is important in the criminal justice context because, for example, the criminal justice system might have greater tolerance or applicability for a system that offers a recommendation versus one that autonomously makes a decision.

11. Possible AI applications in forensics include: evidence analysis/interpretation, case management, communications, research and training, and quality assurance. The path forward is to think not only where AI could be applied, but also to work together to prioritize where the forensic community thinks AI would be most impactful and where the community would be the most receptive to starting to use these systems to gain comfort and momentum. Even within each topic area, there are specific applications. Dr. Swofford provided an example under the category of analysis of seized drug evidence and what use case cards look like under that category. The forensic science use case cards include information about the user's story (what I want to do), description of current practice, how AI could improve current practice, implementation strategies, and other relevant details. Dr. Swofford explained the goals stemming from the use case cards. Ms. Taylor added that, if done properly, the use case cards would lower the barrier for developers to come into the space by providing context for what they need to do and what data is available for the development of new technology. The use case cards will be the anchor for the remainder of the program.
12. Dr. Swofford explained that the next thing to think about is how AI technology will be implemented given the potential use case. Questions for consideration are whether the AI should supplant or supplement human activities and whether the AI should be applied before or after human intervention. Thinking about how humans and AI can cohabitate is important to integrating AI into a process. No one approach is better than another.
13. NIST is also invested in research and development of prototype systems to explore the actual development of AI systems for forensic applications. He provided examples related to the identification of emerging drugs, "deep fake" detection, and crime scene documentation, analysis, training, and court presentation.
14. Dr. Swofford explained that NIST is available as a resource for the Commission and laboratory systems. NIST also welcomes stakeholders to participate building their Community of Practice. He provided information about how individuals can participate in-person or on-line in an RTI/NIST Harnessing AI for Forensics Symposium in July.
15. Dr. Swofford and Ms. Taylor invited questions from subcommittee members and meeting attendees. Mr. Buford first opened the floor to meeting participants who are subcommittee members. A participant inquired about whether NIST has engaged with OSAC in their endeavors. Dr. Swofford and Ms. Taylor explained current and future collaboration including how OSAC process maps are being utilized and a workshop that was held at the AAFS

conference. A participant posed a question about machine learning and how it impacts documentation of current procedures. Dr. Swofford discussed possible impacts on validation and performance monitoring. Conversations on this topic will impact system development and deployment. Ms. Taylor also discussed xAI (explainability AI) which is another tool that can be used on the back end to explain how the original tool works. That technology is at varying states and they are exploring whether it is another tool the forensic science community could use to understand how an original AI system came to its decision. This topic will be discussed at the symposium in July.

V. Public Comment

1. Members of the public then were provided with an opportunity to pose questions to Dr. Swofford and Ms. Taylor. Judge Hill asked whether they have considered during the development process how AI will be discussed and presented to the criminal justice system (i.e. during trial testimony) in a way that is understandable. Ms. Taylor responded that much thought has been put into the downstream impacts of AI in the development process. NIST does routine robust evaluations and verification checks of systems being deployed in many domains. This also is an important area of investment on the front end to help decision-making in the procurement phase. Dr. Swofford added that in addition to considerations of court admissibility, the question of how a lay audience will weigh the reliability of that information is also important. This may impact decisions of where to first deploy AI systems, for example opting to first use AI for low-risk repetitive tasks where the testifying analyst can explain how the AI system works. Ensuring that the forensic science community understands how the systems operate at a conceptual level and that analysts can explain the systems to a lay community is an important consideration. Ms. Taylor referred back to previous discussions about decisions related to whether AI is used to perform a task that is currently being performed by a human. Ways that different stakeholder groups can engage with the Community of Practice in the short term and mid-to-long term also were discussed.

VI. Next Meeting/ Adjournment

1. The next meeting will be scheduled via Doodle Poll for 11 a.m. on either May 21, 2025, or May 28, 2025.
2. Meeting adjourned at approximately 12:00 p.m.