



### C7 The National Institute of Standards and Technology (NIST) Scientific Foundation Study for Digital Examiners

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**Learning Overview:** After attending this presentation, attendees will be aware of: (1) the NIST's efforts to develop scientific foundation reviews for various forensic disciplines, and (2) specifically, the development of a scientific foundation study for digital forensics examiners.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by increasing the trust in the use of current forensic methods for digital investigations based on solid scientific underpinning and provide a strategic direction for future research in areas that need further strengthening.

"A scientific foundation review is a study that seeks to identify and evaluate the body of scientific evidence that underlies a forensic method or practice".<sup>1</sup> Working with the forensic community, NIST researchers developed a concise method for testing the accuracy of results that could be from a digital forensic examination. This method included collecting metadata related to an examiner's work environment and experience and developing tests targeting digital discovery from hard drives and mobile devices as part of a forensic examination. The goal of this study is to achieve a comprehensive evaluation of outcomes from digital forensic practices used by investigators in both the public and private sector. Protections will be in place to protect the confidentiality and privacy of participants.

To date, there are no major known inter-laboratory studies for digital examiners, prompting the need for this scientific foundational study. This study will attempt to identify differences in work environments (i.e., number of employees, training opportunities, investigator's experience) that could possibly impact laboratories reaching different results. Participants will provide background information describing their current work affiliation, followed by a set of questions related to their acquired skill set, and an electronic discovery test designed for a hard drive or mobile device. The tests are developed with a minimum amount of multiple-choice questions that will focus on forensic artifacts common to any investigation. All responses will be collected in a survey format created for analysis of results. This study is designed as a black box study focusing on the results and not on the methods and practices used by participants to reach their conclusions. Participation in this study is voluntary and open to individuals who conduct digital discovery as part of their official work duties. Upon completion of this study, NIST will publish a report detailing the results.

#### Reference(s):

- <sup>1</sup> John M. Butler, Hari Iyler, Rich Press, Melissa Taylor, Peter M. Vallone, Sheila Willis. *NISTIR8225: NIST Scientific Foundation Review*. September 24, 2018.

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**Foundation Study, Black Box, Inter-Laboratory**