



W17 Communication Strategies to Mitigate Bias and Strengthen Scientific Foundations in Forensic Science

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After attending this presentation, attendees will recognize the myriad ways in which cognitive and linguistic biases can inadvertently affect judgment and, with heightened awareness, attendees will be able to select from a variety of potential solutions for reducing bias.

This presentation will impact the forensic science community by providing immediate methods for reducing cognitive and confirmation biases in the forensic science workflow from initiation of forensic analysis to trial.

The workshop will present state-of-the-art strategies for mitigating bias and strengthening methodologies in the lab, workplace, and courtroom. Hands-on exercises will follow each talk to encourage interaction with the audience, enable attendees to practice each skill as soon as the discussion is concluded, as well as tailor the exercise to their own job-specific environments. These exercises will also create fodder for the discussion periods, when attendees will be able to ask questions and propose topics for further discussion across the represented fields.

The workshop will begin by describing how all humans create “mental maps,” learning things from our families, culture, and subcultures that subtly skew our personal interpretations in productive and counterproductive ways, especially where our reasoning processes are concerned. After discussing the importance of credibility, clarity and closure, and their implications for the legal/investigative process, proven strategies for countering such biases will be addressed.

In linguistics, a well-documented phenomenon is “semantic priming” or the ability of certain words to prime the meaning of words that occur later. Semantic priming is the root cause of much bias in forensic science pattern-recognition techniques. Forensic linguistics provides an object lesson, for many forensic disciplines, in how to overcome cognitive bias in a forensic technique that classifies patterns. Currently, there are two different approaches to forensic linguistics: qualitative and quantitative. As in other forensic disciplines, qualitative work is prone to subjective biases, an overstatement of conclusions, and confirmation bias; while quantitative work has built-in safeguards that can be even further enhanced by employing a metalinguistic filter that controls semantic priming. This filter controls semantic priming by making the implicit assumptions or mental maps explicit so that speakers and hearers communicate with awareness of linguistic triggers of bias. Thus, having both a strong methodology and a strong filter helps to counteract the cognitive bias triggered by semantic priming and its harmful effects on judgment and decision-making at each step in the forensic science process.

Though cognitive biases are hardly news across forensic science disciplines, less attention is paid to the fact that all of these biases are conveyed via the language we use when communicating. Reflecting on and altering the way we communicate is one way of addressing bias. For instance, “Were there any matches for sample A?” and “Did sample A match the boyfriend?” on the face of things are two seemingly similar questions; but the presuppositions



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of these questions are not the same and have the potential to create confirmation bias. We review presupposition differences and present guidelines for improving communication.

The final presentation focuses on bias in the courtroom. Many methodological, organizational, professional, and even physical solutions have been suggested to combat the introduction of bias-inducing influences and information in the analytical, reporting, and testimonial parts of the forensic process. The tension between an adversarial legal system and the ideal for the forensic scientist to produce scientifically valid results for use in court, without regard to their legal context, must be resolved by the scientist against partisan influence or affiliation. Ways of using insulation for the analysts—protecting their independence from sources of bias and preserving their integrity in their reporting of results—need to be discussed and shared.

Bias is a natural human phenomenon that pervades all disciplines and can affect the expert and layperson alike. It is thus, imperative, that we become aware of its many forms and take action against its potentially harmful effects to protect the integrity of forensic sciences. By focusing on communication strategies to heighten metalinguistic awareness, the forensic science community—law enforcement, investigators, the forensic scientist, attorneys, and judges—can mitigate the harmful effects of cognitive bias.

Cognitive Bias, Linguistic Bias and Priming, Scientific Method