

## **Training Workshop**

### **Cognitive and Human Factors in Forensic Decision Making**

The workshop focuses on improving Forensic Decision Making. It is an interactive and engaging workshop and covers brain and cognitive issues relating to cognitive and human factors issues in decision making. It then connects the cognitive science issues to practical and specific issues in forensic work. In addition to knowledge about the cognitive and human factors in forensic decision making, the program also provides practical solutions to address weaknesses as well as best practices to enhance forensic practices.

### **Background:**

Conducting forensic work (from collecting evidence at the crime scene, to its examination in the crime lab) is similar to other expert domains that require perception and interpretation of information, such as in the military, medical, and financial domains. Information is perceived, encoded, represented, transformed, stored, retrieved, compared to other information, evaluated and assessed, to name just a few cognitive processes. The human mind is not a camera, as we actively process and compare information. It is naïve to think that we passively process information, and perceive the data as 'it really is'.

We engage in a variety of cognitive processes that organize and structure the information as it comes in from the external world. Information is then further interpreted and processed in ways that highly depend on the human mind and cognitive factors. As we dynamically process information, we affect what we see, how we interpret and evaluate it, and our decision making process. Thus, to enhance expert performance and understand that different factors may affect decision making, especially in a highly specialized domain such as forensic science, one needs to take into account the role of the human mind and cognitive factors.

Although training is provided to forensic experts, there is a lack of training in psychological and cognitive factors involved in forensic decision making. Thus, there is a lack of systematic training and professional development in the influence of human cognition on forensic work and this workshop is a step towards addressing training in the cognitive and human factors involved in forensic decision making.

### **Course Outline:**

No prior knowledge in cognition is required. This program covers a variety of issues specifically chosen as relevant to enhance the work of forensic examiners. Three primary areas are covered: 1. Background knowledge, 2. Domain applications, and 3. Domain implications.

## **Background Knowledge:**

Background knowledge will cover general principles and mechanisms of the human mind and cognition as they relate to decision making, such as:

- a. The human brain and how that translates to human performance and how we process information.
- b. How information processing underlies all aspects of perception and cognition in general and in expertise.
- c. The Hierarchy of Expert Performance (HEP)
- d. Specific issues in information processing, such as: knowledge representation, allocation of resources, perception, judgment and decision making.
- e. Architectural constraints in cognition, including: limits in information processing load, malfunctions, and lack of control.

## **Domain Applications:**

Domain Applications will connect the Background Knowledge to a variety of forensic decision making issues, such as:

- a. Cognitive perseverance
- b. Confirmation bias, snowball bias, and cascade bias
- c. Self-fulfilling prophecies
- d. Contextual influences
- e. Cognitive closure and dissonance
- f. Expertise
- g. Escalation of commitment

## **Domain Implications:**

Domain Implications will tie both Background Knowledge and Domain Applications to specific issues regarding how forensic decision making is conducted.

In addition to specific ways to enhance forensic decision making, this course will provide more in-depth tools to the participants. Such tools will accompany the participants in the future and will enable them to enhance and enrich their professional abilities. This part will also include discussion of court cases that were challenging and highlighted cognitive factors in forensic decision making.

A variety of practical solutions will be presented and discussed, such as LSU, compartmentalization, case managers, TIP, and these (as well as others) will be presented within forensic information related to the case, reference materials, contextual information, base rate data, training, motivation and experience.

More information is available at: <http://www.cci-hq.com/forensic-identification.html>