G66   What is Forensic Informatics?

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After attending this presentation, attendees will gain an understanding of the precise meaning of forensic informatics, knowledge of its many dimensions, its role in the progress of the forensic sciences, and the current challenges of the discipline.

This presentation will impact the forensic community and/or humanity by demystifying the boundaries and contents of the concept of forensic informatics and allow forensic scientists an understanding of the dimensions of forensic informatics.

Forensic Informatics is the systematic application of information and computer science and technology to forensic practice, research, development, and learning. It is a major discipline of the forensic sciences and encompasses many other scientific disciplines, which have reached maturity at a first generation level. As a major or covering discipline it has the responsibility for establishing performance standards and ideological goals for the component parts. The forensic responsibility entitles the application of sound computer engineering and scientific principles in an open, introspective, and universal manner applicable to the judicial system. The goal of utility in the solution of crimes, the search for the criminal act, the discovery of the criminal, and the analysis and retention of evidence is obvious; the boundaries of informatics extends into the civil affairs of government additionally and extends into property, taxation, public health, and inheritance; the detailed review of the fine details and codes of computers and computer software entitling long hours of study are not easily obtained, but required. Forensic informatics has practical utility in the solution of complex problems and the retention for review of the detailed data arising from the solutions of the problems. Importantly, forensic informatics not only records the past in its archival function, and solves problems with its present capabilities, but necessarily provides a key to the future as vacancies in disciplinary content and theory are discovered and programs developed to encompass the missing details.

Current challenges in forensic informatics are immense and include the development of operational and proficiency standards for all forensic software and information systems including the error rate of the system, operator deficiency recording, output errors, logic error detection in software, security requirements for forensic systems, acceptable decay rates, the mathematics of the database, specialized forensic informational databases, data mining of criminal patterns, three dimensional forensic images, the schooling of new scientists in forensic informatics with the development of educational standards and professional employment opportunities, and dimensions in informatics. Guidance to the judiciary in forensic informatics seems of major operational import.

Involvement of the forensic sciences in these initial stages of the "computer revolution" is a major activity of the current membership of the American Academy of Forensic Sciences.

Formal models of forensic informatics and its dimensions are presented in relation to the other recognized disciplines of information and computer science, including medical informatics, pathology informatics, chemical informatics, public health informatics, digital evidence, and bioinformatics.

Forensic Informatics, Forensic Computer Science, Forensic Science Models