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Forensic crime detection based on separation techniques: Recent problems and new insight to investigation

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New era of crime has evolved with newer technologies and deeper sense of hiding the crime by the criminals. To overrule the latest emerging crime scenario, it is needful to have strong sense of collection and separation of necessary clues. The relevant information or piece of information of evidence is only significant out of the huge irrelevant other material collected at the crime scene. Whereby a single hair of accused in a rape and murder case becomes highly important evidence when separated from clothe of child deceased gets matched with the DNA of suspected accused. Separation from manual to technical and followed by identification is the basic theory of solving various crimes. In forensic sciences separation of physical, chemical, biological evidence and its identification is a necessary step. In toxicology the separation of poisons from visceral tissues and blood is a primary requirement. Whereas separation and analysis of alcohol with its concentration is very significant in drunken cases, the analysis of overdose drugs in cases of doctors negligence, drugs cases related to suicide/ murder, murder cases by use of cyanide, use of drugs for making fled of gangsters from police custody are all different traditions of crime but solved with a common technique that is separation. The use of various forms of chromatography for separation and detection by mass spectrometry is must to stand in international standards of identification. Uses of specific standard methodologies are acceptable in court of law and the establishment of connection of evidence with various mysteries provides justice to society. Hence a brief view on different problems and their solution is discussed that gives new insight to investigation.

Biography

Rakhi Khanna is a Forensic Scientist and since 1998 has wide 20 years of experience in this field and continuously after her Master's Degree in Chemistry in 1997 engaged in solving crimes and analysis of wide groups of poisons in Toxicology Division. She has completed her PhD in year 2009. She has wide experience of instrumentation applications in Forensics Sciences. She had her research on, "Gas- chromatography mass spectrometry studies of some modern insecticides in viscera and body fluids"; she is heading the new laboratory at Ajmer and established lab after utmost efforts. Till her tenure she has examined thousands of cases of drugs, insecticides, metals, explosives etc. She has published many research papers. She has the recipient of Best Scientific Papers Awards two times in National level Conferences. She has been the recipient of Award of International Ambassador for Indian Region for her outstanding contribution to Publication in TMU journal. She has utmost busy schedule of office reports besides she has active participation and membership of Editor-in-Journals and committee members in OMICS, WASET renowned International scientific groups. Recently she has presented her video presentation as Speaker in OMICS International conference. She has special concern for crime against women and children. She has been an active honorable guest faculty at Central Detective Training School. She has provided her expertise knowledge and experience in solving many crimes. She contributes an article in Souvenir of CDTs. She has received many trainings and hence experience in analytical field and sound knowledge to use sophisticated instruments for detection of unknown substances. Her lectures on crime and relation to scientific aids are highly appreciable by the attendees. She has done analysis of Anandpal Farari Case, Jaipur Blast Case, Narcotic Kit Examination, Poisoned Prasad case, Posco Act Cases, Polio Drop Case, Rape cases etc are a few to show her expertise. She has received Appreciation Letter by District Collector Ajmer and Honorable State Education Minister for her active contribution in solving and reporting many cases on 26th January, 2017 Republic Day of India. She is highly concerned about solving various crimes and delivering knowledge in best acceptable ways to authorities concerned.

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