

Venue: ISIS  
22nd August 2007  
1030-1145 hr

**Symposium 3E: Clinical forensics**

**S3E-1. The role of molecular methods in crime scene investigation**

Koh CL

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Forensic molecular biology is the application of knowledge, principles, and techniques of molecular biology and genetics to provide evidence, extracted from a broad range of biological materials of human or non-human origin, to solve crimes, such as assault, blackmail, hit and run fatality, homicide, kidnapping, rape, sexual assault, etc. It has played an important role in crime scene investigation since 1985 when DNA was first used in human identity testing by Alec Jeffreys and his colleagues at the University of Leicester, UK. Since then, DNA evidence has increased our capacity to identify individuals, resolve parentage, identify missing persons and victims of mass disasters, solve crimes, convict the guilty, exonerate the innocent, bring justice to victims, and protect the public. Molecular biology techniques such as restriction enzyme digestions, agarose gel electrophoresis, Southern hybridization, the polymerase chain reaction (PCR), DNA sequencing, multiplex PCR using primers labeled with different fluorescent dyes, and capillary gel electrophoresis are the bases of many evolving methods, for example, DNA fingerprinting, DNA profiling, and DNA typing, that enable us to extract genetic evidence from chromosomal and mitochondrial DNA present in various biological materials. I will review some cases of forensic DNA typing of human and non-human (for example, domestic animal, plant, insect, and microorganism) DNA in crime scene investigation.

**S3E-2. Investigation of rape**

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Abstract not available at time of printing.

**S3E-3. Criminal abortion?**

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The practice of abortion by medical practitioners was not known until the investigation of a death to a young woman. The death was due to septicemia of unknown cause, and investigation lead to the discovery of the practice of abortion by certain medical practitioners. The history of abortion was never informed to the attending doctors. The act of abortion was only known during the autopsy. Further investigation was done by the local medical authority for the maternal death and also by the police for the possibility of illegal abortion. The question of whether the practice was illegal will be discussed. The law relating to abortion in this country will be mentioned.