

Workshop 1- CLINICAL, PATHOLOGICAL & MEDICO – LEGAL APPROACH TO SUDDEN CARDIAC DEATHS

Chairperson- Prof Mete Gulmen, Turkey
Coordinator- Prof Adarsh Kumar, India

Overview: The Justice System relies on forensic evidence more today than ever before. Deaths occurring without a known disease and/or a known cause, deaths with non-lethal diseases are interpreted as sudden-unexpected-suspicious deaths. Autopsy is always required to evaluate the cause of death in all such deaths which are labelled as BROUGHT DEAD. Toxicological analysis, chemical, microbiological, radiological and serological investigations, crime scene examination, medical history taking, macroscopic examination and histological examination are the parts of a complete and full autopsy. Some of the cases can be termed as negative autopsy since the cause of death can't be determined despite all these examinations and studies. This is one of the main areas of interests for the future forensics. Molecular autopsies are one of the main practices to reduce the negative autopsy ratios.

European Cardiovascular Pathology Association describes how to handle the cardiac deaths and how to do the cardiac autopsy to define a proper cause and manner of death in sudden cardiac death cases.

Learning Objectives: Upon completing this course/ workshop, the participants will gain theoretical/applicable knowledge and experience for interpretation of scientific data contained in forensic autopsy reporting of the sudden cardiac death cases. The course will be interactive and with discussions at every level and try to evaluate the cases together with the attendees. The main objective of this course is to enlighten the forensic medicine specialists and discuss how to handle a sudden cardiac death case. How to evaluate and report these cases. What are the odds will be? Main aim of this workshop will be how to approach in scientific manner. It will briefly cover following aspects:

- The definition of Sudden Cardiac Deaths
- Approaching to a sudden cardiac death case
- The Legal Medicine and Forensic Pathology perspectives of sudden cardiac death cases
- The systematic autopsy principles
- Cardiac Autopsy
- Micro Autopsy and Molecular Autopsy Concepts
- Histopathological perspectives
- The genetic bases of the sudden cardiac death cases
- The Cause of Death decision
- Finalizing and reporting the autopsy

Impact Statement: This course will impact the forensic medicine community by the idea that the application of molecular autopsy should be among the routine autopsy applications. After attending this workshop, attendees will gain an understanding about the necessity and intricacies of molecular autopsy studies to reduce the negative autopsy ratios. At the end of this course the attendee will be able to approach to a sudden cardiac death case with much more equipped knowledge so that they can report those cases more properly and may give better testimonies in the courtrooms.

Workshop 2- Transformation in Forensic Analytical Toxicology

Chairperson- Prof (Associate) Dilek Battal, Turkey
Coordinator- Ms. Pallavi Chaudhary, India

Overview:

The Justice System relies on forensic evidence more than today than ever before. It is therefore becomes imperative that forensic toxicology laboratories should provide analytical results. Forensic toxicologists must develop and implement appropriate analytical strategies to direct the handling of samples and the use of analytical methods for the detection, identification and, when required, quantitation of selected analytes in relevant samples. Intensive half-day workshop will focus on introducing the core professional functions of forensic toxicologists on analysis, interpretation, and reporting and how are analytical strategies of forensic toxicology analysis be determined in order to obtain the reliable and accurate results. Prior to the detection, identification, and quantitation of analytes, the important procedures of sample selection, collection, storage/preservation, and transport take place.

Methodology:

The participants will be educated on the criteria for sample selection, collection, storage/preservation, and transport for forensic analytical toxicology analysis to emphasize the importance of sample selection, collection, storage/preservation, and transportation. Depending on the analyte, the sample type, and the analytical method, some sample preparations may be required before the methods of detection, identification, and quantitation are implemented (Decontamination, physical alteration of samples, protein and lipid removal, hydrolysis, extraction etc.). The participants will also understand analytical sample preparation process before detection, identification, and quantitation for antemortem and postmortem samples. An overview of the selection criteria for the detection, identification, and quantitation methods will also presented to the participants. Technical properties, working principles and current trends of immunoassay, gas chromatography, gas chromatography mass spectrometry (GC-MS), liquid chromatography tandem mass spectrometry (LC-MS/MS), high-resolution mass spectrometry (HR-MS), based on time-of-flight (TOF) and orbitrap-type instruments and biosensors will be presented. In addition, quality assurance and quality control for forensic toxicology laboratories will be discussed during the workshop.

Learning Objectives:

Upon completing this workshop, the participants will gain theoretical/applicable knowledge and experience for interpretation of scientific data contained in forensic toxicology laboratory testing result reports and gain a fundamental understanding of the background and details of different analytical instruments and techniques utilized in the forensic laboratory. To facilitate this goal, the workshop uses power point presentations and video simulations to illustrate forensic toxicology principles.