



Workshops - 2017

W8 Applications of Hair Testing in Toxicology: Legal, Technical, and Medical Challenges

*Karen S. Scott, PhD**, Arcadia University, 450 S Easton Road, Glenside, PA 19038; *Robert Kronstrand, PhD**, National Board of Forensic Medicine, Dept of Forensic Toxicology, Artillerigatan 12, Linkoping SE 587 58, SWEDEN; *Carmen Jurado, PhD**, National Institute of Toxicology & Forensic Scienc, Avda. Dr. Fedrini s/n, Sevilla 41015, SPAIN; *Gail Audrey Ann Cooper, PhD**, OCMENYC, 520 First Avenue, New York, NY 10016; *Lauren M. Vinsick, BS**, Omega Labs, 400 N Cleveland Avenue, Mogadore, OH 44260; *Pascal Kintz, PhD**, X-Pertise Consulting, 84 route de Saverne, Oberhausbergen 67205, FRANCE; and *Joseph Jones, MS**, United States Drug Testing Laboratories, 1700 S Mount Prospect Road, Des Plaines, IL 60018

After attending this presentation, attendees will be able to evaluate the usefulness of hair testing in forensic casework by becoming more knowledgeable, which will allow attendees to: (1) describe and explain the existing consensus documents on hair analysis, recognize the importance of guidelines in hair testing, and evaluate their own laboratory routines in the light of the existing guidelines; (2) describe how Ethyl Glucuronide (EtG) is incorporated into hair and interpret the results of this type of analysis; (3) describe the differences between urine/blood testing and hair testing for doping agents and be more knowledgeable concerning sport regulations in cases of doping offenses in addition to relevant political issues in using hair for doping purposes; (4) realize the possible applications of hair analysis in forensic toxicology and the circumstances and challenges that must be considered for the correct interpretation of the results; and, (5) gain an overview of workplace drug testing and the challenges of hair testing in a production laboratory.

This presentation will impact the forensic science community by allowing attendees to gain insight into the broader scope of the analysis of hair for drugs and toxins in a range of fields applicable to forensic science. By including discussion on recent changes in legislation and standards, the usefulness of these tests in the greater context of the law and recent regulatory changes will be clearer to the forensic science community.

Hair is a unique and challenging matrix for forensic toxicological testing in that detailed information on historical use is recorded over time as compared to traditional blood and urine matrices. In order to make best use of hair testing in forensic casework, a thorough understanding of the advantages and limitations of this matrix is essential. An overview of the current status of hair testing in a variety of toxicological areas including reference to current standards and consensus agreements as set by the Society of Hair Testing (SoHT) will be provided. By providing both an overview and more detailed information in workplace testing, pediatric and maternal testing, doping and alcohol biomarkers, as well as forensic toxicological testing of hair, the workshop is not only amenable to toxicologists but also relevant to pathologists and criminalists with an interest in expanding their understanding of the importance of these test in the investigation of crime. Discussion will focus on the latest technologies used for the testing of hair within the different areas covered, from screening tests to confirmation. The effects of age, sex, health, and the environment on the interpretation of results will be explained. All presentations will be given in the context of the SoHT guidelines to ensure that attendees understand best practice and safeguard against over-interpretation of results. Case examples will be discussed for each testing type and attendees will be invited to share their own casework examples for discussion by the panel of experts.

Hair Testing, Drugs, Guidelines