



SOFT 2005 Annual Meeting

MUSIC CITY, USA

NASHVILLE, TENNESSEE

October 17-21, 2005

HOST: Louis Kuykendall SITE: Renaissance Nashville Hotel

The 2005 SOFT conference will be held in the Renaissance Nashville Hotel, situated downtown in the very center of Nashville's dual-personality as "The Athens of the South" and "Music City, USA". The Renaissance Nashville Hotel (615.255.8400 or 800-HOTELS-1) will accept reservations as of November 10, 2004. For the \$149 single/double convention rate use meeting code "SOFT Conference". The meeting will consist of workshops on Monday and Tuesday (details below) with general sessions and posters Wednesday through Friday. An exciting social program will soon be finalized.

PRELIMINARY WORKSHOP PROGRAM

#1 Forensic Toxicology of Pesticides (1/2 day) Chair: Maria Martinez

This workshop will be a discussion of pesticides in forensic toxicology, including a general overview of pesticides, analytical methods, and interpretation of analytical toxicology findings. Pesticides are used extensively in agriculture, commercial and industrial applications, and some of them are resistant to degradation, as a consequence they are ubiquitous in our environment. Incidence of poisoning with these chemicals will be also considered. A series of clinical and forensic cases involving pesticide poisoning will be presented. Finally, diagnosis and treatment of pesticide poisonings will be discussed.

#2 Interpretive Pharmacogenomics and Proteomics for Forensic Toxicology (1/2 day) Chair: Steve Wong

The workshop is an update of a previous workshop. In addition to a brief introduction to molecular biology, the workshop will include basic principles of pharmacogenomics and the emerging proteomics. A survey of various methodologies will be included. The pharmacogenomics of drug metabolizing enzyme genes will be reviewed, with particular reference to those related to drugs often identified in death certification. The session might include pre-collection of attendees' whole blood with informed consent, followed by genotyping. The de-identified results will be included in the presentation in order to demonstrate mutation prevalency in a selected population – the attendees. The workshop will conclude with selected case review with pharmacogenomics.

#3 Blood Alcohol Concentration Extrapolation Workshop (1/2 day) Chair: Jennifer F. Limoges

This half-day workshop will cover all aspects of BAC extrapolation. The pharmacokinetics of ethanol will be reviewed in depth, including calculations for estimating BAC under a variety of circumstances. Factors that may effect BAC estimations will be covered, along with an update of the legal issues surrounding this type of testimony. The workshop will conclude with an open discussion on some challenging case scenarios. Extensive reference materials will be provided.

#4 Receptor Site Theory and Drug Interactions (1/2 day) Chair: Robert Sears

The SOFT Continuing Education Committee presents a Workshop on Receptor Site Theory and Drug Interactions. This workshop is designed for the toxicologist working in a post-mortem or human performance settings. The participant will have a better understanding of various receptor sites in the body, physiological effects mediated by these receptors, and which drugs act as agonist or antagonist at these sites. As a result the toxicologist will better be able to assist coroners, medical examiners, and prosecutors with interpretation of the toxicology results especially as these results relate to multiple drug interactions and prediction of adverse side effects. The workshop will include a review of information related to the characterization of select receptor sites, specific information as to the location and the physiological effects mediated by the receptor, information on specific drugs or poisons known to act at the receptor, and resultant physiological changes due to drug-receptor interactions.

#5 Oral Fluids – Research and Application (1/2 day)

Chair: Mike Wagner

The focus of this workshop will cover such topics as basic physiology, drug transport mechanisms, time course profiles, interpretation issues (pharmacodynamic and behavioral observations), matrix correlations (oral fluid, blood, urine, and site contamination), analytical issues (stability, sample preparation, and instrumental analysis), and field evaluation studies.

#6 Forensic Toxicology Update (full day) Chair: John Cody

This workshop will describe the analysis of drugs and alcohol from the perspective of post-mortem, DUID and workplace drug testing. The format will include a quick review followed by pertinent updates describing new information and techniques in the area. Topics covered will include each of the major drug classes and ethanol. Presentations will include a brief review of the pharmacology of the drug (class) followed by description of the analysis of samples and interpretation of results. Specific examples of particular interest to the forensic toxicology community will be presented by experienced practitioners providing insights borne of years of experience in the field. In addition, discussion of emerging procedures and technologies will provide a glimpse of the future of forensic toxicology.

#7 From “Sample to Signal; Practical LC/MSⁿ”: An introduction to fundamental LC/MS/MS technologies and practical practices in Forensic Toxicology. Chair: H. Chip Walls

This workshop provides an understanding of the key components of LC/MSⁿ instrumentation, operation, advantageous features, and the information derived from analysis. The conversion of LC/UV methods to LC/MSⁿ will be covered. Performance characteristics of mass analyzers and LC/MSⁿ interfaces are described. Forensic applications of LC/MSⁿ will be highlighted.

#8 The Postmortem “Blood Drug Screen”: Analytical and Managerial Approaches (full day) Chair: Alphonse Poklis

In The modern postmortem toxicology laboratory, the “Blood Drug Screen” is the most important analytical scheme to identify drugs that may be the cause of death or significantly influence the circumstances surrounding a death. This workshop will present in detail the analytical produces in seven major postmortem toxicology laboratories. Formal lectures will address specific immunoassay tests and chromatographic methods including sample preparation, chromatographic conditions, calibrations and quality control procedures. At the completion of these presentations a round-table discussion will address the managerial rational of how each laboratory applies it's particular analytical scheme in meeting the service objective of the laboratory. The round-table discussion will focus on management issues such as; result reporting criteria, personnel and laboratory resources, turn-around time and other issues.

#9 Post Mortem Interpretation (full day) Chair Ann Marie Gordon & Rebecca Jufer

The SOFT Continuing Education presents a Workshop on Post Mortem Interpretation. The workshop is designed for the toxicologist working in a post-mortem setting, and the participant will better be able to assist coroners and medical examiners with interpretation of the toxicology results. The workshop will include a review of pharmacokinetics, including how to calculate total body burden and what to do with the numbers. A discussion of post-mortem redistribution and other post-mortem changes will include an emphasis on newer antidepressants and opioids as well as how to compare the numbers in Baselt and Winek with data produced by your own lab. A review of drug-drug interactions will emphasize these phenomena in drug combination deaths. Also included will be a discussion of alternative tissues, which tissues are likely to yield the best information for different kinds of investigations and how to interpret the data obtained from these tissues.

#10 Case Studies in DUID: Numbers, Signs, Symptoms and Beyond (full day – 2 full-day sessions) Chair: Michelle Spirk & Sarah Kerrigan

Driving under the influence of drugs (DUID) is of growing concern among the scientific, legal, law enforcement and public health communities. Although statutory schemes vary from state to state, toxicologists are often called upon to provide interpretive testimony in DUID cases. Pharmacology and behavioral toxicology studies provide the foundation for this, and these areas have been the focus of many earlier workshops and seminars on DUID.

The purpose of this workshop is to highlight common interpretive issues using actual case studies. The presenters will *apply* their knowledge of drug pharmacology and behavioral toxicology in a case-oriented fashion. Driving behavior, observed effects and toxicology results will be presented for commonly encountered drugs including cannabinoids, methamphetamine, cocaine, opioids and central nervous system depressants. The workshop is intended to bridge the gap between the scientific literature and actual DUID casework. Toxicologists must be able to apply the scientific knowledge that exists to uncontrolled and non-scientific surroundings encountered in casework (urban and rural roadways) where environmental factors, injuries, drug combinations and other challenges are commonplace. Presenters will outline how to implement best practices and discuss interpretive limitations relating to matrix, delay in specimen collection, qualitative versus quantitative data as well as field observations and evaluations. Interpretative strategies and approaches will be discussed in addition to laboratory policies and guidelines that facilitate scientific testimony in a fair, objective and scientifically justified manner.