

Program Abstracts

Workshops, Thursday, 9:00 AM - 12:00 PM

DUI Standards

Cross Training Drug Recognition Experts (DRE), Toxicologists, and Attorneys

Mike Delgadillo

This presentation discusses the benefits of cross training DREs, toxicologists, and attorneys for trials. Typically DREs, toxicologists, and attorneys only work together on the same case during a trial. During a criminal or civil trial, each participant has a specific role. Rarely does each have an opportunity to understand the other's responsibility, training, or role during a trial. The lack of understanding of each party's role, and what is expected from one another, can make the trial process a challenge.

The Los Angeles Police Department's DRE Unit has led training efforts by working together with prosecuting attorneys from the City of Los Angeles and toxicologists, to provide training that educates officers, attorneys, and toxicologists about their respective responsibilities and roles during court proceedings.

The presentation discusses how DREs, prosecuting attorneys, and toxicologists work together better by understanding their roles during a trial and how participating in the DRE training process as instructors and students achieve improved prosecution.

The Science of Toxicology Testing – Are You Really Driving Under the Influence?

Teri Stockham

This presentation discusses the toxicological issues involved in DUI offenses. There will be a brief overview of specimens tested and the methods used to test those specimens, including information on method validation. The presentation focuses on determining the meaning of "under the influence." The triad of driving pattern, impairment, and positive toxicology will be discussed in detail. Case studies will be included as time allows.

Presenting Forensic Evidence in Courts and the Use of Technology in the Courtroom

Presenting Forensic Evidence in Court and the Use of Technology in the Courtroom

Thomas L. Martin

After attending this presentation, attendees will have a good understanding of the different electronic equipment and software applications that can be used in the courtroom. Attendees will further understand how to visually sort, organize, and display, large volumes of data using modern technology and commercial software applications. Suggestions for demonstrative evidence will be given, using visual aids and case examples.

With the inception of the forensic fad several years ago, the general public expects to see a "smoking gun" outcome on every criminal investigation. Those involved in the forensic investigation of crime scenes and their subsequent criminal prosecutions understand that this is rarely the case. Criminal cases are usually solved, and eventually proven, through smaller pieces of evidence accumulated during the investigation. Although it is obviously important to collect evidence at a crime scene, it is equally important to be able to display this evidence to a jury.

The current technological age brings many options to demonstrate both physical and testimonial evidence in court. Thousands of records can be sorted and organized in seconds. This becomes increasingly important, as technology better permits tracking and recording of daily activities, such as through-credit-card transactions; automated toll passes; and communications, e-mail, and financial activity records. These itemized reports can be entered into a computer, and searched under any set of pre determined parameters.

Digital technology allows not only enhancement of poor quality images, but (among other things) a display of photos in order to visually tell a story, such as around-scale diagrams. Timelines can also track the actions of a particular person and actually recreate “criminal acts” using digital animation. When modern technology is used to its full capability, the complete story is more easily told. This presentation discusses

General Session, Friday, 3:30 PM - 5:00 PM

Science, Law and Law Enforcement of Methamphetamine

Are We Experiencing a Methamphetamine Epidemic?

John T. Carnevale

National drug control policy is painting a confusing picture about the nature and extent of methamphetamine use and its consequences. There is considerable debate about whether the nation is experiencing a methamphetamine epidemic and the appropriate policy response. This presentation reviews recent trends in methamphetamine use to determine whether the word “epidemic” is an appropriate one to describe the current methamphetamine problem. It poses questions about the appropriate public policy response.

General Session, 11/4/2006, 08:00 AM - 10:00 AM

Biogeographical Ancestry Prediction Based on DNA (SNPs) for Investigative Leads

Use of Ancestry and Behavioral DNA Profiling in Criminal Investigations

R. Vincent Miller

Advances in DNA analysis have added a whole new dimension to forensic science and law enforcement. While the establishment of databases in CODIS was a logical first step, this approach exploits only a fraction of the potential information available from DNA testing. DNA also offers the ability to profile perpetrators from ethnicity to physical or mental attributes and kinship. Ethnicity predictions can be done using genetic methods employing short-tandem repeats (STRs) and/or single nucleotide polymorphisms (SNPs), determining an individual’s ancestral origins from contemporary family or clan lines and proceeding back for tens of thousands of years. This technology relies on mitochondrial DNA analysis for maternal inheritance and Y-chromosomal analysis (for males) for paternal inheritance. Here, presenters will discuss the benefits, limitations, and social controversy of ethnicity profiling methods offered by DNA testing via mitochondrial and Y chromosome haplo-group determinations.

Less Lethal Panel

Signal to Society: EMI Uncertainties, Progress, and Prospects

Bruno D.V. Marino

Electro-Muscular Incapacitation (EMI), the use of supra-physiologic current as a means to incapacitate humans for policing, has emerged in the global marketplace as a compelling but controversial technology for saving lives in otherwise lethal-force scenarios. Available data suggests that, while rates of injury and death remain low, the mechanisms involved are unknown, lacking in clarity on the relative roles of signal properties, signal application, and consequent use-of-force policy and subject status. There is scientific uncertainty on dose-dependent physiologic responses to EMI signals, which are effective in modifying behavior yet non-injurious to nerve and muscle tissue. This uncertainty remains a fundamental barrier to industry growth and regulation, broad public acceptance, and compliance with international treaties. The literature suggests that whole-body model studies, used widely to simulate exposure to radio frequency fields, may be able to capture anatomic in vivo current density following EMI signals, offering a framework for mechanistic laboratory studies, setting thresholds for safety, and establishing use-of-force policy and regulation. Progress in EMI research should legitimize the technology within society, with the prospect of further reducing lethality associated with the use of firearms in policing.

General Session, Sunday, 8:30 AM - 10:30 AM

Forensic Case Law Developments

Canines in Court: From Civil Forfeiture to Criminal Human Scent Identification

Kenneth G. Furton

This presentation discusses recent research involving detector dog alerts to forensic evidence and suspects, and recent case law focusing on the use of drug dog alerts to currency in forfeiture cases and the use of human-scent canines to trail and identify individuals. In addition, the current progress and future plans of the Scientific Working Group on Dog and Orthogonal detector Guidelines (SWGDOG) will be discussed. SWGDOG is a partnership of local, state, federal, and international agencies including law enforcement and first responders. Modeled after the successful precedent of a variety of other scientific working groups, SWGDOG is developing consensus-based best practice guidelines developed and advised by 55 regular members, including scientists, practitioners, and policy makers. SWGDOG guidelines are made available for public comment during the development process and final guidelines made available at www.swgdog.org. The SWGDOG subcommittees are: unification of terminology; general guidelines for training, certification, and documentation; selection of serviceable dogs and replacement systems; kenneling, keeping, and health care; selection of handlers and instructors; presentation of evidence in court; research and technology; substance detector dogs (agriculture, arson, chemical/biological, drugs, explosives, human remains, and other miscellaneous); and scent dogs (scent identification, search-and-rescue, trailing dogs, and tracking dogs).