K40 Drugs and Driving Special Scientific Session: Current Research Related to Drug-Impaired Driving

Laura J. Liddicoat, BS, Wisconsin State Lab of Hygiene, Forensic Toxicology Section, 2601 Agriculture Drive, Madison, WI 53707-7996; Christine Moore, PhD, Immunalysis Corporation, 829 Towne Center Drive, Pomona, CA 91767; Alain Verstraete, MD*, University Ghent, UZ Gent, De Pintelaan 185, Gent, B-9000, BELGIUM; James P. Zacny, PhD*, University of Chicago, Department of Anesthesia & Critical Care MC4028, University of Chicago, 5841 South Maryland Avenue, Chicago, IL 60637; and Amy K. Miles, BS*, Wisconsin State Laboratory of Hygiene, 2601 Agriculture Drive, PO Box 7996, Madison, WI 53707-7996*

After attending this presentation, attendees will have a greater understanding of the prevalence of drug use in drivers and the latest research findings in the area of drug-impaired driving.

This presentation will impact the forensic science community by enhancing the understanding of the extent of the drug-impaired driving problem and providing specific research findings related to several drugs' effects on the skills required to safely operate a motor vehicle.

Introduction: A large proportion of the population habitually drives while taking medical and/or recreational drugs. This special session will provide information on several research aspects of drug impairment including surveys that reveal the prevalence of drugs in United States and European drivers, how drugs may be categorized by the impairment they cause, recent research findings for specific drugs using psychopharmacological tests and a drugged-driving case study involving Tizanidine with assessment by a drug recognition officer.

Topics Include: *"National Roadside Survey 2007: Results from Paired Specimens of Oral Fluid and Whole Blood," Christine Moore, PhD.* This presentation provides an overview of the results pertinent to drugs detected in paired oral fluid – blood specimens from the National Roadside Survey (2007) that was conducted at selected sites across the United States. From night-time drivers, 5,869 oral fluid samples (OF) and 3,276 blood samples were taken. Of the paired specimens, 559 pairs showed at least one matrix as drug positive; 326 pairs were positive in both matrices.

"DRUID Project: Epidemiology Studies of Drug Prevalence in Europe," Alain Verstraete, PhD. Recent epidemiology data from surveys carried out in the European DRUID (Driving under the Influence of Drugs, Alcohol and Medicines) project to assess the prevalence of alcohol and other psychoactive substances in drivers in general traffic (13 countries) and drivers involved in injury accidents (6 countries) will be presented.

"DRUID Project: A Classification System for Impairing Drugs," Alain Verstraete, PhD. The classification and labeling of medicinal drugs according to their influence on driving performance is one of the work goals for DRUID. Dr. Verstraete will present the latest progress on this difficult task.

"Psychomotor and Mood-Altering Effects of CNS-Active Adjuvant Drugs Used in Treatment of Chronic Nonmalignant Pain, Alone and in Combination with Oxycodone in Healthy Volunteers," James P. Zacny, PhD. Very few research studies have studied the effects of carisoprodol or pregabalin on psychomotor abilities. Research on the combination of different drugs is even harder to find. A battery of psychopharmacological tests will be detailed along with the results of those tests on healthy volunteers dosed with carisoprodol and pregabalin, with and without an oral opioid on board.

"Psychomotor and Mood-Altering Effects of Oxycodone and Ethanol, Alone and in Combination, in Healthy Volunteers," James P. Zacny, PhD. Opioid use in the general population has escalated dramatically in recent years, and the incidence of opioids detected in drivers has followed a similar pattern. Dr. Zacny will present the results of an interaction study involving oxycodone and alcohol in healthy volunteers.

"Analytical and Interpretation Challenges in a Tizanidine DUID Case," Amy Miles, BS. Tizanidine is a short-acting muscle relaxer used for the treatment of muscle spasticity. In this case history the subject was stopped for impaired driving. A Drug Recognition Expert (DRE) was called in approximately an hour later to perform the 12-step evaluation. Upon completion of the evaluation the DRE was unable to find any impairment but concluded the subject was impaired at the time of the stop. The case will be discussed in detail including a review of the analytical challenges posed by this short-acting drug.

Drugs and Driving, Impairment, Forensic Toxicology

 ** Presenting Author*