

Cynthia Silva Burbach, BS, MPA
Colorado Department of Public Health and Environment, Laboratory Services Division
Telephone: (303) 692-3491 • Fax: (303) 343-3697
8100 Lowry Blvd • Denver, CO 80230

EXPERIENCE

Colorado Department Of Public Health and Environment

Hazardous Materials Waste Management Division – Inspector January 1995 to November 2000

Laboratory Services Division – Forensic Chemist and Director of Toxicology January 1984 to January 1995
and November 2000 to present

Responsible for Forensic Toxicology Analyses. Duties include supervising activities of full service forensic toxicology laboratory, which serves the State of Colorado. Work comprises legal drug screening and blood alcohol determinations for local, county, and state law enforcement agencies as well as methods development. Provide expert testimony in forensic toxicology, standard field sobriety maneuvers, and interpretation of the Colorado Board of Health Rules & Regulations for State and Federal hearings.

EDUCATION

PhD Courses:

The Analytical Basis Of Forensic Toxicology, University of Colorado Health Sciences Center, School of Pharmacy, Fall 2006.

Topics included: Introduction/Fundamentals, Extraction/Fundamentals, Fragmentation Characteristics of Major Functional Groups, Chromatographic Theory, Drugs and Human Performance, Clandestine Methamphetamine Manufacturers, Ethanol Methods of Measurements, Antibody-Based Methods, Pharmacokinetics, Pharmacodynamics, Instrument Applications

Principles Of Medicinal Chemistry, University of Colorado Health Sciences Center, School of Pharmacy, Fall 2009.

Topics included: Introduction Fundamentals, Sedative/Hypnotic Agents, Opiate Analgesic Agents, Local Anesthetics/Antipsychotic Agents, Vasodilators, Misc. Hypotensive Agents, Adrenergic Agents, Cholinergic Agents, Cholinergic Agents, Histamine H1 and H2 Antagonists, Anticoagulants, Sulfonamides, B-lactams, Tetracycline's, Macrolides, Cardiac Glycosides, and Steroids.

Masters Candidate- Forensic Science, Emphasis-Forensic Toxicology, University of Colorado, Colorado Springs

MPA, Public Administration University of Colorado – September 1993 to May 1996

B.S., Biology, New Mexico State University – September 1976 to August 1980

PROFESSIONAL MEMBERSHIPS

Society of Forensic Toxicologists
International Association For Chemical Testing
Colorado State Management Association

COMMITTEES

January 1, 2008 to December 31, 2010

Forensic Toxicologist for the Technical Advisory Panel and Highway Safety Committee of the International Association of Chiefs of Police. Currently the Toxicology Representative on the DEC and SFST Technical Advisory Panel.

PUBLICATIONS AND RELATED ACTIVITIES

Abstract, Society Of Forensic Toxicologists, October 2005. Dynamic Headspace Extraction as an Alternative to Solid Phase Microextraction for the Analysis of Volatile Organic Compounds at Physiological Levels in Blood. Patrick Ayres, Cynthia Burbach, Ashley Demander, Ed Price, and C. Michael Smith.

Journal Of Analytical Toxicology, Volume 30, Number 2: Page 134, March 2006
Dynamic Headspace Extraction as an Alternative to Solid Phase Microextraction for the Analysis of Volatile Organic Compounds at Physiological Levels in Blood. Patrick Ayres, Cynthia Burbach, Ashley Demander, Ed Price, and C. Michael Smith.

American Academy of Forensic Science
Isotopic Dilution in the Analysis of Cocaine, Cocaethylene, and Benzoylcegonine in Whole Blood: Comparison of the "Tradition" to the "Direct" Application of Deuterated Drug Analogs.
San Antonio, Texas
February 21, 2007

LECTURES AND PRESENTATIONS

Forensic Toxicology in DUI/DWAI - Case Histories
University Of Colorado, Colorado Springs- ongoing

Toxicology Perspective in Drug-Facilitated Rape Cases
SANE Nurses/Sex Assault Detectives

Colorado District Attorney's Council
State wide ongoing

DUI Update 2010
Colorado Bar Association
Testing for Drugs in Blood and Urine: What It Does and Doesn't Mean
January 21st, 2010

Why You Should Test For Drugs In Blood?
The 15th Annual IACP Training Conference on Drugs, Alcohol and Impaired Driving
Little, Rock Arkansas, August 8-10th, 2009

The Colorado District Attorney Council
Keystone, Colorado
September 22nd
Drugged, Driving and Dangerous On Colorado Roadways

The 14th annual IACP Training on Drug, Alcohol
And Impaired Driving, Indianapolis, Indiana
August 10-12th, 2008
Toxicologist and The DRE

DRE Main School
Blood vs. Urine
Avon, Colorado
May 6th, 2008

DRE In-service
Toxicology Updates
Blood vs. Urine
Denver Police Academy
Denver, Colorado
April 12th, 2008

Arapahoe Sertoma Club
Toxicology
Englewood, Colorado
April 3, 2008
DUI/DUID
Arapahoe County
March 14th, 2008

Toxicology Update
CSP-Boulder
March 7, 2008

Colorado District Attorney's Council
DUI/DUID
Slurring, Swerving and Staggering Prosecuting The Impaired Driver
September 17, 2007

Toxicology Update-DUI/DRE Officers
Colorado State Patrol Academy
Golden, Colorado
September 11, 2007

Toxicology Update-DUI/DRE Officers
Colorado State Patrol Academy
Golden, Colorado
September 11, 2007

Forensic Toxicology Update
Colorado State Patrol Adams County
Broomfield Colorado
August, 2007

Drug Recognition Main School
Forensic Toxicology Review
Golden, Colorado
June 2007

SANE Symposium
Drug Facilitated Sex Assaults & Laboratory Limitations
St. Anthony's Hospital
June, 2007

American Academy of Forensic Science
Isotopic Dilution in the Analysis of Cocaine, Cocaethylene, and Benzoyllecgonine in Whole Blood: Comparison of
the "Tradition" to the "Direct" Application of Deuterated Drug Analogs.
San Antonio, Texas
February 21, 2007

Drug Recognition Main School
Forensic Toxicology Review
Golden, Colorado
August, 2006

Denver Sexual Assault Interagency Council
Drug Facilitated Sex Assault
Denver, Colorado
July, 2006
Forensic Toxicology A Case Review
Forensic Toxicology Master's Program
University Of Colorado Springs
July, 2006

El Paso County District Attorney's Office
Toxicology 101
Colorado Springs, Colorado
March 3, 2006

Jefferson County District Attorney's Office
Driving Under The Influence Of Drugs
Golden, Colorado
March 2006

Drug Recognition Update For Troopers
Colorado State Patrol Academy
Golden, Colorado
December, 2005

Colorado Department Of Transportation
Impaired Driving Program Assessment
Denver, Colorado
October, 2005

Toxicology For The Chemist
American Chemical Society
Regis University
Denver, Colorado
September, 2005

The Colorado Collegiate Impaired Driving Conference
Driving Under The Influence Of Drugs and Alcohol
Denver, Colorado
September, 2005

Toxicology For The Prosecutor
Driving Under The Influence Of Drugs and Alcohol
The Colorado District Attorney's Council
Snowmass, Colorado
September, 2005

Drug Recognition Main School
Toxicology For The Police Officer
Grand Junction Colorado
July, 2005

Toxicology 101-Forensic Toxicology Update
Arapahoe County District Attorney's Office
June, 2005

Toxicology 101
Denver District Attorney's Office
April 2005

Drug Recognition Main School
Forensic Toxicology Review
Denver, Colorado
January, 2001

Drug Recognition Main School
Forensic Toxicology Aspects
Denver, Colorado
May, 1994

Drug Recognition Main School
Toxicology Update
Pharmokinetics/Pharmacodynamics
Denver, Colorado
April, 1993

Drug Recognition Main School
Toxicology Update
Pharmokinetics/Pharmacodynamics
Denver, Colorado 1992

Drug Recognition Main School
Forensic Toxicology Review
Denver, Colorado
July, 1991

Drug Recognition Main School
Forensic Toxicology Update
Denver, Colorado
February, 1990

Drug Recognition Main School
Pharmokinetics/Pharmacodynamics
Denver, Colorado
March, 1989

A Toxicology Update
Interpretive DUID Workshop
Training Seminar-Arapahoe County District Attorney's Office
Littleton, Colorado
April, 1989

Drug Recognition Main School
Toxicology For The Police Officer
Denver, Colorado
April 1988

TRAINING COURSES, WORKSHOPS AND SEMINARS – CONTINUING EDUCATION

RE-Certification Training in SFST's Evaluations
Denver Police Department-District #2
December 2nd, 2009

ABFT Certification Preparation Class
Society of Forensic Toxicologist, Inc.
Monday, October 19, 2009
Oklahoma City, Oklahoma

Bridging the Gap in Postmortem Laboratory Practices and Case Interpretations
Ann Marie Gordon, Jeri Roper-Miller, & Sherri Kacinko
Society of Forensic Toxicologist, Inc
Tuesday, October 20th, 2009
Oklahoma City, Oklahoma

Newer Prescription Drugs: Impairment Potential & Identified Polypharmacies
Michelle Spirk and Loralie Langman
Society of Forensic Toxicologist, Inc
Tuesday, October 20th, 2009
Oklahoma City, Oklahoma

Blood Cannabinoids Levels and Effects on Cognitive Performance and Behavior as a Function of Joint Smoking
Procedure and Inhalation Technique-Scientific Session
Christian Giroud
Society of Forensic Toxicologist, Inc
Wednesday, October 21st, 2009
Oklahoma City, Oklahoma

Development of a Novel Homogeneous Enzyme Immunoassay Method for the Detection of Carisoprodol and
Meprobamate in Urine-Scientific Session
Guohong Wang
Society of Forensic Toxicologist, Inc
Tuesday, October 20th, 2009
Oklahoma City, Oklahoma

Development of a High Throughput LC/MS-MS Assay for Thirteen Commonly Prescribed Pain Management Drugs From Urine with Clean Up Using Solid Phase Extraction (SPE)- Scientific Session

Michael Campognone

Society of Forensic Toxicologist, Inc

Tuesday, October 20th, 2009

Oklahoma City, Oklahoma

A Comprehensive analysis of 24 Opioid analgesics Utilizing LC-MS/MS-Scientific Session

Tracy A. McKinnon

Society of Forensic Toxicologist, Inc

Tuesday, October 20th, 2009

Oklahoma City, Oklahoma

Understanding the Distribution of Buprenorphine and Its Metabolites in Blood-Scientific Session

Shu-Ching Yang

Society of Forensic Toxicologist, Inc

Tuesday, October 20th, 2009

Oklahoma City, Oklahoma

Postmortem Redistribution of Fentanyl in Femoral Blood-Scientific Session

Kalen N. Olson

Society of Forensic Toxicologist, Inc

Wednesday, October 21st, 2009

Oklahoma City, Oklahoma

Evaluation and Validation of the BAC Tracker in Two Drinking Studies-Scientific Session

Vincent M. Papa

Society of Forensic Toxicologist, Inc

Wednesday, October 21st, 2009

Oklahoma City, Oklahoma

The 15th Annual IACP Training Conference on Drugs, Alcohol and Impaired Driving

Little, Rock Arkansas, August 8-10th, 2009

Herbal and Over-The Counter Medications: Highs, Enhancements and Misadventures

Dr. Karen Simone, Director Of The Northern New England Poison Control Center

The 15th Annual IACP Training Conference on Drugs, Alcohol and Impaired Driving

Little, Rock Arkansas, August 8-10th, 2009

Impaired Driving Research and Updates

Richard Compton, National Highway Traffic Safety Administration

The 15th Annual IACP Training Conference on Drugs, Alcohol and Impaired Driving

Little, Rock Arkansas, August 8-10th, 2009

Drive For Sleep: Driving Impairment and Sleep Aides

William Johnson, Advanced Chemist

Wisconsin State Laboratory of Hygiene

The 15th Annual IACP Training Conference on Drugs, Alcohol and Impaired Driving

Little, Rock Arkansas, August 8-10th, 2009

DUI and Medical Conditions with the Eyes

Karl Citek, OD, PhD, FAAO, Professor of Optometry

Pacific University College of Optometry

The 15th Annual IACP Training Conference on Drugs, Alcohol and Impaired Driving
Little, Rock Arkansas, August 8-10th, 2009
Pupil Measurement Update: Everything I Didn't Know About The Pupil
Dr. Jack Richman, O.D., Professor, Pediatric Optometry and Binocular Vision
New England College of Optometry

International Association For Chemical Testing 22nd Annual Meeting
May 3rd-May 7th, 2009
Anchorage, Alaska
Ethics in Forensic Science
Gil Sapir, Illinois

International Association For Chemical Testing 22nd Annual Meeting
May 3rd-May 7th, 2009
Anchorage, Alaska
"DUI Drugs That Impair-Depressants v Stimulants"
Laura Liddicoat, Forensic Toxicologist, Wisconsin

International Association For Chemical Testing 22nd Annual Meeting
May 3rd-May 7th, 2009
Anchorage, Alaska
"Blinded by the Light: the Police Light Bars and HGN"
Ofc. Steve Dunn, Anchorage Police Department

International Association For Chemical Testing 22nd Annual Meeting
May 3rd-May 7th, 2009
Anchorage, Alaska
"The Role of the Expert Witness"
June Stein, Anchorage, Alaska

International Association For Chemical Testing 22nd Annual Meeting
May 3rd-May 7th, 2009
Anchorage, Alaska
"The Evolution of Breath Alcohol Testing as a Discipline in Forensic Science"
George Taft, Director of Alaska State Laboratory

International Association For Chemical Testing 22nd Annual Meeting
May 3rd-May 7th, 2009
Anchorage, Alaska
"Cannabis Impairment"
Brian Capron, Washington State Laboratory

International Association For Chemical Testing 22nd Annual Meeting
May 3rd-May 7th, 2009
Anchorage, Alaska
"Polydrug Interactions in the DUI Offender"
Sarah Swenson, Washington State Laboratory

American Academy of Forensic Sciences 61st Annual Scientific Meeting
February 13th-21st, 2009
Denver, Colorado
Recent Advances in Liquid Chromatography and Mass Spectrometry for Application in a Variety of Disciplines in
The Forensic Sciences

American Academy of Forensic Sciences 61st Annual Scientific Meeting
February 13th-21st, 2009
Denver, Colorado
Operation Street Smart: An Overview of Current Street Drugs and Drug Culture

American Academy of Forensic Sciences 61st Annual Scientific Meeting
February 13th-21st, 2009
Denver, Colorado
Drugs & Driving Special Session

Annual Meeting of the Technical Advisory Panel for the International Association of Chiefs of Police (IACP)
November 7th-8th, 2008
San Diego, California

Priority Drug Classes in DUID Investigation
Dr. Barry Logan
Effects of Drugs on Human Performance and Behavior
Society of Forensic Toxicologists Annual Meeting
Monday October 27th-31st, 2008
Phoenix, Arizona

Pharmacology of Impairment
Dr. Lionel Raymon
Effects of Drugs on Human Performance and Behavior
Society of Forensic Toxicologists Annual Meeting
Monday October 27th-31st, 2008
Phoenix, Arizona

Marijuana and Driving Impairment
Dr. Marilyn Huestis
Effects of Drugs on Human Performance and Behavior
Society of Forensic Toxicologists Annual Meeting
Monday October 27th-31st, 2008
Phoenix, Arizona

Stimulants and Driving Impairment
Dr. Daniel Isenschmid
Effects of Drugs on Human Performance and Behavior
Society of Forensic Toxicologists Annual Meeting
Monday October 27th-31st, 2008
Phoenix, Arizona

The DRE program and drug categories
Mr. Joe Turner
Effects of Drugs on Human Performance and Behavior
Society of Forensic Toxicologists Annual Meeting
Monday October 27th-31st, 2008
Phoenix, Arizona

On Road Driving Studies of Drug Impairment
Dr. Jan Ramaekers
Effects of Drugs on Human Performance and Behavior
Society of Forensic Toxicologists Annual Meeting
Monday October 27th-31st, 2008
Phoenix, Arizona

Update on Recommendations for DUID testing laboratories
Ms. Laurel J. Farrell
Effects of Drugs on Human Performance and Behavior
Society of Forensic Toxicologists Annual Meeting
Monday October 27th-31st, 2008
Phoenix, Arizona

Analytical Best Practices for DUID testing
Dr. Bruce Goldberger
Effects of Drugs on Human Performance and Behavior
Society of Forensic Toxicologists Annual Meeting
Monday October 27th-31st, 2008
Phoenix, Arizona

Human Behaviors Measured in Drugged Driving Research
Society of Forensic Toxicologists Annual Meeting
Monday October 27th-31st, 2008
Phoenix, Arizona

Laboratory Studies of Drug-Impaired Performance
Dr. Miriam Z. Mintzer
Society of Forensic Toxicologists Annual Meeting
Monday October 27th-31st, 2008
Phoenix, Arizona

Between the Laboratory and the Highway: Drug-Impaired Simulated Driving
Dr. Anthony Liguori
Society of Forensic Toxicologists Annual Meeting
Monday October 27th-31st, 2008
Phoenix, Arizona

General Psychometric Principles & On-the-Road Driving
Society of Forensic Toxicologists Annual Meeting
Monday October 27th-31st, 2008
Phoenix, Arizona

Guidelines for Research on Drugged Driving
Dr. Marilyn Huestis
Society of Forensic Toxicologists Annual Meeting
Monday October 27th-31st, 2008
Phoenix, Arizona

A Review of Cases Analyzed for Zopiclone/Eszopiclone
Dr. Laura M. Labay, NMS Labs
Society of Forensic Toxicologists Annual Meeting
Monday October 27th-31st, 2008
Phoenix, Arizona

Multiple Drug Use by Ecstasy Abusers in the United States
Dr. Yale H. Caplan, National Scientific Services
Society of Forensic Toxicologists Annual Meeting
Monday October 27th-31st, 2008
Phoenix, Arizona

Carisoprodol and Drug Impaired Driving in Arizona
Ms. Abbegayle J. Dodds, Arizona Department of Public Safety
Society of Forensic Toxicologists Annual Meeting
Monday October 27th-31st, 2008
Phoenix, Arizona

Zolpidem Blood Concentrations in DUI Related and Postmortem Cases in Georgia
Mr. Michael Morrison, Georgia Bureau of Investigation-Division of Forensic Science
Society of Forensic Toxicologists Annual Meeting
Monday October 27th-31st, 2008
Phoenix, Arizona

Pharmacodynamics and Pharmacokinetics of Cannabis
Marilyn A. Huestis, Ph.D., Chief, Chemistry and Drug Metabolism
Section, The 14th Annual IACP Training Conference on Drugs, Alcohol & Impaired
Driving.

Incidence of DUID
Tim Kerns, University of Maryland's National Study Center for Trauma and EMS
Dr. Dereece Smither, National Highway Safety Administration
Joe Turner, Indiana Law Enforcement Academy

Medical Foundations of Eye Testing
Karl Citek, OD, PhD, FAAO
Professor of Optometry, Pacific University College of Optometry
The 14th Annual IACP Training Conference on Drugs, Alcohol & Impaired
Driving.

Inhalant Abuse and Driving Impairment
Amy Cochems, Advanced Chemist
Wisconsin State Laboratory of Hygiene
The 14th Annual IACP Training Conference on Drugs, Alcohol & Impaired
Driving.

Methadone and Driving
Laurel Farrell, Independent Contractor
National Laboratory Certification Program
The 14th Annual IACP Training Conference on Drugs, Alcohol & Impaired
Driving.

Nuts & Bolts of DUI:DUI Courts
Elizabeth Earleywine, Traffic Safety Resource Prosecutor
Illinois Department of Transportation
David Wallace, Director of the National Center of DWI Courts
National Association of Drug Court Professionals
The 14th Annual IACP Training Conference on Drugs, Alcohol & Impaired
Driving.

Injury, Forensic Medical Evidence and Operator
Dr. Dean A. Hawley, Forensic Pathologist,
Professor of Pathology, Indiana University School of Medicine
The 14th Annual IACP Training Conference on Drugs, Alcohol & Impaired
Driving.

How Drugs Create the Eye and Physical Signs of Impairment
Jack E. Richman, O.D., F.A.A.O
Professor, Pediatric Optometry/Binocular Vision
New England College of Optometry
The 14th Annual IACP Training Conference on Drugs, Alcohol & Impaired
Driving.

Pills and Potions of Abuse
Trendy Chemicals of Compulsion
Officer Chuck Matson, Omaha, NE, Police Department
The 14th Annual IACP Training Conference on Drugs, Alcohol & Impaired
Driving.

Colorado State Managers Association
Colorado Springs, Colorado
April 14th-April 16th, 2008

Understanding Gaze Nystagmus
Eye Physiology
Presented by Dr. Karl Citek O.D., PhD
Fort Carson, Colorado
April 4th, 2008

Standard Field Sobriety 8 hour update
Denver Police Department
Traffic Investigation Unit
December 19, 2007

Detection Times of D9-Tetrahydrocannabinol (THC)
11-Hydroxy-D9-Tetrahydrocannabinol (11-OH-THC)
and 11 -nor-D9-Tetrahydrocannabinol-9-Carboxylic Acid (THCCOOH)
in Urine from Chronic cannabis Users during Abstinence
Scientific Session #5

SOFT Continuing Education CMTE Workshop
Raleigh-Durham, North Carolina
October 19th, 2007

An Overview of Drug Facilitated Sexual Assaults in New Jersey
SOFT Continuing Education CMTE Workshop
Scientific Session #4
Raleigh-Durham, North Carolina
October 18th, 2007

Age Related Difference in Blood Alcohol Concentration
In Acute Alcohol Intoxication Fatalities
Scientific Session #1
SOFT Continuing Education CMTE Workshop
Raleigh-Durham, North Carolina
October 17th, 2007

Toxicology Jeopardy
A Practical Approach to DUID Testing
SOFT Continuing Education CMTE Workshop
Raleigh-Durham, North Carolina
October 16th, 2007

Benzodiazepines-The Basics and Beyond
SOFT Continuing Education CMTE Workshop
Raleigh-Durham, North Carolina
October 15th, 2007

Hallucinogens-Old, New and Trendy
The 13th Annual IACP Training Conference on
Drugs, Alcohol and Impaired Driving
August 2nd, 2007

Dextromethorphan Use and Abuse in DUI Investigations
The 13th Annual IACP Training Conference on
Drugs, Alcohol and Impaired Driving
August 2nd, 2007

Sleep Deprivation and the Effects on Driving and SFSTs
The 13th Annual IACP Training Conference on
Drugs, Alcohol and Impaired Driving
August 1st, 2007

Working With Difficult DRE Cases
The 13th Annual IACP Training Conference on
Drugs, Alcohol and Impaired Driving
August 1st, 2007

Toxicology Support in Impaired Driving Cases
The 13th Annual IACP Training Conference on
Drugs, Alcohol and Impaired Driving
August 1st, 2007

Over-the-Counter Drugs and Herbal Products DUI Investigations
The 13th Annual IACP Training Conference on
Drugs, Alcohol and Impaired Driving
August 1st, 2007

Inside the Mind of the Marijuana User
The 13th Annual IACP Training Conference on
Drugs, Alcohol and Impaired Driving
July 31, 2007

Examining Methamphetamine Dopamine Blues
The 13th Annual IACP Training Conference on
Drugs, Alcohol and Impaired Driving
July 31, 2007

Interpretive Toxicology and Drug Impaired Driving
A Case Oriented Approach
The 13th Annual IACP Training Conference on
Drugs, Alcohol and Impaired Driving
July 31, 2007

Newer Analytical Techniques:
Applications in Forensic Toxicology
American Academy of Forensic Sciences Annual Meeting
San Antonio, Texas
February 21st, 2007

Alcohol, Drugs, and Homicide
American Academy of Forensic Sciences Annual Meeting
Scientific Session
San Antonio, Texas
February 21st, 2007

Cocaine Impaired Driving: Evaluation of
Toxicology, Driving Behavior, and Impairment
Symptoms in Arrested Drivers
Scientific Session
American Academy of Forensic Sciences Annual Meeting
San Antonio, Texas
February 20th, 2007

Driving Under the Influence of Methamphetamine: Comparison of
Driving Behavior and Impairment Symptoms in Subjects Arrested for
Driving While Intoxicated
Scientific Session
American Academy of Forensic Sciences Annual Meeting
San Antonio, Texas
February 20th, 2007

Driving Behavior and Impairment
Symptoms in Cannabinoid Positive Subjects
Arrested for Driving Under the Influence of Drugs
American Academy of Forensic Sciences Annual Meeting
San Antonio, Texas
February 20th, 2007

Finding the Needle in the Haystack:
Improving the Toxicological Investigations
Of Drug-Facilitated Sexual Assault and Other Crimes
American Academy of Forensic Sciences Annual Meeting
San Antonio, Texas
February 20th, 2007

Downside of Methamphetamine Impairment
The 12th Annual IACP Training Conference on Drugs,
Alcohol and Impaired Driving
Kansas City, Missouri
June 16th, 2006

Basic Drug and Drug Paraphernalia Identification
The 12th Annual IACP Training Conference on Drugs,
Alcohol and Impaired Driving
Kansas City, Missouri
June 16th, 2006

Drugged Driving: Beyond Illicit Substances
The 12th Annual IACP Training Conference on Drugs,
Alcohol and Impaired Driving
Kansas City, Missouri
June 15th, 2006

The Role of the Toxicologist:
Challenges and Solutions
The 12th Annual IACP Training Conference on Drugs,
Alcohol and Impaired Driving
Kansas City, Missouri
June 15th, 2006

The Pupils: A New and Innovative Look
The 12th Annual IACP Training Conference on Drugs,
Alcohol and Impaired Driving
Kansas City, Missouri
June 15th, 2006

History of DRE and the Expansion to the Midwest
The 12th Annual IACP Training Conference on Drugs,
Alcohol and Impaired Driving
Kansas City, Missouri
June 14th, 2006

SFST/HGN Research
The 12th Annual IACP Training Conference on Drugs,
Alcohol and Impaired Driving
Kansas City, Missouri
June 14th, 2006

The Administration of Standard Field Sobriety Maneuvers
Classroom/Drinking Laboratory (3 day class)
Certification Class
Denver Police Academy
December 2005

A GC-MS Method Development Study for the Determination of
Ketamine or its Metabolites and the Evaluation of the REMEDI
Real Urine Samples
Scientific Session
SOFT Continuing Education
Nashville, Tennessee
October 21st, 2005

The Use of LC/MS/MS Technologies for Drug Screening,
Confirmation and Quantification
Scientific Session
SOFT Continuing Education
Nashville, Tennessee
October 20th, 2005

Cyclobenzaprine (Flexeril) Concentration in Postmortem Cases
Scientific Session
SOFT Continuing Education
Nashville, Tennessee
October 20th, 2005

Zolpidem Impaired Drivers in Wisconsin-A Six-Year Retrospective
Scientific Session
SOFT Continuing Education
Nashville, Tennessee
October 20th, 2005

LC/MS/MS Analysis of THC and its Metabolites
Scientific Session
SOFT Continuing Education
Nashville, Tennessee
October 20th, 2005

Central Nervous System Depressants
Case Studies In DUID: Numbers, Signs,
Symptoms and Beyond
SOFT Continuing Education CMTE Workshop
Nashville, Tennessee
October 19, 2005

Drug Combinations & Basic Receptor Theory
SOFT Continuing Education CMTE Workshop
Nashville, Tennessee
October 19, 2005

Interpretive Strategies
The Good, the Bad and the Ugly....
SOFT Continuing Education CMTE Workshop
Nashville, Tennessee
October 19, 2005

Blood Alcohol Concentration Extrapolation
An Approach to Retrograde Extrapolation
SOFT Continuing Education CMTE Workshop
Nashville, Tennessee
October 18, 2005

Stimulants and Driving Impairment
SOFT Continuing Education CMTE Workshop
Nashville, Tennessee
October 18, 2005

The Eleventh IACP DRE Training Conference on
Drugs, Alcohol, and Impaired Driving
Benzodiazepines and Driving
Arlington, VA
August 7, 2005

The Eleventh IACP DRE Training Conference on
Drugs, Alcohol, and Impaired Driving
Marijuana and Driving
Arlington, VA
August 6, 2005

The Eleventh IACP DRE Training Conference on
Drugs, Alcohol, and Impaired Driving
The Dynamics of an Impaired Driving Trial
Arlington, VA
August 6, 2005

The Eleventh IACP DRE Training Conference on
Drugs, Alcohol, and Impaired Driving
Horizontal Gaze Nystagmus Revisited and Revitalized
Arlington, VA
August 5, 2005

The Eleventh IACP DRE Training Conference on
Drugs, Alcohol, and Impaired Driving
Pharmacology Aspects of DRE
Drug Impaired or Medical Rule Out
Arlington, VA
August 5, 2005

The Eleventh IACP DRE Training Conference on
Drugs, Alcohol, and Impaired Driving
Standard Field Sobriety Testing Updates
Arlington, VA
August 5, 2005

The Robert F. Borkestein Course On Alcohol
And Highway Safety: Testing, Research and Litigation
Presentation of Expert Testimony
Indiana University, Bloomington, IN
May 20th, 2005

The Robert F. Borckenstein Course On Alcohol
And Highway Safety: Testing, Research and Litigation
Analysis of Defense Challenges to Breath-Alcohol Testing
Indiana University, Bloomington, IN
May 19^h, 2005

The Robert F. Borckenstein Course On Alcohol
And Highway Safety: Testing, Research and Litigation
Legal Aspects—constitutional Issues/Case Law
Indiana University, Bloomington, IN
May 19^h, 2005

The Robert F. Borckenstein Course On Alcohol
And Highway Safety: Testing, Research and Litigation
Psychomotor Effects and Driving
Indiana University, Bloomington, IN
May 18^h, 2005

The Robert F. Borckenstein Course On Alcohol
And Highway Safety: Testing, Research and Litigation
Recent Research on Forensic Alcohol Analysis
Indiana University, Bloomington, IN
May 18^h, 2005

The Robert F. Borckenstein Course On Alcohol
And Highway Safety: Testing, Research and Litigation
Blood Alcohol Analysis
Indiana University, Bloomington, IN
May 18^h, 2005

The Robert F. Borckenstein Course On Alcohol
And Highway Safety: Testing, Research and Litigation
Theory and Practice of Breath-Alcohol Analysis: Physical-Chemical Aspects
Indiana University, Bloomington, IN
May 17th, 2005

The Robert F. Borckenstein Course On Alcohol
And Highway Safety: Testing, Research and Litigation
Forensic Alcohol Toxicology Databases and Their
Courtroom Applications
Indiana University, Bloomington, IN
May 17th, 2005

The Robert F. Borckenstein Course On Alcohol
And Highway Safety: Testing, Research and Litigation
Mathematics of Breath and Blood Alcohol Analyses
Indiana University, Bloomington, IN
May 17th, 2005

The Robert F. Borckenstein Course On Alcohol
And Highway Safety: Testing, Research and Litigation
Pharmacology of Alcohol-Extrapolation
Indiana University, Bloomington, IN
May 16th, 2005

The Robert F. Borckenstein Course On Alcohol
And Highway Safety: Testing, Research and Litigation
Breath Alcohol Instrumentation
Indiana University, Bloomington, IN
May 16th, 2005

The Robert F. Borckenstein Course On Alcohol
And Highway Safety: Testing, Research and Litigation
Theory and Practice of Breath-Alcohol Analysis: Selected
Biological Aspects
Indiana University, Bloomington, IN
May 16th, 2005

The Robert F. Borckenstein Course On Alcohol
And Highway Safety: Testing, Research and Litigation
Pharmacology of Alcohol
Indiana University, Bloomington, IN
May 15th, 2005

The Robert F. Borckenstein Course On Alcohol
And Highway Safety: Testing, Research and Litigation
A Career in Forensic Alcohol Toxicology
Indiana University, Bloomington, IN
Dr. Kurt M. Dubowski
May 15th, 2005

Society Of Forensic Toxicologist
Continuing Education Committee Seminar
Narcotic Analgesics
Spokane, WA
May 3, 2005

Society Of Forensic Toxicologist
Continuing Education Committee Seminar
Antidepressants
Spokane, WA
May 3, 2005

Society Of Forensic Toxicologist
Continuing Education Committee Seminar
Antihistamines & NSAIDs
Spokane, WA
May 3, 2005

Society Of Forensic Toxicologist
Continuing Education Committee Seminar
Hallucinogens
Spokane, WA
May 3, 2005

Society Of Forensic Toxicologist
Continuing Education Committee Seminar
Antipsychotics
Spokane, WA
May 3, 2005

Society Of Forensic Toxicologist
Continuing Education Committee Seminar
Herbal Supplements
Spokane, WA
May 3, 2005

Society Of Forensic Toxicologist
Continuing Education Committee Seminar
Drugs & Driving Overview
Spokane, WA
May 3, 2005

Society Of Forensic Toxicologist
Continuing Education Committee Seminar
Forensic Drug Testing Overview
Spokane, WA
May 2, 2005

Society Of Forensic Toxicologist
Continuing Education Committee Seminar
Pharmacology Overview
Spokane, WA
May 2, 2005

Society Of Forensic Toxicologist
Continuing Education Committee Seminar
Specimen Preparation
Spokane, WA
May 2, 2005

Society Of Forensic Toxicologist
Continuing Education Committee Seminar
Instrument Analysis
Spokane, WA
May 2, 2005

Society Of Forensic Toxicologist
Continuing Education Committee Seminar
Principles of Drug-Drug Interaction
Spokane, WA
May 2, 2005

Society Of Forensic Toxicologist
Continuing Education Committee Seminar
Alcohol & Volatiles
Spokane, WA
May 2, 2005

Society Of Forensic Toxicologist
Continuing Education Committee Seminar
Carbon Monoxide & Cyanide
Spokane, WA
May 2, 2005

Society Of Forensic Toxicologist
Continuing Education Committee Seminar
Stimulants
Spokane, WA
May 2, 2005

Society Of Forensic Toxicologist
Continuing Education Committee Seminar
Marijuana
Spokane, WA
May 2, 2005

Society Of Forensic Toxicologist
Continuing Education Committee Seminar
Drinking Laboratory with SFST's
Spokane, WA
May 2, 2005

Drinking Laboratory-The Administration of Standard
Field Sobriety Maneuvers-Certification/3 day course
Denver Police Academy
March, 2005

Applications of Liquid Chromatography-Mass Spectrometry
Introductory Course
Agilent Technology
Golden, Golden
March, 2005

The Effects of Drugs on Human Performance and Behavior
Robert F. Borkenstein Center for Studies of Law in Action
Amphetamines and their effects on skills related to driving
Indiana University
Bloomington, Indiana
September 22, 2004

The Effects of Drugs on Human Performance and Behavior
Robert F. Borkenstein Center for Studies of Law in Action
Narcotic Analgesics and their effects on skills related to driving
Indiana University
Bloomington, Indiana
September 22, 2004

The Effects of Drugs on Human Performance and Behavior
Robert F. Borkenstein Center for Studies of Law in Action
A survey of Toxicology Laboratories performing DRE Toxicology
Indiana University
Bloomington, Indiana
September 22, 2004

The Effects of Drugs on Human Performance and Behavior
Robert F. Borkenstein Center for Studies of Law in Action
Analytical Toxicology considerations in drugs and driving cases
Indiana University
Bloomington, Indiana
September 22, 2004

The Effects of Drugs on Human Performance and Behavior
Robert F. Borkenstein Center for Studies of Law in Action
DUID Testimony for Toxicologists
Indiana University
Bloomington, Indiana
September 22, 2004

The Effects of Drugs on Human Performance and Behavior
Robert F. Borkenstein Center for Studies of Law in Action
Cocaine and its effects on skills related to driving
Indiana University
Bloomington, Indiana
September 21st, 2004

The Effects of Drugs on Human Performance and Behavior
Robert F. Borkenstein Center for Studies of Law in Action
Antidepressants and Driving Impairment
Indiana University
Bloomington, Indiana
September 21st, 2004

The Effects of Drugs on Human Performance and Behavior
Robert F. Borkenstein Center for Studies of Law in Action
Marijuana and Driving performance
Indiana University
Bloomington, Indiana
September 21st, 2004

The Effects of Drugs on Human Performance and Behavior
Robert F. Borkenstein Center for Studies of Law in Action
PCP and Driving Impairment
Indiana University
Bloomington, Indiana
September 20th, 2004

The Effects of Drugs on Human Performance and Behavior
Robert F. Borckenstein Center for Studies of Law in Action
Selected Central Nervous System Drugs and their effects on driving
(GHB, Soma, Zolpidem, Inhalants)
Indiana University
Bloomington, Indiana
September 20th, 2004

The Effects of Drugs on Human Performance and Behavior
Robert F. Borckenstein Center for Studies of Law in Action
Benzodiazepines: Pharmacology and Psychomotor effect related to driving
Indiana University
Bloomington, Indiana
September 20th, 2004

The Effects of Drugs on Human Performance and Behavior
Robert F. Borckenstein Center for Studies of Law in Action
Assessment of Impaired Drivers-DRE
Indiana University
Bloomington, Indiana
September 20th, 2004

The Effects of Drugs on Human Performance and Behavior
Robert F. Borckenstein Center for Studies of Law in Action
Driving Simulation and On-Road Driving Studies
Indiana University
Bloomington, Indiana
September 20th, 2004

Focus On Quality A Practical QA Program
For Your Laboratory
CLIA
Denver, Colorado
December 2002

The Seventh IACP DRE, Drugs, Alcohol and Impaired Driving
Training Conference
The Effect Of Low Doses Of Alcohol On Driving-Related Skills
Long Beach, California
June, 2001

The Seventh IACP DRE, Drugs, Alcohol and Impaired Driving
Training Conference
Drugs Of Abuse
Long Beach, California
June, 2001

The Seventh IACP DRE, Drugs, Alcohol and Impaired Driving
Training Conference
The Drug Evaluation and Classification (DEC) Program
Long Beach, California
June, 2001

Current Quality Control Methods
CDC Training
Denver, Colorado
March, 1991

Drug Recognition Expert Training Program
Division Of Highway Safety and NHTSA
Denver, Colorado
November, 1990
A Look at CLIA 88
Colorado Training Network
Denver, Colorado
August 1990

GCMS for the Chromatographer, Hewlett Packard Analytical
Seminar Series
Denver Colorado
May, 1990

Drug Recognition Expert School Main School
Colorado Department Of Transportation-Highway Safety Program
Aurora, Colorado
October, 1987

Drug Recognition Expert School-Pre School
Colorado Department Of Transportation-Highway Safety Program
Aurora, Colorado
October 1987

DUI Enforcement Course-Standard Field Sobriety Maneuvers,
CDOT Division Of Highway Safety
Denver, Colorado
March 1987