

Jen L. Schroeder, B.S.

EDUCATION

Western Kentucky University, Bowling Green, KY
B.S. Chemistry and Biology

May 1995

EXPERIENCE

ChemaTox Laboratory, Inc.

Postmortem Toxicology Supervisor

2014 - January 2016

- Generate and certify scientific data in a forensic drug testing laboratory for law enforcement and coroner offices.
- Employ knowledge of toxicology and drug metabolism to interpret and report reliable results.
- Utilize problem solving skills, troubleshoot instrumentation, and strive to continually improve laboratory operations.
- Develop and validate methods implemented in laboratory production.
- Analyze biological specimens for the presence of toxicologically significant chemicals.
- Maintain assay integrity and performance to ensure accurate, reproducible, and legally defensible results.
- Quality control preparation and verification.
- Research current journals, attend relevant courses, and participate in professional meetings.
- Operate LC/MS/MS, GC/FID, and GC/MS instrumentation to conduct analyses.
- Maintain chain of custody and deliver expert testimony.

Forensic Laboratories

Certifying Scientist

2012 - 2014

- Ensured legal defensibility of scientific data generated in a technical, high volume, drug testing laboratory with primary focus on law enforcement and pain management testing.
- Employed knowledge of toxicology and drug metabolism to educate, make policy changes, interpret and report reliable results.
- Released final reports, maintained proper chain of custody, and provided expert testimony when necessary.
- Certified and approved confirmation testing results for reporting.
- Maintained assay integrity and performance to ensure accurate, reproducible, and legally defensible results.
- Reviewed and approved QC validation tests including standards, quality controls, internal standards, and reagents.
- Reviewed and approved method development and method validation of various assays before put into production.

- Assisted in method development projects including multi-day calibration analyses, standard and control stability projects, and improvement of methods already in production.
- Operated LC/MS/MS and GC/FID instrumentation to conduct analyses: injection scheduling, data processing, and data review.
- Collaborated within and across departments to solve work-related problems.

Array Biopharma*2008 - 2011*

Research Associate III, Drug Metabolism

- Leveraged deep skills in chemistry and biology to conduct the discovery and development program analyses of pharmacokinetic (PK) and pharmacokinetic/pharmacodynamic (PKPD) studies with novel inhibitors targeted to treat inflammation and cancer.
- Assisted pharmacology with acceptable dosing solution preparations for laboratory animals by performing pre-formulations for compounds of interest.
- Excelled in the identification of metabolites for novel inhibitors with determination of clearance mechanisms, using LC/MS/MS.
- Effectively communicated key data and its interpretation on various drug programs, by preparing and conducting numerous presentations at drug metabolism group, team, and collaborator meetings.
- Facilitated cross-functional collaborations with pharmacology and chemistry to plan and complete analyses to answer group questions/concerns.
- Honed an in-depth knowledge of troubleshooting on a wide variety of instruments.

Montgomery County Coroner/Miami Valley Regional Crime Laboratory*1999 - 2008*

Forensic Toxicologist

- Utilized expert analytical skills to conduct analysis of post mortem specimens for the presence of alcohol, drugs, and other toxins to determine cause of death. Performed analysis of ante mortem specimens for the presence of alcohol and/or drugs in DUI-related cases.
- Developed methods and written SOPs which were approved by the Ohio Department of Health (ODH) before use in the laboratory.
- Performed proficiency testing. Permits issued by ODH upon completion of proficiency testing.
- Utilized instrumentation including GC/MS, UV/VIS Spectrophotometer, GC/NPD, GC/FID, GC/EC, Fluorescence Polarization Immunoassay, HPLC with DAD, headspace GC/FID, NOVA electrolyte analyzer, ELISA Immunalysis, and Toxi-Lab drug detection; excelled in troubleshooting, repairing, and maintaining highly technical instrumentation.
- Consistently recognized by senior leadership for outstanding job performance as well as the preparation and delivery of presentations.
- Maintained current knowledge by researching new and/or significantly improved methods and techniques for toxicological analysis.
- Conducted liquid-liquid extractions, solid phase extractions, DPX extractions, and standards and reagent preparation as needed.
- Maintained chain of custody for all submitted evidence, produced and released final written reports, and delivered expert testimony for court cases.

Kentucky State Police Central Forensic Laboratory

1997 - 1999

Forensic Toxicologist

- Brought on board to leverage chemical and biological knowledge in the analysis of ante mortem specimens for the presence of drugs and alcohol.
- Used a wide variety of instrumentation including GC/MS, GC/FID, GC/NPD, Fluorescence Polarization Immunoassay (FPIA), Thin Layer Chromatography, and headspace GC/FID to conduct drug screening and confirmation testing.
- Conducted liquid-liquid extractions, and standards and reagent preparation as needed.
- Performed extractions, data analysis, and final reports for law enforcement agencies.
- Maintained chain of custody, produced final written reports, and delivered expert testimony.

PRESENTATIONS

The Analysis of Δ^9 -Tetrahydrocannabinol (THC) and Metabolites in Whole Blood and 11-Nor- Δ^9 -Tetrahydrocannabinol-9-Carboxylic Acid (THCc) in Urine using Disposable Pipette Extraction with Confirmation and Quantification by Gas Chromatography-Mass Spectrometry

February 2008

Annual American Academy of Forensic Sciences meeting

The Detection of Δ^9 -Tetrahydrocannabinol in Whole Blood, Plasma, and Liver Homogenates and the Detection of 11-Nor- Δ^9 -Tetrahydrocannabinol-9-Carboxylic Acid in Urine using Disposable Pipette Extraction

October 2003

Annual Society of Forensic Toxicologists meeting

PUBLICATIONS

The Analysis of Δ^9 -Tetrahydrocannabinol and Metabolite in Whole Blood and 11-Nor- Δ^9 -Tetrahydrocannabinol-9-Carboxylic Acid in Urine Using Disposable Pipette Extraction with Confirmation and Quantification by Gas Chromatography-Mass Spectrometry

October 2008

Jennifer L. Schroeder; Lauren J. Marinetti; Roy K. Smith; William E. Brewer; Brandi L. Clelland; Stephen L. Morgan *Journal of Analytical Toxicology* 32.8: 659-666 doi:10.1093/jat/32.8.659

CONTINUING EDUCATION

Annual Society of Forensic Toxicologists meeting

October 19th-23rd 2015

Atlanta, GA

Workshops

- Pharmacology and Toxicology of Synthetic Cathinones and Phenylethylamines
- Quality in Laboratories, Finding the Balance
- Pharmacognosy for the Forensic Toxicologist

The Robert F. Borkenstein Course on the Effects of Drugs on Human Performance and Behavior*September 14th-18th 2015*

Tempe, AZ

Through the Indiana University Robert F. Borkenstein Center for Studies of Law in Action and The Center for Forensic Science Research & Education

Topics: DUID Overview; National Roadside Survey and Crash Risk Assessment; Drug Recognition Expert (DRE) Program; Principles of Pharmacology and Drug Effects - Stimulants, Hallucinogens, Opiates, Benzodiazepines, CNS Depressants, and Cannabinoids; Effects on Human Performance and Behavior - Cocaine, Methamphetamine, Hallucinogens, "Bath Salts", Opiates, Carisoprodol, Butalbital, Topiramate, Cannabis, Synthetic Cannabinoids; On-Road Driving Studies - Cannabis, CNS Depressants: Antidepressants and Anxiolytics; Benzodiazepines, Zolpidem, and Other Imidazopyridines and Driving Impairment; Data Information and Resources; Oral Fluid Testing; Forensically Defensible Drug and Alcohol Testing in DUID - Laboratory Aspects; National Safety Council Recommendations for Drug Testing in DUID Investigations; Presenting Drug Impairment Evidence in Court - Prosecution Perspective, Defense Perspective.

The Robert F. Borkenstein Course on Alcohol, and Highway Safety: Testing, Research and Litigation*May 17th-22nd 2015*

Bloomington, IN

Through the Indiana University Robert F. Borkenstein Center for Studies of Law in Action and The Center for Forensic Science Research & Education

Topics: Pharmacology and Physiology of Alcohol; 0.08 The Film that Changed a Nation's Law; Chemistry and Biochemistry of Alcohol; Forensic Pharmacokinetics of Ethanol; Historical Perspective on Forensic Alcohol Analysis; Blood Alcohol Analysis: Theory and Practice; Breath Alcohol Instrumentation: Theory and Practice; Behavioral and Performance Effects of Alcohol on Driving; Approaches to Widmark Calculations; Practice and Pitfalls of Retrograde Extrapolation; Predicting Impairment: The Role of BAC and Complexity of the Driving Task Impairment; Principles and Applications of Standardized Field Sobriety Tests; Distribution of Ethanol between Blood and other Biological Specimens from Living and Deceased Persons; Basic Principles of Mathematics and Statistics in Alcohol Toxicology; The Changing Landscape: Standards in the Forensics Laboratory; Uncertainty of Measurement Determination in Blood and Breath Alcohol Testing; The Legal Framework for DUI - Constitutional Issues and Case Law; Analysis and Response to Defense Challenges in Forensic Alcohol Testing; The Confrontation Clause and Scientific Testimony; Expert Testimony: Basic Principles; Discussion - Expert Testimony: Practical Considerations

AFFILIATIONS

Society of Forensic Toxicologists *Member*

SPECIAL COURSES

Postmortem Interpretive Toxicology *2015*
Chemical Heritage Foundation, Philadelphia, PA

Pharmacokinetic class covering in vitro and in vivo concepts, in addition to study design, interpretation, and next steps *2010*
University of California San Diego Extension, San Diego, CA

Short Course on Integrative and Organ Systems Pharmacology *2008*
E. Shelman School of Pharmacology, University of North Carolina, Chapel Hill, NC

- Course included laboratory animal handling, mini pumps, isolated perfused brain and kidney, in situ intestinal loop, femoral and jugular vein cannulation, microdialysis

GC/MS Introduction *2001*
Shimadzu Scientific Instruments, Inc., Columbia, MD

Laboratory Seminar Focusing on the Analysis of Benzodiazepines and GHB in DUI and Drug Facilitated Rape Cases *2000*
Ohio University, Athens, OH

Seminar on Drug Facilitated Rape *1999*
The Ohio State University Medical Center, Columbus, OH

Chromatographic Methods in Forensic Science *1999*
Federal Bureau of Investigation, Quantico, VA

Tests for BAC in Highway Safety Programs-Supervision and Expert Testimony *1997*
Center for Studies of Law in Action, Indiana University, Bloomington, IN

Miscellaneous

- Scientific journal reviews
- Scientific book reviews