

Andrew M. Mullins, M.S.

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EDUCATION

University of Minnesota, Twin Cities, Minneapolis, MN

November 2016

M.S. Chemistry

Grinnell College, Grinnell, IA

May 2011

B.A. Chemistry and Russian

EXPERIENCE

ChemaTox Laboratory, Inc.

January 2018 - Present

Forensic Toxicologist

- Provide services to governmental and private agencies for analysis of bodily fluids and tissues for alcohol, drugs and other toxic substances.
- Responsible for quantitative analysis of blood, urine and other bodily fluids for the presence of alcohol and other volatiles using Headspace Gas Chromatography-Flame Ionization Detection (GC/FID). Perform quantitative analysis on blood and other bodily fluids for the presence of drugs and other chemical substances using Ultra Performance Liquid Chromatography/Tandem Mass Spectrometry (UPLC/MS/MS). Provide expert testimony on alcohol analysis and the effects of drugs on human performance.

Rm3 Labs

February - December 2017

Lead Analyst, Pesticides

- Analyzed a wide variety of samples via HSGC/MS, HPLC, and LC/MS/MS
- Followed GLP standards in a regulated laboratory while performing all tests and experiments
- Performed wet chemistry analysis of a variety of food products including QuEChERS extractions
- Tasked with the regular maintenance and troubleshooting on laboratory equipment including HPLC and GC/MS

Cargill Industrial Specialties

October 2014 - June 2016

Chemist

- Analyzed seed oil, asphalt, and other products using GC, GC/MS, HPLC
- Developed and analyzed novel asphalt additives using GPC, iatroscan, and DSR
- Followed GLP standards while performing all tests, experiments, and studies
- Utilized LIMS on a daily basis to track all experiments and data from instrument analyses
- Maintained and performed troubleshooting on laboratory equipment including GPC, GC/MS, and iatroscan

University of Minnesota: Twin Cities Hoyer & Hillmyer Labs*Fall 2011 - September 2015*

Research Assistant

- Developed novel polymers from renewable resources i.e. soybean oil-based polyurethanes as well as thermoplastic elastomers via RAFT
- Completed a multi-step synthesis of a small molecule for use as a novel RAFT initiator
- Analyzed key intermediates using an Agilent LC/MS and GC/MS and final polymers with a Waters GPC with light scattering and RI capabilities.
- Maintained and performed troubleshooting on laboratory equipment including LC/MS, MPLC, and vacuum pumps

University of Minnesota: Twin Cities Professor Jane Wissinger*Fall 2011 - Spring 2013*

Organic Chemistry Teaching Assistant

- Facilitated inquiry-based learning in undergraduate laboratory setting
- Modeled proper laboratory techniques to reinforce student understanding and ensure safety
- Designed and led discussions on key chemistry principles to promote engagement
- Collaborated to develop new laboratory experiment for undergraduate coursework

PRESENTATIONS**Toxicology 101 - Assistant Presenter***May 31st 2018,
May 9th 2018*

Arvada Police Department

- A training presentation on the basics of drug and alcohol testing, results interpretation and a brief overview of ChemaTox services.

PUBLICATIONS**Halide Abstraction of Hydrido-Tungstenocene Tin Complexes (poster)***2009*

ACS National Convention, Anaheim, CA

CONTINUING EDUCATION**Drug Impaired Driving***September 26th 2018*

Fort Collins, CO

- Emerging Drug Trends, Drug Impaired Driving Investigations, Advanced Toxicological Testing Services, Trial Tactics

The Robert F. Borkenstein Course on Alcohol and Highway Safety: Testing, Research and Litigation*May 13th-18th 2018*

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: Historical Perspective on Forensic Alcohol Analysis; Pharmacology and Physiology of Alcohol; Chemistry and Biochemistry of Alcohol; Forensic Pharmacokinetics of Ethanol; 0.08 The Film that Changed a Nations' Law; 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