

Mahagani Thomas

MS, BSFS

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Address 45 State Drive,
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Education

Rochester Institute of Technology (RIT)

ACS Accredited

Master of Science (MS) in Chemistry (*Analytical*)

The Pennsylvania State University (Penn State)

FEPAC Accredited

Bachelor of Science in Forensic Science (BSFS) (*Chemistry*)

Minor in Biology

Certification/Certificate

American College of Surgeons Committee on Trauma

Stop The Bleed Course

March 2024

Cybersecurity and Infrastructure Security Agency Infrastructure Security Division

Active Shooter Preparedness Webinar

January 2024

Occupational Safety and Health Administration (ClickSafety)

10-Hour General Industry Safety and Health Certification

August 2022

Monroe #1 BOCES Eastern Monroe Career Center (EMCC)

Criminal Justice Certificate (Dual Credit with Monroe Community College [MCC])

May 2013

Relevant Coursework

Undergraduate: Chromatography and Electrochemistry, Analytical Chemistry, General Chemistry I & II, Forensic Chemistry, Physical Chemistry, Organic Chemistry I & II, Serology, Courtroom Testimony, Genetics, Crime Scene Investigation, Chemistry Laboratory, Technical Writing, Physics, Calculus I & II, Biostatistics

Graduate: Advanced Instrumental Analysis, Spectrometry ID of Organic Compounds, Practical NMR, Advanced Nucleic Acids Biochemistry, Statistics

Professional Experience

Forensic Chemist III

June 2024 – Present

Forensic Chemist II

August 2021 – June 2024

Vermont Forensic Laboratory (VFL)

Waterbury, Vermont

ANSI-ASQ National Accreditation Board (ANAB) Accredited Laboratory

- ❖ Analyzes whole blood specimens for drugs in DUI cases using a Randox Evidence Investigator (Immunoassay) and a Waters Acquity UPLC H-class- MS/MS (Liquid Chromatography-Mass Spectrometry) instruments
 - Prepared samples via Solid Phase Extraction (SPE) using a Positive Pressure fold
- ❖ Analyzes whole blood specimens for ethanol in DUI cases using a Perkin Elmer Gas Chromatography-Flame Ionization Detector (GC-FID)
- ❖ Working knowledge and experience with Laboratory Information Management Systems (LIMS)
- ❖ Reviews current literature on drug and alcohol pharmacology, physiology, testing, and standards
- ❖ Helped to improve current confirmation methodology on Waters UPLC
- ❖ Assisted in the revalidation of the blood drug program using the Waters UPLC
 - Spearhead the method of using single use vials for working stocks

Safety Officer:

- ❖ Familiar with OSHA standards 1910
- ❖ Conducts biannual safety reviews of the laboratory. Then submit a safety report

Outreach Coordinator:

- ❖ Conduct laboratory tour with School Groups. Tour consists of classroom presentation of the laboratory then a walk through
- ❖ Lead a mentorship with local high school students
- ❖ Attended schools' Career Days

Teaching Assistant (TA) August 2022 – Present

The University of Vermont Burlington, Vermont

- ❖ Oversee at least 20 students as they participated in General Chemistry Laboratory
- ❖ Assists professor in grading as well as answering student questions about the course material
- ❖ Assists students with proper laboratory techniques and procedures including instrument operation and analysis of laboratory data

Research and Development Specialist October 2017 – July 2021

ACM Global Laboratories Rochester, New York

College of American Pathologists (CAP) and New York State Department of Health (NYSDOH) Accredited Laboratory

- ❖ Authored several validation plans and reports for new instrumentation for drugs used in routine Clinical Trials
- ❖ Collaborated with R&D teams in York and Singapore to ensure global harmonization of validations and databases
- ❖ Created Excel worksheets to document sample storage and experimental notes for sample analysis
- ❖ Assisted in the start-up of a new Clinical Trial Laboratory
- ❖ Quality Control (QC) reviews data entry, reports, and worksheets
- ❖ Developed or improved HPLC methods for several controlled substances
- ❖ Familiar with the use of Siemens Atellica Solution Immunoassay & Clinical Chemistry Analyzer, ADVIA 1800 Chemistry Systems, and ADVIA Centaur XP Immunoassay System to interpret results
- ❖ Prepared biological specimens for clinical trial testing
- ❖ Conducted routine maintenance and cleaning on LC-MS and GC-MS instruments

Quality Assurance Assistant September 2017 – October 2017

Bristol-Myers Squibb Syracuse, New York

- ❖ Completed Hazards Material, Fire Safety, and Chemical Storage Training
- ❖ Used the triple wash systems for glassware
- ❖ Organized and stored approximately 300 chemicals
- ❖ Performed daily maintenance and quality checks on several analytical instruments

Teaching Assistant (TA) August 2020 – May 2021

Rochester Institute of Technology Rochester, New York

- ❖ Oversaw at least 20 students as they participated in General Chemistry Laboratory, per section
- ❖ Assisted professor in grading as well as answering student questions on the course material

Learning Assistant (LA) August 2015 – May 2017

The Pennsylvania State University State College, Pennsylvania

- ❖ Assisted professor in teaching Analytical Chemistry
- ❖ Hosted weekly tutor sessions

Intern *February 2013 – April 2013*
Rochester Police Department Technicians Unit *Rochester, New York*
Under the Central Investigations Division

- ❖ Observed the process of an incident scene for physical evidence
- ❖ Assisted in creating an inventory log of how to export video data from different VCR recording devices

Manager *June 2012 – July 2021*
Seabreeze Amusement Park *Rochester, New York*

- ❖ Supervised over 25 employees per shift and delegated daily tasks
 - Managed approximately 40 employees per season
- ❖ Created Excel worksheets to document paperwork of employees and schedules
- ❖ Developed a training course for incoming cashiers in the food department
- ❖ Oversaw operation of the 15 food stands and ensured proper opening and closing procedures

Professional Memberships

Society of Forensic Toxicologists (SOFT) *December 2021 – Present*

- ❖ Full Member
- ❖ Associate Member (2021 – 2024)

American Academy of Forensic Science (AAFS) *May 2022 – December 2023*

- ❖ Trainee Affiliate

American Chemical Society (ACS) *September 2021 – September 2022*

Forensic Science Club at Penn State *August 2013 – May 2017*

- ❖ Member
- ❖ Vice President (2014 – 2015)

Professional Development/Continuing Education

New England Area Toxicologists (NEAT) Annual Meeting *May 2025*

Robert F Borkenstein Course on Alcohol and Highway Safety: Testing, Research and Litigation *May 2025*

Society of Forensic Toxicologist (SOFT) 2024 Conference *October 2024 – November 2024*

- ❖ Workshops: Impairment | Breath Alcohol | ABFT Certification Part | ABFT Certification Part II

Teaching Day in Forensic Toxicology hosted by Waters *May 2024*

New England Area Toxicologists (NEAT) Annual Meeting *May 2024*

Recommendations for Toxicological Investigation of Drug-Impaired Driving and Motor Vehicle Fatalities *March 2024*

2024 Vermont Highway Safety Conference *March 2024*

Florida TSRP DUI Webinar Series: Drug Categories in Drug DUI Cases: *January 2024 – May 2024*

- ❖ Topics: CNS Depressants | CNS Stimulants | Hallucinogens | Dissociative Anesthetics | Narcotic Analgesics | Inhalants | Cannabis | Poly-Drug | Testing & Testimony

Assessing Impaired Driving Trends Using Comprehensive Testing & a Multistate Approach *December 2023*

Society of Forensic Toxicologist (SOFT) 2023 Conference *October 2023 – November 2023*

- ❖ Workshops: Pharmacology, Detection, and Control Actions of Synthetic Drugs | Cannabis Testimony | The Pharmacology, Management, and Interpretation of Drug Withdrawal | Career Development and Leadership Techniques

The Rise and Risks of the Adulterant Xylazine *April 2023*

The Cannabis Impaired Driver: What We Can Expect to See Webinar *April 2023*

Florida TSRP DUI Webinar Series: An Introduction to Drug Categories in Drug DUI Cases *January 2023 – May 2023*

- ❖ Topics: CNS Depressants | CNS Stimulants | Hallucinogens | Dissociative Anesthetics | Narcotic Analgesics | Inhalants | Cannabis | Poly-Drug | Testing & Testimony
- Marijuana & Driving in 2023: It's Not Just Delta-9-THC Anymore *January 2023*
- The Role of Prescriptions Drugs in Multi-Substance Impaired Driving *December 2022*
- IACFT: Three Days, Three Experts, Three Tox Talks – Spring 2022 *November 2022*
- Society of Forensic Toxicologist (SOFT) 2022 Conference *October 2022 – November 2022*
- ❖ Workshops: Method of Standard Addition for Analyte Quantification for Application to Postmortem Matrices and Novel Psychoactive Substances | Drugs and Behavior: The Role of Forensic Toxicology | Method Optimization During Development and Validation: Tips and Tricks on How to Succeed
- Extensive Overview of Pharmacology for the Forensic Toxicologist: 2022 *July 2022*
- 2022 Current Trends in Forensic Toxicology Symposium *May 2022*
- Know Your Limit: Vermont Impaired Driving Summit *May 2022*
- New England Area Toxicologists (NEAT) Annual Meeting *April 2022*
- Advanced Roadside Impaired Driving Enforcement (A.R.I.D.E.) *March 2022*
- An Introduction to Drug Categories in Drug DUI Cases: Narcotic Analgesics *February 2022*
- DRE and IACP 2022: Updates & Enhancements *February 2022*
- DWI Detection and Standardized Field Sobriety Testing (SFST) *December 2021*
- Advances in Clinical Chemistry Education and New Technology (ACCENT) *December 2021*
- 2021 Virtual Impaired Driving Conference *November 2021*
- Robert F Borkenstein Course on Drugs: Effects on Human Performance and Behavior *August 2021 – September 2021*
- 2015 Penn State Forensic Science Club Symposium and Chop Shop *April 2015*
- ❖ Hosted: Roger Mitchell (D.C.'s Chief ME), Skip Palenik (President Microtrace LLC), John Murdock (firearm and tool mark examiner), Frank Wendt, and Jenny Nolan

Presentations, Posters, and Publications

- "Current Technology Use in Forensic Chemistry and Forensic Biology" *April 2025, July 2025*
Presentation at the University of Vermont
- Nominal Operating Envelope of Pod and Pen Style Electronic Cigarettes *August 2021*
Front. Public Health 9:705099. doi: 10.3389/fpubh.2021.705099