Mark Eschbach

Champaign, Illinois, United States • (331) 442-2012 • meschbach2@gmail.com • LinkedIn •
approachable.fit

1 Summary

Highly motivated and versatile scientist with extensive experience in analytical chemistry, laboratory management, and research and development. Proficient in HPLC, GC, LC-MS, UV-Vis, and biological analysis techniques, with a strong background in QA/QC, data analysis, and process optimization. Adept at leading teams, managing projects, and developing electronic solutions for industry and academic settings. Passionate about sustainable technology and innovative problem-solving.

2 Skills

· Analytical Chemistry: HPLC, GC, LC-MS, UV-Vis

· Mathematical Modeling: Partial Differential Equations, Linear Algebra

· Programming: Python, MATLAB, SQL

· Laboratory Management: QA/QC, Process Optimization, Equipment Maintenance

· Leadership: Team Building, Project Management, Conflict Resolution

· Critical Thinking and Problem Solving

3 Professional Experience

3.1 University of Illinois Urbana-Champaign, Consulting Specialist, Analytical Chemistry

February 2025 – Present, Springfield, IL

· Support large-scale pilot testing of Linde-BASF CO_2 capture technology under DOE grant DE-FE0031581 at a coal-fired power plant.

· Collaborate with site engineers on chemical treatment and operational enhancements for energy systems.

3.2 Illinois Sustainable Technology Center, Scientific Specialist

August 2022 – Present, Urbana-Champaign, IL

· Lead project manager for operational and process management overhaul, improving efficiency and compliance.

· Initiated and led internal R&D development team, driving innovation in sustainable technologies.

· Conduct field chemistry, including sample collection, in-field testing, and reporting, with extensive travel to government sites (prisons, data facilities, IDOT locations).

· Hold D.O.C. security clearance for servicing sensitive government locations.

3.3 Approachable Fitness, Founder

February 2019 – Present, Urbana-Champaign, IL

· Established a personal training business focused on customized fitness goals, serving clients of diverse backgrounds and fitness levels.

· Developed and implemented client-centric training programs, enhancing client satisfaction and outcomes.

3.4 University of Illinois Urbana-Champaign, Research Specialist

October 2019 – August 2022, Urbana-Champaign, IL

· Conducted biochemical research, synthesizing and characterizing lipid molecules and Cytochrome P450 proteins.

· Managed laboratory operations, trained students, and resolved conflicts, ensuring smooth lab functionality.

· Oversaw relocation of lab equipment from UIUC to Georgia Tech, coordinating logistics and project timelines.

3.5 Aardsma Research & Publishing, Chemistry Technician

March 2017 – September 2019, Loda, IL

· Performed chemical synthesis and analytical work using HPLC and MS, maintaining high standards of accuracy.

· Managed lab supplies, inventory, and organizational systems, streamlining research processes.

3.6 Isotech Laboratories, Inc., Analytical Chemist

June 2016 – March 2017, Urbana-Champaign, IL

· Isolated hydrocarbons for isotopic analysis and determined isotopic ratios using MS.

· Developed and edited GC methods, enhancing analytical precision and efficiency.

4 Education

4.1 Greenville University

Bachelor's Degree in Chemistry, 2013 – 2015

· Activities: Joy Hall Letterman (2014)

4.2 Parkland College

Associate Degree in Science, General Studies, 2008 – 2012

· Modeling of Nuclear Energy Systems (2022, Grade: C+)

· Symbolic Logic (2023, Grade: B)

· Early Modern Philosophy (2023, Grade: B)

· Intro Differential Equations (2023)

· Plasma and Fusion Science (2025, Grade: C+)

5   Certifications

· Differential Equations, Udemy, January 2025

· Partial Differential Equations, Udemy, January 2025

· Linear Algebra, Udemy, December 2024

· SQL for Data Science

· Access Basics for Excel

6   Publications

· "Estrogen metabolites increase nociceptor hyperactivity in a mouse model of uterine pain"

· "Omega-3 Endocannabinoid Epoxide Enantiomers formed by Human Cytochrome P450s are bioactive"

· "Metabolites of Cannabigerol Generated by Human Cytochrome P450s Are Bioactive"

7   Honors and Awards

· David Jones Persuasive Speech Contest