Daniel Graham Delafield

Graduate Research Assistant

645 Skyview Place, Madison, WI 53713

(405) 219-4741 | grahamdelafield@gmail.com | grahamdelafield.com

Investigational proteomics researcher with 6 years of experience employing liquid-chromatography-mass spectrometry in tandem with statistical and high-throughput computer programming languages to further elucidate the human proteome. Interested in combining technical innovation with health-focused applications, I offer strong written and oral communication, innovative problem solving, an appreciation for workplace proficiency.

Research Experience

Graduate Research Assistant, *University of Wisconsin-Madison*   **2018 - present**
- Utilized novel porous graphitic carbon (PGC) chromatography to provide a 75% increase in biomolecule retention, detection identification
- Leveraged capillary electrophoresis and computational modeling to perform single-run multi-level glycoprotein analysis
- Engineered machine learning algorithms and custom web applications for proteomic data analysis and presentation

Graduate Research Assistant, *University of Oklahoma*   **2016 - 2018**
- Developed a three-dimensional approach for glycopeptide purification and identification via concurrent chromatography fractionation couple to ion mobility-mass spectrometry
- Identified molecular properties distinguishing gas-phase conformational differences of complex glycopeptides
- Evaluated post-translational modification differences between healthy immunoglobulin and auto-antibodies from SLE patient serum

Honors Research Assistant, *University of Oklahoma*   **2015 - 2016**
- Elucidated activity of novel biomass degrading enzymes via culture, extraction, and enzymatic measurement of Great Lakes fungi
- Employed electrophoresis, multidimensional chromatography and top-down mass spectrometry for protein identification and characterization
- Designed, fabricated, and validated novel microreactor for facile antibody immunoprecipitation

* Associated publications and presentations may be viewed on personal website

Skills

Liquid-Chromatography
Reversed-phase (C18, C4), porous graphitic carbon, ion exchange, size exclusion, HILIC

Mass Spectrometry
Familiarity with: Thermo, Agilent, Waters, Bruker. Both ESI and MALDI interfaces.

Computer Science
Back-end: Python, C, SQL, R, Rust. Front-end: Javascript, HTML, CSS. Scripting, machine learning, web development.

Professional
Written, verbal communication, project management, public speaking, grant and manuscript authorship.

Education

Doctor of Philosophy, *University of Wisconsin-Madison*
Department of Chemistry
August 2018 - present | GPA: 4.0

Master of Science, *University of Oklahoma*
Department of Chemistry
August 2016 - May 2018 | GPA: 3.9

Bachelor of Science, *University of Oklahoma*
Biochemistry
August 2011 - May 2016 , *cum laude*