



Daniel Graham Delafield

Graduate Research Assistant

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Investigational proteomics researcher with 6 years of experience employing mass spectrometry in tandem with statistical and high-throughput computer programming languages to further elucidate the human proteome. Pursuing health and human disease applications, I regularly operate unique instruments across 4 vendors, 2 ionization regimes, and am experienced in 4 programming languages.

Research Experience

Graduate Research Assistant, *University of Wisconsin-Madison*

2018 - present

- Performed comparative analyses of standard and novel separation regimes for glycopeptide characterization
- Utilized capillary electrophoresis and computational modeling to perform multi-tier glycoconjugate analysis
- Engineered custom web application and machine learning algorithms for proteomic data presentation and analysis

Graduate Research Assistant, *University of Wisconsin-Madison*

2016 - 2018

- Developed a three-dimensional approach for glycopeptide purification and identification via differential ion mobility-mass spectrometry
- Uncovered analyte 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 and top-down mass spectrometry for protein identification and characterization
- Designed, fabricated, and validated novel microreactor for facile antibody purification

** Associated publications and presentations may be viewed on personal website*

Skills

Proteomics Research

Bottom-up, middle-down, top-down proteomics
Orbitrap, ToF, Ion Mobility
Liquid Chromatography (RPLC, SEC, PGC, IXC)
Capillary electrophoresis
ESI, MALDI ionization
PTM, proteoform identification

Computer Programming

Back end
Python, C, R
Front end
JavaScript, HTML5, CSS3, Bootstrap

Professional

Project Management
Written, verbal communication
Public speaking
Grant, manuscript authorship
Microsoft Office
Process Automation
Web Maintenance, SEO

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