Daniel Graham Delafield

Ph.D. Candidate

Professional Summary

Investigational proteomics researcher with 7 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, proficient and innovative problem solving, and punctual delivery.

Work Experience

Summer Intern, Genentech BAS-O3m, *June 2018-August 2018*

- Developed custom, full-stack desktop applications to automate and streamline immunogenicity assessment of drug candidates, enabling >99% reduction in analysis time.
- Engineered custom user interfaces to enable high-throughput analysis of large proteomic datasets, providing a 500-fold increase in data utilization.
- Constructed analysis pipelines leading to the discovery of constitutive immunogenic signatures that enable reliable quality control in immunopeptidomic workflows.

Graduate Research Assistant, University of Wisconsin-Madison, *2018-*

- Fabricated and validated PGC-enabled separation strategies that increased peptide and glycopeptide identification by up to 20%.
- Investigated and quantified glycoproteomic alterations associated with early- and late-stage prostate cancer.
- Quantified >9,300 proteins in cerebrospinal fluid and elucidate 1,642 putative neurological disease signature across patient cohorts.
- Leveraged custom data-dependent and -independent analytical pipelines for proteomic discovery.

Skills

Proteomics, -omics
High throughput bottom-up, top-down and middle-down proteomics. Label-free and relative quantitation. Glycoproteomics and phosphoproteomics.

Liquid-Chromatography, Separations
Reversed-phase (C18, C4), porous graphitic carbon, ion exchange, size exclusion. Capillary electrophoresis. Ion mobility - TIMS, DTIMS, FAIMS.

Mass Spectrometry
Expertise in Thermo, Agilent, Waters, and Bruker instruments. ESI and MALDI.

Computer Science
Back-end: Python, C, SQL, R, Rust. *Front-end*: Javascript, HTML, CSS. High-throughput analysis, process automation, machine learning, web development.

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

Contact

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Education

Ph.D. - Chemistry, (2023)
University of Wisconsin - Madison
GPA: 4.0

M.S. - Chemistry, 2018
University of Oklahoma
GPA: 3.9

B.S. - Chemistry, 2016
University of Oklahoma
Cum Laude

Please feel free to visit my personal website for an extensive work history and full portfolio of my scientific contributions.