WILLIAM L. CLOSE, PH.D.

Virology, Bioinformatics, & Data Science

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EXPERIENCE

Bioinformatics Consultant

Ann Arbor, MI
March 2019 • Present

- Utilized AWS technologies to implement reproducible and scalable microbiome analysis pipelines.
- Independently managed projects and generated publication-quality reports based on client needs/requirements.
- Presented scientific findings to clients highlighting important conclusions and/or areas for further investigation.

Postdoctoral Research Fellow

University of Michigan • Ann Arbor, MI
August 2017 • Present

- Modelled longitudinal fluctuations between viral and bacterial populations in the gastrointestinal tract using bash, R, and python on a remote HPC cluster.
- Developed new viral metagenomic processing and analysis pipelines using reproducible viral mock communities and self-designed assays.
- Text

Graduate Research Assistant

Wayne State University • Detroit, MI
September 2012 • August 2017

- Identified cellular trafficking pathways required for Human Cytomegalovirus (HCMV) assembly and egress using transcriptional and proteomic datasets.
- Created a novel HCMV bacterial artificial chromosome expression system for studying exogenous protein function during viral infection.
- Text

PUBLICATIONS

Infection-Induced Changes Within the Endocytic Recycling Compartment Suggest a Roadmap of Human Cytomegalovirus Egress.
Close WL, Glassbrook JE, Gurczynski SJ, Pellett PE. Front Microbiol. 2018;9:1888. PMID: 30186245.

Betaherpesvirus Virion Assembly and Egress.
Close WL, Anderson AN, Pellett PE. Adv Exp Med Biol. 2018;1045:167-207. PMID: 29896668.

Generation of a novel human cytomegalovirus bacterial artificial chromosome tailored for transduction of exogenous sequences.
Close WL, Bhandari A, Hojeij M, Pellett PE. Virus Res. 2017;242:66-78. PMID: 28912069.

HOW I WORK

Collaborator

Worked with clients to provide expert microbiome analysis and as part of multidisciplinary teams to analyze virologic data.

Leader

8+ years of productive leadership roles including: establishing and leading local data science communities; managing a diverse research team of undergraduate, graduate, and clinical trainees; and leading several successful initiatives as part of various academic committees.

Domain Expert

7 years of virology experience and 2 years of microbiome experience working on cutting-edge research both at the benchtop and bioinformatically.

TOOLS & EXPERTISE

AWS • git • Linux • Mac • Rmarkdown Conda • Text

Microbiome • Bioinformatics • Statistics Metagenomics • Virology • Microbiology Reproducible Research

LANGUAGES

R
Bash
Python

EDUCATION

Ph.D. in Immunology and Microbiology

Wayne State University • Ann Arbor, MI
September 2012 • August 2017

B.S. in Microbiology: Business Concentration

University of Wisconsin – La Crosse