

# WILLIAM L. CLOSE, PH.D.

Virology, Bioinformatics, & Data Science

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## EXPERIENCE

### Bioinformatics Consultant

Ann Arbor, MI

March 2019 • Present

- Utilized AWS cloud computing to deploy reproducible and scalable microbiome analysis pipelines.
- Independently managed projects and generated publication-quality reports to satisfy 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

- Analyzed longitudinal viral and bacterial community interactions in response to gastrointestinal tract perturbation.
- Designed and implemented reproducible 16S- and metagenomic-based analysis pipelines in an HPC environment using Bash, R, and Python.
- Taught several multi-day workshops on programming fundamentals, coding best practices, and reproducible research.

### Graduate Research Assistant

Wayne State University • Detroit, MI

September 2012 • August 2017

- Analyzed transcriptional and proteomic datasets to identify cellular pathways required for Human Cytomegalovirus (HCMV) virion assembly and egress.
- Modified the HCMV genome to create a novel expression system for studying exogenous protein function during infection.
- Secured funding from an NIH-sponsored program to found a local data science community focused on skills development and careers outside academia.

## SELECTED 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

### Leader

8+ years of productive leadership roles establishing and leading local data science communities, managing diverse research teams, and spearheading several successful trainee-centric initiatives.

### Domain Expert

7 years of virology experience, 3 years of bioinformatics experience, and 2 years of microbiome experience working on diverse datasets and projects.

### Collaborator

Worked with clients and colleagues to provide virologic, bioinformatic, and genomic expertise for multiple concurrent research projects, including as part of a systems biology consortium.

## TOOLS & EXPERTISE

HPC • AWS • Linux • Mac • Docker • Git  
R Markdown • Conda • Snakemake

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

## LANGUAGES

R ●●●●●  
Bash ●●●●●  
Python ●●●●●

## EDUCATION

### Ph.D. in Immunology and Microbiology

Wayne State University School of Medicine  
Detroit, MI

September 2012 • August 2017

### B.S. in Microbiology: Business Concentration

University of Wisconsin – La Crosse  
La Crosse, WI

September 2007 • May 2012