BIOGRAPHICAL SKETCH

NAME: Taylor Alan Vensko

eRA COMMONS USER NAME: VenskoTA

POSITION TITLE: Graduate Research Assistant

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	Start Date MM/YYYY	Completion Date MM/YYYY	FIELD OF STUDY
Mott Community College	AS	09/2012	06/2015	General Science
University of Michigan-Flint	BS	06/2015	05/2018	Molecular Biology
Wayne State University School of Medicine	MS	09/2018	05/2022	Immunology and Microbiology
Wayne State University School of Medicine	Ph.D.	09/2020	05/2023 (Expected)	Immunology and Microbiology

A. Personal Statement

I come from a complex and multidisciplinary background that contributed to my scientific journey. The early stages of my education focused on kinesiology, physiology, psychology, and biochemistry, where I received international accreditations as a personal trainer, nutritionist, and sports nutritionist. I also cared for my older sister for most of my life, who had severe mental impairments and battled pancreatic cancer. This time drove intense early studies in physiology and pathology.

I competed as a professional weightlifter during high school and my undergraduate education and coached 20+ adult athletes competing at the national level or higher. I have been working in and mentoring in highly competitive environments for over a decade.

I fell for microbiology in 2015 during my first microbiology course at Mott Community College, and I have been consistently working in BSL-2/2+ laboratories in biochemistry, molecular biology, and medical microbiology since then. I pursued an undergraduate degree in Molecular Biology and Biotechnology from the University of Michigan-Flint while being just a capstone class shy of dual-majoring in Psychology, Biochemistry, or Medical Lab Sciences. I have extensive experience working with human pathogens, advanced training in microscopy, and molecular cloning.

I originally was interested in getting a PharmD, and Wayne State University was one of the few schools in Michigan with that program. After some major life changes, I decided against the PharmD plan and chose to pursue what I was interested in with Immunology and Microbiology. I joined the Pellett lab at Wayne State University School of Medicine in 2019 and completed an M.S. thesis while starting my Ph.D. dissertation work in the same program in 2020. My thesis work focused on developing a 3D-cell model to study intracellular modifications post-infection with the herpesvirus human cytomegalovirus (HCMV). My dissertation work focuses on regulators of cell trafficking during virus release.

My time in graduate school has reinforced my interest in academic research. I love the freedom and creativity of this type of work, and student mentoring is very important to me. During my time in the Pellett lab, I have co-authored a chapter, managed lab operations, mentored and trained over a dozen graduate students, achieved candidacy status, and have established roots in two long-term career interests in host-virus interactions; in both metabolic and developmental disease. I hope to expand my interests and background in metabolism, physiology, and virology to contribute to our understanding of HCMV disease.

B. Positions, Scientific Appointments and Honors

Graduate Research Assistant Aug. 2020-Present
Wayne State University
Tutor/Supplemental Instructor Sept. 2017-Apr. 2018
University of Michigan-Flint
Undergraduate Research Assistant Sept. 2015-Aug. 2018
University of Michigan-Flint

Professional Societies
American Society for Virology.

Society of Biomolecular Imaging and Informatics

Scholarships/Fellowships
Vera Fay Righthand Fellowship in Virology
Wayne State University Department of Immunology and Microbiology. 2022-2023 Academic Year
Interdisciplinary Biomedical Sciences Fellowship
Wayne State University Medical School. 2020-2022 Academic Years
Graduate School Master's Scholarship
Wayne State University Graduate School. 2019-2020 Academic Year

C. Contributions to Science
Publications
Betaherpsevirus assembly and egress: Recent advances illuminate the path: Wofford, AS; McCuscker I; Green, JC; **Vensko, TA**; and Pellett, PE. *Advances in Virus Research*, Volume. 108 Nov. 2020

Presentations
Vensko, TA. *Roles of Rabs in HCMV Virion Release* (Oral)
3MT Contest, Wayne State Graduate and Postdoctoral Research Symposium 2022

VenskoTA. *From cell balls to babies: multi-dimensional models to study HCMV infection at the maternal/fetal interface* (Oral). Biochemistry, Microbiology, and Immunology Department Retreat 2021**.**

VenskoTA. *Human cytomegalovirus: very large virion or very small donkey?* (Oral). Biochemistry, Microbiology, and Immunology Department Retreat 2020**.**

Vensko TA, Wofford AS, and Pellett PE. *Human Cytomegalovirus Induced Cytoplasmic Reorganization In a Three-Dimensional Cell Based Model* (Poster). Graduate and Postdoctoral Research Symposium. (Detroit, MI) 2020.

Vensko TA, Wofford AS, and Pellett PE. *Human Cytomegalovirus Induced Cytoplasmic Reorganization In a Three-Dimensional Cell Based Model* (Poster). 23rd Annual C.P. Lee Endowed Graduate Student Research Presentation Day. (Detroit, MI) 2019.

Graduate Research:

My MS thesis work is titled “Spatial localization of markers and 3D-cell model for studying the human cytomegalovirus cytoplasmic assembly compartment.” The Pellett lab is well established in host-virus interactions during herpesvirus infection, and my focus is on alterations to host cell machinery during HCMV infection. My work included validating cellular and viral markers used to identify a virus-induced structure known as the cytoplasmic virion assembly compartment (cVAC) that can be used in downstream automated image analysis. Another significant portion of my work included developing a workflow to use a 3D-cell model using spheroids to address these virus modifications in a tissue-like system.

My dissertation work is titled “Roles of Rab3A, 11A, and 27A proteins in HCMV virion egress.” I aim to understand the cellular trafficking pathways that HCMV hijacks during replication. To do this, I will be using engineered viruses that can controllably, reversibly, and rapidly shut off cell trafficking pathways to determine which are important for releasing virus particles. HCMV is a master manipulator of the cell, and most of the cellular and molecular details are not well understood. I hope to contribute to the understanding of cellular trafficking, virus replication and release, and how these contribute to pathology.

D. Scholastic Performance

YEAR	COURSE TITLE	GRADE
2018	Fundamentals of Research	A-
2018	Research Conferences	S
2018	Seminar	S
2018	Molecular Biology & Genetics	C+
2019	Molecular Biology of Viruses	A-
2019	Molecular Mechanisms of Bacterial Pathogenesis	B
2019	Research Conferences	S
2019	Seminar	S
2019	Research	S
2019	Foundations in Data Science	B+
2019	Masters Thesis Research and Direction	A
2020	Fundamentals of Immunology	B-
2020	Research	S
2020	Masters Thesis Research and Direction	A
2020	Research	S
2020	General Bench Rotation	A
2020	Journal Club	A
2020	Essential Research Practices	S
2020	Interdisciplinary Cell & Molecular Biology	B+
2021	Journal Club	A
2021	Biostatistics	B-
2021	Seminar	S
2021	Research	S
2021	Current Topics in Reproductive Science	A-
2021	Current Trends in Immunology	S
2021	Journal Club	A-
2021	Doctoral Candidate Status I	S
2022	Doctoral Candidate Status II	S
2022	Scientific Communication	B

*Only graduate-level classes included. B or higher required for passing.