

Taylor Alan Vensko
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Education

Dates

<i>Doctor of Philosophy: Immunology and Microbiology</i> Wayne State University School of Medicine, Detroit, MI	Aug. 2024
<i>Master of Science: Immunology and Microbiology</i> Wayne State University School of Medicine, Detroit, MI	Apr. 2022
<i>Bachelor of Science: Molecular Biology and Biotechnology</i> University of Michigan, Flint, MI	Apr. 2018
<i>Associate of Science</i> Mott Community College, Flint, MI	Apr. 2015

Publications

1) Betaherpesvirus assembly and egress: Recent advances illuminate the path.

Wofford, AS; McCusker I; Green, JC; **Vensko, TA**; and Pellett, PE.
Advances in Virus Research, Volume 108. Nov. 2020

Contributions: Conceptualization, Writing-Original Draft, Writing-Review & Editing, and Visualization.

2) Potential Functions of HCMV Proteins Revealed by Integrated Multi-Dimensional Viromics.

Vensko, TA; Carbajo, AL; and Pellett, PE. *Under Revision Nov. 2024.*

Contributions: Conceptualization, Formal Analysis, Investigation, Data Curation, Methodology, Validation, Visualization, Writing-Original Draft, Writing-Review and Editing.

3) Genomic Dataset Augmentation with Positional Entropy.

Carbajo, AL; **Vensko, TA**; and Pellett, PE. *Invention Disclosure.*

Submitted June 2024.

Contributions: Conceptualization, Methodology, Validation, Writing-Original Draft, Writing-Review & Editing, and Supervision.

4) Principles of Host-Specific Patterns in Viral Genomes: The Viral Convergence Hypothesis.

Carbajo, AL; **Vensko, TA**, and Pellett, PE. *In Preparation Nov. 2024.*

Contributions: Conceptualization, Validation, Supervision, Writing-Original Draft, Writing-Review & Editing.

5) Neural Networks Learn Features That Identify Human-Infecting Genomes in Multiple Virus Families.

Carbajo, AL; **Vensko, TA**, and Pellett, PE. *In Preparation Nov. 2024.*
Contributions: Conceptualization, Validation, Supervision, Writing-Original Draft, Writing-Review & Editing.

Research

Dissertation Research

Aug. 2020-Present

Wayne State University School of Medicine

Roles of Rabs 3A, 11A, and 27A in Human Cytomegalovirus Virion Egress

Taylor Vensko and Philip Pellett (PI)

- Used microscopy and spatial temporal proteomic analysis to assess expression and relocalization of Rab proteins during viral infection
- Determined the impact of Rab-related pathways on virion release using a novel virion release assay and image analysis platform.

Multi-Dimensional Viromics

Nov. 23-Present

Taylor Vensko and Philip Pellett (PI)

- Integrated multiple types of spatial and/or temporal -omic data to create an atlas of HCMV proteins
- Developed normalization methods that allow for novel interpretation of temporal data.
- Used integrative analysis and interactome analysis for hypothetical functions of uncharacterized viral proteins.

Community Detection of COVID-19 Disease Through SARS-CoV-2 Monitoring in Sewage AND “Dorm-Level Wastewater Monitoring for SARS-CoV-2 Material”

Jul. 20-Jan. 24

Bobby Teng, Lindsey Thompson, Rafael Ramos, **Taylor Vensko**, Philip Pellett, and Jeffrey Ram (PI)

- BSL2+ lab setup, training for new lab members, and biosafety protocol development.

Master Thesis Research

Feb. 19-Mar. 20

Wayne State University School of Medicine

Spatial Localization of Markers and 3D-Cell Model For Study of the Human Cytomegalovirus Cytoplasmic Virion Assembly Compartment

Taylor Vensko and Philip Pellett (PI)

- Colocalization analysis of viral and cellular cytoplasmic proteins for multiplexed fluorescent microscopy.
- Developed a 3D-cell spheroid model to study HCMV lytic replication in a tissue-like environment.

Presentations

- **Vensko TA**, Carbajo AL, Swensen EJ, Close WL, and Pellett PE. *The Way Out: Do Rab Proteins Regulate HCMV Release?* (Poster). 2024 Annual BioSci Retreat. Detroit, MI 2024
- **Vensko TA**, Carbajo AL, and Pellett PE. *Integrated Multi-Dimensional Viromics: A Tool for Hypothesis-Driven Study of Human Cytomegalovirus Host-Virus Interactions* (Poster). 48th Annual International Herpesvirus Workshop. Portland, OR 2024
- **Vensko TA**, Carbajo AL, Swensen EJ, Close WL, and Pellett PE. *The Way Out: Do Rab Proteins Regulate HCMV Release?* (Poster). 27th Annual C.P. Lee Endowed Graduate Student Research Presentation Day. Detroit, MI 2024
- **Vensko TA**, Carbajo AL, Swensen EJ, Close WL, and Pellett PE. *The Way Out: Do Rab Proteins Regulate HCMV Release?* (Poster). 47th Annual International Herpesvirus Workshop. Missoula, MT 2023
- **Vensko TA**, Swensen EJ, and Pellett PE. *The Way Out: Do Rab Proteins Direct HCMV Release?* (Poster). Biochemistry, Microbiology, and Immunology Department Retreat. Detroit, MI 2022.
- **Vensko TA**. *Roles of Rabs in HCMV Virion Release*. (Oral). 3MT Contest, Wayne State Graduate and Postdoctoral Research Symposium. Detroit, MI 2022.
- **Vensko TA**. *From cell balls to babies: multi-dimensional models to study HCMV infection at the maternal/fetal interface* (Oral). Biochemistry, Microbiology, and Immunology Department Retreat. Detroit, MI 2021.
- **Vensko TA**. *Human cytomegalovirus: very large virion or very small donkey?* (Oral). Biochemistry, Microbiology, and Immunology Department Retreat. Detroit, MI 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.
- **Vensko TA**. *Professional Study Skills* (Oral). University of Michigan-Flint Student Success Center. Flint, MI 2018
- **Vensko TA**. *Making The Most of Your 24 Hours* (Oral and Video). University of Michigan-Flint Student Success Center. Flint, MI 2018
- **Vensko TA**. *Myostatin Inhibition as a Treatment for Muscular Dystrophy* (Poster). University of Michigan-Flint, Department of Biology CELLibration 2016. Flint MI 2016

Professional Societies

American Society for Virology

- *American Society for Microbiology*
- *Society of Biomolecular Imaging and Informatics*
- *Society for Lab Automation and Screening*

Scholarships and Fellowships

- *Graduate School Travel Award*
- *Sanderson and Sundick Travel Award* Jul. 24
- *Sanderson and Sundick Travel Award* Jul. 23
- *Graduate School Travel Award* Jul. 23
- *Vera Fay Righthand Fellowship in Virology* 22-24 Academic Years
- *Interdisciplinary Biomedical Sciences Fellowship* 20-22 Academic Years
- *Graduate School Master's Scholarship* 19-20 Academic Year

Scientific Appointments

- Postdoctoral Fellow (Hariri Lab) Oct. 24-Present
Wayne State University Aug. 20-Present
- Lab Manager (Pellett Lab)
Wayne State University
- Graduate Research Assistant Aug. 20-Aug. 24
Wayne State University
- Undergraduate Research Assistant Sept. 16-Aug. 18
University of Michigan-Flint
- Tutor/Supplemental Instructor Sept. 17-Apr. 18
University of Michigan-Flint