ALEJANDRO ORTIGAS-VASQUEZ

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EDUCATION

2026 — **PhD, Bioinformatics and Genomics**
The Pennsylvania State University, PA, USA
PI: Moriah L. Szpara

2021 — **HBSc, Bioinformatics**
Lakehead University, ONT, Canada
PI: Ingeborg Zehbe

PUBLICATIONS *(published/in press) [*Asterisk denotes award-winning publications]*

2025 — *__A. Ortigas-Vasquez__, C. D. Bowen, D. W. Renner, S. J. Baigent, Y. Zhang, Y. Yao, V. Nair, D. A. Kennedy, M. L. Szpara, High-fidelity long-read sequencing of an avian herpesvirus reveals extensive intrapopulation diversity in tandem repeat regions. *PLOS Pathog*. 21, e1013435 (2025). https://doi.org/10.1371/journal.ppat.1013435

2024 — **A. Ortigas-Vasquez**, U. Pandey, D. W. Renner, C. D. Bowen, S. J. Baigent, J. Dunn, H. Cheng, Y. Yao, A. F. Read, V. Nair, D. A. Kennedy, M. L. Szpara, Comparative analysis of multiple consensus genomes of the same strain of Marek's disease virus reveals intrastrain variation. *Virus Evol.* 10, veae047 (2024). https://doi.org/10.1093/ve/veae047

2024 — **A. Ortigas-Vasquez**, M. L. Szpara, Embracing Complexity: What Novel Sequencing Methods Are Teaching Us About Herpesvirus Genomic Diversity. *Annu. Rev. Virol.* 11, 67–87 (2024). https://doi.org/10.1146/annurev-virology-100422-010336

OTHER PUBLICATIONS *(submitted/in preparation) [Underlined denotes mentee author]*

2025 — **A. Ortigas-Vasquez**, B. Washington, M. Shipley, D. Bloom, C. Grose, M. L. Szpara, Whole-genome sequence of a varicella-zoster virus vaccine-derived strain from an immunocompetent pediatric patient with severe herpes zoster. *Submitted*.

2025 **A. Ortigas-Vasquez**, U. Pandey, A. S. Bell, D. W. Renner, S. J. Baigent, J. Dunn, M. J. Jones, H. H. Cheng, J. R. Dunn, A. F. Read, M. F. Boni, D. A. Kennedy, M. L. Szpara, Genome-Wide Analyses of an Avian Herpesvirus Identify 10 Loci Associated with Tumorigenicity and Vaccine Escape. *Submitted*.

2026 **A. Ortigas-Vasquez**, M. L. Szpara, A. Bankevich, High-Throughput Analyses of Herpes Simplex Tandem Repeat Regions Using Hidden Markov Models Reveal Strain-Specific Patterns of Diversity. *In prep*.

FELLOWSHIPS & AWARDS

2025 **Peter J. Hudson Best Student Paper Award**
[Award recognizing the best student-led papers among candidates belonging to the Center of Infectious Disease Dynamics (CIDD).]

2025 **University of Michigan Postdoc Preview Award**
[Selected from a highly competitive pool of applicants to participate in a fully funded two-day event to interview with prospective mentors for postdoctoral positions.]

2024 **J. Ben and Helen D. Hill Memorial Fund Award**
[Highly competitive award recognizing outstanding graduate students in the fields of Plant Science and/or Genetics.]

2024 **American Society of Virology Student Travel Award**
[Award recognizing outstanding graduate student abstracts meant to cover the cost of registration.]

2021 **Graham Endowed Fellowship**
[Highly competitive award supplementing graduate student stipend based on research and academic merit over a period of two years.]

2020 **Mitacs Research Training Award (RTA)**
[Highly competitive award in the form of a stipend to conduct a student-driven research project over a period of 12-16 weeks.]

2019 **Summer School of Medical Imaging (SSMI) Award**
[Highly competitive award consisting of a paid research position and covering tuition for coursework over a period of three months during the summer.]

2017 **American Chemical Society BOOST Workshop Award**
[Highly competitive award to fund the planning and organizing of a professional development workshop for 100 young Peruvian scientists.]

CONFERENCE & CAMPUS TALKS

2025 *"Genome-wide analyses of an avian herpesvirus identify 10 loci associated with tumorigenicity and vaccine escape"*
A. Ortigas-Vasquez, M. F. Boni, D. A. Kennedy, M. L. Szpara. Virology@PSU. The Pennsylvania State University.

2025 *"Genome-Wide Comparative Analyses of Herpesvirus Populations"*
A. Ortigas-Vasquez. University of Michigan Postdoc Preview. University of Michigan.

2024 *"High-Fidelity Long-Read Sequencing of an Avian Herpesvirus Reveals Extensive Intrapopulation Diversity in Repetitive Elements"*
A. Ortigas-Vasquez, D. W. Renner, C. D. Bowen, V. Nair, D. A. Kennedy, M. L. Szpara. BG Retreat. The Pennsylvania State University.

2024 *"High-Fidelity Long-Read Sequencing of an Avian Herpesvirus Reveals Extensive Intrapopulation Diversity in Repetitive Elements"*
A. Ortigas-Vasquez, D. W. Renner, C. D. Bowen, V. Nair, D. A. Kennedy, M. L. Szpara. American Society of Virology Conference. The Ohio State University.

2024 *"High-Fidelity Long-Read Sequencing of an Avian Herpesvirus Reveals Extensive Intrapopulation Diversity in Repetitive Elements"*
A. Ortigas-Vasquez, D. W. Renner, C. D. Bowen, V. Nair, D. A. Kennedy, Moriah L. Szpara. Virology@PSU. The Pennsylvania State University.

2023 *"Combining PacBio HiFi and Illumina Deep Sequencing for Complete Genomic Characterization of Marek's Disease Virus Strains"*
A. Ortigas-Vasquez, M. L. Szpara. BG Retreat. The Pennsylvania State University.

2023 *"Combining PacBio HiFi and Illumina Deep Sequencing for Complete Genomic Characterization of Marek's Disease Virus Strains"*
A. Ortigas-Vasquez, M. L. Szpara. International Herpesvirus Workshop. University of Montana.

2023 — *"How third-generation sequencing using high-fidelity long reads is changing the way we think about DNA viruses"*
A. Ortigas-Vasquez, M. L. Szpara. CCBB Workshop. The Pennsylvania State University.

2023 — *"Genomic comparisons reveal variation within and between classic Marek's Disease Virus strains"*
A. Ortigas-Vasquez, M. L. Szpara. Virology@PSU. The Pennsylvania State University.

TEACHING EXPERIENCE

2026 — **Teaching Assistant** for BIOL 230W (Molecules and Cells)
[Will serve as sole instructor for two student sections of 30 students each for the practical laboratory component of the course.]

2024 — **Teaching Assistant** for BIOL 230W (Molecules and Cells)
[Served as sole instructor for two student sections of 30 students each for the practical laboratory component of the course. Reworked many course materials to emphasize scientific communication and encourage students to pursue hands-on research experiences as part of their undergraduate program. Assisted several students to obtain positions in academic laboratories in the months after the course concluded.]

STUDENTS ADVISED/MENTORED

2025-Present — **Declan Kehlbeck**
PhD rotation student, The Pennsylvania State University

2025-Present — **Braylen Washington**
SROP Undergraduate student, University of Florida

OUTREACH & LEADERSHIP

2025 — **Summer Research Opportunities Program (SROP) Mentor**
[Served as a graduate student mentor as part of the Summer Research Opportunities Program, which aims to increase the number of underrepresented students who are pursuing graduate study and research careers.]

2023	**Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) Representative** *[Selected as the BG program representative for the Penn State delegation to SACNAS. Responsibilities included setting up the promotional booth, helping to promote Penn State graduate programs to undergraduate students from diverse and underrepresented backgrounds, and sharing my own experiences as an international student with potential applicants.]*

REFERENCES

Dr. Moriah L. Szpara (PhD Advisor)
Professor of Biology and Biochemistry and Molecular Biology
The Pennsylvania State University
moriah@psu.edu

Dr. David A. Kennedy (Collaborator)
Associate Professor of Biology
The Pennsylvania State University
dak30@psu.edu

Dr. Maciej F. Boni (Collaborator)
Professor of Biology
Temple University
mboni@temple.edu

Dr. George (PJ) Perry (Mentor)
Professor of Anthropology and Biology
The Pennsylvania State University
ghp3@psu.edu