

Hunter Ries

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Education

University of Wisconsin–Madison Ph.D. degree in Cellular and Molecular Pathology	Madison, WI May 2025 (expected)
University of Wisconsin–Madison B.S. degree in Microbiology (Infectious diseases)	Madison, WI May 2021

Relevant Experience

University of Wisconsin–Madison Graduate Research Assistant	Madison, WI Aug 2021–Present
<ul style="list-style-type: none">- Designed and implemented a high-throughput bioinformatics workflow for influenza virus deep-sequencing data, streamlining read processing and variant analysis- Led an investigation into the pathogenic potential of the closest known relative of Zika virus, Spondweni virus, in pregnant rhesus macaques.	
Undergraduate Research Assistant	May 2020–May 2021
<ul style="list-style-type: none">- Applied deep sequencing to quantify virus evolution in mice and mosquitoes.- Developed bioinformatic pipelines to process deep-sequencing data in Terminal and visualize in R.	
Undergraduate Research Assistant	Aug 2018–May 2020
<ul style="list-style-type: none">- Investigated <i>Mycobacterium tuberculosis</i> biochemistry and drug development.- Led the robotic screening of over 10,000 small-molecule compounds against a TB enzyme.	
SSM Health, Treffert Center Research Associate	Fond du Lac, WI May 2018–Aug 2018
<ul style="list-style-type: none">- Headed a case study characterizing a new form of savant syndrome with no apparent origin.	
Fond du Lac County Health Department Health Intern	Fond du Lac, WI May 2018–Aug 2018
<ul style="list-style-type: none">- Spearheaded a tickborne disease prevention and surveillance campaign.- Composed health department press releases on rabies, West Nile virus, and carbon monoxide.	

Volunteer Experience

Project Leader, UW–Madison Biosecurity Initiative	2023–Present
Volunteer, Madison Metropolitan School District	2021–Present
Cellular and Molecular Pathology Recruitment Committee	2021–Present
Cellular and Molecular Pathology Application Review Committee	2021–Present

Awards

Travel Award to present at the 12 th Annual Wisc-e-sota Meeting, UW–Madison	2024
Parasitology and Vector Biology T32 Fellowship, NIH	2024
Travel Award to present at the 7th Pan-Dengue Meeting, UW–Madison	2023
7th Pan-Dengue Meeting Full Sponsorship Award (declined)	2023
Parasitology and Vector Biology T32 Fellowship, NIH	2023

Cellular and Molecular Pathology T32 Fellowship, NIH	2021
Best Poster, Molecules in the Midwest, ASBMB UW–Madison	2020
Food Research Institute Research Scholarship, UW–Madison	2019
Margaret E. and Allard Smith Undergraduate Scholarship, UW–Madison	2019
Finalist, Undergraduate Speech Competition, UW–Madison	2017

Presentations

1. **Ann Palmenberg Molecular Virology Seminar.** "Spondweni virus infection in pregnant rhesus macaques causes prolonged viremia but no apparent fetal harm" UW–Madison Institute for Molecular Virology. Madison, WI. (Invited poster presentation, 21 November 2024)
2. **Department of Pathology and Laboratory Medicine Student Seminar.** "Spondweni virus infection in pregnant rhesus macaques causes prolonged viremia but no apparent fetal harm" UW–Madison School of Medicine and Public Health. Madison, WI. (Invited oral presentation, 23 October 2024)
3. **12th Annual Wisc-e-sota Meeting.** "Spondweni virus infection in pregnant rhesus macaques causes prolonged viremia but no apparent fetal harm" University of Wisconsin–Madison Institute for Molecular Virology and University of Minnesota–Twin Cities Institute for Molecular Virology. La Crosse, WI. (Invited oral presentation, 26–27 September 2024)
4. **33rd Annual Molecular Parasitology & Vector Biology Symposium.** "Spondweni virus infection in pregnant rhesus macaques causes prolonged viremia but no apparent fetal harm" University of Georgia Center for Tropical and Emerging Global Diseases. Athens, GA. (Invited poster presentation, 8 May 2024; declined)
5. **Tri-institutional Parasitology Symposium.** "Spondweni virus infection in pregnant rhesus macaques causes prolonged viremia but no apparent fetal harm" University of Georgia Center for Tropical and Emerging Global Diseases. Athens, GA. (Invited oral presentation, 8–9 May 2024; declined)
6. **Department of Pathology and Laboratory Medicine Student Seminar.** "Spondweni virus infection in pregnant rhesus macaques causes prolonged viremia but no apparent fetal harm" UW–Madison School of Medicine and Public Health. Madison, WI. (Invited oral presentation, 22 February 2024)
7. **Parasitology and Vector Biology Seminar.** "Spondweni virus infection in pregnant rhesus macaques causes prolonged viremia but no apparent fetal harm" UW–Madison School of Veterinary Medicine. Madison, WI. (Invited oral presentation, 13 February 2024)
8. **Non-Human Primate Perinatal Collaborative Group Seminar.** "Spondweni virus infection in pregnant rhesus macaques causes prolonged viremia but no apparent fetal harm" University of Washington Department of Obstetrics & Gynecology. Seattle, WA. (Invited oral presentation, 9 February 2024; virtual)
9. **7th Pan-American Dengue Research Network Meeting.** "Spondweni virus infection in pregnant rhesus macaques causes prolonged viremia but no apparent fetal harm" Pontificia Universidad Católica del Perú. Lima, Peru (Invited oral presentation, 12–17 November 2023)
10. **American Society of Tropical Medicine and Hygiene 2023 Annual Meeting.** "Spondweni virus infection in pregnant rhesus macaques causes prolonged viremia but no apparent fetal harm" Chicago, IL. (Invited poster presentation, 18–22 October 2023)
11. **Department of Pathology and Laboratory Medicine Student Seminar.** "Flavivirus immune histories influence subsequent flavivirus disease severity" UW–Madison School of Medicine and Public Health. Madison, WI. (Invited oral presentation, 13 April 2023)

12. **UW–Madison College of Agricultural and Life Sciences Undergraduate Research Symposium.** "Teaching old drugs new tricks: β -lactams and phosphatase inhibitors" UW–Madison. Madison, WI. (Invited oral presentation, 15 May 2020; conference canceled due to the COVID-19 pandemic)
13. **Perlman Symposium on Antibiotic Discovery and Development.** "Discovery of *M. tuberculosis* phosphatase inhibitors using high-throughput small molecule screening" UW–Madison. Madison, WI. (Invited oral presentation, 1 May 2020; conference canceled due to the COVID-19 pandemic)
14. **American Society for Biochemistry and Molecular Biology Molecules in the Midwest Conference.** "Discovery of *M. tuberculosis* phosphatase inhibitors using high-throughput small molecule screening" UW–Madison. Madison, WI. (Invited poster presentation, 7 March 2020, received "Best Poster Presentation" award)
15. **University of Wisconsin–Madison Undergraduate Biology Conference.** "Computational and biochemical analysis of PstP, a *Mycobacterium tuberculosis* phosphatase" UW–Madison. Madison, WI. (Invited poster presentation, 30 April 2019)

Publications

1. Bobholz M, Vuyk W, Emmen I, Lail A, Minor N, Bhimalli P, **Ries HJ**, Machkovech H, Wei W, Weiler A, Richardson A, DePachter C, VanSleet G, Bhasin M, Gifford A, Benito M, Shipe A, Mohamed R, Smith J, Wilson N, Friedrich TC, O'Connor DH, Garonzik JW, Bradley T. Longitudinal Assessment of Solid Organ Transplant Recipients with SARS-CoV-2. *Am J Transplantation*. 2025 Jan 1; 25(1): S135 - S136. doi: 10.1016/j.ajt.2024.12.265.
2. Shafer MM, Bobholz MJ, Vuyk WC, Gregory DA, Roguet A, Haddock Soto LA, Rushford C, Janssen KH, Emmen IE, **Ries HJ**, Pilch HE, Mullen PA, Fahney RB, Wei W, Lambert M, Wenzel J, Halfmann P, Kawaoka Y, Wilson NA, Friedrich TC, Pray IW, Westergaard R, O'Connor DH, Johnson MC. Tracing the origin of SARS-CoV-2 omicron-like spike sequences detected in an urban sewershed: a targeted, longitudinal surveillance study of a cryptic wastewater lineage. *The Lancet Microbe*. 2024 March 11. doi: 10.1016/S2666-5247(23)00372-5. PMID: 38484748.
3. Boehm EC*, Jaeger AS*, **Ries HJ***, Castañeda D, Weiler AM, Valencia CC, Weger-Lucarelli J, Ebel GD, O'Connor SL, Friedrich TC, Zamanian M, Aliota MT. *Wolbachia*-mediated resistance to Zika virus infection in *Aedes aegypti* is dominated by diverse transcriptional regulation and weak evolutionary pressures. *PLoS Negl Trop Dis*. 2023 Oct 2;17(10):e0011674. doi: 10.1371/journal.pntd.0011674. Epub ahead of print. PMID: 37782672. ***Denotes co-first authors**
4. Sakai-Tagawa Y, Yamayoshi S, Halfmann PJ, Wilson N, Bobholz M, Vuyk WC, Wei W, **Ries H**, O'Connor DH, Friedrich TC, Sordillo EM, van Bakel H, Simon V, Kawaoka Y. Sensitivity of rapid antigen tests for Omicron subvariants of SARS-CoV-2. *J Med Virol*. 2023 May;95(5):e28788. doi: 10.1002/jmv.28788. PMID: 37212288.
5. Takashita E, Yamayoshi S, Halfmann P, Wilson N, **Ries H**, Richardson A, Bobholz M, Vuyk W, Maddox R, Baker DA, Friedrich TC, O'Connor DH, Uraki R, Ito M, Sakai-Tagawa Y, Adachi E, Saito M, Koga M, Tsutsumi T, Iwatsuki-Horimoto K, Kiso M, Yotsuyanagi H, Watanabe S, Hasegawa H, Imai M, Kawaoka Y. In Vitro Efficacy of Antiviral Agents against Omicron Subvariant BA.4.6. *N Engl J Med*. 2022 Dec 1;387(22):2094-2097. doi: 10.1056/NEJMc2211845. Epub 2022 Nov 16. PMID: 36383452; PMCID: PMC9730936.
6. Treffert DA*, **Ries HJ***. The Sudden Savant: A New Form of Extraordinary Abilities. *Wisconsin Medical Journal*. 2021 April 1. PMID: 33974770. ***Denotes co-first authors**