Megan Levy

Fred Hutchinson Cancer Research Center
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Research Experience

Graduate Researcher, Fred Hutchinson Cancer Research Center *March 2025 – Present*
Seattle, WA
Advisor: Harmit Malik, Ph.D.

- Research topics: molecular evolution, innate immunity, host-pathogen interactions

Post-baccalaureate Fellow, National Institute of Allergy and Infectious Disease, RNA Viruses Section *July 2020 – May 2023*
Bethesda, MD
Advisors: Cyril Le Nouen, Ph.D. and Ursula Buchholz, Ph.D.

- Research topics: RSV live-attenuated vaccine development, codon-pair deoptimization, genetic stability, protein complex purification, primary cell culture, single cell transcriptomics studies of immune activation

Undergraduate Researcher, University of Maryland, Department of Veterinary Medicine *June 2019 – March 2020*
College Park, MD
Advisors: Weizhong Li, Ph.D. and Xiaoping Zhu, Ph.D.

- Research topics: Influenza A protein-subunit vaccine development, in vivo characterization of vaccine efficacy, membrane receptor-mediated protein uptake

Education

University of Washington *2023 – Present*
Ph.D. Molecular and Cellular Biology (in progress)
M.D. (in progress)

University of Maryland, College Park *2016 – 2020*
BS Pre-Professional Animal Science (University Honors), *cum laude*
Minor: Public Leadership

Publications

- Levy M, Chen JW, Kaiser JA, Park H-S, Liu X, Yang L, et al. (2024) Intranasal respiratory syncytial virus vaccine attenuated by codon-pair deoptimization of seven open reading frames is genetically stable and elicits mucosal and systemic immunity and protection against challenge virus replication in hamsters. PLoS Pathog 20(5): e1012198. https://doi.org/10.1371/journal.ppat.1012198

Presentations and Posters

- Megan Levy, Jessica WT Chen, Lijuan Yang, Celia Santos, Jaclyn Kaiser, Xueqiao Liu, Cindy Luongo, Ursula J. Buchholz, Cyril Le Nouen "Next-Generation Respiratory Syncytial Virus Vaccines Attenuated by Codon-Pair Deoptimization," Laboratory of Infectious Diseases Seminar, February 7th 2023
- Megan Levy, Jessica WT Chen, Lijuan Yang, Celia Santos, Craig Martens, Stacy Ricklefs, Ursula J. Buchholz, Cyril Le Nouen, "Effects of Codon-Pair-Deoptimization of Respiratory Syncytial Virus on Human Dendritic Cell Maturation," NIH Virtual Postbac Poster Day 2022, April 28th, 2022

Teaching

University of Washington School of Medicine *June 2025 – Present*
School of Medicine Tutor, Seattle, WA

University of Maryland Department of Animal and Avian Sciences *August – December 2018*
Teaching Assistant, College Park, MD
"Anatomy of Domestic Animals Laboratory"

University of Maryland Honors Seminar *January – May 2018*
Teaching Assistant, College Park, MD
"*Human and Animal Disease Outbreaks: What else can we do to prevent them?"*

Awards

ARCS Scholar *2025*
University of Maryland Banneker/Key Scholarship *2016 – 2020*

Involvement/Outreach

UPREP University of Washington School of Medicine *April 2024 – Present*
Mentor, Seattle, WA

UW Pre-Physician Scientist Club University of Washington School of Medicine *February 2024 – Present*
Mentor, Seattle, WA

Academic Services University of Washington School of Medicine *September 2023 – Present*
MSTP Student Council Representative, Seattle, WA

Asylum Evaluation Student Clinic *December 2023 – Present*
Volunteer Scribe, Seattle, WA

University of Washington School of Medicine *September 2023 – April 2024*
Recruitment Committee Activities Coordinator, Seattle, WA

University of Washington School of Medicine *August 2023 – May 2024*
Infections and Immunity Block Partner, Seattle, WA

College Bound *October 2020 – May 2023*
Mentor, Washington, DC

Service to the Armed Forces, Red Cross at Walter Reed *November 2021 – March 2023*
General Clinic Volunteer, Bethesda, MD

NIH Clinical Center *November 2022 – March 2023*
Phlebotomy Check-in Volunteer, Bethesda, MD

Mercy Health Clinic *March – September 2022*
Volunteer Scribe, Gaithersburg, MD

Maryland Medical Reserve Corps *October 2021 – August 2022*
Volunteer, Rockville, MD

References

Harmit Malik, Ph.D. (graduate mentor)
HHMI Investigator
Professor and Associate Director, Basic Sciences Division
Fred Hutchinson Cancer Research Center
hsmalik@fredhutch.org
206-667-5204

Ursula Buchholz, Ph.D. (post-baccalaureate research mentor)
Senior Associate Scientist
RNA Viruses Section
Laboratory of Infectious Diseases
National Institute of Allergy and Infectious Diseases
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Cyril Le Nouen, Ph.D. (post-baccalaureate research mentor)
Staff Scientist
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