Jon Wick

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Summary

I am an undergraduate researcher at Western Washington University interested in combining my understanding of biology and computer science to advance the body of knowledge of biological phenomena. Currently, I am a member of the Lee lab at WWU using computational biology to investigate the role of small RNAs role in maintaining genome integrity within the model organism *Tetrahymena thermophila*. Once I graduate I plan on continuing a career in research.

Education

B.S. Molecular and Cellular Biology, Computer Science minor — September 2023-present
Western Washington University — Expected June 2026

- GPA: 3.73/4.0
- **Upper division Coursework:** Advanced Cell and Molec Lab, Genomic Data Analysis, Cellular and Molecular Biology, Biochemistry, Microbiology, Biostatistics, Cell and Molec Lab, Genetics, Organic Chemistry series, Evolution.

Research Experience

Undergraduate Researcher, Lee lab, WWU – Bellingham, WA — June 2024 - present

- Investigate roles of sRNAs in an RNAi pathway responsible for maintaining genome integrity in *Tetrahymena thermophila*.
- Developed and used tools for genomic data analysis to understand sRNA biogenesis and effector loci.
- Performed Western Blots, maintained cells, and performed literature reviews to progress the goals of the lab.
- Worked full time over the summer of 2024 and 2025 participating in WWU Summer undergraduate research program (SURP).

Computing Education Research, Independent Research – Tacoma, WA — February 2023- May 2024

- Published Paper for the ACM SIGCSE conference about education and mentorship structure in extracurricular robotics with a small research team.
- Formulated research questions for interviews and surveys.
- Conducted interviews and distributed surveys.
- Analyzed interviews and survey responses to extrapolate qualitative data.

Biotech Research Intern, Rain Incubator – Tacoma, WA — May 2022 - July 2023

- Collaborated with researchers to define novel methods for tracking European Green Crab migration in Puget Sound.
- Learned the research process of defining a hypothesis, perform lit review, and plan experiments.

Additional Experience

Programming Lead, SOTAbots FIRST Team 2557 — September 2019 - June 2023

- Developed Code used in the semi-finals of the 2022 world championship of FIRST Robotics Competition.
- Taught students to program in Java and robot code using industry-standard design patterns.
- Coordinated with other leads on the team to develop a robot, build community, perform local outreach, and obtain funding.

Publications

Understanding the Leadership Structure and Mentoring Model of an Extracurricular Robotics Team: Key Findings from a Case Study — March 2024

Hitender Oswal, ***Jon Wick***, Seth Tandon, Ashley Brewster, Sushil K Oswal

DOI: 10.1145/3626253.3635603

Relevant Courses

Advanced Cell and Molec Lab – BIOL 487, WWU Spring 2025

- Investigated the role of *ubc-6*, an E2 ubiquitin ligase, in maintaining ER homeostasis in C. elegans.
- Collaborated with other students on experiments, posters, micropublications, and the research process.
- Utilized Western Blots, Reverse Transcriptase PCR, and PCR to analyze accumulation of misfolded proteins in *ubc-6* knockouts.
- Collected literature and built models to improve understanding of ER associated degradation in the context C. elegans and other model organisms.
- Maintained accurate lab notebook using Benchling.

Genomic Data Analysis – BIOL 477, WWU Winter 2025

- Collaborated with other students on mRNA differential expression in *Tetrahymena Thermophila*.
- Worked with Bash and python for evaluating genomic features.
- Wrote a paper and presented independant research for mRNA differential expression.
- Presented relavent research papers to the class to facilitate discussion.

Posters

The Role of E2 Ligases ubc-6 and 7 in ERAD in C. elegans
Northwest Worm Meeting, June 2025.
Summer Simpson, Abby Mellin, Dylan Wilding, Natalie Patch, **Jon Wick**, Bree Nelson, Hannah Thorp, Caelin Sickler, and Lina Dahlberg

Remapping previously sequenced 23-24 nucleotide sRNAs to the 2020 Tetrahymena thermophila Genome
WWU SURP poster session, September 2024.
Jon Wick, Noah Haight, Suzanne Lee, Dan Pollard

Leadership Structure and Mentoring Model of an Extracurricular Robotics Team
ACM SIGSCE conference, March 2024.
Hitender Oswal, **Jon Wick**, Seth Tandon, Ashley Brewster, Sushil K. Oswal

Awards

Declan Barron Memorial Scholarship 2025
Western Washington University, Dept of Biology

SURP award 2025
Western Washington University, Dept of Biology

Technologies

Biology Tools: Genomic Data Analysis, Western Blot, PCR, Reverse Transcriptase PCR

Programming Languages: C++, C, Java, Python, Nix, R, Javascript, React, bun

Technologies: CLI, Benchling, Microsoft Office Server, Linux, Nixos, ImageJ