

# Jon Wick

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## Summary

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I am an undergraduate researcher at Western Washington University (WWU) 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 molecular biology research.

## Education

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**B.S. Molecular and Cellular Biology**, Computer Science minor September 2023-present  
Western Washington University – Bellingham, WA 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

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**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* using computational biology and genomic analysis.
- Develop new tools and use existing tools for genomic data analysis to understand sRNA biogenesis from RNA-dependent RNA polymerase complexes.
- Participated and presented in lab for round tables, lab meetings, and journal clubs.
- Worked full-time over the summer of 2024 and 2025, participating in the WWU Summer Undergraduate Research Program (SURP).
- Performed Western Blots, maintained cells, and performed literature reviews to progress the goals of the lab.

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

- Wrote and published a paper for the *ACM Special Interest Group Computer Science Education* conference about education and mentorship structure in an extracurricular robotics.
- Performed a qualitative analysis on interviews and survey responses to extract useful data.
- Formulated research questions for interviews and surveys.

**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, performed literature review, and planned experiments.
- Performed pilot experiments using PCR to define future directions.

## Research Based Courses

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

- Investigated the role of *ubc-6*, an E2 ubiquitin ligase, in maintaining endoplasmic reticulum (ER) homeostasis in *C. elegans*.
- Wrote a micropublication on research results and presented a poster at Northwest Worm Meeting in collaboration with fellow students.
- Collaborated with other students on experiments, posters, micropublications, and the research process.
- Utilized Western Blots, Reverse Transcriptase PCR, and PCR to analyze the accumulation of misfolded proteins in *ubc-6* knockouts.
- Collected literature and built models to improve understanding of ER associated degradation in the context of *C. elegans* and other model organisms.
- Maintained accurate lab notebook using Benchling.

- Collaborated with other students on mRNA differential expression in *Tetrahymena Thermophila*.
- Worked with Bash and python over secure shell (SSH) for evaluating genomic features.
- Wrote a paper and presented independent analysis of mRNA differential expression.
- Presented relevant research papers to the class to facilitate discussion.

## Publications

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

March 2024

*SIGCSE 2024: Proceedings of the 55th ACM Technical Symposium on Computer Science Education V. 2*

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

DOI: 10.1145/3626253.3635603

## Additional Experience

### Club leadership, Molecular Bioscience Club, WWU – Bellingham, WA

August 2025 - present

- Organize events to build community and provide information to students.
- Assisted students getting into research labs.
- Collaborated with faculty within and outside of WWU on events.

### Programming lead, SOTabots FIRST Team 2557 – Tacoma, WA

September 2019 - June 2023

- Developed Code used in the semi-finals of the 2022 World Championship of FIRST Robotics Competition and 2023 district championship.
- Taught students to program in Java using industry-standard design patterns.
- Coordinated with other leads on the team to develop a robot, build community, perform local outreach, and obtain funding.

## Posters

### Re-identification of the genomic origins of small RNAs in the model organism *Tetrahymena thermophila* and characterization of those dependent on genome protective RDN2

2025 SURP poster session, October 2025.

Jon Wick, Noah Haight, Hannah Thorp, Dan Pollard, and Suzanne R. Lee

### 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 Special Interest Group Computer Science Education 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:** Python, Java, Nix, C++, C, R, JavaScript

**Technologies:** Command Line Interface, Benchling, Microsoft Office/Libre Office, Jupyter Notebook, Linux, NixOS, ImageJ, React, bun, Secure Shell (SSH), NeoVim