

RUSSELL SCHAAF

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EXPERIENCE

Student Researcher

PI: Robyn Tanguay
Oregon State University

June 2021 - Present
Corvallis, OR

Establishing CRISPR-CAS9 mutant zebrafish

Gene editing techniques are needed to evaluate the function of a gene. In the Tanguay lab, this technique has been applied to over 25 genes, providing the opportunity to study crosstalk and signaling pathways. My role was to help establish these mutant lines. My contribution ranged from reviewing the literature to mapping to confirm the deletion of target genes.

Investigating developmental origins of health diseases using behavioral assays

Early development is the most sensitive life stage. Chemical insults during this period can cause long-lasting effects into adulthood. My responsibilities involved utilizing and improving juvenile and adult behavioral assays to investigate potential adverse outcomes from developmental exposure to various chemicals.

Laboratory Technician

PI: Robyn Tanguay
Oregon State University, Bluesun Inc.

October 2019 - June 2021
Corvallis, OR

GxE Project

Environment chemicals exposures have been linked to increases in cancer incidence, birth, and developmental defects. Using the zebrafish model, we assessed how environmental parameters can impact individual zebrafish vs the population. My work on this project included investigating the role of sox7 after exposure to an insecticide, Abamectin. My efforts in identifying the GG/TT snp region and successfully synthesizing and cloning the variant within a vector resulted in a 5-year, \$1.25 million dollar grant and a manuscript in press.

EDUCATION

2023* Bachelor of Science, Computer Science, *Oregon State University*
Pending graduation: Fall 2023

2019 Bachelor of Science, Microbiology, *Oregon State University*
Minor: Chemistry

PUBLICATIONS

- **Schaaf, RM**, Sharpton, TJ, Murray, KN, Kent, AD, Kent, ML. Retrospective analysis of the Zebrafish International Resource Center diagnostic data links *Pseudocapillaria tomentosa* to intestinal neoplasms in zebrafish *Danio rerio* (Hamilton 1822). *J Fish Dis.* 2020; 43: 1459– 1462. <https://doi.org/10.1111/jfd.13233>
- Wallis, D., La Du, J., Thunga, P, Elson, D., Truong, L., Kolluri, S., Tanguay, R., and Reif, D. “Leveraging a High-Throughput Screening Method to Identify Mechanisms of Individual Susceptibility Differences in a Genetically Diverse Zebrafish Model”. *Frontiers in Toxicology. In Press.* **[Acknowledged]**

SKILLS

- Programming
 - Python [proficient]
 - C, JavaScript, R [familiar]
- Familiar with a Linux computing environment
- Molecular biology techniques
 - Microscopy, DNA extraction and analysis, PCR, qPCR, gel electrophoresis, imaging
- Firm understanding of Biology
- Project management
- Excellent verbal and written communication skills
- Strong attention to detail
- Self-motivated with an ability to learn new skills independently
- Strong desire to learn and grow

CERTIFICATIONS

- OSU Laboratory Safety Training Program, 2022
- Biomedical Responsibility Conduct of Research, 2022
- Working with IACUC, 2022
- Working With Zebrafish in Researching Setting, 2022