

CAREER SUMMARY

Research Technician • Medical Assistant • Mechanical/Electronics Repair & Maintenance

- *A passionate biologist with an engineering perspective* that was developed through 6+ years of wet lab and dry lab research experience and a lifetime of asking how things work on the inside.
- *A proactive contributor that views every problem as a personal problem* and finds creative solutions that reduce effort, cost and increase efficiency.
- *An enthusiastic student with endless energy for new challenges;* instinctively weaving new lessons into a preexisting tapestry of foundational concepts.

AREAS OF EXPERTISE

- | | | |
|---------------------------|--------------------------|-------------------------|
| ▪ Spectral Flow Cytometry | ▪ DNA RNA Protein | ▪ Lab Management |
| ▪ PCR qPCR RTqPCR | ▪ ELISA ELISpot | ▪ Safety Regulations |
| ▪ Primer Design | ▪ Western Blot | ▪ Protocol Design |
| ▪ Primary Cell Culture | ▪ Microsoft Office Suite | ▪ Protocol Optimization |
| ▪ ICC IHC IF | ▪ R Python | ▪ Cost Reduction |
| ▪ Confocal Microscopy | ▪ Data Analysis | ▪ Problem Solving |
| ▪ Image Analysis | ▪ Data Visualization | ▪ Car Phone Repair |
| ▪ Mouse Models | ▪ Statistical Modeling | ▪ Trainer Instructor |

PROFESSIONAL EXPERIENCE

Benaroya Research Institute, Ziegler Lab, Seattle, WA

Aug 2019 – Present

A nonprofit biomedical research institute focused on the immune system.

Research Technician

Served standard and investigative laboratory support roles in aid of scientific research. Acted as safety representative. Maintained 60+/- transgenic mouse models. Performed independent research projects.

- *Performed risk assessment of lab spaces* per CDC recommendations and updated Institutional Biosafety Committee protocols and Biosafety level ratings to maintain regulatory compliance.
- *Validated and characterized three novel humanized mouse models to study Rhinoviruses*, conducting In Vitro and In Vivo infections with 7 different species of Rhinovirus as proof of concept.
- *Reverse engineered and optimized silica column-based extraction of DNA, RNA, and/or Protein* to reduce costs by more than 80% per sample and increase flexibility.
- *Characterized variability 20+ gene recombination mouse models*, devising multiplex PCR and qPCR protocols for discrimination and quantification of gene products; presented findings to the lab and proposed alternate selection strategies for experimental and breeding mice, allowing for enhanced rigor and reproducibility of ongoing research.
- *Streamlined inventory management method* resulting in ~20% reduction in wasted resources.
- *Developed a 'metadata to submission' workflow for high dimensional single cell data*. Modified for Flow Cytometry & scRNA sequencing.

Bloodwork's Northwest, North Seattle, WA

June 2017 – Aug 2019

Nonprofit organization providing health care services to over 90 hospitals in the Northwest by collecting, testing, and distributing lifesaving blood.

Phlebotomist | Medical Assistant

Perform health and history assessment for volunteer and medically prescribed blood donors. Collect Whole Blood, Plasma, Platelets, and/or Red Blood Cells. Safely package and ship blood components. Assemble and disassemble mobile blood donation sites. Predict, prevent & manage adverse reactions during donations. Order & maintain medical supplies and snacks.

- **Collected over 3500 units of blood components** | 98% percentile success rate.
- **Optimized medical supply storage areas** allowing for fewer trips for required donation supplies.
- **Suggested and proved the benefit of syncope preventative measures** that were not included in introductory training | Increased confidence in various donors with tendencies for adverse reactions.

Jiffy Lube, Everett, WA

Sept 2016 – May 2017

Leading provider of automotive preventative maintenance.

Lube & Tire Technician

Inspect customer vehicles, recommend, and perform maintenance and basic repair procedures.

- **Optimized storage spaces**, allowing for a 10% increase in storage capacity.
- **Researched and discovered an approximate method of determining optimal tire pressure for aftermarket tires and wheels.** Allowing for increased customer road safety and employee confidence.

RadioShack, Northgate, WA

April 2013 – Nov 2014

Electronics retail store | Phone sales & repair

Salesman | Repair Technician | Temp Assistant Manager

Customer service and sales. Answer questions regarding electronic items and components. Phone sale, replacement, data and phone number port services, phone and tablet repair, and maintenance.

- **Organized employee register and a very small breakroom**, minimizing visible clutter and maximizing free space for movement.
- **Self-taught** Arduino microcomputer usage, circuit design, phone and computer repair.

UW Human Photonics Lab, Seattle, WA

Sept 2011 – March 2013

UW Mechanical Engineering research laboratory focused on medical devices and optical technologies in the areas of enhancing human performance, detecting diseases and guiding their treatments

Undergraduate Researcher

Read relevant research articles,. Propose and lead novel experiments with Cancerous and Non Cancerous cells, Collect data, Analyze results, Present & Publish findings.

- **Optimized power conditions of a proprietary Scanning Fiber Endoscope** for the fluorescence induced apoptosis and necrosis of cancer cells treated with a cancer biomarker 5-aminolevulinic acid and its photosensitive metabolite, Protoporphyrin IX.
- **Correlated movement patterns of endoscope to total area and distribution of cancer cell death**, helping to identify non optimal functioning in certain mechanical components.
- **Published abstract-reviewed conference paper as primary author.** M. H. Woldetensae et al., "Fluorescence image-guided photodynamic therapy of cancer cells using a scanning fiber endoscope," Proc. SPIE 8576, 85760L (March 20, 2013).

EDUCATION

Bachelor of Science, Molecular, Cellular & Developmental Biology

2011- 2016

University of Washington, Seattle, WA

Minor in Mathematics

Bachelor of Art, Psychology

2011- 2016

University of Washington, Seattle, WA

TEACHING EXPERIANCE

Bioethics Instructor

June-Aug 2016

University of Washington, ALVA & Clean Energy, GenOM Summer Program

First-Year Interest Group Instructor

Sept-Dec 2015

University of Washington, First Year Programs

SERVICE EXPERIANCE

Safety Committee Member

Nov 2021 – Nov 2022

Benaroya Research Institute, Seattle WA

Emergency Room Volunteer

Jan 2018 – Nov 2019

Harborview Medical Center, Seattle WA

High School & Immigrant Interview Tutor

Sept 2016 – Dec 2016

Harborview Medical Center, Seattle WA

Homework Tutor

June 2013 – Sept 2014

Harborview Medical Center, Seattle WA

COMMUNICATION

Tigrinya: Native language.

Dutch: Primary language 1999 – 2004. Fluent by 2003.

English: Primary language 2004 – present. (Fluent by 2006)