

# CURRICULUM VITAE - HANH TRAN

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## Education

### **Bucknell University**

*Bachelor of Science in Biology with Honors*

**Lewisburg, PA**

*2018-2020*

### **Lehigh Carbon Community College**

*Associate of Arts in General Studies with Honors*

**Schnecksville, PA**

*2015-2018*

## Research Skills

**Coding Languages:** Bash (intermediate), R (intermediate), Python (beginner)

**Genetics/Molecular Biology:**

- Next generation sequencing (Illumina, PacBio, 10X Genomics, Oxford Nanopore Sequencing, RNA-seq)
- DNA/RNA extraction, PCR, gel electrophoresis, RNA fluorescence in situ hybridization (RNA FISH), library preparation for Illumina and Nanopore sequencing
- Immunocytochemistry, confocal microscopy on ZEISS LSM system, bacterial/fungal/amoeba culturing

**Fieldwork:** Experience working with firefly and soil sample collection

## Research Experience

### **Penn State University**

*Research Technologist, Davenport Lab, and Bell Lab*

**State College, PA**

*June 2022 - Present*

- Extract microbial DNA from human lung tissues
- Perform PCR and gel electrophoresis on extracted DNA samples
- Test out the new developing software with simulated dataset and published datasets
- Establish microcosms fungal hyphae interact with bacteria under close-to-natural soil conditions
- Examine the effects of fungi on soil microbiome

### **Spelman College**

*Lab Technician, Tekle Lab*

**Atlanta, GA**

*October 2020 – May 2022*

- Extracted nuclear genomic DNA from 14 different amoeba species
- Performed Nanopore Sequencing on extracted DNA samples
- Assembled and annotated 2 amoeba genomes
- Performed RNA-FISH to visualize the expression level of meiosis-specific between small, medium, and large size of amoeba
- Performed differential gene expression analysis to determine the expression of meiosis genes in different life stages

## Bucknell University

Undergraduate Research Assistant, Lower Lab

Lewisburg, PA

May 2019 – May 2020

- Performed RNA extraction from *Photinus pyralis* firefly species and analyzed transcriptome data to determine the expression of odorant receptor genes between different organs of fireflies
- Performed phylogenetic analysis to determine the relationship of odorant receptor genes between firefly species
- Collected and preserved wild fireflies in the field

## Publications

- (Preprint) Tekle, Y.I., **Tran, H.**, Wang, F., et al. Omics of an enigmatic marine amoeba uncovers unprecedented giant virus gene trafficking and provides insights into its complex life cycle. bioRxiv (2022). <https://doi.org/10.1101/2022.04.20.48852>
- Tekle, Y.I., Wang, F., **Tran, H.**, et al. The draft genome of *Cochliopodium minus* reveals a complete meiosis toolkit and provides insights into the evolution of sexual mechanisms in Amoebozoa. Sci Rep 12, 9841 (2022). <https://doi.org/10.1038/s41598-022-14131-y>

## Presentations and Invited Talks

- **Hanh Tran** and Sarah Lower. Using computational approach to identify odorant receptor (OR) genes in North American firefly *Photinus pyralis*. Society of Integrative and Comparative Biology (SICB). Poster P1-51

## Awards and Scholarships

- Charlotte Mangum Travel Award for Undergraduate Students at Society of Integrative and Comparative Biology (SICB) in Austin, TX **2020**
- Undergraduate Student Travel Award at ACM Conference on Bioinformatics, Computational, and Health Informatics (ACM-BCB) in Niagara Falls, NY **2019**
- Bucknell Community College Scholarship **2018-2020**
- Lehigh Carbon Community College Honors Scholarship **2016-2018**

## Leadership and Community Services

### STEM Science outreach at Penn State University

**Spring 2022**

- Assisted with educational STEM activities and workshops for students at Milton Hershey School

### Computational workshop at Spelman College

**Summer 2022**

- Facilitated a computational workshop where undergraduate students can learn and have hands-on experience with genomic data and genome assembly

### Teaching assistant at Spelman College

**Fall 2021**

- Assisted students in Bioinformatic Research course with data mining and performing computational analyses

### Science outreach at the Pennsylvania Firefly Festival

**Summer 2019**

- Exhibitor at the Science booth to demonstrate the mechanism of

bioluminescence in fireflies

- Communicated with the public audience about firefly conservation
- Guided on firefly night walk