

Abbigayl Burtis

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Education

August 2021 – Current **University of Colorado, Anschutz Medical Campus, Aurora, CO**
PhD Student, Molecular Biology

May 2020 **University of Michigan, Ann Arbor, MI**
B.S. Molecular, Cellular, and Developmental Biology

Research Experience

Dep. of Medicine, Section of Gastroenterology and Hepatology, Anschutz Medical Campus

January 2022 – March 2022 **Rotation Student**

Lab of Matthew Burchill, Lymphatics and Immune Response in Liver Disease

- Provided evidence supporting the use of CAR-T cells to target pathogenic T cells based on their antigen specificity in mouse models

Department of Pediatrics, Section of Developmental Biology, Anschutz Medical Campus

October 2021 - December 2021 **Rotation Student**

Lab of Christian Mosimann, Cell Fate Control in Development and Disease

- Defined the roles of temporally and spatially distinct transcription factors, EomesA, FoxH1, MixL1, and Hand2, in the activation of chemokine gene *cxcl12a* in zebrafish

Department of Molecular, Cellular and Developmental Biology, University of Michigan

June 2020 - June 2021 **Research Laboratory Technician Intermediate**

June 2019 - June 2020 **Undergraduate Research Assistant**

Lab of Eleanor 'Josie' Clowney, Sexually Dimorphic Neural Circuits

- Analyzed the role of the Fruitless transcription factor in the masculinization of the *Drosophila melanogaster* brain circuitry using genetic analysis, ATAC-sequencing, and other molecular techniques
- Investigated the developing mushroom body and projection neurons of the embryonic brain with live imaging by way of fluorescence microscopy and live imaging

- Managed ordering, maintained fly stocks, and coordinated Covid-related lab changes

Department of Cardiac Surgery, University of Michigan Medicine, Ann Arbor, MI

Fall 2016 - Spring 2017 Undergraduate Research Assistant

Lab of Zhong Wang, Heart Regeneration with Stem Cells and Bioengineering

- Worked with Dr. Wang to develop a new and innovative approach to improve the efficiency of heart regeneration with use of stem cells and bioengineering
- Aided in locating and investigating Nkx2.5, a transcription factor that helps in the direct reprogramming of fibroblasts into functional cardiomyocytes
- Presented findings at the University of Michigan UROP Symposium

University Health Services Lab, University of Michigan

Spring 2018 Shadowing Experience

- Learned from technicians about lab techniques and skills used at UHS in the fields of hematology, parasitology, bacteriology, urinalysis, and immunochemistry

Teaching Experience

University of Michigan, Science Learning Center

Fall 2018 - Winter 2020 Study Group Facilitator, Organic Chemistry

- Planned and led meetings with students to discuss material, practice problem sets, go over lecture notes, and review practice exams

Publications

Brovkina MV, Duffié R, Burtis AEC, Clowney EJ (2021) Fruitless decommissions regulatory elements to implement cell-type-specific neuronal masculinization. PLOS Genetics 17(2): e1009338. <https://doi.org/10.1371/journal.pgen.1009338>

Presentations

Abbigayl Burtis, Liu Liu, Zhong Wang (2017, April 9) *Heart regeneration with stem cells, bioengineering, and large animal models: Locating the Nkx2.5 Transcription Factor* [Poster session], University of Michigan UROP Spring Research Symposium, Ann Arbor, MI