

# Christian Miccile

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## Education

The George Washington University

GPA: 3.1

August 2012–May 2016

- Bachelor of Science in Biomedical Engineering
- School of Engineering and Applied Science
- Relevant Courses: Genetic Engineering/Gene Regulation, Introduction to Bioinformatics (Python), Data Structures (C), Tissue Engineering, Introduction to Biomaterials, BME Capstone Project (MATLAB, CAD), Biomedical Properties Laboratory (LabChart, LabView), Biophysics: Macroscopic/Microscopic

## Research Experience

Support Researcher

Efimov Cardiovascular Engineering Laboratory

June 2016-Present

- Researched human organotypic cultured cardiac slices for preclinical human trials
- Prepared solutions, calibrated and utilized vibrating microtome for left ventricular and right atrial tissue slicing
- Performed optical mapping to characterize atrial and ventricular conduction parameters of cultured human cardiac slices including conduction velocity, action potential duration, conduction heterogeneity, and basic drug response.
- Maintained cultured cardiac slices for up to six days to study potential functional changes in slice electrophysiology
- Prepared cardiac slices for histology, fresh frozen, RNA analysis, and immunochemistry studies
- Maintained and managed Efimov mouse colonies
- Studied the effects of doxorubicin on survival of mice and the electrophysiological function of the heart
- Performed cannulations of mice hearts and prepared hearts for histology, fresh frozen, and immunochemistry studies
- Performed necessary tagging, weaning, and genotyping of mouse colonies
- Scheduled and performed regular injections, sacrifices, and matings for mouse colonies

*Relevant Skills: understanding of cardiac electrophysiology of human and common animal models, biomedical signal processing, animal experiment experience*

## Technical Projects

Portable Speech Reading Device

The George Washington University

January 2014-May 2016

- Led student team through the challenges of designing and building a device that can distinguish lip motions and output correct viseme representations
- Designed a fully functional headset in CAD following correct specifications determined by the frame input to the device
- Created multiple process configurations in MATLAB that analyzed frame inputs and determined significant factors in lip configurations
- Wrote project report to describe and validate each step of the engineering process and to provide a proposal on how to improve and market the device

*Relevant Skills: effective teamwork with engineers of different backgrounds, SOLIDWORKS, image analysis in MATLAB, write sample application for Small Business Innovation Research Program*

## Experience

Undergraduate Teaching Assistant

The George Washington University

August 2014-August 2016

- Supervised and assisted students enrolled in the lab portion of Introduction to Biology
- Responsible for chemicals, lab equipment, and preparing the lab materials before class
- Ensured documentation for lab materials was maintained and up to date

Student Assistant Technician

Academic Technologies

August 2014-August 2016

- Responded to dispatches the required work on the university's technology when there were malfunctions
- Assisted faculty and staff to set up technological equipment
- Ensured a database of all the university's technological equipment malfunctions was properly maintained and updated daily.