

EARL GILBERT

CURRENT POSITION

Virginia Tech
Graduate Student

Blacksburg, VA
August 2018-Present

EDUCATION

Virginia Polytechnic Institute and State University
August 2018 - Present
Molecular and Cellular Biology Graduate Program

Blacksburg, VA

GPA: 3.87

Virginia Polytechnic Institute and State University
Fall 2014 - Spring 2017

Blacksburg, VA

Biological Sciences and Neuroscience – B.S. in Biological Sciences and B.S. in Neuroscience

GPA: 3.05

Northern Virginia Community College
Summer 2012 - Summer 2014

Annandale, VA

A.S. in Science

GPA: 3.57

TEACHING EXPERIENCE

Virginia Polytechnic Institute and State University
Graduate Teaching Assistant

Blacksburg, VA

Evolutionary Neuroscience, 45 Students, Instructor: Jennifer Rainville, PhD

Spring 2022

Neuroscience Research and Practice, 12 Students, Instructor: Jennifer Rainville, PhD

Spring 2022

Cell and Molecular Neuroscience, 117 Students, Instructor: Jennifer Rainville, PhD

Fall 2021

Mechanisms of Learning and Memory, 65 Students, Instructor: Daniel English, PhD

Fall 2020

Genetics in Neuroscience, 47 Students, Instructor: Timothy Jarome, PhD

Fall 2020

Integrated Science Curriculum, 70 Students, Instructor: Gary Long, PhD

Spring 2020

Introduction to Neuroscience Lab, 144 Students, Instructor: Zhuo Fu, PhD

Fall 2019

Neuroscience of Drug Addiction, 61 Students, Instructor: Matthew Buczynski, PhD

Fall 2019

RESEARCH EXPERIENCE

Virginia Polytechnic Institute and State University
Graduate Student; Advisor: Daniel English, PhD

Blacksburg, VA
Dec 2018 - Current

Dynamics of glutamatergic transmission onto CA1 neurons in awake mice

- Imaged glutamate sensor iGluSNFR *in vivo* in behaving mice using multiphoton microscopy
- Recorded local field potentials in the hippocampus of awake and behaving mice during imaging

Axoaxonic cell involvement in hippocampal circuitry and sharp-wave ripples

- Optogenetic manipulation of axoaxonic cells in the hippocampus while recording local field potentials *in vivo*
- Computational analysis quantifying neuronal and circuit activity

Virginia Polytechnic Institute and State University
Research Technician; Advisor: Michelle Olsen, PhD

Blacksburg, VA
May 2017 - July 2018

Characterization of in vitro astrocytes in serum free media

- Cultured astrocytes using novel technique developed by Olsen lab

Virginia Tech Carillion Research Institute
Undergraduate Researcher; Advisor: Harald Sontheimer, PhD

Roanoke, VA
May 2016 - May 2017

Glia and Perineuronal Net Interaction in Pathophysiology

- Immunohistochemistry was used to characterize the holes in the perineuronal net surrounding GABAergic neurons in the wild-type and glioma murine model

Virginia Polytechnic Institute and State University
Undergraduate Researcher; Advisor: Kendra Sewall, PhD

Blacksburg, VA
Aug 2015 - May 2016

Determination of the change in hippocampal volume of the zebra finch brain in the presence of mercury

- Hippocampal volume of the zebra finch brain was measured and analyzed after exposure to mercury

PRESENTATIONS

Jongwoon Kim, **Earl Gilbert**, Hengji Huang, Bishan Shourie, Yujing Zhang, Daniel English, Xiaoting Jia. **Bundle of Thin Multifunctional Fibers Enables Multi-Colors and Multi-Drugs Delivery and Multi-Site Recordings**. Materials Research Society. Poster Presentation. May 2022. Honolulu, HI. *Nominee - Best Poster Award*.

Yuhang Pan, Anna Prater, Kacey Wickum, Kathleen Reuwer, Spencer Chase, Anabel Zier, Ana Montoya, Eliza Overlock, Michaela Bono, Olivia Ramos, Khushi Talajia, **Earl Gilbert**, Jennifer Rainville. **Airborne sound sensation and short-term memory in *C. elegans***. Central Virginia Chapter for the Society for Neuroscience. Poster Presentation. April 2022. Charlottesville, VA. *Winner - Undergraduate Poster Presentation*.

E.T. Gilbert, L.M.F Klaver, K.C. Arndt, H.L. Lyons, R.C. Bullins, M. Fricke, P. Hannah, D.F. English. **Dynamics of glutamatergic transmission onto CA1 neurons in awake mice**. Society for Neuroscience. Poster Presentation. October 2019. Chicago, IL.

K.C. Arndt, L.M.F. Klaver, **E.T. Gilbert**, M. Fricke, P. Hannah, H.L. Lyons, R.C. Bullins, D.F. English. **Mechanisms of ripple oscillations in cortical regions**. Society for Neuroscience. Poster Presentation. October 2019. Chicago, IL.

L.M.F. Klaver, R.C. Bullins, K.C. Arndt, **E.T. Gilbert**, M. Fricke, P. Hannah, H.L. Lyons, J.J. Jun, D.F. English. **Validation of spiking sorting methods with paired recordings from awake mice**. Society for Neuroscience. Poster Presentation. October 2019. Chicago, IL.

B.P. Tewari, L. Chaunsali, **E.T. Gilbert**, J. Harmon, H. Sontheimer. **Glia and Perineuronal Net Interaction in Pathophysiology**. Conference on Glial Biology in Medicine. Poster presentation. October 2016. Roanoke, VA.

CERTIFICATIONS

Virginia Polytechnic Institute and State University
Preparing the Future Professoriate Certificate

Blacksburg, VA
Completed Fall 2022

Relevant Coursework:

Preparing the Future Professoriate, Contemporary Pedagogy, Communicating Science, GTA Training Workshop

Diversity and Inclusion Certificate

Spring 2022 - Current

Relevant Coursework:

Diversity and Inclusion in a Global Society

National Institute of Health – Office of Intramural Training & Education
Diversity and Inclusion Seminar Series Certificate

Baltimore, MD
Spring 2022

OUTREACH AND SERVICE

Flip the Fair

Judge Escort

Feb 2022

- Outreach event where local Roanoke children judged graduate students' research projects presented in the style of a primary/secondary school science fair

School of Neuroscience Diversity Committee

Graduate Student Representative

Fall 2021 - Current

- Increase diversity of population of undergraduate researchers and foster a more inclusive environment in the School of Neuroscience
- Composing climate and representation survey for undergraduate student population

School of Neuroscience Graduate Program Committee

Graduate Student Representative

Fall 2021 - Current

- Surveyed first-year students to advise changes in course programming with the goal to promote first-year student success and retention
- Participated in and organized interview and recruitment process

Molecular Cellular and Biology Graduate Program Committee

Graduate Student Representative

Fall 2020 - Fall 2021

- Participated in and organized interview and recruitment process

Neuroscience Postdoctoral and Graduate Student Association

Diversity, Equity, and Inclusion Committee Member

August 2020-Current

Events and Speaker Recruitment Committee Member

October 2019-August 2020

Events Coordinator and Founding Member

November 2018-October 2019

- Started and maintain Diversity, Equity, and Inclusion discussion group, monthly meetings where members discuss media and literature within the DEI space
- Organized speaker and social events for the School of Neuroscience
- Founded organization, wrote bylaws, and built membership with new students

Big Lick of Science Podcast

Content Creator

August 2021-Present

- Built and maintain website, contribute content published by team