

# Tyler Bradshaw, PhD

DEPARTMENT OF NEUROBIOLOGY, DUKE UNIVERSITY

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*"Know where you've been and where you're going."*



## Summary

I am a recent PhD graduate from the Neurobiology department at Duke University. My PhD work utilized proteomics to generate maps of subcellular organelles. I have extensive experience working at the 'bench' where I helped deploy cutting edge tools in molecular neuroscience. I am a self-taught programmer and data scientist. My work draws together ideas and approaches spread across the fields of proteomics and computer science to help bridge gaps in our understanding of the neurobiology of disease.

## Work Experience

### Soderling Laboratory, Department of Cell Biology, Duke University

Durham, NC

RESEARCH TECHNICIAN

May 2014 - May 2016

- Established use of CRISPR-based tools for gene depletion
- Performed immunoblotting, immunostaining, and cell and tissue culture
- Generation of adeno associated virus for injection into mice
- Maintained mouse colony with >30 strains of mice

## Honors & Awards

2018-2021 Ruth L. Kirschstein National Research Service Award, NIH NRSA 5F31NS113738-03

Duke University

## Presentation

### Evaluating changes in the synaptic protein architecture in mouse autism disorders

Neurobiology Retreat

POSTER PRESENTATION

November 2018

- Research poster presentation

### Seizures and Ube3a synergistically impair a sociability circuit in a mouse model of autism

Department of Neurobiology, Duke University

STUDENT SEMINAR PRESENTATION

2018

- Presentation to Duke Neurobiology faculty and students

### A Targeted-Proteomics Approach to Interrogate the Synaptopathology Underlying Monogenic Autism Spectrum Disorders

Neurobiology Retreat, Wrightsville Beach, NC

POSTER PRESENTATION

2017

- Presentation to Duke Neurobiology faculty and students

### Development of a Targeted-Proteomics Approach to Identify Underlying Mechanisms of Synaptic Pathologies

The Society for Neuroscience, San Diego, CA

POSTER PRESENTATION

2017

- Presentation to Duke Neurobiology faculty and students

### Unraveling the Molecular Mechanisms of Inhibitory Synaptic Function in vivo

Cell Biology Retreat, Beaufort, NC

POSTER PRESENTATION

2015

- Presentation to Duke Neurobiology faculty and students

### Exploring diabetes-derived intestinal changes that promote atherosclerosis

Bornfeldt Laboratory, University of Washington, Seattle WA

HONORS RESEARCH MANUSCRIPT

2014

- Presentation to SOURCE faculty and students

## PRESENTATION

- Presentation to SOURCE faculty and students

2013

**Publications**

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**Genetic Disruption of WASHC4 Drives Endo-lysosomal Dysfunction and Cognitive-Movement Impairments in Mice and Humans**

eLife

## LEAD CO-AUTHOR

- Developed analytical approach to identify changes in the Swip spatial proteome.

March 22, 2021

**Plug-and-Play Protein Modification Using Homology-Independent Universal Genome Engineering**

Neuron

## AUTHOR

- Developed CRISPR-based approach for endogenous tagging of proteins

July 1, 2018

**Identification of an Elaborate Complex Mediating Postsynaptic Inhibition**

Science

## AUTHOR

- Identification of a post-synaptic proteome of inhibitory synapses

September 9, 2016

**Education**

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**Duke University**

Durham, North Carolina

## PHD IN NEUROBIOLOGY

Fall 2015 - May 2021

- Soderling Laboratory

**University of Washington**

Seattle, Washington

## BS IN MOLECULAR, CELLULAR AND DEVELOPMENTAL BIOLOGY

Fall 2010 - Spring 2014

- Bornfeldt Laboratory