

# RACHEL BOZADJIAN

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[https://rboz1.github.io/portfolio\\_site/](https://rboz1.github.io/portfolio_site/)

## EDUCATION

M.S. BIOINFORMATICS	<b>Katholieke Universiteit Leuven</b>	Sept 2023-present
B.S. BIOPSYCHOLOGY	<b>University of California Santa Barbara</b>	March 2016

## RESEARCH SKILLS

### Programming

- Python
- Statistical analysis in R
- Bash
- Snakemake
- High performance computer cluster experience

### Molecular Biology

- Illumina Next Generation Plasmid Library Prep and Sequencing
- Molecular Cloning
- DNA and RNA Extraction

## WORK EXPERIENCE

ASSOCIATE SCIENTIST I	April 2023 - August 2023
RESEARCH ASSOCIATE II	December 2021 - April 2023
RESEARCH ASSOCIATE I	May 2019 - November 2021
<b>Asimov   Boston, MA</b>	

- Utilized Edinburgh Genome Foundry's CUBA Python libraries (Primavera and BandWitch) to automate Sanger Sequencing primer selection, and to choose restriction enzymes for plasmid verification, which reduced hands-on time for the team
- Developed and implemented a sample tracking script with Pandas, connecting sample metadata at every stage of the cloning workflow resulting in minimized sample loss and streamlined troubleshooting processes
- Prepared Next Generation Sequencing libraries for whole plasmid sequencing and ran on MiSeq to quality control plasmids used in downstream molecular cloning workflow
- Optimized, automated, and deployed fluorescence-based DNA quantification assay on Echo acoustic liquid handler that increased team's concentration measurement throughput by over 7-fold

RESEARCH ASSISTANT	August 2018 - May 2019
<b>Ocean State Research Institute, Providence, RI   Brown University</b>	
<b>Dr. Alan R. Morrison MD, Ph.D.</b>	

- Cultured bone-marrow-derived macrophages from young and old mice to understand effects of aging on angiogenesis
- Synthesized cDNA and ran qPCR to elucidate candidate miRNAs with a role in the IL1-R signaling pathway

LABORATORY TECHNICIAN

August 2016 - August 2018

**Neuroscience Research Institute, UC Santa Barbara**  
**Dr. Benjamin E. Reese, Ph.D.**

**Candidate genes for controlling amacrine cell number**

- Searched bioinformatics databases such as UCSC Genome Browser to rank candidate genes

**Cholinergic amacrine cell dissociations**

- Enucleated mouse eyes and dissociated retinal cells for later FACS sorting and sequencing

**Role of Sox2 in astrocyte response to optic nerve crush**

- Performed optic nerve crushes to examine the injury response of astrocytes and microglia
- Dissected out retinas and optic nerves for subsequent sectioning and immunostaining

LABORATORY TECHNICIAN

August 2016 - June 2017

**Center for Stem Cell Biology and Engineering, UC Santa Barbara**  
**Dr. James A. Thomson, VMD, Ph.D.**

**Development of a novel rat model for diabetic retinopathy**

- Monitored weekly random blood glucose and weight to study the progression of diabetic retinopathy in the Nile Grass Rat

LABORATORY TECHNICIAN

September 2014 - May 2016

**Psychological and Brain Sciences, UC Santa Barbara**  
**Dr. Tod E. Kippin, Ph.D.**

**Effects of maternal stress on the predisposition of offspring to cocaine dependence**

- Restraint-stressed several prenatal mouse lines and postnatally observed maternal behavior and care of pups in relation to genetic background
- Tested acoustic startle and pre-pulse inhibition in the offspring of restraint-stressed, prenatal mice to examine propensity for cocaine dependence

**PUBLICATIONS**

Kulesh B, **Bozadjian R**, Parisi RJ, Leong SA, Kautzman AG, Reese BE, Keeley PW. Quantitative trait loci on chromosomes 9 and 19 modulate AII amacrine cell number in the mouse retina. *Front Neurosci.* 2023 Feb 2;17:1078168. doi: 10.3389/fnins.2023.1078168. PMID: 36816119; PMCID: PMC9932814.

Bagley JR, Adams J, **Bozadjian RV**, Bubalo L, Kippin TE. Strain differences in maternal neuroendocrine and behavioral responses to stress and the relation to offspring cocaine responsiveness. *Int J Dev Neurosci.* 2019 Nov;78:130-138. doi: 10.1016/j.ijdevneu.2019.06.009. Epub 2019 Jun 22. PMID: 31238105; PMCID: PMC6824979.

Toh H, Smolentsev A, **Bozadjian RV**, Keeley PW, Lockwood MD, Sadjadi R, Clegg DO, Blodi BA, Coffey PJ, Reese BE, Thomson JA. Vascular changes in diabetic retinopathy-a longitudinal study in the Nile rat. *Lab Invest.* 2019 Oct;99(10):1547-1560. doi: 10.1038/s41374-019-0264-3. Epub 2019 May 17. PMID: 31101854; PMCID: PMC6788790.

Bagley JR, Adams J, **Bozadjian RV**, Bubalo L, Ploense KL, Kippin TE. Estradiol increases choice of cocaine over food in male rats. *Physiol Behav.* 2019 May 1;203:18-24. doi: 10.1016/j.physbeh.2017.10.018. Epub 2017 Oct 19. PMID: 29056351; PMCID: PMC5908759.