

# Zachary Weinstock

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## Education

University of Minnesota – Twin Cities

College of Biological Sciences (CBS); University Honors Program

Major: B.S. in Neuroscience (*summa cum laude*; distinction), May 2016 (*projected*)

Minors: Pharmacology, Psychology

## Relevant Coursework

Computer Science	Human Anatomy & Physiology	Neurobiology (1 year)
Statistics	Organic Chemistry (+ lab)	Animal Diversity (lab)
Cell Biology	Developmental Neurobiology	Physics (+lab)
Genetics	Foundations of Biology (2 semesters)	Public Health
Basics of Pharmacology	Molecular Pharmacology (lab)	Drugs of Abuse
Biological Psychology	Communicating in the Biological Sciences	Thesis Writing
Pharmacogenomics	Pharmacology for Pre-Med Students	Research Methods
Biochemistry	Mechanisms of Drug Action	

## Research Experience

2013 – Present	<b>Neuromodulation Laboratory, Undergraduate Research Associate</b> University of Minnesota – Twin Cities Medical School, Minneapolis, MN Authored Honors Thesis: “ <i>Neurophysiological Differences in M1-SMA Activity During Pallidal Deep Brain Stimulation in the Behaving Nonhuman Primate Parkinson’s Disease Model</i> ”. Dr. Jerrold Vitek, Principal Investigator
Summer 2015	<b>Summer Undergraduate Research Fellowship (SURF) Scholar</b> Mayo Clinic, Rochester, MN Analyzed adult hippocampal neurogenesis to understand its functional role in the etiology and pathophysiology of neurodegenerative disorders. Dr. Mi-Hyeon Jang, Principal Investigator
Spring 2012	<b>Cognitive Neuroscience Lab, Undergraduate Research Associate</b> University of Minnesota – Twin Cities, Minneapolis, MN Analyzed hemispherical asymmetries of the brain with regard to the perception of self and others. Dr. Chad Marsolek, Principal Investigator

## Honors, Awards, & Achievements

2015	99 <sup>th</sup> Percentile, 2015 MCAT
2011 – Present	Bentson Scholar
Summer 2015	SURF Scholar
Fall 2015	CBS Undergraduate Travel Award
2014	Undergraduate Research Opportunities Program Scholar, Neuromodulation Laboratory
2011 – Present	Dean’s List: Six semesters
2010	Eagle Scout, Boy Scouts of America

## Professional Memberships

Member Society for Neuroscience (SfN)  
EMT National Registry of Emergency Medical Technicians

## Technical Skills

Biology: Handling of NHPs; Dura scraping; Sterile technique; PCR; Gel Electrophoresis; Protein purification; Gene cloning; Light, fluorescent, and confocal microscopy; Western blotting; Media and buffer preparation; Handling and genotyping of mice; Fixation, sectioning, and mounting of mouse brains;

Chemistry: Multi-step chemical synthesis; Chemical analysis through IR spectroscopy and <sup>1</sup>H NMR spectroscopy

Computer: 3D motion capture and analysis (Cortex, Motion Analysis); 3D imaging analysis of CT/MRI and stereotaxic planning (Cicerone); Electrophysiological recording equipment (OpenEx, Tucker Davis Technologies); Offline neuron single spike sorting (Offline Sorter, Plexon); NI Data acquisition (DAQ) interface using National Instruments and LABVIEW; Microsoft Office Suite; Python; Some experience with BLAST, R, and MATLAB

General: Scientific writing; Public Speaking; Leadership and delegation; Teamwork

## Posters

Hendrix, C., Campbell, B., **Weinstock, Z.**, Johnson, M., Baker, K., Vitek, J.; Neurophysiological differences in M1-SMA activity during pallidal deep brain stimulation in the behaving 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine nonhuman primate hemi-Parkinson's disease model. 45<sup>th</sup> Annual Conference of the Society for Neuroscience, Chicago, IL, October, 2015.

**Weinstock, Z.**, Welby, J., Cho, C., Jang, MH.; Gadd45b Mediates Electroconvulsive Shock Induced Proliferation of Hippocampal Neural Stem Cells. Annual Retreat of the Pharmacology Department at the University of Minnesota – Twin Cities, Minneapolis, MN, September, 2015; Summer Undergraduate Research Symposium at Mayo Clinic, Rochester, MN, August, 2015.

## Extracurricular Activities

2015 – Present MCAT Instructor, Kaplan Test Prep  
2014 – Present Treasurer, Health & Biological Research (HBR) News  
2014 – Present Volunteer EMT, University of Minnesota Emergency Medical Services  
2014 Chairman of the Academics Committee, Alpha Epsilon Pi Fraternity  
2014 – Present Member, HBR News  
2013 – Present Member, Alpha Epsilon Pi Fraternity  
2012 – Present Member, University of Minnesota Medical Reserve Corps  
2012 – 2014 Member, Serenade the City Acapella Group