

# Hannah J Hatchell

School Address: 400 17<sup>th</sup> St. NW Unit 2317, Atlanta, GA 30363 ♦ (509) 438 3370 ♦ hjhatchell@gmail.com

Permanent Address: 473 Columbia Point Drive, Richland, WA 99352

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## Education

### Masters of Science, Bioinformatics

Dec 2017

Georgia Institute of Technology, Atlanta, GA

- Research Assistant in Professor Soojin Yi's lab, evolutionary genomics and epigenomics

### Bachelor of Arts, Neuroscience, GPA: 3.52/4.0

May 2016

Pomona College, Claremont, CA

- Senior Project: "Investigating the Neural Substrates Involved in the Processing of Musical Stimuli and Applications for Stress and Anxiety Reduction via Music Therapy"
- Minor in Music

## Research Experience

### Laboratory Research Assistant

Jun – Aug 2015

Pacific Northwest National Laboratory

Richland, WA

- Prepared biological samples for a series of proteomics-based experiments involving novel application of magnetic beads for direct capture of specific proteins and peptides
- Presented key findings at group meetings of 20 scientists and post-doctorates headed by Dr. Weijun Qian
- Contributed raw data and data analysis to a pending paper regarding selective enrichment of post-translationally modified cysteine residues

### Technical Intern

Jun – Aug 2013 & 2014

Pacific Northwest National Laboratory

Richland, WA

- Held a position for two consecutive summers that involved the use of SolidWorks to create 3D visualizations of electron microscope components for validation and demonstration
- Collaborated with post-doctoral fellows as part of an electron microscopy imaging research team of 12 scientists headed by Dr. Nigel Browning
- Contributed graphics and data analysis for publication regarding the visualization of the electrode-electrolyte interface of batteries using a scanning transmission electron microscope

## Clinical and Volunteer Experience

### Communications Intern

Sep – Dec 2014

Renovi Center for Integrative and Functional Medicine

Glendora, CA

- Developed patient communication skills through one-on-one consultations regarding certain aspects of the patient's diet or lifestyle
- Advanced the clinic's social media profile through focused informational posts
- Prepared patient documentation and medical equipment to aid the efficiency of doctors working in the clinic

### Neuroscience Student Liaison

Sep 2014 – Present

Pomona College Department of Neuroscience

Claremont, CA

- Organized social events in coordination with six other neuroscience student liaisons
- Promoted communication between faculty members of the neuroscience department and students interested in pursuing a degree in neuroscience
- Created a welcoming environment for prospective neuroscience students and answered questions regarding the major and the department

**Member of the Pomona College Orchestra**

Sep 2013 – Present

Pomona College Department of Music

Claremont, CA

- Held position of first chair in the flute section
- Collaborated with members of the 60-piece orchestra during weekly rehearsal to put together challenging orchestral repertoire
- Performed with orchestra during the four free concerts given each semester, which are open to community members and students alike and serve to enrich the arts community in Claremont

**Weekly Writing Workshop Coordinator**

Sep 2014 – Dec 2014

Pomona College 3W Organization

Claremont, CA

- Worked with small groups of elementary school students on a teaching program designed to improve student's creative writing and grammar skills
- Expanded role after a semester of volunteering by taking on coordinator position; additional responsibilities included composing lesson plans, arranging transportation, and assembling volunteer groups
- Helped to compile pieces of student writing into a literature magazine to give to students upon completion of the program

**Outdoor Adventure Leader**

Sep 2013 &amp; Sep 2014

Pomona College Outdoor Education Center

Claremont, CA

- With the help of five co-leaders, led a group of 40 Pomona first-years on a three-night outdoor trip to various locations throughout Southern California as part of a week-long orientation program
- Took responsibility for the safety and well-being of first-years and other leaders throughout the trip
- Organized community-building exercises to promote a sense of camaraderie among the new students

## Publications

- Welch, D.A., Mehdi, L.B., **Hatchell, H.J.**, Faller, R., Evans, J.E., & Browning, N.D. 2015. Using Molecular Dynamics to quantify the electrical double layer and examine the potential for its direct observation in the *in-situ* TEM. *Advanced Structural and Chemical Imaging* online journal
- Jicheng, D., Gaffrey, M., **Hatchell, H.J.**, Chu, R., Smith, R., Thrall, B., & Qian, W. Insights from redox proteomics: focus on S-glutathionylation and redox status of protein cysteines. Pending submission to *Free Radical Biology and Medicine* online journal

## Relevant Coursework

- Math and Computer Science: Intro to Biology and Computer Science, Calculus II, Statistics
- Biology: Genetics and Cell Biology
- Chemistry: General Chemistry I and II, Organic Chemistry I and II, Biochemistry
- Neuroscience: Intro to Neuroscience, The Human Brain, Neuropharmacology, Cellular Neurophysiology, Developmental Neurobiology
- Other: Immunology, Physics I – Mechanics, Psychology

## Skills

- *Computer Programming Skills* – Used Python to analyze and manipulate DNA sequences, predict protein folding patterns, and evaluate phylogenetic trees
- *Software Skills* – Used PyMol to visualize protein structure-function relationships; used R to perform statistical analysis; used Solidworks for concept visualization and simulation
- *Language* – Proficiency in Spanish; technical writing skills including manuscript preparation and literature reviews
- *Proteomics laboratory techniques*: pipetting, performing gel electrophoresis, silver staining, and BCA assays, culturing cells, preparing samples for LC-MS/MS analysis, constituting dilutions using buffers
- *Biochemistry laboratory techniques*: performed a site-based mutagenesis experiment with the green fluorescent protein from the jellyfish *Aequorea victoria*. This semester-long project involved designing DNA primers, implementing a PCR protocol, and using *E. coli* to express the mutated protein