

KATHERINE CLAIRE BEATTIE
kbeattie@upenn.med.edu

EDUCATION

Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA

MD/PhD in Neuroscience candidate in Wenqin Luo's Lab. Expected May 2022. GPA: 3.7.

University of California, Berkeley, Berkeley, CA.

B.A. degrees in Psychology and Molecular and Cell Biology (CDB) with an emphasis in physiology *summa cum laude* (May 2011). GPA: 3.98. Honors designation for nine semesters.

One of five finalists for the **University Medal (2011)**. Each year the University Medal is awarded to the most distinguished graduating senior on the UC Berkeley Campus.

Member of six campus honor societies: Phi Beta Kappa, Golden Key International Honour Society, Mortar Board National College Senior Honor Society, National Society of Collegiate Scholars, Pre-Medical Honour Society and Psi Chi, The International Honor Society in Psychology.

Merritt College, Oakland, CA.

A.A. degrees in Social and Behavioral Sciences and Humanities *summa cum laude* in 2006. Valedictorian.

A.S. degree in Natural Sciences and A.A. degree in Liberal Arts *summa cum laude* in 2008.

President of Phi Theta Kappa chapter, *USA TODAY* All-California Academic Team member, National Dean's List, Freshman Chemistry Award for top student in Chemistry 1A and 1B (General Chemistry), Chancellor's Scholarship for academic distinction, and The Pinnacle Scholarship Gold Award. 4.0 GPA.

EXPERIENCE

Luo Laboratory, UPenn School of Medicine

Graduate Thesis, January 2017- present

- Utilizing behavioral, genetic, molecular and cellular tools to understand the involvement of TRPC3 in allergic contact dermatitis induced itch.
 - Skills: creating transgenic mouse lines, skin histology (tissue fixation, embedding, slicing, H & E and antibody staining), in situ hybridization experiments, and dissection of skin, lymph nodes, brain, spinal cord, and dorsal root ganglion cells. Additionally, I designed new behavioral chambers and behavioral equipment tailored to studying somatosensation.
 - Learning: Flow cytometry

DeBiasi Laboratory, UPenn School of Medicine

Graduate Student Rotation, August- December 2016

- Implanted electrodes into the medial habenula to provide insight into the neuronal activity of the medial habenula.
 - Skills: built tetrodes, stereotaxic surgery, specifically implantation of a cannula, electrode, or optic fiber.
- Examined differences in protein expression of a channel hypothesized to be implicated in alcohol addiction in mice exposed to alcohol and naïve mice.
 - Skills: administration of the 'two bottle' paradigm, mouse perfusion, brain dissection, protein purification of brain tissue, and western blots.

Anderson Laboratory, CHOP

Graduate Student Rotation June- August 2014

- Helped develop an experimental system using confocal microscopy that allowed visualization the expression of developmental genes in embryonic stem cells of mice. Imaged cells over 42- hour period and analyzed results.
 - Skills: confocal microscopy, worked with differentiated embryonic stem cells, cell tracking, and data analysis.
- Presented data to Weil Cornell/Penn Developmental Symposium

Bautista Laboratory, Department of Molecular and Cell Biology, U.C. Berkeley, Berkeley, CA

Junior Specialist Researcher August 2011- May 2013

- Researched axon guidance and the molecular pathway of itch, specifically the effect of the cytokine TSLP on itch sensation.
 - Skills: Dissection of dorsal root ganglia and trigeminal ganglion from mice, culturing primary neurons, ratiometric calcium imaging experiments (using MetaFluor and MetaMorph), immunohistochemistry, data

analysis (Igor Pro and Excel), and literature research on new compounds of interest and new areas of research interest. Additionally, I designed and executed behavioral experiments on mice and was involved in the maintenance of the mouse colony (inventory, sex checking, pup checks, tailing, and weaning).

International Scholar Laureate Program, Delegation for Medicine in China, Summer 2009

As a delegate I had the opportunity to learn about both Traditional Chinese Medicine and Western Medicine through visiting hospitals, clinics, a TCM clinic and pharmacy, a mental facility, an orphanage, and hearing talks from the doctors who work at these facilities. I learned about the differences between our medical system and the medical system of China while immersing myself in a different culture.

U.C. Berkeley Sleep and Psychological Disorders Laboratory, Berkeley, CA

Assistant to Dr. Allison Harvey April 2009- December 2009

- Lab Webmaster, Endnote expert, and literature researcher
- Administrative tasks such as lab inventory, meeting coordination, and employee reimbursement coordinator
- Created poster boards and publicity materials (brochures, education programs) in addition to preparing PowerPoint slides. Interfaced with local print media.

Shimamura Laboratory, Department of Psychology, University of California, Berkeley, Berkeley, CA

Research Assistant, August- December 2008

- Studied whether action video game experience reduces the cost of switching tasks
- Administered subject intake, gave experimental guidelines, observed the experiment, entered data, and debriefed and paid subjects after their completion of the experiment

Psychiatric Neuroscience Genetics Unit, Massachusetts General Hospital, Boston, MA.

Research Intern June – August 2007, June – August 2008

- Projects: Worked on genomic studies of Obsessive Compulsive Disorder and Tourette Syndrome.
- Assisted in sample management for the Whole Genome Studies of Obsessive Compulsive Disorder (OCD) and Tourette Syndrome. These were multi-center studies, using DNA samples which were shipped from sites all over the world.
- Researched SNPs of interest to the OCD mini-collaborative using Haploview, Hapmap, and Golden path.
- Designed and ordered the assays for genotyping the international OCD mini-collaborative.
- Prepared DNA samples for the OCD mini-collaborative to be genotyped using such methods as PCR, Resin, and SEP.
- Organized and analyzed (Excel) phenotypic information for samples from 20 different international sites for the OCD Genome Wide Association Study a three million dollar project. Filtered out individuals based on their diagnosis, relation to the proband, and whether they fit the trio or proband criteria.
- Amended IRB protocol and organized the submission of the amended protocol for a clinical study
- Wrote protocols for research experiments as well as collection of DNA samples
- Attended the Obsessive Compulsive Foundation Conference in Houston, TX (July 2007)

Massachusetts General Hospital, Boston, MA

Shadowed Dr. Evelyn Stewart, Instructor of Psychiatry at Harvard Medical School and Director of Research at the Obsessive-Compulsive Disorder Institute, McLean Hospital, during her rounds as a physician at both MGH Pediatric OCD/Tourette Disorder Clinic and at the MGH Obsessive-Compulsive Disorders Clinic. Learned about the many different manifestations of OCD, symptoms, different treatment options, Cognitive Behavioral Therapy, psychiatric medications, and the many different responsibilities a physician has to their patient. (July -August 2007, July-August 2008)

Undergraduate Research Apprentice Program. Volunteered at an archeological dig at Cheney House on the U.C. Berkeley Campus. November 2006- January 2007.

Merritt College, Oakland, CA.

Lab Assistant to the organic and inorganic labs of the Chemistry Department Chair, Professor Ray Chamberlain, Ph.D. Organized lab equipment and helped prepare for inorganic and organic chemistry lab course experiments. September 2006- May 2007.

Proficient in: Word, Excel, Endnote. PowerPoint. MetaFluo, and MetaMorph.

PUBLICATIONS

Sarah R. Wilson S.R., Thé, L, Batia LM, **Beattie K**, Katibah GE, McClain SP, Pellegrino M, Estandian DM, Bautista DM. The Epithelial Cell-Derived Atopic Dermatitis Cytokine TSLP Activates Neurons to Induce Itch. *Cell* **155**, 285-295 (2013).

K. C. Beattie, D. M. Hezel, S. E. Stewart, Clinical Case Rounds in Child and Adolescent Psychiatry: Trichotillomania-by-Proxy: A Possible Cause of Childhood Alopecia. *Journal of the Canadian Academy of Child and Adolescent Psychiatry* **18**, 51-52 (2009).

Hezel DM, **Beattie K**, Stewart SE. Memantine as an Augmenting Agent for Severe Pediatric OCD. *American Journal of Psychiatry* **166**, 237-237 (2009).

ACTIVITIES AND INTERESTS

Perelman School of Medicine at the University of Pennsylvania's Medical Scientist Training Program.

Grand Rounds. On February 12, 2018 I will present Grand Rounds on the use of anti-IL-31 to treat itch associated with atopic dermatitis.

Member of the Speaker Selection Committee for Grand Rounds (2016-2017). Helped to select speakers, invited our internal speaker and introduced her at Grand Rounds.

MSTP Recruitment (2013-present). Talked to applicants at lunch and dinner, took applicants on night time activities in Philly, walked applicants to interviews, and promoted our wonderful MD/PhD training program.

Perelman School of Medicine at the University of Pennsylvania, Department of Neuroscience Neuroscience graduate student recruitment (2015-present).

Golden Key International Honour Society, UC Berkeley Chapter (2007- May 2012)

President (2009-2010, 2010-2011), **Honorary Member Chair** (Spring 2009), **Community Service Chair** (2008-2009) and served as a member of the Public Relations and Induction Committees. Participated in honorary member lectures, socials, professional workshops, and community service. As Internal President, I created and implemented a system of worksheets and communication which allowed our Officer Team to be more effective leaders and create more engaging events for our chapter's members since we were planning well in advance. As External President I organized and oversaw preparation for our chapter to host the Regional Summit Leadership Drive-in. This large event took several months of planning and required extensive organization and communication with my officer team, regional headquarters, and western chapters. The former CEO of Golden Key International Honour Society, John Mitchell, attended the Summit.

Pre-Medical Honor Society (PMHS), UC Berkeley Chapter. Chosen as a member based on my academic performance and involvement in the community. (September 2007 – May 2011) Volunteered at community service events, toured medical schools, and participated in pre-medical workshops with PMHS.

Alumni Scholar. Chosen as a recipient of the Alumni Scholarship Leadership Award for four consecutive years out of thousands of applications submitted. This award was given for showing leadership on campus, and in the surrounding community while still maintaining a high GPA (2007 –2008, 2008-2009, 2009-2010, 2010-2011).

Phi Beta Kappa. Inducted as a member of the Alpha Chapter of California at UC Berkeley in May 2009.

Girl Scouts of the San Francisco Bay Area. (S.F.B.G.S.) (1996- Present) Lifetime Member, Adult Volunteer (2006-2008), and recipient of the Gold Award and the Senior Leadership Award (2006). **National Delegate** (2004-2007) one of three Girl Scouts chosen to represent the Girl Scouts of San Francisco Bay, consisting of over 140,000 girls, at the National Girl Scout Convention, voting on issues which shaped the future of Girl Scouting (April 2005–2008). Selected to participate in Destination trips to Peru (2005) and Hawaii (2004). **Press Corps:** Selected as a member of the S.F.B.G.S. Press Corps to represent the Girl Scouts in the media. Spoke at a televised press conference on behalf of the Girl Scouts of California in support of bill AB450 proposal by then **State Assembly Speaker Pro Tem Leland Yee**. (March 2005). Spoke as a representative of the S.F.B.G.S. at a luncheon honoring **Senator Dianne Feinstein**, described my G.S. experiences at fundraisers, council meetings, and association meetings. (August 2004- September 2006.)

Corpus Christi Church, Oakland, CA. Soprano in the church choir. March 2012- May 2013. Toured Italy in December 2012, performing as the principle choir at St. Peter's and at a private audience with the Pope.