

Helen Schmidt

Boston College
Department of Psychology
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Education:

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| 2018 | University College London
M.Sc. Clinical Neuroscience
<i>Thesis title: Neural and behavioral responses to reward and punishment</i>
Award: Merit |
| 2017 | Tufts University
B.S. Biology |
| 2016 | University College London
Year Study Abroad - Molecular Biosciences |

Research Experience:

Lab Manager/Research Assistant **August 2018 - present**
Boston College Memory Modulation Lab
Supervisor: Dr. Maureen Ritchey

- Design behavioral experiments that study memory and emotion using PsychoPy and MATLAB; gather data using behavioral measures, EEG, and fMRI; analyze data in R
- Individually manage 15 undergraduate research assistants during behavioral and EEG experiments and supervise related data analysis
- Responsible for maintaining lab IRB protocols

M.Sc. Independent Thesis Project **Sept. 2017 - Aug. 2018**
Max Planck UCL Centre for Computational Psychiatry
Supervisors: Dr. Toby Wise and Dr. Ray Dolan

- Designed and conducted reward and punishment experiments that varied in levels of uncertainty for human participants while scanning with MEG; analyzed the underlying neural and behavioral responses and their effects on decision making
- Project tasks include comprehensive literature review, stimulus design using Python and PsychoPy, behavioral pilot trials, MEG training and data collection, MEG data analysis, and dissertation write up and defense

Summer Student Visiting Researcher

June 2017 - Aug. 2017

McLean Psychiatric Hospital

Supervisor: Dr. Randy Auerbach

- Processed and analyzed large dataset of EEG data looking for frontal lobe alpha frequency asymmetries between healthy and depressed adolescents
- Daily tasks include EEG data processing using Brain Vision, journal clubs and lab discussions over relevant literature, assisting with inpatient interactions for other studies in the lab, and analyzing waveform data from the dataset compared to past findings in the literature

Undergraduate Research Assistant

June 2016 - May 2017

Tufts University Integrative Cognitive Neuroscience Lab

Supervisor: Dr. Elizabeth Race

- Assisted in the design and execution of EEG experiments surrounding memory, mind-wandering, and neurofeedback in healthy adults
- Responsible for running EEG sessions under various stimuli conditions and analyzing waveform and ERP data
- Daily tasks include experiment protocol design, writing scripts in PsychoPy and MATLAB, running EEG experiments, and analyzing participant data

Research Assistant

June 2015 - Sept. 2015

Harvard Medical School, Department of Neurobiology

Supervisor: Dr. Dragana Rogulja

- Assisted a graduate student with her Ph.D. project and performed individual experiments, both involving sleep arousal thresholds and sleep behavior in *Drosophila melanogaster* (fruit flies)
- Responsible for maintaining fly populations of varying genotypes, setting up and running behavioral experiments to test light sensitivity and circadian patterns, and dissecting and imaging of brains of flies showing abnormal phenotypes
- Received formal training for independent operation of both an FV1000 and FV1200 confocal microscopes to image and analyze antibody stained brains and became well-practiced at preparing and dissecting brains from the flies on a daily basis

Presentations:

Helen Schmidt, Rosalie Samide, Rose A. Cooper, & Maureen Ritchey. "News flash! Investigating the dynamics of emotional memory using real-life event videos." (Boston College) - *Poster presented at the 2019 Context and Episodic Memory Symposium.*

David Distefano, **Helen Schmidt**, Paige Hickey, & Elizabeth Race. “Characterizing EEG signatures of inattention that predict forgetting.” (Tufts University) – *Poster presented at the 2018 Cognitive Neuroscience Society meeting.*

Publications:

Randy Auerbach, **Helen Schmidt**, Paris Singleton. (in prep) “Analyzing frontal alpha asymmetries in depressive adolescents.” (McLean Hospital)

Skills:

Laboratory

Confocal and basic microscopy

Human brain dissection

Drosophila melanogaster brain dissection and population maintenance

PCR analysis

Antibody staining

Data Collection Methods

Magnetoencephalography (MEG)

Electroencephalography (EEG), (32-, 64-channel gel and 128-channel saline)

Behavioral, computer-based experiments

Functional Magnetic Resonance Imaging (fMRI)

Programming

PsychoPy (fluent)
Python (intermediate)
R (intermediate)

Brain Vision (intermediate)
SPSS (intermediate)
MATLAB (intermediate)

Language

English (native)

German (intermediate)

Honors:

2018 **M.Sc. Independent Thesis Award - Merit**

2017 ***Delta Phi Alpha***
National German Honor Society

Tufts University Dean's List - Spring 2014, Fall 2015, Fall 2016, Spring 2017

Relevant Coursework:

Boston College

Cognitive Neuroscience (audited)

University College London (M.Sc.)

Basic Neuroscience and Investigation of the Nervous System

Epilepsy, Pain, Tumours, and Infections of the Central Nervous System

Motor Systems Control and Disease

Higher Functions of the Brain

Research Methods and Introduction to Statistics

Clinical Neuroscience of Neurodegenerative Disease

Neurorehabilitation