Audrey Effenberger

✉ aeffen@mit.edu ☎ +1 (732) 616-3154

Education

Massachusetts Institute of Technology (expected) 2019 – 2024
PhD in Brain & Cognitive Sciences.

Harvard College 2015 – 2019
AB in Neurobiology. Secondary field in Mathematical Sciences. GPA: 3.7

Research Experience

Cellino Biotech, Inc, Biology R&D Intern Jun 2018 – May 2019

- Implemented CRISPR-activation protocol for rapid 3-day hiPSC→neuron differentiation
- Used scRNA-seq trajectory analysis to select targets for 3-week hiPSC→DA neuron maturation
- Assisted with proprietary laser-based intracellular delivery technology development for transient transfection of adherent cell cultures with high spatial resolution

Biogen Inc, Biopharmaceutics Intern Jun – Aug 2017

- Designed and validated new assay for USP Apparatus III to correlate *in vitro* dissolution with *in vivo* pharmacokinetics of oral extended-release drugs
- Streamlined fiber optic dissolution data analysis pipeline to enable adaptive screening experiment design

Z. He Lab, Harvard Medical School & Boston Children's Hospital Jun 2016 – May 2017

- Quantified oligodendrocyte progenitor proliferation/differentiation after acute optic nerve injury *in vivo*
- Investigated specific effects of disease-modifying drugs for MS on microglia activation *in vivo*
- Constructed mouse behavioral apparatuses to assess visual acuity as proxy for functional axon regeneration

O'Connell Lab, Harvard University Feb – May 2016

- Screened for toxin-binding proteins involved in dietary toxin sequestration via mass spectrometry
- Dissected insect samples from *Mantella laevigata* stomachs for COX sequence-based species identification
- Contributed directly to manuscript writing and revision (Moskowitz *et al.* 2018)

Publications

NA Moskowitz, et al. Seasonal changes in diet and toxicity in the Climbing Mantella frog (*Mantella laevigata*). *PLOS ONE*, 26 Dec 2018. doi: 10.1101/361998

Teaching

MCB80x: Fundamentals of Neuroscience, HarvardX Jan 2019 – present
Discussion moderator & curriculum developer for three-part certificate course:
MCB80.1x: The Electrical Properties of the Neuron; **MCB80.2x**: Neurons and Networks
MCB80.3x: The Brain

Awards and Honors

Jacob Wendell Scholarship Prize, Finalist 2017
Harvard College Scholar 2015 – 2016