Audrey Effenberger

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Education

2019–	**Massachusetts Institute of Technology** PhD Candidate in Brain & Cognitive Sciences. Advisor: Professor Li-Huei Tsai
2015–2019	**Harvard College** AB in Neurobiology. Secondary field in Mathematical Sciences.

Research Experience

Jun 2018–May 2019	Biology R&D Intern, **Cellino Biotech, Inc** (Cambridge, MA) Generation of neurons from human iPS cells using CRISPR activation and proprietary laser-based intracellular delivery platform for cell therapy manufacturing
Jun–Aug 2017	Biopharmaceutics Intern, **Biogen Inc** (Cambridge, MA) Design and validation of new *in vitro* assay to predict *in vivo* pharmacokinetics of oral extended-release drugs for multiple sclerosis
Jun 2016–May 2017	Student Researcher, **Z. He Lab**, Harvard Medical School & Boston Children's Hospital Microglial regulation of oligodendrocyte progenitor cell proliferation and differentiation after optic nerve injury
Feb–May 2016	Student Researcher, **O'Connell Lab**, Harvard University Toxin-binding proteins and dietary ecology in Malagasy poison frogs

Publications

JW Blanchard et al. APOE4 impairs myelination via cholesterol dysregulation in oligodendrocytes. *Nature*, 16 Nov 2022. doi: 10.1038/s41586-022-05439-w

MB Victor et al. Lipid accumulation induced by APOE4 impairs microglial surveillance of neuronal-network activity. *Cell Stem Cell*, 4 Aug 2022. doi: 10.1016/j.stem.2022.07.005

LA Akay, AH Effenberger, LH Tsai. Cell of all trades: oligodendrocyte precursor cells in synaptic, vascular, and immune function. *Genes & Development*, 1 Feb 2021. doi: 10.1101/gad.344218.120

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

Spring 2023	**TA**, MCB 66: Pathological Cell Biology (Harvard College) **TA**, LS 1b: Genetics, Genomics, and Evolution (Harvard College)
Fall 2022	**Head TA**, MCB 60: Cellular Biology and Molecular Medicine (Harvard College)
Spring 2021	**TA**, 9.013: Molecular and Cellular Neuroscience Core II (MIT)
Fall 2020	**Head TA**, MCB 60: Cellular Biology and Molecular Medicine (Harvard College)
Jan 2019–Jul 2020	**Course Developer & Moderator**, MCB80x: Fundamentals of Neuroscience (HarvardX) *MCB80.1x*: The Electrical Properties of the Neuron, *MCB80.2x*: Neurons and Networks, *MCB80.3x*: The Brain

Fellowships and Awards

2020-21	BCS Schoemaker Graduate Student Fellowship
2020	Certificate of Distinction in Teaching, Harvard University
2017	Finalist, Jacob Wendell Scholarship Prize
2016	Harvard College Scholar (top 10% of class)

Outreach and Service

Fall 2019–21	**BCS Student-Run Application Assistance Program** Provided 1-on-1 mentorship to graduate program applicants from underrepresented groups
Sept 2020	**Manchester, MA Neuroscience Society** (IYNA), invited research talk Delivered talk on gamma stimulation for Alzheimer's disease to high school students
Jul–Aug 2020	**High School Summer Program**, MIT Educational Studies Program Co-taught 6-week course on neurological diseases to high school students via Zoom
Apr–Jun 2020	**COVID-19 Urgent Resource Video Education (CURVE)** Massachusetts General Hospital (learn.partners.org/source/curve) Produced videos on Emergency Medicine topics to educate clinicians on best practices
April–Jun 2020	**Virtual Mentorship Program**, CovEducation (coved.org) Provided free 1-on-1 tutoring in biology & neuroscience to middle school students via Zoom
Mar–Jun 2020	**COVID Student Response Taskforce**, Harvard Medical School (covidstudentresponse.org) Created informational graphics and data visualizations for lay audiences on COVID-19 safety precautions and scientific/clinical research. Produced graphics for collaborative projects with teams at Beth Israel Deaconess Medical Center and Ariadne Labs

Professional Development

April 2020	**Beyond TAing: Taking charge of teaching as a leader** Topics: Backwards Design, Planning and Facilitating a Class Session, Interactive Teaching and Active Learning