

Elliot Layden

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Education ☼

The University of Chicago ————— June 2019
PhD in psychology (in progress), Minor: Integrative Neuroscience

The University of Chicago ————— June 2016
M.A. in Psychology, Minor: Integrative Neuroscience Cumulative GPA: 3.95

Indiana University Bloomington ————— May 2014
B.S. in Neuroscience and B.S. in Biology
GPA in Majors: 3.97 Cumulative GPA: 3.76

Research Experience ☼

The Environmental Neuroscience Lab ————— summer 2015 - Present

- Supervised Research under Marc Berman, PhD
- Collaborating with Sarah London, PhD to investigate longitudinal changes in functional connectivity in zebra finches across the sensitive period for song learning
- Wrote Matlab-based toolbox for MRI data quality checking and preprocessing

The Social Neuroscience Laboratory ————— fall 2014 – winter 2017

- Supervised Research under John T. Cacioppo, PhD
- Completed study of resting-state fMRI functional connectivity alterations in perceived social isolation
- Conducted study investigating associations between loneliness and interpersonal distance

Computational Cognitive Neuroscience Laboratory ————— Jan. 2013 – Aug. 2014

- Supervised Research under Olaf Sporns, PhD
- Graph theoretical analysis of neural networks derived from resting-state fMRI, Diffusion Imaging, and serial block-face scanning electron microscopy

Bever Lab – Evolution and Ecology of Plants and Associated Fungi ————— spring 2012

- Supervised Research under James Bever, PhD
- Investigated distribution of mycorrhizal fungal species in native prairie grasslands versus rehabilitated agricultural lands using techniques from molecular biology, including DNA extraction, Polymerase Chain Reaction (PCR), gel electrophoresis, and quantification of samples

Publications ☞

Layden, E. A., London, S. E., Schertz, K. E., Ibarra, F., Berman, M. G. (2017). *Mapping the Intrinsic Functional Architecture of the Anaesthetized Zebra Finch Brain*. Manuscript in preparation.

Layden, E. A., Cacioppo, J. T., Cacioppo, S. (2017). *Loneliness Predicts a Preference for Larger Interpersonal Distance in Intimate Space*. Manuscript submitted for publication.

Satyshur, M. D., **Layden, E. A.**, Gowins, J. R., Buchanan, A., Gollan, J. K. (2017). *Functional Connectivity of Reflective versus Brooding Rumination in Depressed and Healthy Women*. Manuscript submitted for publication.

Layden, E. A., Cacioppo, J. T., Cacioppo, S., Cappa, S. F., Dodich, A., Falini, A., & Canessa, N. (2017). Perceived social isolation is associated with altered functional connectivity in neural networks associated with tonic alertness and executive control. *NeuroImage*, 145, 58-73.

Posters & Presentations ☞

Satyshur, M. D., **Layden, E. A.**, Gowins, J. R., Buchanan, A., Gollan, J. K. (April, 2017). *Neural Underpinnings of Reflective and Brooding Rumination in Healthy and Depressed Women*. Poster presented at the 2017 Wisconsin Symposium on Emotion, Madison, WI.

Layden, E. A., Cacioppo, J. T., Cacioppo, S., Cappa, S. F., Dodich, A., Falini, A., & Canessa, N. (2016, November). *Loneliness is Associated with Increased fMRI Functional Connectivity within the Cingulo-Opercular Network*. Poster presented at the 46th annual meeting of the Society for Neuroscience (SfN), San Diego, CA.

Schertz, K. E., **Layden, E. A.**, London, S. E., Berman, M. G. (2016, November). *Functional Connectivity and Brain Morphometry Across Development in Zebra Finches*. Poster presented at the 46th annual meeting of the Society for Neuroscience (SfN), San Diego, CA.

Layden, E. A., Cacioppo, J. T., Cacioppo, S., Cappa, S. F., Dodich, A., Falini, A., & Canessa, N. (2016, November). *Perceived Social Isolation is Associated with Altered Functional Connectivity in Neural Networks Associated with Tonic Alertness and Executive Control*. Poster presented at the 7th annual meeting of the Society for Social Neuroscience (S4SN), San Diego, CA.

Layden, E. A., Cacioppo, S., Cacioppo, J. T. (2016, November). *Loneliness Predicts Preference for Maintaining Larger Interpersonal Distances from Intimate Others*. Poster presented at the 7th annual meeting of the Society for Social Neuroscience (S4SN), San Diego, CA.

Layden, E. A., Cacioppo, J. T., Cacioppo, S., Cappa, S. F., Dodich, A., Falini, A., & Canessa, N. (2016, May). *Loneliness is Associated with Increased fMRI Functional Connectivity within the Cingulo-Opercular Network*. Poster presented at the 28th

annual meeting of the Association for Psychological Science (APS), Chicago, IL.

Layden, E. A., Cacioppo, S., Cacioppo, J. T. (2015, May). *Loneliness is associated with self-rated preferences for greater interpersonal distance.* Poster presented at the 27th annual meeting of the Association for Psychological Science (APS), New York, NY.

Layden, E. A., Cacioppo, S., Cacioppo, J. T. (2015, April). *Loneliness augments individuals' need for personal space in a social layer-specific manner.* Presentation at the Chicago Psych Graduate Student Research Symposium, Chicago, IL.

Layden, E. A., Yin, D., Tritch, Z., Garcia, J., Mitjavila, J., Jancovich, M. (2013, May). *Characterization of Hub Neurons, and Investigation into the Topological Properties and Community Structure of the Mouse Retinal Inner Plexiform Layer.* Poster presented at the Indiana University Undergraduate Research Symposium, Bloomington, IN.

Software Development ☸

Developed the MRI Initial Processing Toolbox fall 2016-Present

- A Matlab-based tool providing a number of capabilities for fMRI data-checking and initial processing:
 - 3D rendering of MRI images, mosaics of brain slices, data quality checking (fMRI temporal Signal-to-Noise ratio (tSNR), Signal-to-Fluctuation-Noise Ratio (SFNR), etc.), denoising procedures, and additional visualization tools

Developer for Chicago Electrical NeuroImaging Analytics (CENA) summer 2016

- Developed a Matlab-based visualization tool for microstate segmentation of dense-array EEG data
- Developed software for the segmentation of microstates at the individual level, tools for comparing microstate similarity across subjects, and tools for simulating microstates
- see <<https://hpenlaboratory.uchicago.edu/page/cena>> for details

Coding and Software Experience

- Extensive experience with Matlab, R, Bash, SPM, CONN Toolbox, Advanced Normalization Tools (ANTs), MRICroGL, EEGlab, FASTER Toolbox, ADJUST Toolbox, Brainstorm, NetStation, Microsoft Excel

Graduate Teaching Assistant ☸

Windows to the Social Brain winter 2017

- Undergraduate course taught by Dr. Jean Decety

Fundamentals of Psychology fall 2017

- Undergraduate course taught by Dr. John Cacioppo

Undergraduate Teaching Assistant ☞

- Assisted with several online courses through the Indiana University-Purdue University Indianapolis (IUPUI) Psychology Dept. for Lecturers Michelle Carroll and Toni Sholty; stipend awarded for each

Introduction to Psychology as a Biological Science fall '11 & spring '12

Lifespan Development spring '12 & summer '12

Abnormal Psychology fall '12 & spring '13

Awards ☞

Norman Anderson Travel Grant ————— April 21, 2015

- \$625 Awarded for travel to annual APS conference in NYC

Indiana University Dean's List ————— fall 2011 - present

- Academic excellence, maintained above 3.7 semester GPA

Browning Scholarship Recipient ————— fall 2012 - spring 2013

- Awarded through the Indiana University Foundation for "High standards of character, citizenship, and inspired leadership"

Indiana University-Purdue University Indianapolis Dean's list — fall 2010 - spring 2011

- Highest Honors for maintaining between 3.7-4.0 semester GPA

IUPUI Alpha Lambda Delta/Phi Eta Sigma Honors Society ————— spring 2011 - present

Leadership Experience ☞

Little 500 at Indiana University Bloomington ————— fall 2011 - spring 2014

- Largest collegiate bicycle race in the US, modeled after the Indy 500; raises money for scholarships through the Indiana University Student Foundation
- Captain of the Wright Residence Center's team ————— summer 2013 - spring 2014
- Duties: organize training rides, formulate training plan, network amongst team members, manage finances, bicycle mechanic

Outreach Activities ☞

Layden, E. A., Nichiporuk, N., Foster, J., Waller, J. (2017, January). *Report on Academic Life within the University of Chicago Psychology Department (2016)*. Report & survey compiled for the Psychology Graduate Student Organization and Psychology Department.

Judge at Chicago Area Undergraduate Research Symposium spring 2016

- Judged poster/oral presentations in psychology and neuroscience made by students from University of Chicago, Northwestern, Loyola, Depaul, IIT, and other area universities

Teacher for Splash! at the University of Chicago spring 2015, spring 2016

- 2015: Designed and taught a one-day course on contributions of neuroscience and neuroimaging to advances in our understanding of mild traumatic brain injury (mTBI)
- 2016: Designed and taught a one-day course introducing high school students to a variety of neuroimaging methods and how they can be implemented in research

Co-hosted a Brain Awareness Week Partner Event spring 2015, spring 2016

- Helped to host local high school students at the High Performance Electrical Neuroimaging Laboratory, University of Chicago
- 2015: Delivered presentation on mild traumatic brain injury, with a focus on neuroimaging and sport-related concussion
- 2016: Delivered presentation introducing a variety of neuroimaging methods and how they can be used in research; live demonstration of dense-array EEG recording

Peer Reviews ☸

Reviewed for Scientific Reports winter 2017

Reviewed for Frontiers in Neuroscience spring 2015

- In collaboration with John Cacioppo, PhD