**Austin Lim**

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# Education

**PhD in Neurobiology, University of Chicago**

**BA in Political Science, Northwestern University**

# Research Experience

**Fall 2014 - Fall 2018: D. James Surmeier Lab, Department of Physiology, Northwestern University Chicago, IL**

**Postdoctoral research focus:** Huntington’s disease-related changes in striatal circuitry

**Summer 2009 - Summer 2014: Daniel McGehee Lab, Committee on Neurobiology, University of Chicago, Chicago, IL**

**PhD thesis: “Striatal Cholinergic Interneuron Physiology”**

**Graduate student research focus:** Changes in brain physiology during treatment of Parkinson’s disease

**Summer 2007 - Summer 2008: Anthony West Lab, Department of Neuroscience, Rosalind Franklin University of Medicine and Science, North Chicago, IL**

**Laboratory technician research focus:** The role of nitric oxide signaling in the brain

# Teaching Experience

## Academic teaching

**Professional Lecturer:** **DePaul University, Chicago, IL**

**Fall 2018 – Present** (9 teaching credits / year)

* BIO 126 Brain and Behavior (2018-2020; Fall) \*
* NEU 201 Introduction to Neuroscience (2019-2021; Winter and Spring) \*
* NEU 301 Neuroscience Research Methods (2018-2019; Fall and Spring co-taught with Dorothy Kozlowski; 2019-2021; Fall and Spring) \*
* NEU 310 Seminar in Neuropsychopharmacology (2021; Winter; Formerly NEU 380 Neuropharmacology of Drugs 2019-2020; Winter) \*
* NEU / BIO 339 Cellular Neurobiology (2019-2021; Winter) \*
* NEU 399 Independent Study (Open Neuroscience Initiative Research Assistant) \*
* NEU 399 Independent Study (IMPACT Research)
* PSY 377 Physiological Psychology (2018-2020; Fall and Spring)
* PSY 406 Physiological Processes (2020; Spring) †
* BIO 439 Cellular Neurobiology (2021) ‡

**Adjunct Faculty: DePaul University, Chicago, IL**

**Spring 2018** (1 teaching credit)

* PSY 377 Physiological Psychology (2018; Spring)

**Teaching Assistant: University of Chicago, Chicago, IL**

* BIOS 242 Cellular Neurobiology (2012; Winter)
* NURB 318 Cellular Neurobiology (2010; Fall)

## Non-academic teaching

**Summer 2017 - Present Contributing Author: *Helix Magazine, Science Unsealed***

Online publications through Northwestern University and Illinois Science Council

**Winter 2006 - Winter 2019 Choreographer and Dance Instructor: Northwestern University, Puzzle Box Dance Studio, Rast Ballet Studio**

Weekly lessons for middle and high school students and adults

# Publications

## Peer reviewed academic publications

* **Lim SAO** and Surmeier DJ (2020) Enhanced GABAergic inhibition of cholinergic interneurons in the zQ175+/-mouse model of Huntington's disease. Front. Sys. Neurosci. (in review)
* Tanimura A, Pancani T, **Lim SAO**, Tubert C, Melendez AE, Shen W, Surmeier DJ (2017) [Striatal cholinergic interneurons and Parkinson’s disease.](https://pubmed.ncbi.nlm.nih.gov/28677242/) Eur J Neurosci.
* Tanimura A, **Lim SA**, Aceves Buendia JJ, Goldberg JA, Surmeier DJ (2016[) Cholinergic Interneurons Amplify Corticostriatal Synaptic Responses in the Q175 Model of Huntington's Disease](https://pubmed.ncbi.nlm.nih.gov/28018188/). Front Syst Neurosci.
* **Lim SA\***, Xia R\*, Ding Y, Won L, Ray WJ, Hitchcock SA, McGehee DS, Kang UJ (2015) [Enhanced histamine H2 excitation of striatal cholinergic interneurons in L-DOPA-induced dyskinesia](https://pubmed.ncbi.nlm.nih.gov/25661301/). Neurobiol Dis.
* **Lim SA**, Kang UJ, McGehee DS (2014) [Striatal cholinergic interneuron regulation and circuit effects](https://pubmed.ncbi.nlm.nih.gov/25374536/). Front Synaptic Neurosci.
* Ding Y, Won L, Britt JP, **Lim SA**, McGehee DS, Kang UJ (2011) [Enhanced striatal cholinergic neuronal activity mediates L-DOPA-induced dyskinesia in parkinsonian mice](https://pubmed.ncbi.nlm.nih.gov/21187382/). Proc Natl Acad Sci U S A.
* Ondracek JM, Dec A, Hoque KE, **Lim SA**, Rasouli G, Indorkar RP, Linardakis J, Klika B, Mukherji SJ, Burnazi M, Threlfell S, Sammut S, West AR (2008) [Feed-forward excitation of striatal neuron activity by frontal cortical activation of nitric oxide signaling in vivo](https://pubmed.ncbi.nlm.nih.gov/18371082/). Eur J Neurosci.

## Other writing

* [The Strange History of Antidepressants](https://www.illinoisscience.org/2019/04/the-strange-history-of-antidepressants/) (4/29/2019) Science Unsealed, Illinois Science Council
* [Eating Bugs: A Diet That’s Hard to Swallow](https://www.illinoisscience.org/2018/08/eating-bugs/) (8/20/2018) Science Unsealed, Illinois Science Council
* [The Rhythm of Movement](https://www.illinoisscience.org/2018/08/rhythm-of-movement/) (8/6/2018) Science Unsealed, Illinois Science Council
* [BEEing like a Magnet](https://www.illinoisscience.org/2018/06/beeing-like-a-magnet/) (6/18/2018) Science Unsealed, Illinois Science Council
* [The Maillard Reaction: A Taste of Food Chemistry](https://www.illinoisscience.org/2018/05/the-maillard-reaction-a-taste-of-food-chemistry/) (5/10/2018) Science Unsealed, Illinois Science Council
* [Face Blindness in a Nutshell: Putting a Human Face on Prosopagnosia](https://helix.northwestern.edu/blog/2018/04/face-blindness-nutshell-putting-human-face-prosopagnosia) (4/23/2018) Helix Magazine, Northwestern University
* [Changing Your Mind: The Science of Transplanting a Human Head](https://helix.northwestern.edu/blog/2017/11/changing-your-mind-science-transplanting-human-head) (11/5/2017) Helix Magazine, Northwestern University
* [Starting From Scratch: How the Brain Processes Itch](https://helix.northwestern.edu/blog/2017/09/starting-scratch-how-brain-processes-itch) (9/2/2017) Helix Magazine, Northwestern University

# Abstracts

* **Lim SAO**, Xia R, Ding Y, Won L, Ray WJ, Hitchcock SA, McGehee DS, Kang UJ (2013) L-DOPA-induced dyskinesia is associated with enhanced H2 histamine excitation of striatal cholinergic interneurons. Abstract for poster presentation, 43rd Annual Society for Neuroscience meeting, San Diego, CA
* **Lim SAO**, Greatsinger A, Brown M, Warner K, McGehee DS (2012) Nicotine withdrawal increases excitability of accumbens cholinergic interneurons. Abstract for poster presentation, 42nd Annual Society for Neuroscience meeting, New Orleans LA
* **Lim SAO**, Brown M, McGehee DS (2011) Withdrawal from chronic nicotine exposure increases excitability of accumbens cholinergic interneurons. Abstract for poster presentation, 41st Annual Society for Neuroscience meeting, Washington DC
* Won L, Ding Y, Campioni M, **Lim SAO**, McGehee DS,  Kang UJ (2011) The role of D5 dopamine receptors in striatal cholinergic activity associated with L-DOPA induced dyskinesia. Abstract for poster presentation, 41st Annual Society for Neuroscience meeting, Washington DC
* Ding Y, Won L, Britt JP, **Lim SAO**, McGehee DS, Kang UJ (2010) Enhanced striatal cholinergic neuronal activity mediates L-DOPA induced dyskinesia in parkinsonian mice.  Abstract for poster presentation, 40th Annual Society for Neuroscience meeting, San Diego CA
* Steiner H, **Lim SAO**, Beverly JA (2008) Repeated methylphenidate treatment: Age-dependent effects on gene regulation in the cortex.  Abstract for poster presentation, 38th Annual Society for Neuroscience meeting, Washington D.C.
* West AR, Threlfell S, Sammut S, **Lim SAO**, Menniti FS, Schmidt CJ (2008) Differential regulation of cortically-evoked activity in striatal projection neuron subpopulations following pharmacological inhibition of phosphodiesterase 10A. Abstract for poster presentation, 38th Annual Society for Neuroscience meeting, Washington D.C.

# Professional Development

* OpEd Project Public Voices fellowship recipient, 2020-2021
* Online Facilitation Essentials training, 2020
* DePaul Online Teaching Series (in progress, NEU 201)
* Teaching and Learning Certificate Program Foundations recipient, 2019

# Presentations

* Neuroscience and Biology Faculty Candidate Seminar, DePaul University (3/2/2020) “Striatal Cholinergic Interneuron Physiology in Movement Disorders”
* Guest lecturer, Fall 2019 (10/2/2019), 2020 (10/1/2020) HLTH 318 Health of Aging Populations, “Neuroscience and Aging”
* DePaul University Brain Awareness Week 2019 (4/10/2019). “The Science of Marijuana”
* Committee on Neurobiology, University of Chicago, July 2014. “Striatal cholinergic interneuron physiology”
* Basal Ganglia Signaling and Plasticity Retreat, University of Chicago, Chicago IL, 2012
* National Institute on Drug Abuse, University of Chicago chapter, October, 2010. “Mapping changes in nucleus accumbens microcircuitry following caffeine and nicotine exposure”
* Neuroscience Cluster Recruitment, University of Chicago, February, 2010
* National Institute on Drug Abuse, University of Chicago chapter, December, 2009. “Hooked on wings®: The potential of caffeine dependence”
* National Institute on Drug Abuse, University of Chicago chapter, April, 2009. “Gene expression changes in a zebrafish model of drug dependency suggest conservation of neuro-adaptation pathways”

# Grants

* [$4,500 Vincentian Endowment Fund Grant. *The Open Neuroscience Initiative*, 2019](https://offices.depaul.edu/mission-ministry/scholarships-grants-awards/vincentian-endowment-fund/Pages/recent-awards.aspx)
* Graduate Student Affairs Travel Award recipient, 2013
* Biological Sciences Division Travel Award recipient, 2013
* University of Chicago Committee on Neurobiology Student Grant, 2011
* National Institute on Drug Abuse training grant, 2008 – 2011

# Service

* Poster judge, 17th Annual Science, Technology & Mathematics Undergraduate Research Showcase, DePaul University
* Fall Visit Day, Neuroscience major, 2019
* Academic Program Review (APR), 2019-Present
* NWM Scholars Program 2019 workshop facilitator
* DePaul Health ad hoc committee member, 2019
* Poster judge, 2019 Chicago Society for Neuroscience graduate student poster competition
* Poster judge, 16th Annual Science, Technology & Mathematics Undergraduate Research Showcase, DePaul University
* Associates board member 2018, Illinois Science Council
* Reviewed manuscripts under consideration for publication for academic journals
  + Neuron (2 manuscripts) (Impact factor: 14.024)
  + Nature Communications (Impact factor: 12.124)
  + PLoS Biology (Impact factor: 9.797)
  + The Journal of Neuroscience (Impact factor: 5.988)
* Invited poster judge, Chicago Area Undergraduate Research Symposium, Chicago IL

# Skills

* Electrophysiology: Patch clamp, cell attached, whole cell, perforated patch, single unit extracellular, optogenetics
* Electrochemistry: Fast scan cyclic voltammetry
* Animal: Stereotaxic injection, *ex vivo* slice preparation, brain fixation, chronic drug exposure
* Imaging: Confocal microscopy
* Analysis: Statistical methods, Excel, Prism, ImageJ
* Other: Zoom, Adobe creative suite (Photoshop, Illustrator, InDesign), Audio / video (Audacity, Vegas Pro, Premiere Pro)

# Honors

* Excellence in Teaching Award nominee, 2019
* Nu Rho Psi Neuroscience Honor Society faculty member, 2019 – present