

# Selina Baeza Loya

## Curriculum Vitae

Department of Neurobiology, MC-0928  
947 E. 58th St.  
Chicago IL, 60637

mobile: (520) 576-8493  
email: [selinabl@uchicago.edu](mailto:selinabl@uchicago.edu)  
website: [selinabaeza.github.io](http://selinabaeza.github.io)

- Education**      **Ph.D. candidate, University of Chicago**, Neurobiology, 2016-present  
Advisor: Dr. Ruth Anne Eatock  
Thesis Project: Impact of Diverse Sodium Currents on Vestibular Ganglion Neuron Spiking  
Expected graduation: June 2022
- B.A., Rice University**, Cognitive Sciences (Honors) and Spanish and Portuguese, 2016  
GPA: 3.71
- Other Education**      **Neuromatch Academy**, three-week intensive online course in computational neuroscience.  
July 13-31<sup>st</sup>, 2020
- Current Support**      **2019-2022 HHMI Gilliam Fellowship** for Advanced Study (\$150,000 over 3 years)
- Awards and Honors**      **2019** Ford Fellowship (declined)  
**2018** Society for Neuroscience, Neuroscience Scholars Program (NSP) Associate  
**2018** Paul and Daisy Soros Fellowship for New Americans, Finalist  
**2017** Initiative for Maximizing Student Development (IMSD) Grant, The National Institute of General Medical Sciences (NIGMS)
- Original Reports**      **Baeza Loya, S.**, (2021). “Spike timing regularity in vestibular afferent neurons: How ionic currents influence sensory encoding mechanisms”. *Journal of Neurophysiology*, *submitted*
- Baeza-Loya, S.**, Velasquez, K.M., Molfese, D.L., Viswanath, H., Curtis, K.N., Thompson-Lake, D.G.Y., Baldwin, P.R., Ellmore, T.M., De La Garza, R. and Salas, R., (2016). “Anterior cingulum white matter is altered in tobacco smokers”. *The American Journal on Addictions*, 25(3), pp.210-214.
- Baeza-Loya, S.**, Viswanath, H., Carter, A., Molfese, D.L., Velasquez, K.M., Baldwin, P.R., Thompson-Lake, D.G., Sharp, C., Fowler, J.C., De La Garza, R. and Salas, R., (2014). “Perceptions about e-cigarette safety may lead to e-smoking during pregnancy”. *Bulletin of the Menninger Clinic*, 78(3), pp.243-252.
- Academic Research**      **University of Chicago**, Advisor: Dr. Ruth Anne Eatock, present  
Department of Neurobiology, Biological Sciences Division
- Investigating the contributions of sodium current diversity to action potential waveforms and firing patterns of vestibular afferent neurons using patch clamp electrophysiology
  - Modeling impact of different ionic currents on spike timing regularity using single compartment conductance-based formulations in MATLAB
- Baylor College of Medicine**, Advisor: Dr. Ramiro Salas, 2013-2016  
Menninger Department of Psychiatry and Behavioral Sciences

- Developed relational analysis using PGMRA web server for psychiatric data and neuroimaging (fMRI) data in patients with major depressive disorder
- Determined relationship of altered cingulate cortex anatomical connectivity with comorbid major depressive disorder and substance abuse disorder in clinical patients
- Analyzed anterior cingulate cortex diffusion tensor imaging connectivity in patients with nicotine, cocaine, and alcohol addiction
- Investigated perceptions regarding e-cigarettes and e-cigarette smoking during pregnancy

**Duke University**, Advisor: Dr. Cynthia Kuhn, Dr. David Walker, 2015

Duke Institute for Brain Science, Department of Pharmacology and Cancer Biology

- Studied chronic ethanol administration desensitization of adenosine A1 receptors as shown through an altered response to adenosine agonists in sudden darkness locomotor activity in adult rats

#### Seminars

**Baeza Loya, S.** How does sodium current diversity influence vestibular afferent firing? UChicago Neuroscience Graduate Program student talk. January 25<sup>th</sup>, 2021.

#### Posters

**Baeza Loya, S.,** and Eatock, R.A. Impact of Persistent and Resurgent Sodium Currents on Excitability in Mouse Vestibular Ganglion Neurons. Society for Neuroscience Global Connectome, January 11-13, Virtual. Association for Research in Otolaryngology, February 20-24, Virtual.

**Baeza Loya, S.,** and Eatock, R.A. Persistent and resurgent sodium currents in mouse vestibular ganglion neurons. Association for Research in Otolaryngology. San Jose, CA. January 24-29, 2020; Baltimore, MD. February 9-13, 2019.

**Baeza Loya, S.,** and Eatock, R.A. Impact of diverse  $I_{NaV}$  currents on vestibular ganglion neuron firing patterns. Society for Neuroscience. Chicago, IL. October 18-23, 2019; San Diego, CA. November 3-7, 2018.

**Baeza Loya, S.,** Velasquez, K., Salas, R. Altered cingulum connectivity in patients with major depressive disorder and substance use disorder. Rice Undergraduate Research Symposium (RURS). Houston, Texas. April 13, 2016

**Baeza Loya, S.,** Walker, Q. D., Kuhn, C. The behavioral effects of alcohol mediated adenosine receptor function. BioCORE Symposium. Durham, North Carolina. July 2015.

**Baeza Loya, S.,** Velasquez, K., Salas, R. The Dynamic Neurological Patterns of Behavior: Anatomical and functional brain connectivity in nicotine addicts” Selina Baeza-Loya, Ramiro Salas Ph.D., Kenia. Annual Biomedical Research Conferences for Minority Students (ABRCMS). San Antonio, Texas. November 12-15, 2014.

#### Teaching Experience

Instructor, Target HOPE Saturday Academy, 2021  
Neuroscience Fundamentals, Sensation and Perception

Teaching assistant, Marine Biological Laboratories, Biology of the Inner Ear, 2019.  
(Directors: Ruth Anne Eatock, Andrew Groves, and Philip Joris)

Teaching assistant, College of the University of Chicago

- Cellular Neuroscience. Instructors: Dr. Ruth Anne Eatock, Dr. Wei Wei, 2018.
- Systems Neuroscience. Instructors: Dr. Dave Freedman, 2019

Manuscript Referee *Frontiers Neuroscience*

Students Mentored  
Christopher Long, UChicago Graduate Student, June 2021 - present  
Sonya Malavez-Cajigas, UChicago PREP Student, June 2018 – June 2020  
Dr. Florian Christov, MD research rotation, June 2017 – August 2018  
Katie Mott, UChicago Undergraduate, September 2017 – June 2019

Outreach and  
Activities  
Student Representative, Biological Sciences Division  
Committee on Equitable Admissions, Biological Sciences Division, UChicago 2020

Steering Committee Member  
Neuroscience Early Stage Scientists Training Program, University of Chicago, 2020 - present

Board Member,  
[UChicagoGRAD Diversity Advisory Board \(DAB\)](#), University of Chicago, 2017- 2020

Student Representative,  
Graduate Admissions Committee, UChicago Committee in Neurobiology and  
Computational Neuroscience, 2017-2018

Director of Recruitment,  
[Graduate Recruitment Initiative Team](#) (GRIT), University of Chicago, 2017 – 2018

Executive Team Member,  
[Society for the Advancement of Chicanos and Native Americans in Science \(SACNAS\)](#)  
UChicago Chapter, 2017-2018

Conferences  
Organized  
“Midwest Regional SACNAS Conference at UChicago”. University of Chicago. April  
28<sup>th</sup>, 2018. Organized by Christina Roman, Selina Baeza Loya, and Jay Pittman.

## References

### **Dr. Ruth Anne Eatock**

Professor of Neurobiology, Dean of Faculty of Affairs  
University of Chicago  
947 E. 58th St., MC 0928  
Chicago, IL 60637

Phone: 773-702-9228

Email: [eatock@uchicago.edu](mailto:eatock@uchicago.edu)

### **Dr. Anna Lysakowski**

Professor of Anatomy and Cell Biology  
University of Illinois at Chicago  
6055 COMRB  
Chicago, IL 60607

Phone: 312-996-0585

Email: [alysakow@uic.edu](mailto:alysakow@uic.edu)

### **Dr. Leslie Kay**

Professor of Psychology  
University of Chicago  
BPSB 331  
Chicago, IL 60637

Phone: 773-702-6174

Email: [lkay@uchicago.edu](mailto:lkay@uchicago.edu)