

Luis Antonio Goicouria

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<https://whitewaterlegendlore.wordpress.com> ||  Oakland, CA

EDUCATION

Brown University, Neuroscience Department

Dissertation: Contributions to the Relationship Between Circadian Rhythm Protein Dysfunction and Epilepsy—CLOCK and the PAR bZIP Transcription Factors

Graduation: October 2023

Degree: Doctor of Philosophy

Program: Neuroscience

GPA: 4.00/4.00

Washington University in St. Louis (WUSTL)

Graduation: May 2017

Degree: Bachelor of Arts

Double Major: Biochemistry and

Philosophy-Neuroscience-Psychology:

Cognitive Neuroscience

GPA: 3.39/4.00

POST-GRADUATE CAREER EXPERIENCE

SkyPorch LLC— Software Developer; Partner

November 2024 – Present

- Lead developer for Vision Pro applications (SpatialCut, Energy Atlas, Plant Shop by Tula House)
 - SpatialCut is currently featured on the front page of the VisionPro App Store
- Full Stack Engineer for Attached mobile app (React Native, Swift, Python, Javascript)

GRADUATE RESEARCH EXPERIENCE

Laboratory of Epilepsy and Neurodevelopment— Ph.D. Student

June 2018 – October 2023

Advisor: Judy Liu, Ph.D.

Affiliation: Brown University – Center for Translational Neuroscience

- Led pioneering research on circadian rhythm proteins in epilepsy, combining molecular, cellular, electrophysiological, and behavioral methods to identify novel seizure mechanisms
- Developed and standardized four innovative methodologies: video-EEG depth electrode recording, local field potential analysis, Fluorojade staining protocols and the pilocarpine drug model of epilepsy
- Utilized data analytics softwares and languages, including Python, R, SIMBA, Deeplabcut, and Prism
- Successfully mentored and trained high school, undergraduate, post-baccalaureate, and graduate students

UNDERGRADUATE RESEARCH EXPERIENCE

Translational Immunology Lab of Dr. Anja Fuchs— Research Assistant

July 2016 – May 2017

Advisor: Anja Fuchs, Ph.D.

Affiliation: WUSTL/Barnes-Jewish Hospital – Department of Surgery

- Designed novel project comparing temperature effects on platelet immune modulation
- Developed optimized protocol for platelet isolation from whole blood
- Mastered FACS analysis for immune cell characterization
- First undergraduate researcher selected for the lab

Clinical Research Lab of Dr. Grant Bochicchio— Research Assistant

January 2016 – May 2017

Advisor: Grant Bochicchio, M.D./M.P.H

Affiliation: WUSTL/Barnes-Jewish Hospital – Department of Surgery

- Contributed to TAMPITI clinical trial, processing 100+ blood samples
- Assessed 50+ level 1 trauma patients for study eligibility in emergency department
- Managed night shift responsibilities while maintaining academic excellence
- Maintained precise documentation of sample processing and patient data

SKILLS

Molecular and Cellular Biology	Electrophysiology	Microscopy & Imaging	Data Analysis & Programming	Animal Research	Professional skills
<ul style="list-style-type: none">IHCWestern BlotPCR and GenotypingBulk RNA-SequencingPrimary Neuronal Cell Culture	<ul style="list-style-type: none">Video-EEG RecordingDepth electrode implantationLocal Field Potential RecordingWhole Cell Patch Clamp	<ul style="list-style-type: none">Confocal ImagingFluorescent ImagingFluorochrome HistologyNissl StainingFIJI, ImageJ	<ul style="list-style-type: none">PythonRSwiftCSSiOS and visionOSWeb Development (Wordpress, DIVI)Programmatic SEO, Webscraping	<ul style="list-style-type: none">Animal HusbandryDrug models of diseaseAutomated behavioral tracking (SIMBA, deeplabcut)Mouse surgeriesColony management	<ul style="list-style-type: none">Science communicationProject ManagementEducationEntrepreneurshipMentorshipProficiency in Spanish

PUBLICATIONS

Papendorp C, Nolan E, Higashimori H, Jhanji M **Goicouria L**... Liu J. *ASH1L Haploinsufficiency Drives Sex-Dependent Hippocampal Hyperexcitability and Divergent Risks for Epilepsy and Autism*. [submitted]

McCarthy-Sinclair B, **Goicouria L**, Papendorp C, Higashimori H, Liu J. *Loss of DCLK1 Results in Worsening of Epileptic Phenotype Through Increased Mossy Fiber Sprouting*. [submitted]

Goicouria L, Liu J. *E-I E-I Woe: Mossy Cell Regulation of Granule Cell Activity in Temporal Lobe Epilepsy*. *Epilepsy Curr.* 2020 Apr 30;20(3):173-174. doi: 10.1177/1535759720920828.

Kaleena Zhang, ...**Luis A. Goicouria**, ..., Joseph M. Jez; *Investigating the reaction and substrate preference of indole-3-acetaldehyde dehydrogenase from the plant pathogen Pseudomonas syringae PtoDC3000*. *Biosci Rep* 23 December 2020; 40 (12): BSR20202959.

Spinella Philip,... **TAMPITI Investigators**; *The Immunologic Effect of Early Intravenous Two and Four Gram Bolus Dosing of Tranexamic Acid Compared to Placebo in Patients With Severe Traumatic Bleeding (TAMPITI): A Randomized, Double-Blind, Placebo-Controlled, Single-Center Trial*. *Front. Immunol.* 07 September 2020; 11 (2020). <https://doi.org/10.3389/fimmu.2020.02085>

ORAL PRESENTATIONS

Goicouria L. (2022, October). *PARsing Epilepsy: Characterizing the PAR bZip triple-knockout model of temporal lobe epilepsy*. Oral presentation for the Brown University Neuroscience Graduate Program In-House Seminar Series

Goicouria L. (2021, October). *Circadian Proteins as Potential Therapeutic Targets for Epilepsy*. Oral presentation for the Brown University Neuroscience Graduate Program In-House Seminar Series

Goicouria L. (2020, December). *Understanding CLOCK as a Potential Therapeutic Target for Treatment of Epilepsy*. Oral presentation for the Brown University Neuroscience Graduate Program In-House Seminar Series

Goicouria L. (2019, April). *PARsing Epilepsy: The PAR bZIP Transcription Factors as Mediators of CLOCK Protein Function*. Oral presentation for the Brown University Neuroscience Graduate Program In-House Seminar Series

POSTER PRESENTATIONS

Papendorp C., **Goicouria L.**, Liu JS. (2022, December) *Seizures, altered power spectra, and decreased neuronal excitability in a mouse model of autism due to ASHIL mutation*. Poster pres. at American Epilepsy Society 2022

Papendorp C., **Goicouria L.**, Liu JS. (2022, November) *Loss of the histone methyltransferase ASHIL causes a novel neurodevelopmental disorder with microcephaly and seizures*. Academic Symposium, Alpert Medical School. doi: <https://doi.org/10.26300/d9nv-5077>

Goicouria L., Papendorp C., Liu J. (2022, September) *Characterization of the PAR bZIP Triple-Knockout Model of Epilepsy*. Poster pres. at 2022 Brown University Neuroscience Graduate Program Retreat

Papendorp C., **Goicouria L.**, Liu JS. (2022, September) *Seizures, altered power spectra, and decreased neuronal excitability in a mouse model of autism due to ASHIL mutation*. Poster pres. at 2022 Brown University Neuroscience Graduate Program Retreat

Goicouria L., Papendorp C., Liu J. (2022, August) *Characterization of the PAR bZIP Triple-Knockout Model of Epilepsy*. Poster pres. at 2022 Mechanisms of Epilepsy and Neuronal Synchronization Gordon Research Conference

Papendorp C., **Goicouria L.**, Liu JS. (2022, August) *Seizures, altered power spectra, and decreased neuronal excitability in a mouse model of autism due to ASHIL mutation*. Poster pres. at 2022 Mechanisms of Epilepsy and Neuronal Synchronization Gordon Research Conference

Goicouria L., Feeney S., Higashimori H., Liu J. (2021, November) *A Circadian Mechanism of Epilepsy Observed in PAR bZIP Triple-Knockout Mice*. Poster pres. at 2021 Society for Neuroscience Conference

Papendorp C., Haque D., **Goicouria L.**, Liu J. (2021, November) *Effect of genetic background in a mouse model of autism due to ASHIL mutation*. Poster pres. at 2021 Society for Neuroscience Conference

Goicouria L., Feeney S., Higashimori H., Liu J. (2021, September) *A Circadian Mechanism of Epilepsy Observed in PAR bZIP Triple-Knockout Mice*. Poster pres. at 2021 Brown University Neuroscience Graduate Program Retreat

Goicouria L., Liu J. (2020, September) *Understanding the Effect of CLOCK Dysfunction on Epileptogenesis*. Poster pres. at 2020 Brown University Neuroscience Graduate Program Retreat

Goicouria L., Liu J. (2020, August) *Understanding the Effect of CLOCK Dysfunction on Epileptogenesis*. Poster pres. at 2020 Dr. Samuel M. Nabrit Conference for Early Career Scholars

Goicouria L., Liu J. (2019, August) *PARsing Epilepsy: The PAR bZIP Transcription Factors as Mediators of CLOCK Protein Function*. Poster pres. at 2019 Brown University Neuroscience Graduate Program Retreat

Goicouria L., Liu J. (2018, October) *PAR bZIP Transcription Factors as Mediators of CLOCK Protein Function*. Poster pres. at 2018 NIH-Brown Neuroscience Graduate Partnership Fourth Scientific Retreat

GRANTS AND AWARDS

Brown University OGPS BioMed Conference Travel Award- May 2022

Brown University Graduate International Travel Fund Award- May 2022

Research Supplement to Promote Diversity in Health-Related Research – R01NS104428 “The Circadian Molecular Clock is a Biomarker for Epilepsy in Focal Cortical Dysplasia,” September 2019 – August 2020

Interdisciplinary Predoctoral Neuroscience Training Program Grant – T32MH020068, September 2017 – October 2019

Acceptance as Neuroscience Scholars Program Associate – Society for Neuroscience Scholars Program 2019

Deans List –Spring 2014, Fall 2016