Alejandro Parga-Becerra MD PhD

Neuroscientist

alejandro-parga.github.io

apargab@gmail.com | +1(480)244-5947

SUMMARY

As an accomplished leader in neurophysiology with a strong background in research and development, I specialize in employing cutting-edge techniques to investigate neuronal circuits and their dysfunctions in various brain disorder models. With a pragmatic approach to scientific inquiry, I possess extensive experience overseeing projects within both medical and basic research settings. My ultimate objective is to establish a vital connection between translational research and the development of tangible applications in the field of advanced therapeutics.

RELEVANT EXPERIENCE

2017-present ***Primate Neurophysiology***

Research Scientist/Engineer3 – Physiology and Biophysics – UW, Seattle |Dembrow lab

Pyramidal primate neurons modulation by input noise

Senior Fellow **-** Department of Neurology - University of Washington, Seattle

Epilepsy Center of Excellence and Neurology Service VA Puget Sound | Ransom lab

Hypothalamic effects of traumatic brain injury on Tonic and GABAergic excitability

2015-2016 ***Electrophysiology, Optogenetics, and Computational Neuroscience***

Postdoctoral Research Associate - University of Arizona, Phoenix Campus | Anderson lab

Targeted optogenetic pyramidal regulation of cortical spreading depression Neurosteroid action on cortical spreading depression

2008-2014 ***Neuropharmacology and Modeling of Neuronal Circuits***

Research Assistant – Barrow Neurological Institute - ASU, Phoenix | Hammer lab

Retrograded trans-synaptic tracing of auditory neuronal circuits

Dopamine-induced auditory cortical activation and attenuation by D2-like receptor-selective antagonist

EDUCATION

2014 ***Doctor of Philosophy (Ph.D.) Neuroscience***

Barrow Neurological Institute - ASU - Phoenix

Dissertation: *Cortical auditory functional activation by cortico-striato-thalamo-cortico circuits* https://repository.asu.edu/items/27433

2006 ***Postgraduate Medical Training***

La Arandia Military Base - Caqueta - ML 18964/2006

EMS physician | Military Surgical Brigades | Tropical Diseases Service.

2005 ***Doctor of Medicine (MD) Neurophysiology***

National University of Colombia – COM Bogota

Clerkship - San Rafael Hospital/Ramon Gonzalez Valencia University Hospital - UIS

REPRESENTATIVE PUBLICATIONS

1. **A. Parga** & C. Ransom (2021). Traumatic brain injury broadly affects GABAergic signaling in dentate gyrus granule cells. *eNeuro*, 8 (3) 0055-20.2021 doi: 10.1523/ENEURO.0055-20.2021

2. **A. Parga**, G. Muñoz & R. P. Hammer (2016) Excessive striatal dopamine activates the auditory cortex via striato-thalamo-cortical projections in the rat. *Biological Psychiatry* 77(9), 62S. doi.org/10.1016/j.biopsych.2015.03.006

3. A. N. Hoffman, **A. Parga**, P. Paode, L. R. Watterson, E. M. Nikulina, R. P. Hammer, Jr., and C. D. Conrad (2015). Chronic stress-enhanced fear memories are associated with induced amygdala zif268 expression and are resistant to reconsolidation. *Neurobiology of Learning and Memory*, 120, 61-8. doi: 10.1016/j.nlm.2015.02.004.

COMPUTATIONAL SKILLS

Programming Languages

Python, C++

Version Control

GIT

Imaging

ImageJ

NiE

Imaging Workbench

Stereoinvestigator

Neurolucida

Data Recording

Igor Pro, MIES, PolyScan2, pClamp, Linlab

Statistics

Origin, SPSS, SAS, STATA

Blaise, CDISC

RESEARCH SKILLS

Brain Imaging

in vitro and *in vivo* neurophysiology

Tracing neuronal circuits with viral vectors

Opto/chemogenetics

Confocal and multiphoton microscopy

Patch-Seq

Intrinsic Optical Signal imaging

Stereotaxic intracranial surgeries

in situ hybridization

immuno-histochemistry

Fluorogold iontophoretic infusions for cellular labeling