

CUAUHTEMOC ULISES GONZALEZ

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SUMMARY

For the future, I am interested in studying synapse formation and regulation to understand learning and memory. I have enjoyed working in several laboratories and have obtained training in research ranging from single molecule to animal behavior. For my post-doctoral position, I wish to gain additional training in diverse techniques that will allow me to merge my single molecule and behavioral training. I am especially interested in Cryo-ET to study synapse morphology and structure.

EDUCATION

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| 2019-Present | Ph.D. in Biochemistry and Cell Biology from the University of Texas MD Anderson Cancer Center UTHealth Graduate school of Biomedical Sciences |
| 2016-2018 | M.S. in Applied Cognition and Neuroscience from the University of Texas at Dallas |
| 2014-2016 | B.S. in Biochemistry from Middle Tennessee State University |

FUNDING

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|-----------|---|
| 2023-2025 | Synaptic Organization and Modulation of Kainate Receptors: Investigating the Structure, Dynamics, and Function in the Context of Trans-Synaptic Junctions, NIH(NINDS), F99NS130928, F99(\$74,642) |
| 2020-2022 | Training Interdisciplinary Pharmacology Scientist (TIPS), T32GM139801 (\$71,965) |

PEER REVIEWED PUBLICATIONS

- Hale, D., Montaña Romero, A.Ş, **Gonzalez, C.U.Ş**, Jayaraman, V., Lau, A., Hugarir, R.L., & Twomey, E.C. (2024) Allosteric competition and inhibition in AMPA receptors. *Nature structural & molecular biology*, 10.1038/s41594-024-01328-0. Advance online publication. <https://doi.org/10.1038/s41594-024-01328-0>
- Gonzalez, C.U.**, & Jayaraman, V. (2024). Structural dynamics in α -amino-3-hydroxy-5-methyl-4-isoxazole propionic acid receptor gating. *Current opinion in structural biology*, 87, 102833. Advance online publication. <https://doi.org/10.1016/j.sbi.2024.102833>
- Carrillo, E., **Gonzalez, C.U.**, Berka, V., & Jayaraman, V. (2021). Delta Glutamate Receptors are Functional Glycine- and D-Serine-Gated Cation Channels In Situ. *Science advances*, 7(52), eabk2200. <https://doi.org/10.1126/sciadv.abk2200>
- Gonzalez, C.U.**, Carrillo, E., Berka, V., & Jayaraman, V. (2021). Structural Arrangement Produced by Concanavalin A Binding to Homomeric GluK2 Receptors. *Membranes*, 11(8), 613. <https://doi.org/10.3390/membranes11080613>
- Kumar N, Stanford W, de Solis CA, Aradhana -, Abraham ND, Dao TJ, Thaseen S, Sairavi S, **Gonzalez CU**, Ploski JE (2018) The development of an AAV based CRISPR SaCas9 genome editing system that can be delivered to neurons in vivo and regulated via Doxycycline and Cre-recombinase. *Frontiers in Molecular Neuroscience*. doi: 10.3389/fnmol.2018.00413
- Combs JD, **Gonzalez CU**, Wang C (2016) Surface FTIR Techniques to Analyze the Conformation of Proteins/Peptides in H2O Environment. *J Phys Chem Biophys* 6:202. doi:10.4172/2161-0398.1000202 Review

NON-PEER REVIEWED PUBLICATIONS

- Gonzalez, C.U.** (2023). From Patents to Patients: Rethinking Drug Patent Rights for a More Accessible Future. *The Pharmacologist*, 65(3), pgs 24-25.

RESEARCH EXPERIENCE

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|--------------|-----------------------------------|
| 2020-Present | Graduate Research Assistant (PhD) |
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Mentor Dr. Vasanthi Jayaraman, Department of Biochemistry and Cell Biology,
University of Texas Health Science Center at Houston

- 2017-2019 Student Research Assistant (Masters)
Mentor Dr. Jonathan Ploski, Department of Molecular and Cell Biology, University of
Texas at Dallas School of Behavioral and Brain Sciences
- 2015-2016 Student Research Assistant (Undergraduate)
Mentor Dr. Chengshan Wang, Department of Chemistry, Middle Tennessee State
University
- 2015-2016 Student Research Assistant (Undergraduate)
Mentor Dr. Stephen Schmidt Lab, Department of Psychology, Middle Tennessee State
University

PROFESSIONAL EXPERIENCE

- 2013-2019 Zena Masonry, LLC (Owner/Member)
Smyrna, TN & Cranberry TWP, PA

ORAL PRESENTATIONS

- 2024 Molecular and Translational Biology Workshop, Houston, TX
- 2024 Dean's Research Award Ceremony, Houston, TX
- 2023 Biochemistry and Cell Biology Spring Symposium, Houston, TX
- 2023 Biophysical Society Annual Meeting, San Diego, CA
- 2022 Biochemistry and Molecular Biology Department Research Workshop, Houston, TX
- 2022 Interdisciplinary Pharmacology Scientists (TIPS) Annual Retreat, Houston, TX
- 2022 Graduate Student Research Day, Houston, TX
- 2022 Biochemistry and Cell Biology Spring Symposium, Houston, TX
- 2021 31st Keck Annual Research Conference, Houston, TX
- 2021 Interdisciplinary Pharmacology Scientists (TIPS) Annual Retreat, Houston, TX
- 2019 Neuroscience student presentations. December 2019, Houston, TX

POSTER PRESENTATIONS

- 2024 Molecular and Translational Biology Spring Symposium, Houston, TX
- 2024 Evening of Discovery, Houston, TX
- 2023 Biochemistry and Cell Biology Spring Symposium, Houston, TX
- 2023 UTHHealth Annual Medical School Research Retreat, Houston, TX
- 2022 32nd Keck Annual Research Conference, Houston, TX
- 2022 Gordon Conference: Ion Channels, Mount Holyoke, MA.
- 2022 Biophysical Society Annual Meeting, San Francisco, CA.
- 2021 31st Keck Annual Research Conference, Houston, TX
- 2021 Biochemistry and Cell Biology Symposium. October 2021, Houston, TX
- 2016 Middle Tennessee State University, Murfreesboro, TN
- 2016 Middle Tennessee State University, Murfreesboro, TN

AWARDS & FELLOWSHIPS

2024	Presidents' Research Scholarship (\$5000)
2024	Dr. John Kopchick Fellow (\$15,000)
2024	Molecular and Translation Biology Spring Symposium poster presentation (\$200)
2023	Charlene Kopchick Fellow (\$16,500)
2023	Yale Ciencia Academy Fellow (~\$1000)
2023	ASPET Washington Fellow (~\$600)
2023	Dean's Research Scholarship Award (\$2,500)
2023	Biochemistry and Cell Biology Spring Symposium poster presentation (\$300)
2023	Biochemistry and Molecular Biology Department retreat flash talk (\$200)
2023	Annual Medical School Research Retreat poster presentation (\$100)
2023	Biophysical Society Annual Meeting Travel Award (\$350)
2023	GSBS Travel award (\$600)
2023	Biochemistry and Cell Biology Travel Award (\$250)
2023	Graduate Student Education Committee (\$750)
2022	Biochemistry and Cell Biology Symposium oral presentation (\$300)
2022	GSBS Travel award (\$500)
2022	Biochemistry and Cell Biology Travel Award (\$250)
2022	Graduate Student Education Committee (\$750)
2021	The Antje Wuelfrath Gee and Harry Gee, Jr. Family Legacy Scholarship (\$5,000)
2008-2013	Tennessee Hope Scholarship (\$15,000)

LEADERSHIP ROLES

2023	Kopchick Symposium Organizing Committee
2022-2023	Vice President of the Biochemistry and Cell Biology student council
2023	Biochemistry and Cell Biology Spring Symposium Invited Speaker Student Committee

MENTORSHIP ROLES

2023	Mya Rodriguez, Jayaraman Lab
2021-2022	Mo-Fan (Elena) Huang, UTHealth
2017	Malissa Owen, Ploski Lab
2017	Serafin Gatica, Ploski Lab
2017	Shayrin Oad, Ploski Lab

TECHNIQUES AND TOOLS

Patch-clamp electrophysiology
 Single-molecule Fluorescence Resonance Energy Transfer
 Biochemical assays (immunoblotting, SDS page)
 Molecular cloning

Cell culture, adhered and suspension (Mammalian, insect)

Protein purification (affinity, size-exclusion, FPLC)

Animal Handling (behavior, husbandry and breeding)

Non-survival surgery (mice, rat)

Tissue collection (cryosection, brain extraction)