CURRICULUM VITAE

Isabel A. Muzzio
Psychological and Brain Sciences
University of Iowa email:
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Research Interests

My scholarly goal is to deepen our understanding of the neurobiology underlying memory. My lab focuses on two key areas: 1) mapping the neural circuits and characterizing the neural representations involved in recent and remote memories in the hippocampus and neocortex, and 2) exploring the mechanisms of spatial reorientation—the ability to regain one's bearings after becoming lost or disoriented. To pursue these inquiries, my lab employs a multidisciplinary approach that includes electrophysiological recordings and calcium imaging in freely moving mice. This methodology is complemented by genetic, optogenetic, chemogenetic, behavioral, and computational approaches. By unraveling the intricate mechanisms underlying learning and memory, my research program holds significant potential for impacting the understanding and treatment of various neurodegenerative conditions characterized by memory impairment and spatial disorientation.

EMPLOYMENT AND EDUCATION

2022-present	Ronnie Ketchel Professor in Psychology, Department of Psychological and Brain Sciences, University of Iowa, IA 2021-2022 Professor, Department of Biology, University of Texas, San Antonio, TX 2016-2021 Associate Professor, Department of Biology, University of Texas, San Antonio, TX.
2009-2015	Assistant Professor, Department of Psychology, University of Pennsylvania, Philadelphia, PA.
2004-2007	Associate Research Scientist, Neuroscience Department, Columbia University, New York, NY; Advisor: Dr. Eric R. Kandel
1999-2004	Postdoctoral Fellow, Center of Neurobiology and Behavior, Columbia University, New York, NY; Advisor: Dr. Eric R. Kandel
1994-1999	Ph.D. Psychology. Rutgers University, Piscataway, NJ; Advisor: Dr. Louis Matzel (GPA: 3.97/4.00)
1992-1994	M.S. Psychology. Rutgers University, Piscataway, NJ; Advisor: Dr. Carolyn Rovee-Collier (GPA: 4.0/4.0)
1987-1991	B.S. Psychology. University of Massachusetts, Amherst, MA; High Honors (GPA: 4.0/4.0)

GRANT FUNDING

Current

2020-2026	National Institute of Health/NIMH (R01 MH123260-01), $2,911,061. PIs: **I.A. Muzzio** and A. Apicella. Dates: 04/01/20-03/31/26. Role of cortical long-range GABAergic inhibition in emotional learning

Pending

2025 Mechanisms of neural timing in auditory cortex. Muzzio, I.A. (PI). **Grant still pending review**

2025 Molecular and Functional Impact of Brain Stimulation: From Cells to Circuits. Abel, T. Petkov, C., and Muzzio, I.A. (mPI). **Grant still pending review**

Past Funding

2019-2025 National Science Foundation, IOS (1924732), $803,000, PI**: I.A. Muzzio.** Dates 09/01/2019-08/31/2022. Neural mechanisms of generalization in the ventral hippocampus

2021-2022 SA Medical Foundation. Co-PIs: **Muzzio, I.A**., Shapiro, M. Total: $200,000. Awarded August 2021. Brain mechanisms of Covid-19.

2016-2018 National Science Foundation CAREER award (1565410), $815,000, PI **I.A. Muzzio.** Effects of emotion on hippocampal representations and memory retrieval

2012 University of Pennsylvania Research Funds, $50,000, PI **I.A. Muzzio**

2010-2015 National Science Foundation IGERT: Complex Scene Perception (0966142), Division of Graduate Education. Award number 0966142. $3,500,000. PI: K. Daniilidis; co-PIs: D. Brainard, D. Lee, **I. A. Muzzio** and C. Taylor

2002 Minority Postdoctoral Fellowship, American Psychological Association (Declined) 1994 Minority Graduate Fellowship, American Psychological Association.

Mentees past funding

2021-2023 Celia Gagliardi, NIH National Service Award (NRSA) Fellowship, Mentor: **I.A. Muzzio.**

2014-2016 Robin Yuan, NIH National Service Award (NRSA) Fellowship, Mentor: **I.A. Muzzio.**

AWARDS

2022 UTSA Presidential Teaching Excellence Award

2021 Finalist for the UTSA Presidential Research Award. 2015-2019

2014 National Science Foundation CAREER award

1999 Minority Travel Award, Society for Neuroscience.

1991 Cum Laude University of Massachusetts, Amherst

1991 Phi Beta Kappa Honor Society

1991 Phi Kappa Phi Honor Society

1991 Psi Chi Honor Society

1991 Sigma Xi Honor Society

1991 Short Essay Award, University of Massachusetts, Amherst

1990 Short Essay Award, University of Massachusetts, Amherst

PUBLICATIONS

Department of Psychological and Brain Sciences, University of Iowa, Iowa City, IA, 52242
email: isabel-muzzio@uiowa.edu

Cook, N.B., Wasberg, S.N.H., Henneghan, T., Ogallar Ruiz, P., Ramos Alvarez, M.M., and **Muzzio, I.A**. (2025) Primary Auditory Cortex Activity During Early Retrieval Supports Later Extinction Learning (*in print*). *Neurobiology of Learning and Memory*

Gagliardi, C.M., Normandin, M., Keinath, A.T., Julian, J.B., Epstein, R.A., Lopez, M., Ramos Alvarez, M., and **Muzzio, I.A**. (2024) Distinct hippocampal neural mechanisms for heading retrieval and context recognition during spatial reorientation. *Nature Communications*, 5(1):5968. doi: 10.1038/s41467-02450112-7.

Lopez, M., Wasberg, S-M., Gagliardi, C.M., Normandin, M.E., and **Muzzio, I.A**. (2024) Mystery of the Memory Engram: History, current knowledge, and unanswered questions. *Neuroscience and Biobehavioral Reviews*, 159:105574. doi: 10.1016/j.neubiorev.2024.105574.

Rodriguez, D., Church, K.C., Smith, C.T., Vanegas, D., Cardona, S.M, **Muzzio, I.A**., Nash, K.R., and Cardona, A.E. (2024). Therapeutic delivery of soluble fractalkine ameliorates vascular dysfunction in the diabetic retina, *International Journal of Molecular Science*, 25(3):1727. doi: 10.3390/ijms25031727.

Rodriguez, D., Church, K.C., Pietramale, A.N., Cardona, S.M., Vanegas, D., Rorex, C., Leary, M. **Muzzio, I.A**., Nash, K.R., and Cardona, A.E. (2024). Fractalkine isoforms differentially regulate microglia-mediated inflammation and enhance visual function in the diabetic retina. *Journal of Neuroinflammation. 2024 Feb 4;21(1):42. doi: 10.1186/s12974-023-02983-8.PMID: 38311721*

Sarker, B, Cardona, S.M., Church, K.A., Vanegas, D., Velazquez, P., Rorex, C., Rodriguez, D., Mendiola, A.S., Kern, T.S., Stephens, R., **Muzzio, I.A.,** Cardona, A. E. (2022) Defibrinogenation Ameliorates Retinal Microgliosis and Inflammation in a CX3CR1-Independent Manner, *ASN Neuro, 14:17590914221131446. doi: 10.1177/17590914221131446.*

Normandin, M.E., Garza, M., Eresanara, T., Punjaala, N., Vasquez, J.H., **Muzzio, I.A.** (2022) Navigational affordances influence the use of geometric strategies in blind and sighted mice, *Psychological Science,* 33(6):925-947. *doi: 10.1177/09567976211055373. PMID: 35536866*

Yuan, R.K., Lopez, M., Ramos-Alvarez, M., Normandin, M., Thomas, A., Grenier, A., Cerda, V., Wood, M., M., Gagliardi, C., and **Muzzio, I.A**. (2021) Differential effect of sleep deprivation on place cell representations, sleep architecture, and memory in young and old mice. *Cell Reports***, 35:** 109234

Vasquez, J.H., Leong, K.C., Gagliardi, C.M., Harland, B., Apicella, A.J., and **Muzzio, I.A**. (2019). Pathway specific activation of ventral hippocampal cells projecting to the prelimbic cortex diminishes fear renewal. *Neurobiology of Learning and Memory*, 161:63-71. PMID:30898692. (**Journal cover**).

Muzzio, I.A. (2018). Spatial Instability: The Paradox of Place Cell Remapping. *Current Biology* 28, R1306R1307. PMID: 30458150.

Keinath, A.T., Julian, J.B., Epstein, R., and **Muzzio, I.A.** (2017). Environmental geometry aligns the hippocampal map. *Current Biology*, 27, 309-319, PMID: 28089516. **Article featured in a dispatch written by Randy Gallistel (Gallistel, C.R. (2017) Navigation: Whence Our Sense of Direction? Current Biology, 27, R108-R110.

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Yuan, R. K., Hebert, J.C., Thomas, A.S., Wann, E.G., and **Muzzio, I.A**. (2015). HDAC I inhibition in the dorsal and ventral hippocampus differentially modulates predator-odor fear learning and generalization. *Frontiers in Neuroscience* 9, 1-11. PubMed PMID: 26441495.

Wang, M.E., Yuan, R.K., Keinath, A.T., M. M. Ramos-Alvarez, and **Muzzio, I.A**. (2015) Extinction of learned fear induces place cell remapping. *Journal of Neuroscience* 35, 9122-9136. PMID: 26085635.

Julian, J.B., Keinath, A.T., **Muzzio, I.A.,** Epstein, R. Place recognition and heading retrieval are dissociable in mice. (2015) *PNAS* 112, 6503-6508. PMID: 25941390.

Keinath, A.T., Wang, M.E., Wann, E.G., Yuan, R.K., Dudman, J.T., **Muzzio, I.A**. (2014) Precise spatial coding is preserved along the longitudinal hippocampal axis. *Hippocampus* 24, 1533-1548. PMID: 25045084.

Wang, M.E., Fraize, N.P., Yin, L., Yuan, R.K., Petsagourakis, D., Wann, E.G., and **Muzzio, I.A**. (2013*)* Differential roles of the dorsal and ventral hippocampus in predator odor contextual fear conditioning. *Hippocampus* 23, 451-463. PMID: 23460388.

Wang, M.E., Wann, E.G., Yuan, R. K. Stead, S.M., and **Muzzio, I.A**. (2012) Representations of a persistent emotional memory encoded by place cells in the hippocampus. *Journal of Neuroscience* 32**,** 1580215814. PMID: 23136419.

Levita, L and **Muzzio, I.A**. (2010) Role of the hippocampus in goal-oriented tasks requiring retrieval of spatial versus non-spatial information. *Neurobiology of Learning and Memory* 93, 581-588. PMID: 20206279.

Muzzio, I.A., Kentros, C. and Kandel E.R. (2009) What is remembered? Role of attention on the encoding and retrieval of hippocampal representations. *Journal of Physiology* 587 (Pt 12), 2837-2854. PMID: 19525568.

Muzzio, I.A., Levita, L., Kulkarni, J., Monaco, J., Kentros C., Stead, M., Abbott, L., and Kandel, E.R. Attention to spatial task contingencies selectively enhances neuronal synchronization and the stability of hippocampal representations of space. *PloS Biology* 7: e1000140. PMID:19564903.

Morozov*****, A., **Muzzio, I.A.***, Bourtchulatze, R., Winder, D., Adams, P., Sweatt, J.D., Van-Strien, N., Lapidus, K., Yin, D.Q. and Kandel, E.R. (2003). Rap1 couples cAMP signaling to a distinct pool of p42/44MAPK regulating excitability, synaptic plasticity, learning and memory. *Neuron* 39, 309-325. PMID: 12873387. **(*)** ***These authors contributed equally to this work.***

Chen*****, A., **Muzzio*, I.A.**, Malleret, G., Bartsch, D., Verbitsky M., Pavlidis P., Yona A.L., Vronskaya S., Grody M.G., Cepeda I., Gilliam C. and Kandel, E.R. (2003). Inducible enhancement of memory storage and synaptic plasticity in transgenic mice expressing a dominant-negative inhibitor of ATF4 (CREB-2) and C/EBP proteins. *Neuron* 39, 355-369. PMID: 12925279. **(*)** ***These authors contributed equally to this work.***

Muzzio, I.A., Gandhi, C.C., Manyam, U. and Matzel, L.D. (2001). Receptor-stimulated phospholipase A (2) liberates arachidonic acid and regulates neuronal excitability through protein kinase C. *Journal of Neurophysiology* 85, 1639-1647. PMID: 11287487.

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Matzel, L.D., Gandhi, C., and **Muzzio, I.A**. (2000). Synaptic efficacy is commonly regulated within a nervous system and predicts individual differences in learning. *NeuroReport* 11, 1253-1258. PMID: 10817602.

Winder, D.G., Martin, K.C., **Muzzio, I.A**., Rohrer, D., Chruscinski, A., Kobilka, B., Kandel, E.R. (1999). ERK plays a novel regulatory role in the induction of LTP by theta frequency stimulation and its regulation by b-adrenergic receptors in CA1 pyramidal neurons. *Neuron* 24, 715-726. PMID: 10595521.

Talk, A.C., **Muzzio, I.A**., and Matzel, L.D. (1999). Neurophysiological substrates of contextual conditioning in *Hermissenda* suggest a temporally invariant form of activity-dependent neuronal facilitation. *Neurobiology of Learning and Memory* 72, 95-117. PMID: 10438650.

Muzzio, I.A**.,** Ramirez, R.R., Talk, A.C., and Matzel, L.D. (1999). Interactive contributions of intracellular calcium and protein phosphatases to massed trials learning deficits in *Hermissenda*. *Behavioral Neuroscience* 113, 103-117. PMID: 10197910.

Matzel, L.D., Talk, A.C., Muzzio, I.A**.,** and Rogers, R.F. (1998). Ubiquitous molecular substrates for associative learning and activity-dependent neuronal facilitation. *Reviews in the Neurosciences* 9, 1-39. PMID: 9833649.

Ramirez, R.R., Gandhi, C., **Muzzio, I.A**., and Matzel, L.D. (1998). Protein synthesis-dependent memory and neuronal enhancement in *Hermissenda* are contingent on parameters of training and retention. *Learning and Memory* 4, 462-477. PMID:10701872.

Muzzio, I.A., Talk, A.C., and Matzel, L.D. (1998). Intracellular Ca^{2+} and adaptation of voltage responses to light in *Hermissenda* photoreceptors. *Neuroreport* 9, 1625-1631. PMID: 9631477.

Muzzio, I.A., Talk, A., and Matzel, L.D. (1997). Incremental redistribution of protein kinase C underlies the acquisition curve during *in vitro* associative conditioning in *Hermissenda. Behavioral Neuroscience* 111, 739-753. PMID: 9099806.

Talk, A.C., **Muzzio, I.A**., and Matzel, L.D. (1997). Phospholipases and arachidonic acid contribute independently to sensory transduction and associative neuronal facilitation in *Hermissenda* type B photoreceptors. *Brain Research* 751, 196-205. PMID: 9099806.

Matzel, L.D., **Muzzio, I.A.,** and Talk, A. (1996). Variations in learning reflect individual differences in sensory function and synaptic integration. *Behavioral Neuroscience* 110, 1084-1095. PMID: 8919011.

Muzzio, I.A., and Rovee-Collier, C. (1996). Timing effects of postevent information on infant memory. *Journal of Experimental Child Psychology* 63, 212-238. PMID: 8812049.

Matzel, L.D., **Muzzio, I.A.,** and Rogers, R. (1995). Diverse current and voltage responses to baclofen in an identified molluscan photoreceptor. *Journal of Neurophysiology* 74, 506-517. PMID: 7472358.

Articles in preparation (to be submitted within the next 4 months)

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Lopez, M.R., Normandin, M.E., Ogallar Ruiz, P., Backstrom, R., Henneghan, T.G., Mihalik, J., and Muzzio, I.A. Consistently active memory ensembles encode critical mnemonic components of emotional cues. *In preparation (anticipated submission: November 2025).*

Gagliardi C.M., Normandin M.E., Ogallar Ruiz, P., Lopez M.R., **Muzzio I.A**. Role of retrosplenial cortex during reorientation. *In preparation (December 2025).*

Wasberg, S.M.H., Henneghan, T.G., Muzzio, I.A. Auditory cortex long-range somatostatin projections to lateral amygdala facilitate discrimination learning. In preparation (anticipated submission *December 2025*)

CONFERENCE PRESENTATIONS (LAST 9 YEARS)

2024 Backstrom, R.L., Lopez, M.R., Normandin, M.E., Ogallar-Ruiz, P.M., Wasberg, S.M.H., Muzzio, I.A. Prelimbic cortex representations of valence across time. SFN, Chicago, IL

2024 Wasberg, S.M.H., Cook, N.B., Normandin, M.E., Muzzio, I.A. Role of primary auditory cortex in fear learning during recent and remote memory retrieval. SFN, Chicago, IL

2024 Henneghan, T.G., Wasberg, S.M.H., Watkins, L., Muzzio. I.A. Role of auditory cortex and its long-range GABAergic projections to lateral amygdala in recent and remote recall. SFN, Chicago, IL

2024 Ogallar Ruiz, P.M., Gagliardi, C.M., Muzzio, I.A.. Reorienting behavior and retrosplenial circuitry in complex environment. SFN, Chicago, IL

2024 Normandin, M.E., Gagliardi, C.M., Muzzio, I.A. Retrosplenial control of environmental cues used for spatial reorientation, SFN, Chicago, IL

2022 Ni, A., Xu, N., Bazaldua, I., Vigil, F., Shinn, M., Sun, E., Vyas, S., Muzzio, I.A., Shapiro, M.S. Sars-cov-2 protein disruption of the blood-brain-barrier, distinct from cellular viral infection, leading to a maladaptive inflammatory response playing a role in long haul covid-19 symptoms. SFN, San Diego, CA

2022 Rodriguez, D., Church, K.A., Pietramale, A.N., Cardona, S.M., Vanegas, D., Muzzio, I.A., Nash, K.R., Cardona, A.E. Fractalkine isoforms differentially regulate microglia activation and vascular damage in the diabetic retina, SFN, San Diego, CA

2022 Gagliardi, C.M., Normandin, M.E., Punjaala, N., and Muzzio, I.A. Retrosplenial representations of space and hippocampal circuitry underlying spatial reorientation, SFN, San Diego, CA

2020 Gagliardi, C.M., Normandin, M.E., Keinath, A., Julian, J., Epstein, R., and Muzzio, I.A. Hippocampal neural representations of heading retrieval and place recognition, SFN Global Connectome (virtual conference).

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2019 Vasquez, J.H., Leong, K.C., Apicella, A., Gagliardi, C.M., Harland, B., and Muzzio, I.A. Pathway specific activation of ventral hippocampal cells projecting to the prelimbic cortex diminishes fear renewal. SFN, Chicago, Il

2019 Gagliardi, C.M., Normandin, M.E., Vasquez, J.H., Punjaala, N., and Muzzio, I.A. Role of retrosplenial cortex in spatial reorientation. SFN, Chicago, Il

2019 Garza, M.C., Eresanara, T., I., Julian, J.B., Muzzio, I.A. Navigational affordances influence the use of geometric strategies in blind and sighted mice. SFN, Chicago, Il

2018 Vasquez, J.H., Leong, K.C., Muzzio, I.A. Pathway specific activation of ventral hippocampal cells projecting to the prelimbic cortex diminishes fear renewal. SACNAS, San Antonio, TX (1st prize Neuroscience category).

2018 Gagliardi, C.M., Lopez, M.R., Garza, M.C., Eresanara, T., I., Muzzio, I.A. Behavioral strategies and source of directional signal for reorientation in sighted and blind animals. SFN, San Diego, CA.

2018 Lopez, M.R., Yuan, R.K., Garza, M.C., Grenier, A., Cerda, V.R., Wood, M., Gagliardi, C.M., Muzzio, I.A. Effects of sleep deprivation on memory and sleep patterns in young adult and aged mice. SFN, San Diego, CA.

2018 Leong, K.C., Vasquez, J.H., Muzzio, I.A. Selective manipulation of ventral hippocampal projections to the prelimbic cortex facilitates fear extinction generalization. SFN, San Diego, CA.

2017 Lopez, M.R., Zurita, H., Harland, B., Leong, K.C., Apicella, A., Muzzio, I.A. Physiological characteristics and functional role of ventral hippocampus projecting cells. SFN, Washington, DC.

2017 Lopez, M.R., Zurita, H., Harland, B., Leong, K.C., Apicella, A., Muzzio, I.A. Physiological characteristics of ventral hippocampus projecting cells. UTSA COS Conference, San Antonio, TX.

2017 Vazquez, J.H., Leong, K.C., Muzzio, I.A. Chemogenetic manipulation of ventral hippocampus projection pathways facilitates extinction generalization. UTSA COS Conference, San Antonio, TX.

2017 Yuan, R. K. and Muzzio, I.A. Effects of sleep deprivation on hippocampal representations and memory. Binational Mechanisms of Learning Forum, Queretaro, Mexico.

2016 Yuan, R. K., Lopez, M., and **Muzzio, I.A**. Sleep deprivation affects place cell activity in young and aged adult mice performing a hippocampus-dependent object-place task. Fresh Air Conference, Austin, TX.

2016 Lakhani, K., Yuan, R.K., and **Muzzio, I.A**. Spatial reorientation in young and old mice. Fresh Air Conference, Austin, TX.

2016 Lakhani, K., Yuan, R. K. and **Muzzio, I.A**. Spatial reorientation in aged mice. SFN, San Diego, CA

2016 Julian, J.B., Keinath, Epstein, R.A., and **Muzzio, I.A**. Context Recognition and Heading Retrieval have Dissociable Effects on Hippocampal Spatial Representations, iNAV Conference, Bad Gastein, Austria.

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2016. Yuan, R. K. and **Muzzio, I.A.** Effects of sleep deprivation on place cell activity in young and aged adult mice performing the object-place recognition task. SFN, San Diego, CA.

2016 Keinath, A., Julian, J.B., Epstein, R.A., and **Muzzio, I.A**. Environmental geometry aligns the hippocampal map during spatial reorientation, Bad Gastein, Austria.

2016 Julian, J.B., Keinath, A.T., Ryan, J., Hamilton, R.H., **Muzzio, I.A**., and Epstein, R.A. Mechanisms for encoding navigational boundaries in the mammalian brain. Journal of Vision, 16, 8-8, Pete Beach, FL.

2015 Yuan, R. K. and Muzzio, I.A. The effects of sleep deprivation on spatial representations in young and aged adult mice during the object-place recognition task. SFN, Chicago, IL.

2015 Julian, J.B., Keinath, A.T., Epstein, R.A., and **Muzzio, I.A**. Place recognition and heading retrieval have dissociable effects on hippocampal spatial representations. SFN, Chicago, IL.

2015 Keinath, A.T., Julian, J.B., Epstein, R.A., and **Muzzio, I.A.** Spatial geometry orients hippocampal spatial representations in disoriented mice. SFN, Chicago, IL.

2014 Julian, J.B., Keinath, A.T., **Muzzio, I.A.,** and Epstein, R.A. Place recognition and heading retrieval are dissociable in mice (and possibly men). SFN, Washington, DC.

2014 Hebert, J.C., Yuan, R.K., and **Muzzio, I.A.** Epigenetic mechanisms mediating contextual fear conditioning and generalization in the hippocampus. SFN, Washington, DC.

2014 Keinath, A.T., Wang, M.E., Dudman, T.J., and **Muzzio, I.A**. Redundant spatial representation along the longitudinal hippocampal axis: Overcoming and interference-generalization tradeoff. SFN, Washington, DC.

2014 Yuan, R.K., and **Muzzio, I.A**. The effects of sleep deprivation on spatial representations in young and aged adult mice during and object place recognition task. SFN, Washington, DC.

2014 Keinath, A.T., and **Muzzio, I.A**. Precise spatial coding along the longitudinal hippocampal axis: Implications for memory. Small Circuits Conference, Philadelphia, PA

2014 Keinath, A.T., Wang, M.E., Dudman, J.T., and **Muzzio, I.A**. Redundant hippocampal spatial coding offsets competition between interference and generalization. Cosyne, Salt Lake City, UT

2013 Keinath, A.T., Dudman, J.T., and **Muzzio, I.A**. Spatial Representation in the Ventral Hippocampus. CEMS, Philadelphia, PA

2013 Keinath, A.T., Dudman, J.T., and **Muzzio, I.A**. Spatial Representation in the Ventral Hippocampus. Cosyne, Salt Lake City, UT

2013 **Muzzio, I.A**. Effects of emotion on hippocampal representations. Small Circuits & Behavior Meeting, Philadelphia, PA

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2013 Wang M.E., Yuan R.K., and **Muzzio I.A**. (The effects of fear conditioning and extinction on neuronal synchronization and spatial representations in the hippocampus. SFN, San Diego, CA

2013 Yuan, R.K., Wang, M.E., and **Muzzio, I.A.** The effects of sleep deprivation on spatial representations in young and aged mice. SFN, San Diego, CA

2012 Yuan, R.K., Wang, M.E., and **Muzzio, I.A.** The effects of sleep deprivation on spatial representations. SFN, New Orleans, LA

2012 **Muzzio, I.A.,** Fraize, N.P., Wann, E.G. Epigenetic mechanisms mediate fear generalization in the ventral hippocampus. SFN, New Orleans, LA

2012 Wang M.E., Yuan R.K., and **Muzzio I.A.** The effects of fear conditioning and extinction on hippocampal place cell representations. SFN, New Orleans, LA

2012 Wann, E.G., Du, T.J., Stead, M., **Muzzio, I.A**. How emotional conditions modulate ventral and dorsal hippocampal place cell firing? SFN, New Orleans, LA

2011 Wang M.E., Yuan R.K., Fraize, N., Addo-Yobo, C., and **Muzzio, I.A.** The effect of fear conditioning and extinction on hippocampal place cells: Does changing the emotional value of a context affect its representation in the hippocampus? SFN, Washington, DC

2011 Wann, E.G., Stead, M., **Muzzio, I.A**. How are visuospatial and olfactory cues of different emotional value encoded in the dorsal and ventral hippocampus? SFN, Washington, DC

2010 Wang, M.E., Wann, E.G., Yin, L., Florian, C., Abel, T., and **Muzzio, I.A.** Remembering the smell of fear: The role of the hippocampus in predator odor fear conditioning, San Diego, CA

SERVICE CONTRIBUTIONS

Department and University Service

2023-present	Behavioral and Cognitive Neuroscience Area Coordinator, Department of Psychological and Brain Sciences University of Iowa.
2020-present	Member of the Society for Neuroscience Council Neuroscience Scholar Program. This program aims at increasing representations of under-represented graduate or postdoctoral researchers to enhance their career opportunities and build a community.
2023-2024	Promotion Committee for Associate Professor for Dr. Kai Hwang and Dr. Isaac Petersen, Psychological and Brain Sciences Department, University of Iowa
2023-present	Member of the Iowa's Hawkeye Intellectual and Developmental Disabilities Research Center
2023	Computational Faculty Search (Chair), Department of Psychological and Brain Sciences
2021-2022	Graduate Advisor of Record. Responsibilities: Supervision of the Neuroscience PhD program, including curriculum development/changes as well as mentoring of all PhD students.

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2021-2022 Head of the Doctoral Search Committee. Responsibilities: Organization of recruitment and applicants' evaluation and acceptance into the neuroscience program.

2021-2022 Member of the Advisory Board Committee. Responsibilities: Advise the chair about strategic planning.

2019-2020 Faculty Mentoring: Responsibilities: Advise junior faculty for tenure promotion.

2021-2022 Graduate Advisor of Record, Neuroscience, Developmental, and Regenerative Biology, UTSA
2019-2020 Recruitment Task Force Committee Member
2018-2019 co-Chair Gene Editing Faculty Search, Biology Department, UTSA
2018-2019 Chair Neurobiology Faculty Search, Biology Department, UTSA
2018-2019 Member of the Environmental Science Faculty Review Advisory Committee (DFRAC)
2016-present Doctoral Search Committee member, UTSA
2016-2017. Psychology Chair Search, UTSA.
2013-2015 Member of the Research Academic Review Committee (ARC) for the Neuroscience Department, Penn.
2011-2012 Psychology Admission Committee, Penn.
2010-2015 Committee member for the Neuroscience Colloquium Series, Penn
2009-2015 Committee member for the Psychology Colloquium Series, Penn

National Service

reviewer

2025 NIH Special emphasis panel. Conducted grant reviews.
2025 NIH Brain Initiative Panel. Conducted grant reviews.
2024 External Tenure reviewer, Texas A&M, Department of Psychology
2024 NIH panel reviewer. ZRG1 ICN-A (02) Member conflict panel in Auditory, Visual and Cognitive Neuroscience.
2020-present Society for Neuroscience, Neuroscience Scholar Program (Council member)
2019-2023 National Institute of Health, Brain Initiative, panel reviewer.
2015-2023 National Science Foundation: Systems Neuroscience subdivision. Washington, DC.
2016 Southwest National Primate Research Center. Texas Biomedical Research Institute, San Antonio, TX

Ad-hoc reviewer

Hippocampus, Neurobiology of Learning and Memory, e-Life, Journal of Neuroscience, Brain Structure and Function, Genes, Brain, and Behavior, Learning and Memory, Neuropsychopharmacology, Biological Psychiatry, eNeuro, Journal of Physiology, Journal of Neurophysiology, Molecular Psychiatry, Cell Reports, Cerebral Cortex, eLife, Nature Communications, Neuropsychopharmacology

Ad-hoc grant reviewer

National Institute of Health (NIH),
National Science Foundation (NSF),
French National Research Agency (FNRA).
Israel Science Foundation (ISF)

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Tenure Committee

2023 Evaluation for promotion to Associate Professor for Dr. Kai Huang and Dr. Isaac Petersen, Psychological and Brain Sciences Department, University of Iowa

2021 Evaluation for promotion to Full Professor for Dr. Alfonso Apicella, Jr., Neuroscience, Developmental, and Regenerative Biology, UTSA

2019 Evaluation for promotion to Associate Professor for Dr. Matthew Wanat, Biology Department, UTSA

2018 Evaluation for tenure promotion for Dr. Andrew Talk, Assistant Professor, Department of Psychology, University of New England, Australia

2009 French evaluation to obtain permission to mentor investigators (*Habilitation à diriger des recherches*) at the Universite Claude Bernard, Lyon, France for Dr. Gael Malleret.

INVITED TALKS

2025 Role of retrosplenial cortex in spatial reorientation. Winter Brain Conference, Lake Tahoe, CA

2024 Time-dependent signals in primary auditory cortex. Delta Center, University of Iowa, Iowa City, IA

2024 Time-dependent signals in primary auditory cortex are modulated by stimulus valence. Biology Department, University of Iowa, Iowa City, IA

2023 Wide Lens: Memory. Remembering our past: Emotions matter. Stanley Museum of Art, Iowa City, IA

2022 Regaining our bearings: Neural representations and circuits underlying spatial reorientation. XXXIII National Congress of Bioquemistry organized by the Mexican Society of Biochemistry, Merida, Yucatan, Mexico

2022 Where are we? Circuits and representations of spatial reorientation. Colombian Association of Neuroscience and Universidad Javeriana, Cali, Colombia (virtual talk)

2022 Neural representations of reorientation, Matrix Artificial Intelligence (AI), The UTSA AI consortium for human well-being, San Antonio, TX

2022 Regaining our bearings: Circuits and neural representations underlying spatial reorientation, Psychology Department, Ohio State, Columbus, OH

2022 Finding our bearings after becoming lost: Mechanisms of neural coding and brain circuits underlying spatial reorientation. Distinguished speaker in the MATRIX Artificial intelligence (AI) Seminar Series, UTSA, San Antonio, TX

2022 Regaining our bearings: Representations and circuits underlying spatial reorientation, Department of Psychology, Emory University, Atlanta, Georgia

2021 Neural representations and circuits underlying spatial reorientation, Department of Psychology and Center for Neuroscience, University of California at Davis, Davis, CA 2021 Finding our bearings: Neural representations and circuits underlying spatial reorientation. Department of anatomy and physiology, University of Maryland, Baltimore, MD

2020 Neural representations and circuits underlying memory encoding and retrieval, Biology Department, UTSA, San Antonio, TX.

2019 Where are we? Circuits and representations of spatial reorientation. Physiology Department, UT Health, San Antonio, TX

2019 Neural mechanisms of reorientation. Department of Psychology, San Antonio A& M, San Antonio, TX

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2019	Finding our way: Neural codes of reorientation. Department of Physiology and Neuroscience. Johns Hopkins Medical School, Baltimore, MD.
2018	Neural codes of reorientation. iNav Conference. Neural codes of reorientation. Tremblant Canada
2017	Hippocampal correlates of reorientation. Neural Codes of Navigation Symposium, UTSA, San Antonio, TX
2017	Hippocampal neural correlates of reorientation, Psychology Department, Texas Christian University, Fort Worth, TX
2017	Binational Mechanisms of Learning Forum (conference organized by Emory University and UNAM). Learning to reorient across multiple contexts, Queretaro, Mexico.
2017	Think Series Talk at Texas Public Radio. How memories are made and modified. San Antonio, TX
2016	UTSA, CBM Talk Seminars. Putting geometry on the map: Hippocampal neural representations of reorientation. San Antonio, TX
2016	Trinity University, Department of Psychology. Hippocampal representations underlie reorientation. San Antonio, TX.
2016	Winter Conference of on Neural Plasticity. Representing the specific and general aspects of a context along the longitudinal hippocampal axis. Maui, HI
2015	Trinity University, Department of Psychology. How does the hippocampus minimize interference and maximize generalization of contextual information? San Antonio, TX.
2015	Miami University, Department of Psychology. Integration of emotional and spatial cues along the longitudinal hippocampal axis. Oxford, OH
2015	North Carolina State University, College of Veterinary. Effects of emotion on spatial representations: How does the hippocampus encode the specifics and commonalities of an aversive event? Raleigh, NC
2015	University of Texas, Biology Department. How is spatial and emotional information represented along the longitudinal hippocampal axis? San Antonio, TX
2015	Florida Atlantic University, Department of Biology, Contextual and emotional information along the longitudinal hippocampal axis, Jupiter, FL
2014	Temple University, Department of Biology. Representation of emotional and spatial information along the longitudinal hippocampal axis, Philadelphia, PA
2014	Drexel University, Medical School. Integration of emotional and spatial information along the longitudinal hippocampal axis, Philadelphia, PA
2013.	University of California, Los Angeles (UCLA), Department of Psychology. Spatial representations along the longitudinal hippocampal axis: Tradeoff between memory interference and generalization, Los Angeles, CA
2013	University of Colorado, Interdepartmental Neuroscience Seminar Series. Encoding of motional and neutral contexts along the longitudinal hippocampal axis: Evidence from single cell and population coding, Boulder, CO
2013	SUNY Downstate, Department of Cell Biology. Neuromodulatory factors affecting memory along the hippocampal longitudinal axis, Brooklyn, NY
2013	Winter Conference on Neuronal Plasticity. Influence of attention and emotion on the encoding and retrieval of spatial representations, Willemstad, Curaçao
2011	University of Delaware, Department of Psychology. What do we remember? Effects of attention and emotion on the stability of hippocampal representations
2009	What do we remember? Attentional modulation of hippocampal representations. Universite Claude Bernard, Lyon, France

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Training

2017 Leadership UTSA. Represented College of Science, San Antonio, TX

TEACHING CONTRIBUTIONS

2025 Instructor, University of Iowa, Neurobiology I, BIO3256/BIO5653

2024 Instructor, University of Iowa, Neurobiology of learning and memory, PSY6240.

2023-present Instructor, University of Iowa, Introduction to behavioral Neuroscience, PSY5212. Foundation in Behavioral and Cognitive Neuroscience.

2022-present Instructor, University of Iowa, Introduction to behavioral Neuroscience, PSY2701:0AAA, Spring 2023, 2024, 2025

2016-2022 Instructor, University of Texas at San Antonio, Neurobiology: BIO3433 (instructor rating: 4.44/5.00); Neurobiology of Learning and Memory: BIO 6973 (instructor rating: 4.80/5.00), Neurophysiology: BIO 5433 (Instructor rating: 4.57/5.00). Bio7041: QE preparation for 1st year Neuro graduate students.

2014-2015 Instructor, University of Pennsylvania, Learning and Memory for psychology graduate students (graduate course: PSY600 2015C).

2009-2014 Instructor, University of Pennsylvania, Neurobiology of Learning and Memory (graduate course: BIO442/NGG551, S401, 2009C, 2010C, 2011C, 2012C, 2013C)

2009-2015 Instructor, University of Pennsylvania, Biological Basis of Brain and Behavior (undergraduate course: BBB109 S401, 2008A, 2009A, 2010A, 2011A, 2013A, 2014A)

2011-2012 Lecturer for Neuroscience Core III, Learning and Memory (graduate course: NGG573, S401, 2011A, 2012A)

1997-1998 Teaching Assistant, Rutgers University, undergraduate course: Statistics.

1996-1997 Instructor, Rutgers University, undergraduate course: Conditioning and Learning and Research methods.

MENTORING

Dissertation Committee Chair (completed dissertations)

2024 Nicole Cook, Ph.D. The primary auditory cortex: Representations and dynamics of recent and remote fear memories and the influence of the amygdala. UTSA student, defended thesis at the University of Iowa, Iowa City, IA

2023 Celia Gagliardi, Ph.D. Memory consolidation: Neural Mechanisms of Spatial Reorientation: How We Regain Our Bearings When Lost? UTSA student, defended thesis at the University of Iowa, Iowa City, IA

2023 Matthew Lopez, Ph.D. Memory consolidation: How reliable are our memories? UTSA student, defended thesis at the University of Iowa, Iowa City, IA

2018 Alexandra T. Keinath, Ph.D. Anchoring the cognitive map to the external world, UPenn, Philadelphia, PA.

2016 Robin Yuan, Ph.D. The effects of emotion and sleep alterations on hippocampus-dependent memory consolidation, UPenn, Philadelphia, PA.

2013 Melissa Wang, Ph.D. The role of the hippocampus in representations of emotional memory. UPenn, Philadelphia, PA.

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Postdocs

2023-present. Pedro Ogallar Ruiz, (Psychological and Brain Sciences, Neuroscience, University of Iowa)
2019-present Marc Normandin (Psychological and Brain Sciences, Neuroscience, University of Iowa)
2023-2024. Celia Gagliardi, (Psychological and Brain Sciences, Neuroscience, University of Iowa), Current position: Postdoctoral Fellow at the University of Minnesota, PI David Redish
2017-2018 Kah-Chung Leong (Biology, Neuroscience, UTSA), Current position: Assistant Professor, Psychology Department, Trinity University
2015-2016 Bruce Harland (Biology, Neuroscience, UTSA), Current position: Senior Research Fellow at the University of Auckland, New Zealand.

Graduate and Baccalaureate Students

2024-2025 Tempest Henneghan, Baccalaureate Student (iDREAM program), University of Iowa, Iowa City, IA
2023-2025 Rachel Backstrom, Graduate student, Neuroscience Program University of Iowa, Iowa City, IA
2023-2025 Sadie May Wasberg, Graduate student, Neuroscience Program University of Iowa, Iowa City, IA
2021-2024 Nicole Cook, Ph.D. candidate. Role of auditory cortex in fearful sound encoding of recent and remote memory, UTSA, San Antonio, TX
2017-2023 Celia Gagliardi (Biology, Neuroscience, UTSA)
Honors and awards received by CMG:
Graduate Student Performance Award 2020
NIH National Research Service Award (NRSA) Fellowship (NRSA), awarded December 2020
2017-2023 Matthew Lopez (Biology, Neuroscience, UTSA)
Honors and awards received by ML: Research Initiative for Scientific Enhancement (RISE) fellowship sponsored by the National Institute of General Medical Sciences (NIGMS)
2012-2017 Alexander Keinath (Psychology, Penn)
Honors and awards received by AK: IGERT fellowship recipient (2013-2015)
2012-2015 Joshua Julian, co-mentoring with Russell Epstein (primary advisor, Psychology, Penn)
2010-2017 Robin Yuan (Psychology, Penn)/ Obtained Ph.D. in January 2017

Honors and awards received by RY:

- Ruth L. Kirschstein National Research Service Award (NRSA), 2015
- Travel Fund, School of Arts and Sciences, 2012
- Research Student Travel Grant, Graduate and Professional Student Assembly, 2012
- Benjamin Franklin Fellowship, School of Arts and Sciences, 2010-present

2009-2013 Melissa Wang (Neuroscience Graduate Program (NGG), Penn)

Honors and awards received by MW:

- Dorothea Jameson and Leo M. Hurvich Travel Award recipient, 2011/ 2012
- UPenn GAPSA Travel Award recipient, 2012
- Behavioral and Cognitive Neuroscience Training Grant
- Hearst Foundation Fellowship, 2009

Master's students

2021-2022 Bria Moore (Biology, Neuroscience, UTSA)
2020-2021 Joshua Mihalik (Biology, Neuroscience, UTSA)
2020-2021 Antonio Allevato (Biology, Neuroscience, UTSA)

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2016-2017 Kiran Lakhani (Biology, Neuroscience, UTSA)

Master's Thesis committee member

2021 Mariana Dejeux, (Neuroscience, Adviser: Matthew Wanat)
2021 Madeleine Moseley, (Neuroscience, Adviser: Annie Lin)

Graduate student dissertation committee member

2023-present Alexa Zimbelman (Neuroscience, Advisor: Ryan Lalumiere)
2023-present Matthew McGregor (Neuroscience, Advisor: Ryan Lalumiere)
2021-2023 Derek Rodriguez (Microbiology, UTSA, Advisor: Astrid Cardona)
2021-present Colin Rorex (Microbiology, UTSA, Advisor: Astrid Cardona)
2019- 2022 Matthew Wood (Biology, UTSA, Advisor: Nicole Wicha, UTSA)
2019- 2022 Amandine Grenier (Biology, UTSA, Advisor: Nicole Wicha, UTSA)
2018-2022 Merridee Lefner (Biology, UTSA, Advisor: Matthew Wanat, UTSA)
2018-2021 Hector Zurita (Biology, UTSA, Advisor: Alfonso Apicella, UTSA)
2018-2021 Borna Sarker (Biology, UTSA, Advisor: Astrid Cardona, UTSA)
2017-2018 Christopher Rhodes (Biology, UTSA, Advisor: Annie Lin, UTSA)
2011-2014 Ryan Natan (Neuroscience, UPenn, Advisor: Maria Neimark Geffen, UPenn)
2011-2014 Morgan Bridi (Neuroscience, UPenn, Advisor: Ted Abel, Penn)
2010-2014 Lindsay Morgan Vass (Neuroscience, UPennAdvisor: Russell Epstein, UPenn)
2009-2014 Farzaneh Najafi (Biology, UPenn, Advisor: Javier Medina, UPenn)
2010-2013 Michael Young (Neuroscience, UPenn, Advisor: Steve Thomas, UPenn)
2008-2012 Kayla Metzger (Neuroscience, UPenn, Advisor: Sheryl Beck, UPenn)
2009-1011 Michael Gandal (Neuroscience, UPenn, Advisor: Steven Segal, UPenn)

Graduate student preliminary/candidacy/prospectus examination committee

2025 Hanxiao Liu, Neuroscience Program, University of Iowa, Advisor: Ryan LaLumiere
2025 Koushani Biswas, Psychological and Brain Sciences,University of Iowa, Advisor: John Freeman
2024 Midha Ahmad, Psychological and Brain Sciences, University of Iowa, Advisor: Mark Blumberg
2024 Savannah Bliese, Neuroscience Graduate Program, University of Iowa, Advisor: Snehajyoti Chatterjee
2023 Matthew McGregor (Psychological and Brain Sciences, University of Iowa, Advisor: Ryan LaLumiere)
2023 You Zipeng (Psychological and Brain Sciences, UIowa, Advisor: Mark Bloomberg)
2023 Alexa Zimbelman (Psychological and Brain Sciences, UIowa, Advisor: Ryan LaLumiere)
2023 Dalton Hinz (Psychological and Brain Sciences, UIowa, Advisor: Jason Radley)
2023 Derek Rodriguez (Translational Science Ph.D. program, Advisor Astrid Cardona, UTSA, UT Health, UT Austin)
2021 Nicole Cook (Neuroscience, Developmental, and Regenerative Biology, Advisor: Isabel Muzzio, UTSA)
2021 Colin Rorex (Microbiology Department, Advisor: Astrid Cardona, UTSA)
2021 Maria Garza, (Neuroscience, Developmental, and Regenerative Biology, Advisor; Anthony Burgos-Robles, UTSA)
2019 Celia Gagliardi, (Biology, Advisor: Isabel Muzzio, UTSA)
2019 Matthew Lopez, (Biology, Advisor: Isabel Muzzio, UTSA)
2017 Matthew Wood (Neuroscience, Advisor: Nicole Wicha, UTSA)

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2017 Hector Zurita (Neuroscience, Advisor: Alfonso Apicella, UTSA)
2017 Merridee Lefner (Neuroscience, Advisor: Matt Wanat, UTSA)
2017 Kiran Lakhani (Neuroscience, Advisor: Isabel Muzzio, UTSA)
2016 Crystal Rock (Neuroscience, Advisor: Alfonso Apicella, UTSA)
2014 Christopher Angelakos (Neuroscience, Advisor: Ted Abel, Penn)
2014 Joshua Julian (Psychology, Advisor: Russell Epstein, Penn)
2012 Lorenzo-Lucas-Luaces (Psychology, Advisor: Robert DeRubeis, Penn)
2011 Morgan Bridi (Neuroscience, Advisor: Ted Abel, Penn)
2011 Lindsay Morgan (Neuroscience, Advisor: Russell Epstein, Penn)
2011 Nicole Long (Psychology, Advisor: Michael Kahana, Penn)
2010 Christopher Dengler (Neuroscience, Advisor: Douglas Coulter, Penn)
2010 Adrienne Scutellaro (Psychology, Advisor: Daniel Swingley, Penn)
2008 Kayla Metzger (Neuroscience, Advisor: Sheryl Beck, Penn)

Graduate Student Research Advisory Committee

2025-present Kiley Flinn Psychological and Brain Sciences, University of Iowa Advisor: Ryan LaLumiere)
2023-present Emily Schulz (Psychological and Brain Sciences, University of Iowa, Advisor: Jason Radley)
2023-present Aspen Holm (Psychological and Brain Sciences, University of Iowa Advisor: Ryan LaLumiere)
2022-present Jacqueline Khama (Psychological and Brain Sciences, University of Iowa, Advisor: Jason Radley)
2022-2023. Shion Kabasele (Psychological and Brain Sciences, University of Iowa, Advisor: Ryan LaLumiere)

Graduate student rotations

2023 DeWitt, Haley (Neuroscience, University of Iowa)
2023 Hanxiao, Liu (Hudson) (Neuroscience, University of Iowa)
2023 Tre Andice Williams (Neuroscience, University of Iowa)
2023 Sadie May Wasberg (Neuroscience, University of Iowa)
2023 Rachel Backstrom (Neuroscience, University of Iowa)
2021 Morgan Johnston (Neuroscience, UTSA)
2019 Maria Garza (Neuroscience, UTSA)
2019 Nicole Cook (Neuroscience, UTSA)
2017 Mathew Lopez (Neuroscience, UTSA)
2017 Celia Gagliardi (Neuroscience, UTSA)
2017 Amandine Grenier (Neuroscience, UTSA)
2017 Vanesa Cerda (Neuroscience, UTSA)
2017 Matthew Wood (Neuroscience, UTSA)
2017 Hector Zurita (Neuroscience, UTSA)
2017 Merridee Lefner (Neuroscience, UTSA)
2016 Jessica Perkins (Neuroscience, UTSA)
2016 Kiran Lakhani (Neuroscience, UTSA)
2014 Run Yin (Biology, Penn)
2011 Sarah Ly (Neuroscience, Penn)
2009 Melissa Wang (Neuroscience, Penn)

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Undergraduate honor's thesis, Supervisor

2023-present. Lydia Watkins (Psychological and Brain Sciences, University of Iowa).
*** Lydia Watkins won one of the three Iowa Neuroscience Institute Summer Fellowships in 2024
2019 Juan H. Vasquez (Biology, UTSA)
2015-2017 Sriharshini Muthukumar (Biology, UTSA)
2015 Arthur Thomas (Biology, Penn)
2014 Akiif Premjee (Biological Basis of Behavior Program, Penn)
2014 Umberto Tosi, co-sponsored with Dr. Jeannie Chin (Biological Basis of Behavior Program, Penn)
2012 Linda Yin (Biological Basis of Behavior Program, Penn)

Undergraduate honor's thesis committee member

2020 Mariana Dejeux (Biology Department, UTSA, advisor, Dr. Matthew Wanat)
2020 Madelaine Mosely (Biology Department, UTSA, advisor, Dr. Annie Lin)
2017 Nasriya Witt (Biology/Psychology, UTSA, advisor: Dr. Georiganna Gould, Physiology Department, UT Health.

Undergraduate students who conducted research or independent studies under my supervision

2025-present Michael Roelofs (Psychological and Brain Sciences, University of Iowa)
2025-prsent Kaden Bex (Psychological and Brain Sciences, University of Iowa)
2025-present Jacey Hutson (Psychological and Brain Sciences, University of Iowa)
2024-present Nick Mickelson (Psychological and Brain Sciences, University of Iowa)
2022-2023. Lydia Watkins (Psychological and Brain Sciences, University of Iowa)
2021-present. Jane Sequeira (Biology, UTSA)
2020-2021 Sophie Williams (Biochemistry, UTSA)
2018-2021 Punjaala, Nishanth (Biology, UTSA), Recipient of the NSF Undergraduate Research Program for fall 2019
2019-2020 Lee, Tzu-Lo (Biology, UTSA)
2017-2020 Tuoyo Eresanara (Biology, UTSA), Accepted at NYU Master's Medical Program in 2019. Returned to Nigeria to attend Medical School in 2020
2017-2020 Juan Hilario Vazquez (Biology, UTSA), Recipient of 1st prize undergraduate presentation UTSA Conference of Science, Maximizing Access to Research Careers (MARC) fellowship, Summer Program at the University of Iowa (received Honorable Mention at poster presentation). 1st prize at the National Diversity in STEM *Conference* (SACNAS) in 2018. Accepted in the neuroscience graduate program at UCSD in 2020
2018-2019 Leema Hamoudah (Biology, UTSA)
2018-2019. Gianna Davis (Biology, UTSA)
2016 Sriharshini Muthukumar (Biology, UTSA)
2015 Ashley Rawls (Biology, UTSA)
2014 Arthur Thomas (Biology, Penn), accepted at UPenn Medical School
2014 Darby Marx (Biological Basis of Behavior Program, Penn)
2013 Jennifer Hebert (Biology, Penn), Rhodes Scholar 2015
2013 Umberto Tosi, (Biological Basis of Behavior Program, Penn)
2013 Carina Zhang (Biological Basis of Behavior Program, Penn)
2013 Akiif Premjee (Biological Basis of Behavior Program, Penn)
2012 Despina Petsagourakis (Psychology, Haverford College)
2011 Nupur Grover (Vagelos Life Sciences and Management program, Wharton School, Penn)

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2010	Kenneth Bisson (Psychology, Penn)
2010	Charles Addo-Yobo, recipient of the Louis Stokes Alliances for Minority Participation (LSAMP) fellowship (Biological Basis of Behavior Program, Penn). Graduated from Medical School on May 2020.
2010-2011	Linda Yin, recipient of the Penn Center of Undergraduate Research and Fellowships (Biological Basis of Behavior Program, Penn), Currently Othorynolanryngologist Resident at Mayo clinic
2009	Neil Liu (Vagelos Life Sciences and Management program, Wharton School)
2008	Tianyi (TJ) Du (Biology, Penn)
2008	Jordan Livingston (Psychology, Washington University)

Research Assistants

2018-2019.	Maria Garza, currently enrolled in the UTSA neurobiology graduate program
2010-2012	Ellen Wann, obtained her Ph.D. at UC Irvine in 2018
2010-2011	Nicolas Fraize, Obtained his Ph.D. Universite Claude Bernard, Lyon, France 2017

Visiting Professors

2018	Dr. Alan Daniel, Psychology Department, San Antonio A&M
2018	Dr. Andrew Talk, Psychology Department, University of New England, Australia
2012	Dr. Carmen Torres Bares, Psychology Department, University of Jaen, Jaen, Spain

OTHER SYNERGISTIC ACTIVITIES

2019-2024.	Council Member of the Society for Neuroscience for the Neuroscience Scholar Program. A two-year online training program open to underrepresented graduate students and postdoctoral researchers to enhance career opportunities and networking.
2017	Neural Codes of Navigation Symposium, UTSA, San Antonio, TX
2015-present	Neuroscientists Talk Shop. Podcast organized by the Neuroscience Institute at UTSA to disseminate science and current techniques.
2012-2014	Member of the Neuroscience in Your World Project, a joint program between the Franklin Institute and the Center for Neuroscience & Society at the University of Pennsylvania created to develop infrastructure and educational tools for K-12 students and teachers in the Philadelphia region and digital toolkits for teachers across the United States.
2008-2014	Advisor Kid's Judge Neuroscience Fair, a science fair for third- and fourth-grade students from West Philadelphia schools.

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