Gregorio Valdez, PhD

1. PERSONAL INFORMATION:

Name - Gregorio Valdez

Titles - GLF Translational Associate Professor of Translational Neuroscience and Co-Director of MCB Graduate Program

Address - MCB Dept., Brown University
70 Ship Street, Room #336
Providence, Rhode Island
Email: gregorio_valdez@brown.edu

Primary Research Focus: *Neurobiology and Skeletal Muscles*

Areas of expertise and interest: *neural development, synaptogenesis, synaptic degeneration and repair, aging, ALS, Alzheimer's disease, Muscular dystrophy, microRNAs, growth factors, cholinergic transmission, sensory neurons, motor neurons, spinal cord, hippocampus, skeletal muscles, muscle stem cells.*

2. EDUCATION AND JOBS IN ACADEMIA:

EDUCATION:

B.S., Biochemistry (1996) – Lehman College, Bronx, NY

Ph.D., Department of Neurobiology and Behavior (2005) – Stony Brook University, Stony Brook, NY
Supervisor: Simon Halegoua
Thesis: ***Pincher-mediated macropinocytosis drives persistent neurotrophin signaling***

Postdoctoral training, Department of Molecular and Cellular Biology (2005-2012), Harvard University, Cambridge, MA.
Supervisor: Joshua R. Sanes

ACADEMIC APPOINTMENTS:

2019-Present	Associate Professor, MCB Dept., Brown University
2018-2019	Associate Professor with Tenure, Department of Biological Sciences, Virginia Tech Associate Professor of Health Sciences with Tenure, Virginia Tech Associate Professor with Tenure, Internal Medicine, VTSOM, Virginia Tech Director, Imaging Core Facility, VTCRI, Virginia Tech
2012-2018	Assistant Professor of Biological Sciences, Virginia Tech Assistant Professor of Health Sciences, Virginia Tech Assistant Professor, Internal Medicine, VTSOM, Virginia Tech Director, Imaging Core Facility, VTCRI, Virginia Tech
1996-1999	Lab Manager, Stony Brook University, Stony Brook, NY

3. HONORS AND AWARDS:

2018	College of Science Diversity Award, Virginia Tech
2018	Exemplary Research Outreach, Roanoke Valley Governor's School
2017	Teaching Excellence Award, Virginia Tech
2015	Co-Honoree at Blue Ridge Division of the March of Dimes
2014	Hokies Wellness, Supervisor Spotlight Award, Virginia tech
2010	Underrepresented Minority Scholarship, Keystone Symposia
2010	Post-doctoral F32 Fellowship from NIH
2006	Carl Storm URM Fellowship, Gordon Research Conference
1996	Undergraduate Fellowship, Minority Biomedical Research Support (MBRS/NIH)

4. SCIENTIFIC AND SCHOLARLY ACTIVITIES

BIBLIOGRAPHY:

Papers Published *(Peer reviewed):*

1. Procacci NM, Hastings RL, Aziz AA, Christiansen NM, Zhao J, DeAngeli C, LeBlanc N, Notterpek L, **Valdez G**, Gould TW. Kir4.1 is specifically expressed and active in non-myelinating Schwann cells. **Glia**. 2023 Apr;71(4):926-944. doi: 10.1002/glia.24315. Epub 2022 Dec 8.
2. Doss SV, Barbat-Artigas S, Lopes M, Pradhan BS, Prószyński TJ, Robitaille R, **Valdez G.** Expression and Roles of Lynx1, a Modulator of Cholinergic Transmission, in Skeletal Muscles and Neuromuscular Junctions in Mice. **Front Cell Dev Biol**. 2022 Mar 16;10:838612. doi: 10.3389/fcell.2022.838612. eCollection 2022.
3. Shapiro D, Massopust R, Taetzsch T, **Valdez G.** Argonaute 2 is lost from neuromuscular junctions affected with amyotrophic lateral sclerosis in $SOD1^{G93A}$ mice. **Sci Rep**. 2022 Mar 17;12(1):4630. doi: 10.1038/s41598-022-08455-y.
4. Massopust R, Juros D, Shapiro D, Lopes M, Haldar SM, Taetzsch T, **Valdez G**. KLF15 overexpression in myocytes fails to ameliorate ALS-related pathology or extend the lifespan of SOD1G93A mice. **Neurobiology of Disease**. 2022 Jan;162:105583. doi: 10.1016/j.nbd.2021.105583. Epub 2021 Dec 11.
5. Larouche J, et al,. Murine muscle stem cell response to perturbations of the neuromuscular junction are attenuated with aging. **Elife**. 2021 Jul 29;10:e66749. doi: 10.7554/eLife.66749
6. Brayman VL, Taetzsch T, Miko M, Dahal S, Risher WC, **Valdez G.** Role of the synaptic molecules Hevin and SPARC in mouse neuromuscular junction development and repair. **Neurosci Lett**. 2021 Jan 22:135663. doi: 10.1016/j.neulet.2021.135663. Online ahead of print.
7. Taetzsch T, Shapiro D, Eldosougi R, Myers T, Settlage R, **Valdez G**. The microRNA, miR-133b, functions to slow Duchenne muscular dystrophy pathogenesis. **J Physiol**. 2021 Jan;599(1):171-192. doi: 10.1113/JP280405. Epub 2020 Oct 24.
8. Castro R, Taetzsch T, Vaughan SK, Godbe K, Chappell J, Settlage R, **Valdez G**. Identification of a molecular fingerprint for synaptic glia, **eLife**, 2020. doi: 10.7554/eLife.56935.
9. Vaughan SK, Sutherland NM, **Valdez G**. Attenuating Cholinergic Transmission Increases the Number of Satellite Cells and Preserves Muscle Mass in Old Age. **Front Aging Neurosci**. 2019 Sep 24;11:262. doi: 10.3389/fnagi.2019.00262. eCollection 2019.
10. Hyer M, Dyer S, Kloster A, Adrees A, Taetzsch T, Feaster J, **Valdez G**, Neigh G. Sex modifies the consequences of extended fructose consumption on liver health, motor function, and physiological damage in rats. **Am J Physiol Regul Integr Comp Physiol**. 2019 Dec 1;317(6):R903-R911. doi: 10.1152/ajpregu.00046.2019. Epub 2019 Sep 25.

11. Zeitz MJ, Calhoun PJ, James CC, Taetzsch T, George KK, Robel S, **Valdez G**, Smyth JW. Dynamic UTR Usage Regulates Alternative Translation to Modulate Gap Junction Formation during Stress and Aging. **Cell Rep**. 2019 May 28;27(9):2737-2747.e5. doi: 10.1016/j.celrep.2019.04.114.
12. **Valdez G**. Effects of disease-afflicted and aging neurons on the musculoskeletal system. **Bone**. 2019 May; 122:31-37. Doi: 10.1016/j.bone.2019.01.023. Epub 2019 Jan 26.
13. Vaughan SK, Sutherland NM, Zhang S, Hatzipetros T, Vieira F, **Valdez G**. The ALS-inducing factors, $TDP43_{A315T}$ and $SOD1_{G93A}$, directly affect and sensitize sensory neurons to stress. **Sci Rep**. 2018 Nov 8;8(1):16582. doi: 10.1038/s41598-018-34510-8.
14. Herskovits AZ, Hunter TA, Maxwell N, Pereira K, Whittaker CA, **Valdez G**, Guarente LP. SIRT1 deacetylase in aging-induced neuromuscular degeneration and amyotrophic lateral sclerosis. Accepted in **Aging Cell**. 2018 Dec;17(6):e12839. doi: 10.1111/acel.12839. Epub 2018 Oct 8.
15. Magalhães-Gomes MPS, Motta-Santos D, Schetino LPL, Andrade JN, Bastos CP, Guimarães DAS, Vaughan SK, Martinelli PM, Guatimosim S, Pereira GS, Coimbra CC, Prado VF, Prado MAM, **Valdez G**, Guatimosim C. Fast and slow-twitching muscles are differentially affected by reduced cholinergic transmission in mice deficient for VAChT: A mouse model for congenital myasthenia. **Neurochem Int.** 2018 Jul 9;120:1-12. doi: 10.1016/j.neuint.2018.07.002.
16. Taetzsch T, **Valdez G.** NMJ maintenance and repair in aging. **Current Opinion in Physiology**. https://doi.org/10.1016/j.cophys.2018.05.007.
17. Taetzsch T, Brayman VL, **Valdez G.** FGF binding proteins (FGFBPs): Modulators of FGF signaling in the developing, adult and stressed nervous system. **Bichim Biophys. Acta**. 2018 Jun 12. pii: S0925-4439(18)30213-8. doi: 10.1016/j.bbadis.2018.06.009. Review.
18. Maxwell N, Castro RW, Sutherland NM, Vaughan KL, Szarowicz MD, de Cabo R, Mattison JA, **Valdez G**. α-motor are spared from aging while their synaptic inputs degenerate in monkeys and mice. **Aging Cell.** doi: 10.1111/acel.12726. Accepted 11 Dec 2017.
19. Li P, Fu X, Smith NA, Ziobro J, Curiel J, Tenga MJ, Martin B, Freedman S, Cea-Del Rio CA, Oboti L, Tsuchida TN, Oluigbo C, Yaun A, Magge SN, O'Neill B, Kao A, Zelleke TG, Depositario-Cabacar DT, Ghimbovschi S, Knoblach S, Ho CY, Corbin JG, Goodkin HP, Vicini S, Huntsman MM, Gaillard WD, **Valdez G**, Liu JS. Loss of CLOCK results in dysfunction of brain circuits underlying focal epilepsy. **Neuron.** 2017 Oct 11;96(2):387-401.e6. doi: 10.1016/j.neuron.2017.09.044.
20. Stockinger J, Maxwell N, Shapiro D, deCabo R, **Valdez G**. Caloric restriction mimetics slow aging of neuromuscular synapses and muscle fibers. J**ournal of Gerontology: Biological Sciences.** 2017 March 7. doi: 10.1093/gerona/glx023.
21. Taetzsch TT, Tenga M, **Valdez G**. Muscle fibers secrete FGFBP1 to slow degeneration of neuromuscular synapses during aging and progression of ALS. **Journal of Neuroscience.** 2017 Jan 4;37(1):70-82. doi: 10.1523/JNEUROSCI.2992-16.2016.
22. Sugita S, Fleming LL, Wood C, Vaughan SK, Gomes MPSM, Camargo W, Naves LA, Prado VF, Prado MAM, Guatimosim C, **Valdez G**. VAChT overexpression increases acetylcholine at the synaptic cleft and accelerates aging of neuromuscular junctions. **Skeletal Muscle**. 2016 Oct 5;6:31. eCollection 2016.
23. Vaughan SK, Stanley OL, **Valdez G**. Impact of aging on proprioceptive sensory neurons and intrafusal muscle fbers in mice. **Journal of Gerontology: Biological Sciences**. 2017 Jun 1;72(6):771-779. doi: 10.1093/gerona/glw175.
24. Dalkin W, Taetzsch TT, **Valdez G.** The Fibular Nerve Injury Method: A Reliable assay to identify and test factors that repair neuromuscular junctions. **J Vis Exp**. 2016 Aug 11;(114). doi: 10.3791/54186.

25. Vaughan SK, Kemp Z, Hatzipetros T, Vieira F, **Valdez G**. Degeneration of proprioceptive sensory nerve endings in mice harboring amyotrophic lateral sclerosis-causing mutations. **J Comp Neurol**. 2015 Dec 1;523(17):2477-94. doi: 10.1002/cne.23848. Epub 2015 Jul 21.
26. Dittmar WJ, McIver L, Michalak P, Garner HR, **Valdez G**. EvoCor: a platform for predicting functionally related genes using phylogenetic and expression profiles. **Nucleic Acids Research**. 2014 Jul;42(Web Server issue):W72-5. doi: 10.1093/nar/gku442. Epub 2014 May 21.
27. **Valdez G.*,** Hayer MP, Feng G, Sanes JR. The role of muscle microRNAs in repairing the neuromuscular junction. **PLoS ONE**. 2014 Mar 24;9(3):e93140. doi: 10.1371/journal.pone.0093140. eCollection 2014. (*** Corresponding Author**)
28. Samuel MA, **Valdez G**, Tapia JC, Lichtman JW, Sanes JR. Agrin and synaptic laminin are required to maintain adult neuromuscular junctions. **PLoS One**. 2012;7(10):e46663. doi: 10.1371/journal.pone.0046663.
29. **Valdez G**, Tapia JC, Lichtman JW, Fox MA, Sanes JR. Shared resistance to aging and ALS in neuromuscular junctions of specific muscles. **PLoS One**. 2012;7(4):e34640.
30. Philippidou P, **Valdez G**, Akmentin W, Bowers WJ, Federoff HJ, Halegoua S. Trk retrograde signaling requires persistent, Pincher-directed endosomes. **Proc Natl Acad Sci U S A**. 2011 Jan 11;108(2):852-7. doi: 10.1073/pnas.1015981108.
31. Carlson SS**, Valdez G**, Sanes JR. Presynaptic calcium channels and alpha3-integrins are complexed with synaptic cleft laminins, cytoskeletal elements and active zone components**. J Neurochem**. 2010 Nov;115(3):654-66. doi: 10.1111/j.1471-4159.2010.06965.x.
32. **Valdez G,** Tapia JC, Kang H, Clemenson GD Jr, Gage FH, Lichtman JW, Sanes J.R. Attenuation of age-related changes in mouse neuromuscular synapses by caloric restriction and exercise. **Proc Natl Acad Sci U S A**. 2010 Aug 17;107(33):14863-8. doi: 10.1073/pnas.1002220107.
33. Williams AH*, **Valdez G***, Moresi V, Qi X, Richardson JA, Elliott JL, Bassel-Duby R, Sanes JR, Olson EN. Regulation of Neuromuscular Synapse Regeneration by microRNA 206. **Science**. 2009 Dec 11;326(5959):1549-54. doi: 10.1126/science.1181046. (*** Co-First Authors**)
34. Proszynski TJ, Gingras J, **Valdez G**, Krzewski K, Sanes JR. Podosomes are present in a postsynaptic apparatus and participate in its maturation. **Proc Natl Acad Sci U S A**. 2009 Oct 27;106(43):18373-8. doi: 10.1073/pnas.0910391106.
35. Bonanomi D, Fornasiero EF, **Valdez G**, Halegoua S, Benfenati F, Menegon A, Valtorta F. Identification of a developmentally-regulated pathway of membrane retrieval in neuronal growth cones. **J Cell Sci**. 2008 Nov 15;121(Pt 22):3757-69. doi: 10.1242/jcs.033803.
36. Nishimune H, **Valdez G**, Miner JH, Sanes JR. Laminins promote postsynaptic maturation by an autocrine mechanism at the neuromuscular junction. **J Cell Biol**. 2008 Sep 22;182(6):1201-15. doi: 10.1083/jcb.200805095.
37. **Valdez G**, Philippidou P, Rosenbaum J, Akmentin W, Shao Y, Halegoua S. Trk-signaling endosomes are generated by Rac-dependent macroendocytosis. **Proc Natl Acad Sci U S A**. 2007 Jul 24;104(30):12270-5.
38. **Valdez G**., Akmentin W., Kuruvila R., Ginty D. D,. Halegoua S. Pincher-mediated macroendocytosis underlies retrograde signaling by neurotrophin receptors. **J Neurosci**. 2005 May 25;25(21):5236-47.
39. Kuruvilla R, Zweifel LS, Glebova NO, Lonze BE, **Valdez G**, Ye H, Ginty DD. A neurotrophin signaling cascade coordinates sympathetic neuron development through differential control of TrkA trafficking and retrograde signaling. **Cell**. 2004 118:243-55.
40. Wang S, Liu Y, Adamson CL, **Valdez G**, Guo W, Hsu SC. The mammalian exocyst, a complex required for exocytosis, inhibits tubulin polymerization. **J Biol Chem**. 2004 279:35958-66.

41. Shao Y, Akmentin W, Toledo-Aral JJ, Rosenbaum J, **Valdez G**, Cabot JB, Hilbush BS, Halegoua S. Pincher, a pinocytic chaperone for nerve growth factor/TrkA signaling endosomes. **J Cell Biol**. 2002 157:679-91.
42. Wurtzel ET, **Valdez G**, Matthews PD. Variation in expression of carotenoid genes in transformed E. coli strains. **Bioresearch Journal**. 1997. 1: 1-11.
43. Wurtzel ET, Li Z-h, Luo R, Matias D, Mozoub D, Matthews PD, Upasani VN, **Valdez G**, Yoganathan A, Yu J. Research towards improvement of the pro-vitamin A (carotenoid) content of rice endosperm. **International Rice Research Notes**. 1996. 21, 43–44.

***Book Chapter**:*

1. Formation and maturation of the neuromuscular junction. Comprehensive Developmental Neuroscience, Induction and Patterning of the CNS and PNS: Editors-in-Chief: John Rubenstein and Pasko Rakic. June, 2020.

5. GRANTS

Grants and Funding: Active

2021-2025 NIH/NINDS R01 (1R01NS121618)
"Mechanisms of disease and treatment in novel metabolic developmental brain disorders"
Agency: NIH/NINDS
Role: Co-I

2017-2018 NIH R56 (1R56AG077814)
"Role of synaptic Schwann cells in NMJ and skeletal muscle aging"
Agency: NIH/NIA
Role: PI

2017-2023 (NCE) NIH/NIA R01 (1R01AG055545)
"Targeting the fibroblast growth factor binding protein-1 to slow degeneration of neuromuscular junctions"
Agency: NIH/NIA
Role: PI

2022-2023 See Award (Grant # GR300258)
"Targeting purinergic receptors in synaptic glia to treat ALS"
Agency: Brown University
Role: PI

2022-2023 Zimmerman Carny Innovation Award (Grant # GR500082)
"Optimizing housing conditions to accelerate the translation of research using mouse models of Alzheimer's Disease"
Agency: Brown University
Role: PI

Grants and Funding: Past

2020-2022 Dr. Ralph and Marian Falk Medical Research Trust Awards Program
"Development of a Preventive Treatment for a Novel Neurometabolic Disorder in Childhood"

Agency: Foundation
Role: Co-I

2017-2022 Takeda Pharmaceuticals
*"*The effect of MKC231 compared to pyridostigmine in an MG animal model*"*
Agency: NIH/NIA
Role: PI

2020-2021 NIH/NIA R01 (5R01AG055545-05S1)
Alzheimer's Supplement to *"Targeting the Fibroblast Growth Factor Binding Protein-1 to Slow Degeneration of Neuromuscular Junctions"*
Agency: NIH/NIA
Role: PI

2018-2021 NIH/NINDS (R21NS106313)
"Analysis of sensory neurons to understand and identify factors to treat ALS**"**
Agency: NIH/NIA
Role: PI

2018-2019 NIH/NIA (Administrative supplement: 3R01AG055545-02S1)
"Targeting the fibroblast growth factor binding protein-1 to slow degeneration of neuromuscular junctions"
Agency: NIH/NIA
Role: PI

2017-2018 NIH R56 (1R56AG051501)
"Dysregulated cholinergic transmission contributes to aging of the lower Motor system"
Agency: NIH/NIA
Role: PI

2013-2018 NIH BEST Award
"Mentorship and development program for biomedical trainees."
Agency: NIH office of the Director
PIs: Audra Van Wart and Michael J. Friedlander
Role: Other Senior/Key Personnel

2015-2016 NIH R56 (1R56AG051501)
"Synaptic FGFs are required and sufficient to maintain and repair aged NMJs"
Agency: NIH/NIA
Role: PI

2013-2016 NIH K01 (5K01NS085071)
"Role of target-derived FGFs in maintaining and repairing synapses"
Agency: NIH/NINDS
Role: PI

2015-2016 Virginia Center on Aging
"Controlling neuronal sphingosine-1-phosphate as Alzheimer's disease therapy"
Agency: Virginia Center on Aging
Role: Co-PI

2014-2015 NIH Subcontract from Rush University Medical Center
"Brain and spinal cord microvascular pathology in late-life motor impairment."
Agency: NIH/NIA
PI – Aron S. Buchman
Type – 1 year supplement to Aron Buchman R01
Total funds: $129,418 *to Valdez lab*

2013-2014 CTSI-CN VT Collaborative grant
"Cellular and molecular basis of focal refractory epilepsies."
Agency: Children's National Medical Center and Virginia Tech
PI – Gregorio Valdez and Judy Liu

2008-2011 NIH F32 (NS061474)
"Molecular basis of age-related synaptic alterations"
Agency: NIH/NIA

INVITED PRESENTATIONS:

Oct 2022	Valdez G. "Discovering the cellular and molecular drivers of spinal motor circuits degeneration during aging". Join Seminars in Neuroscience Lecture series, Dept of UCLA. Los Angeles, California.
Sep 2022	Valdez G. "Vicious circle between glia and motor neurons underpins aging of NMJs and muscles". Molecular and Cell Biology of the Neuromuscular System meeting. Guarda, Switzerland.
Sep 2022	Valdez G. "Aging of the neuromuscular junction and the capping Schwann cells". Muscle Wasting meeting. Ascona, Switzerland.
July 2022	Valdez G. "Sensory neurons: innocent bystanders or contributors to motor neuron diseases". Mechanotransduction, Muscle Spindles and Proprioception meeting. Munich, Germany.
March 2022	Valdez G. "A tripartite view of the NMJ aging: parsing out the contribution of motor neurons, muscle fibers and synaptic Schwann cells". 2022 Padua Days on Muscle and Mobility Medicine meeting. Padua, Italy.
Nov 2021	Valdez G. "Multi-system cellular approaches to accelerate discoveries to slow aging and treat neurological diseases" Lehman College, NYC.
Dec 2020	Valdez G. "Generation of a rat model for EDMD lacking the emerin gene". Special session on Bioengineering in Vitro Models of Disease at the American Society for Cell Biology (ASCB).
Sep 2020	Valdez G. "Shedding light on glial cells at motor neuron synapses". Jackson Laboratory, Bar Harbor, Maine
Sep 2020	Valdez G. "Synaptic Glia: visualizing and targeting to decipher roles in the nervous system". University of Puerto Rico, Rio Piedras Campus, Puerto Rico.
Dec 2019	Valdez G. "Synaptic loss: A consequence or driver of age-related pathologies" University of Rhode Island.
Dec 2019	Valdez G. "Synaptic degeneration: a byproduct or driver of ALS and age-related pathologies". LifeSpan Hospital, Department of Neurology.
March 2019	Valdez G. "Synaptic aging: driver or byproduct of neural and muscle dysfunction?" James Madison University, Virginia.
Sept 2018	Valdez G. "Maintaining healthy synapses". VNPN meeting. University of Oslo, Norway.

April 2018	Valdez G. “Failure to communicate: The contribution of synapses and associated molecules to motor dysfunction”. Neural Engineering Symposium. The University of Miami, Miami, FL.
Dec 2017	Valdez G. “The synapse: initial site of age- and disease-related neuronal dysfunction”. Department of Neuroscience. Case Western University, Cleveland, OH.
Dec 2017	Valdez G. “The contribution of synapses to age- and disease-related motor deficits”. Guest speaker at Wake Forest Annual Neuroscience Research Day.
Dec 2017	Valdez G. “Roles of microRNAs enriched in muscles and their synapses in stress responses.” Department of Cell Biology and Molecular Medicine. Rutgers, The State University of New Jersey.
July 2017	Valdez G. “Slowing down: the effect of aging on the motor system.” BioCoRE Symposium. Duke University, Durham, NC.
July 2017	Valdez G. “Impact of aging and ALS on motor and sensory synapses.” Neuroscience Graduate Program. UVA, Charlottesville, VA.
Apr 2017	Valdez G. “Short Circuiting: Synaptic Degeneration Underlies Age-Related Motor Dysfunction.” VCU School of Medicine, Richmond, VA.
Apr 2017	Valdez G. “Searching for factors that protect motor synapses from aging and ALS.” Roanoke College, Roanoke, VA.
Jan 2017	Valdez G. “"Short circuiting: synaptic degeneration underlies age-related motor dysfunction". Department of Neuroscience, University of Montreal. Montreal, Canada.
Oct 2016	Valdez G. “Age-related motor decline: pathological changes start at the synapse and end in the cell body.” Baylor College of Medicine, Huffington Center on Aging, Houston, TX.
Oct 2016	Valdez G. “Career training and outcomes for PhD students; emphasis on mentoring of minority students, and career outcomes for PhDs.” Society for Neuroscience annual meeting. San Diego, CA.
Oct 2016	Valdez G. “Despite the best intentions, glial cells promote synaptic degeneration in ALS and during normal aging.” 5th International Conference of Glial Biology in Medicine, Roanoke, VA.
Oct 2016	Valdez G. “Synaptic biomarkers: promise and perils for identifying and using them to optimize neuronal health.” Virginia-Nordic Precision Neuroscience (VNPN) Conference at VTCRI, Roanoke, VA.
Oct 2016	Valdez G. “The Best Interview: How to Excel at the Graduate School Interview.” Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS). Long Beach, CA.
Oct 2016	Valdez G. “Advice for the Advisors! Partnering with the Graduate Program Director to Successfully Prepare Your Students for the PhD.” Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS). Long Beach, CA.
May 2016	Valdez G. “Communication gone awry: the contribution of synapses and associated molecules to skeletal muscle aging.” University of Michigan, Department of Molecular and Integrative Physiology. Ann Arbor, Michigan.
Mar 2016	Valdez G. “Clock Plays a Key Role in the Timely Development and Repair of Neuromuscular Synapses.” American Society for Neurochemistry annual conference. Denver, CO.
Dec 2015	Valdez G. “From the synapse to the cell body: Common mechanisms connecting aging and neurodegenerative diseases.” VTLSS seminar series. Blacksburg, VA.
Oct 2015	Valdez G. "Get Ready For Your PhD!” Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS). Washington DC.

Oct 2015	Valdez G. "A Great Interview." Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS). Washington DC.
Jun 2015	Valdez G. “Relationship between NMJ and myogenic changes.” Rusch University Medical Center. Chigago, IL.
May 2014	Valdez G. “Staying connected: molecules utilized by muscles and motor neurons to maintain adult NMJs.” Montreal Muscle Group meeting, McGill University. Montreal, Canada.
Jan 2014	Valdez G. “The role of synaptic molecules in motor neuron and muscle diseases.” International Conference on Frailty and Sarcopenia Research (ICFSR2014). Barcelona, Spain.
Jan 2014	Valdez G. “Cellular and molecular changes associated with aging neuromuscular synapses.” American Society for Neurochemistry, Long Beach, CA.
Dec 2014	Valdez G. “Discovering molecules that protect synapses from the ravages of aging.” Virginia local SFN chapter meeting in Richmond, VA.
Oct 2014	Valdez G. “The odyssey of secreted synaptic molecules: the many challenges secreted molecules encounter on their path to affect change.” Insane about Membrane Traffic MAC session for the SACNAS conference. Los Angeles, CA.
Nov 2013	Valdez G. “Lifestyle and molecular factors that maintain and repair peripheral synapses.” Georgia Regents University, Georgia.
Aug 2013	Valdez G. “Combating neurological diseases and aging by targeting synapses.” Department of Statistics, Virginia Tech.
Aug 2013	Valdez G. “The role of synaptic molecules in diseases of the nerve and muscle.” UFMG, Brazil,
July 2013	Valdez G. “Influence of peripheral connections on the initiation and progression of ALS.” Brazilian Society for Neuroscience, Brazil.
Nov 2013	Valdez G. “Structural and Molecular Neuromuscular Changes Induced by Aging and Age-related Diseases NIA Workshop: Age-related Changes in Neuromuscular Junction.” Bethesda, DC
Nov 2013	Valdez, G. “Molecular mechanisms that maintain and repair neuromuscular junctions.” Children’s National Medical Center. Washington DC.
Oct 2013	Valdez G. “The role of synaptic molecules in motor neuron and muscle diseases.” Virginia Tech/Dept. of HNFE, Blacksburg VA.
Mar 2013	Valdez G. “How brains grow and age.” Brain School at VTCRI, Roanoke, VA.
Feb 2013	Valdez G. “Brain Power: The role of exercise and diet in maintaining healthy synapses.” Jefferson College of Health Sciences. Roanoke, VA.
Dec 2013	Valdez G. “Using sensory neurons to screen for therapeutics for ALS.” Virginia Tech/Center for Drug Discovery, Blacksburg, VA.
Sept 2012	Valdez G. “Evidence from Animal Models: Effects of Aging and Lifestyle Factors on Motor Synapses.” GSA meeting 2012; the Central Nervous System, and Mobility in Older Adults workshop, Evidence on Changes in the Central Nervous System, Control of Movement Across the Lifespan and in Aging. San Diego, CA.
Jun 2010	Valdez G. “Protecting neuromuscular synapses from the ravages of aging and Lou Gehrig’s disease.” Neurolunch, Harvard University. Cambridge, MA.
Apr 2010	Valdez G. “Molecular and structural changes in aging and ALS-afflicted neuromuscular junctions.” Harvard NeuroDiscovery Center Journal Club, Massachusetts General Hospital. Boston, MA.
Sept 2010	Valdez G. “Attenuation of age-related changes in mouse neuromuscular synapses by caloric restriction and exercise.” Keystone Symposia. Tahoe City, CA.
Jun 2008	Valdez G. “Regulation of Neuromuscular Synaptic Maturation and Reinnervation by microRNA-206.” Society for Neuroscience.

Jun 2005	Valdez G. "Pincher-mediated macroendocytosis underlies retrograde signaling by neurotrophin receptors." Herbert H. Lehman College, Bronx, NY.
Apr 2004	Valdez G. "Pincher mediates formation and trafficking of Trk signaling endosomes in neurons." Neuroscience meeting, New Orleans, 2004.
Mar 2003	Valdez G. "A novel endocytic mechanims regulates neurotrophin endocytosis and signaling." Graduate presentation, Stony Brook University.
Nov 1996	Valdez G. "Variation in the accumulation of carotenoids in E. coli strains." Maize Genetics Conference, Chicago, Illinois, 1996.
Nov 1993	Valdez G. "Localization of bacterial phytoene desaturase homologs in plants." National Institute of General Medical Sciences Minority Programs Symposium, Atlanta, Georgia.

SCHOLARLY ACTIVITIES

Expert Services:

2019-Current	Permanent Member of NIA-B Study Section
2019	Ad-hoc Reviewer for NIA RFA AG 20-014
2019	Ad-hoc Reviewer for NIA RFA AG 20-013
2018	Reviewer for NIH ADRD-R03 Study Section
2018	Reviewer for NIH NIA-B Study Section
2017	*Ad-Hoc* reviewer for NIH SMEP Study Section
2016-current	Reviewer for ARDRAF grants
2013-current	Editorial Board for the Gerontology Journal: Biological Sciences
2021-Current	Editorial Board for Frontiers in Neuroanatomy
2012-current	Reviewer for eLife, Proceedings of the National Academy of Sciences USA, PLoS ONE, Frontiers in Neuroscience, Journal of Gerontology: Biological Sciences, Journal of Experimental Biology and Medicine, Scientific Reports, Acta Neuropatholigica, Muscle and Nerve, Aging Cell, The Journal of Physiology, Frontiers in Physiology, International Journal of Molecular Sciences.
2016	External reviewer for National Science Center of Poland.
2016	External reviewer for the Motor Neuron Disease Association (MND) in the United Kingdom.
2016	External reviewer for the Johns Hopkins University Claude D. Pepper Older Americans Independence Center, Internal pilot grant.
2016	External reviewer for the University of Michigan Nathan Shock Center of Excellence in Aging Research, Internal pilot grant.
2013	Early Career Reviewer on Aging Systems and Geriatrics Study Section, NIH

6. TEACHING, ADVISING AND MENTORING:

Postdoctoral fellows mentored

Dr. Milagros Tenga, PhD. 2012 – 2015 (now a Scientist at BioAgilytix, a biotech company in North Carolina)

Dr. Sihui Zhang, PhD. 2013 – 2014 (Dr. Zhang unfortunately had to return to China to care for a loved one, cutting her time short in my lab)

Dr. Sydney Vaughan, PhD. 2019-2020 (currently a postdoc at the Mayo Clinic in Jacksonville, FL. Sydney was a graduate student in my lab).
Dr. Elizabeth Allen, PhD. 2020 – 2022 (Scientist in biotech)t.
Dr. Ryan Massopust, PhD. 2020 – 2022 (Scientist in biotech).
Dr. Thomas Taetzsch, PhD. 2015 – 2020 (Senior scientist in the lab)
Dr. Robert Louis Hastings, PhD. 2020 – current.

Students advised (not including rotations students):

Graduate Students:
Sydney K. Vaughan - graduate student, TBMH program, VT (2015-2019 – awarded PhD in 2019)
Ryan Castro - graduate student, Neuroscience graduate program, Brown University (2016-2023 – awarded PhD in 2023)
Dillon Shapiro - graduate student, MCB graduate program, Brown University (2019-current)
Emma Suneby - graduate student, MCB graduate program, Brown University (2022-current)
Mary Flordelys Avila - graduate student, Pathology graduate program, Brown University (2022-current)

Undergraduate Students:
Mia Kantorovich, undergraduate, Brown University (2022-current)
Liam Wilson, undergraduate, Brown University (2022-current)
Fernanda Coello Carmona, undergraduate, Brown University (2022-current)
Jinho Kim, undergraduate, Brown University (2020-current)
Aatish Sethi, undergraduate, Brown University (2020-current)
Dennis Kinyua, undergraduate, Brown University (2020-current)
Adam Fogel, undergraduate, Brown University (2020-current)
Devin Juros, undergraduate, Brown University (2020-current)
Anson O'Young, undergraduate, Brown University (2019-current)
Jessica Chau, undergraduate, Brown University (2019-current)
Noel Kim, undergraduate, Brown University (2019-current)
Jason Peres da Silva, undergraduate, Brown University (2019-current)
Randa Eldosougi, undergraduate, VT (2017-2019)
Kyle T. Rega, undergraduate, VT (2018-2019)
Ashley White, undergraduate, VT (2017-2019)
Tracey Myers, undergraduate, VT (2016-2019); ***neuroSURF fellow*
Kayleigh Vance, undergraduate, VT (2016-current); ***neuroSURF fellow*
Dillon Shapiro, undergraduate, VT (2015-2018); ****neuroSURF fellow; *Attending graduate school at Brown Universityh*
Katie Pereira, undergraduate, VT (2016-2018); ****neuroSURF fellow; *Research Asssistant at Washington University in St. Louis*
Daniel Quintana, undergraduate, Berkley (Summer of 2018); ***neuroSURF fellow*
Jonathan Feaster, undergraduate, VT (2016-2019)
MacKenzie Miko, undergraduate, VT (2016-2019)
Shreyaska Dahal, undergraduate, VT (2015-2018t); ****Attending medical school in the Caribbean*
Ryan Nasser, undergraduate, VT (2017); ***neuroSURF fellow*
Leland L. Fleming, postbaccalaureate, VT (2015-2016); * Currently a PhD student at UAB
Michael Mykins, undergraduate, VT (2015-2019); ****Attending graduate school at the University of Tennessee*
Graham Taylor – undergraduate, VT (2016-2017)
Natalia Sutherland – undergraduate, Emory and Henry College (2016-2017)

Tyler Celuck, undergraduate, VT (2015-2016); **Attending medical school at the University of West Virginia*
Caleb Wood, undergraduate, VT (2013-2016); **Attending graduate school at Baylor University*
David Martin – undergraduate, Hampton University (2016); **VTCSOM – Hampton University Guaranteed Admission Program Scholars for the summer*
Natalia Gutierrez – undergraduate, Northern Virginia Community College (2016); **VTCSOM – Hampton University Guaranteed Admission Program Scholars for the summer*
Jessica Stockinger – undergraduate, Roanoke College (2014-2016); **Attending medical school at Eastern Carolina Medical School*
Clare Burton – undergraduate, Elon College (2015-2016)
Sydney Vaughan – undergraduate, Roanoke College (2013-2015); ** ACC fellow, Fralin summer Undergraduate Research Fellow; Attending graduate school, TBMH program at VT*
Lauren Kennedy – undergraduate, Roanoke College (2013-2015); **Attending graduate school, TBMH program at VT*
Kisha Gresham, undergraduate, VT (2013-2015); **Attending graduate school, TBMH program at VT*
Zachary Kemp, undergraduate, VT (2015)
Patrick Stewart – undergraduate, Elon College (2015)
Austin Tatum, Scieneer, undergraduate, VT (2015); **Fralin Summer Undergraduate Research Fellow*
Klaudia Jaczynska – undergraduate, Warsaw University, Poland (2015); **Summer scholar supported by the European Union*
Alyssa Huntington, undergraduate, VT (2014); **Scieneer fellow; * Currently a PhD student at VT*
Kaiwen Su – undergraduate, UVA (2013); **Currently a medical student at UVA*

High School Students:
Anabel Schiller, high-school student, Rhode Island (2022)
Virginia Owen Trinkle, high-school student, North Cross, Roanoke VA (2016-2019)
Shayom Debopadhaya, high-school student, Roanoke Valley Governor School (2017)
Olivia Stanley, high-school student, Roanoke Valley Governor School (2016)
Zachary Kemp, high-school student, Roanoke Valley Governor School (2014)

Medical Students:
Natalia Sutherland, medical student, VTCSOM (2018-2019)
Kerilyn Godbe, medical student, VTCSOM (2017-2019)
Hailey Gosnell, medical student, VTCSOM (2017-2019)
Kevin Staggenborg, medical student, VTCSOM (2015-2019)
Zainab Ibrahim, medical student, VTCSOM (2015-2019)
Williams Dalkin, medical student, VTCSOM (2013-2017); ** Currently doing his residency at Greenville Memorial hospital*
W. James Dittmar, medical student, VTCSOM (2012-2016); ** Currently doing his residency at Baylor College of Medicine*

Thesis Committees (not including my own students):
Brown University:

Alex Del Toro, PhD Student (Current). NSGP, Brown University. Advisor: Dr. Diane Hoffman-Kim

Jose F. Mercado Ortiz, PhD Student (Current). MCBGP, Brown University. Advisor: Dr. Nicolas Fawzi

Chyna Gray Lowell, PhD Student (Current). MCBGP, Brown University. Advisor: Dr. Alfred Ayala
Victoria St. Amand, PhD Student (Current). MCBGP, Brown University. Advisor: Dr. Robert Reenan
Jose F. Mercado Ortiz, PhD Student (Current). MCBGP, Brown University. Advisor: Dr. Nicholas Fawzi

Virginia Tech:

Rachana Deven Somaiya, PhD Student (2017-current). Translational Biology Medicine and Health Graduate Program, VT. Advisor: Dr. Michael Fox
Gabriela Carrillo, PhD Student (2017-current). Translational Biology Medicine and Health Graduate Program, VT. Advisor: Dr. Michael Fox
Alicia Kerr, PhD Student (2015-2019). Translational Biology Medicine and Health Graduate Program, VT. Advisor: Dr. Michael Fox
Chen Liang, PhD Student (2015-2018). Department of Biological Sciences, VT. Advisor: Dr. Konark Mukherjee
Aboozar Monavarfeshani, PhD Student (2013-2017). Department of Biological Sciences, VT. Advisor: Dr. Michael Fox
Nicole Smith, MS Student (2016-2018). Department of Biological Science, VT. Advisor: Dr. Iulina Lazar
Sung Seok Lee, PhD Student (2013-2016). Department of Population Health Sciences, VetMed, VT. Advisor: Dr. Andrea S. Bertke
Arbour Danielle, PhD Student (2011-2014). Department of Neuroscience. University of Montreal. Advisor: Dr. Richard Robitaille

Courses:

Brown University:

- Biol 0500
- Biol 2340
- Biol 2980
- Guest Lecturer in Biol 2030
- Guest Lecturer in Biol 2350

Virginia Tech:

- Instructor for Scientific Logic and Analysis, TBMH 5404 (2014-2019)
- Guest Lecturer in the VT TBMH 5004 Gateway Course (2014-2019)
- Guest Lecturer in the VT TBMH 5014 Gateway Course (2014-2019)
- Guest Lecturer in the VT TBMH 5064 Gateway Course (2014-2019)
- Guest Lecturer in the VT TBMH 5105 Professional Development and Ethics Course (2014-2019)
- Guest Lecturer in the VT HNFE 4844 Course (2013-2019)

7. PROFESSIONAL SERVICE

Memberships

Society for Neuroscience (1998-current)
American Society for Neurochemistry (2016-current)
Central Virginia Chapter of the Society for Neuroscience (2012-current)

Activities in International / National / Local Societies:

Symposia Organized:

Sept 2018	Planning committee for Virginia Nordic Precision Neuroscience Conference from Sept 19-21st of 2018 at the University of Oslo, Norway.
March 2017	"Neurodegenerative diseases: from basic science to therapeutic interventions" Central Virginia Chapter of the Society for Neuroscience Annual Symposia *Speaker list: Kenneth S. Kosik, Maul G. Tansey, John Bethea, Rory McQuiston, Linda Boland, Michael Fox, Michael McConnell, Scott Zeitlin, Michelle Olsen, Willian Buchser*
March 2016	America Society for Neurochemistry: Chaired Symposia "Oral Session." Denver, CO. *5 speakers were selected from abstract submissions*
March 2016	America Society for Neurochemistry: Chaired Symposia "Keeping Time: Roles of circadian genes in the formation of and repair of neural circuits." Denver, CO. *Speaker list: Judy Liu, Erick Musik, F. Rob Jackson*
March 2016	Co-founded and Organized first Muscle Symposia at VT with Dr. Robert Grange: *Speaker list: Russell Hepple (McGill University), and lab heads from VT with research interest on muscle biology*

Expert services in International / National / Local Societies:

2016 - 2017	President for the Central Virginia Chapter of the Society for Neuroscience
2016 - 2019	Co-organizer and president for Muscle Group, VT
2012-2016	Council member for the Central Virginia Chapter of the Society for Neuroscience

SERVICE ACTIVITIES:

Service to Brown University:

- Co-Director of MCB Graduate Program
- Search Committee for Biology on Aging faculty search
- Search Committee for Carney Institute search for Director of Alzheimer's Center
- ARC Program Steering Committee
- MCBGP admissions committee
- NSGP admissions committee
- COVID facilities committee
- Executive Committee for Translational Neuroscience Center
- Carney Microscopy Committee
- MCB Dept. Space Committee

Service to VT:

- Health Science and Technology translation and commercialization leadership team, Virginia Tech, Roanoke Campus (2018 – Present)
- Executive committee for Department of Biological Sciences (2018 – 2019)
- Executive committee for Department of Biological Sciences (2016 – 2017)
- Brain Health and Disease Building Planning Group for Health Science Center in Roanoke (2016-2017)
- Faculty Search committees for various VTCRI hiring initiatives (2012-2017)
- Adult Development and Aging for Center for Gerontology (2016-2017)

- School of Neuroscience (2016-2017), Glial Center at VTCRI (2015-2017)
- Development committee for Brain Science track of TBMH Graduate program (2013-2019)
- Development committee for Development, Aging and Repair track of TBMH Graduate program (2013-2019)
- VTCRI selection committee for Distinguished Lecture Series (2013-2014)
- Translational Biology, Medicine, and Health (TBMH) Graduate Program Development Committee (2013-2014)
- Representative for VTC School of Medicine during LCME (Liaison Committee for Medical Education) accreditation visit (2015)

Service to the Community:

- 2017 Speaker at the ALS association DC/MD/VA chapter for individuals with the disease and their families, Roanoke.
- 2013-2017 Virginia Science Festival Exhibit, "Untangling the wires of your brain!" (VTCRI, in conjunction with the Science Museum of Western Virginia)
- 2015 Speaker at the ALS association DC/MD/VA chapter for individuals with the disease and their families, Roanoke.
- 2013 VTCRI Brain School Public lecture "How brains grow and age!"

8. ECONOMIC CONTRIBUTIONS AND ENTREPRENEURSHIP

Start-up Business:

- C9/3D Therapeutics, Virginia Tech, C9/3D Therapeutics - startup biotech company, 08/02/2016

Updated: 02/28/2023