Updated
09/13/2022

RAMON VELAZQUEZ, Ph.D.

Assistant Professor
Curriculum Vitae

School of Life Sciences (SoLS) and ASU-Banner Neurodegenerative Disease Research Center (NDRC)
The Biodesign Institute C, 797 E. Tyler Mall, Tempe AZ, 85287
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Velazquez lab website: https://velazquezlab-asu.github.io/index.html

EDUCATION AND POSITIONS

2021-present	**Assistant Professor (Tenure Track), School of Life Sciences, Arizona State University, Tempe AZ**
2019 – 2021	**Assistant Research Professor, NDRC, Arizona State University, Tempe AZ**
2014 – 2019	**Post-Doctoral fellow, Arizona State University, Tempe AZ**
2008 - 2014	**Ph.D., Cornell University, Ithaca NY**
2002 - 2007	**B.A., California State University, Long Beach CA**

ACADEMIC / INDUSTRY EMPLOYMENT

1. Assistant Professor, ASU School of Life Sciences (August 2021 – present)
Supervisor: Dr. Nancy Manley, Ph.D. (SoLS Director)

2. Neurodegenerative Disease Research Center at the Biodesign Institute, ASU (April 2019 - present)
Supervisor: Jeffrey Kordower, Ph.D. (Founding director)
Position: Assistant Research Professor investigating the early events that trigger the progression of Alzheimer's disease, with a strong focus on tau pathogenesis. This includes environmental factors, such as diet and toxins, and neurodevelopmental disorders leading to neurodegeneration, particularly Down syndrome.

3. Associate Editor, Elsevier Brain Research Journal (June 2021 - present)
Supervisor: Editor-in-Chief, Dr. Matthew J LaVoie, Ph.D.
Position: Associate editor receiving new manuscripts, assigning peer reviewers, and making acceptance decisions after review

4. Neurodegenerative Disease Research Center at the Biodesign Institute, ASU (September 2014 - March 2019)
Advisor: Salvatore Oddo, Ph.D.
Position: Post-Doctoral fellow identifying molecular mechanisms and novel therapeutic targets for neurodegenerative diseases.

5. Neuroscience consultant for Opti-Nutra (August 2016 – July 2022)
Position: Consultant for mid lab pro formulation and nootropic science. Sample videos at https://www.mindlabpro.com

6. Laboratory of Barbara Strupp Ph.D., Cornell University (August 2008 - August 2014)
Advisor: Barbara J. Strupp, Ph.D.
Collaborators: Elliott Mufson, Ph.D. (Rush University) and Steven Ginsberg, Ph.D. (New York University)
Position: Graduate Student investigating pathogenesis and treatments for Down syndrome and Alzheimer's disease

7. Greater LA Veteran Affairs & UCLA Nicotine Research Unit (August 2007 - July 2008)
Director: Nina Schneider, Ph.D.
Position: Project Director/ Lab Manager developing educational tools about Nicotine Replacement Treatments

8. Genzyme Genetics (May 2007 - July 2007)
Director: Moacyr DaSilva M.D.
Position: Assistant to: Dr. Steve Kargas M.D., Ph.D.

9. National Institute of Mental Health Career Opportunities in Research Program (May 2005 - May 2007)
Advisors: John Jung, Ph.D., Chi-Ah Chun, Ph.D., Diane W. Lee, Ph.D.
Position: Undergraduate student investigating the neurobiological consequences of traumatic brain injury

AWARDED GRANTS / FELLOWSHIPS

1. NIH Small Business Technology Transfer (STTR) (PI Dunckley, Collaborator Velazquez). $185, 965.00 (2022-2024) Collaborator on a grant to test a novel Dyrk1a inhibitor as a potential treatment option for AD-like pathology in DS.

2. NIH-Arizona Alzheimer's Disease Core Developmental Grant (PI Velazquez) $219,536.00 (2021 - 2023)
PI on a grant to identify the role of Neuronal Rbbp7 as a mediator against tau pathology in Alzheimer's disease.

3. Edson Foundation Seed grant (ASU Foundation) (PI Dunckley, Co-PI Velazquez) $97,784.56 (2021 - 2022)
Co-PI on a 1-year pilot grant to test a novel Dyrk1a inhibitor in the 3xTg-AD mouse model of Alzheimer's disease

4. Edson Foundation Seed grant (ASU Foundation) (PI Mastroeni, Co-PI Velazquez) $57,800.00 (2021 - 2022)
Co-PI on a 1-year pilot grant to examine neuronal and astrocyte interactions in the APP/PS1 mouse model of Alzheimer's disease

5. Edson Foundation Seed grant (ASU Foundation) (PI Velazquez) $100,410.00 (2020 - 2022)
PI on a 2-year grant to determine if glyphosate exposure is associated with cognitive aging and Alzheimer's Disease (AD).

6. IDSA - The Role of Microbe-induced Necroptotic Death in Tauopathy (PI Jacobs, Co-PI Velazquez) $100,000.00 (2020 - 2021). Co-PI on a grant to determine mechanisms of cell death in Alzheimer's disease and related tauopathies.

7. P30 AG019610: Pilot grant (National Institutes of Health: NIH PI Velazquez) $30,000.00 (2019 - 2020)
PI on a 1-year grant to collect preliminary data on the Pim1 kinases' involvement in AD

8. R01 AG062500 HHS: NIH (PI Velazquez) $3,040,398.00 (2019 - 2024)
PI on a grant to identify how the ribosomal protein S6 kinase beta-1 (S6K1) mechanistically links aging and AD.

9. R01 AG059627 HHS: NIH (PI Velazquez) $3,112,707.00 (2019 - 2023)
PI on a grant to identify common mechanisms of neurodegeneration between Down syndrome (DS) and AD

10. Alzheimer's Association International Research Grant (PI Velazquez) $174,999.00 (2016 - 2020)
PI on a 3-year grant to investigate Pim1 inhibition as a novel target for AD leveraging a nanoparticle technology.

11. 1606833 National Science Foundation (NSF) Post-Doctoral Research Fellowship, $221,882.00 (2016 - 2018)
PI on a 2-year grant to elucidate the underlying molecular mechanisms linked to choline supplementation and healthy cognitive aging

12. NSF Graduate Research Fellowship, $30,000.00/yr for three years plus tuition (2009 - 2012)
Based on abilities and accomplishments as well as potential to contribute to strengthening the vitality of science in the U.S.

13. Cornell University Sage Graduate Fellowship (2008-2010)
Two-year graduate funding plus 4 summers awarded to top incoming graduate students

14. National Institute of Mental Health Career Opportunities in Research Fellowship (2005 - 2007)
Undergraduate research training program

PENDING GRANTS

1. R01 NIH (PI Qiu, Co-PI Velazquez), First submission.
Co-I on a grant to rescue synaptic pathology in Alzheimer's mouse models by enhancing HGF/MET neuronal signaling.

2. R01 NIH (PI Huentelman, Co-I Velazquez), Resubmission. A0 = 36 percentile
Co-I on a grant to identify and develop Triggering Receptor Expressed on Myeloid Cells 2 (TREM2) agonists to prevent Alzheimer's disease.

3. R01 NIH (PI Mastroeni, Co-I Velazquez), First Submission. A0 = 36 percentile Co-I on a grant examining the Membrane Attack Complex (MAC) and its contributions to Vascular Dementia.

HONORS AND AWARDS

1. AAAS/Science Program for Excellence in Science Inductee (October 2018)
Goal of the organization is to promote the development of science and engineering at the national level.

2. Biology Travel Award (April 2018)
Top 35 of the "Biology Travel Awards 2018" from worldwide applications**.**

3. Society for Neuroscience Trainee Professional Development Award (November 2017)
Recognizes young investigators demonstrating scientific merit and excellence in research.

4. Alzheimer's Drug Discovery Foundation Young Investigator Scholar (July 2017)
Awarded to top 3 applicants to attend the 18th annual Alzheimer's Drug Discovery Foundation meeting in Newark, NJ (2017) and presented research findings (Oral presentation) on Pim1 inhibition as a novel therapeutic strategy for Alzheimer's disease.

5. James Bradford and NBTS "Best student presentation Award" (June 2012)
Awarded for the best presentation at the 2012 joint meeting of the Neurobehavioral Teratology Society (NBTS) and Teratology Society.

6. Phi Beta Kappa (inducted May 2007)
Oldest undergraduate honors organization in the United States

INVITED SEMINARS / INTERVIEWS

1. Arizona PBS, Interview about "Glyphosate infiltrates the brain", September 6th, 2022.
2. ASU Edson Lecture Series "Glyphosate and implications for brain disorders" August 17th, 2022
3. University of California Santa Barbara (UCSB) Neuroscience seminar series, "Untangling Alzheimer's Disease: Identification of early events contributing to pathogenesis", December 3rd, 2021.
4. AZ Regenerative Medicine Conference featured speaker, ASU, **"**Untangling Alzheimer's Disease: Identification of early modifiable events that may reduce pathogenesis", November 18th, 2021.
5. Arizona Consortium Alzheimer's Retreat, "Dissecting the role of the Pim1 kinase in AD", January 24th, 2020.
6. Arizona PBS, Interview about "Common supplement for Alzheimer's disease (AD)", Oct. 8th, 2019.
7. Sip of Science Seminar hosted by the ASU Biodesign Institute – "Clues to curing Alzheimer's disease", March 2019
8. Arizona State University Biodesign Symposium "How to find a Post-Doctoral fellow position", November 2018.
9. Keynote Address, California State University Long Beach NIH funded "BUILD" research program, May 2017.
10. Oral presentation, 18th Annual Alzheimer's Drug Discovery Foundation (ADDF), September 2017.

PUBLICATIONS

h-index (16); i10-index (17); * = First co-authors; # = senior corresponding author

1. Dave N, Judd JM, Decker A, Winslow W, Sarette P, Espinosa OV, Sandler J, Bilal A, Tallino S, McDonough I, Winstone JK, Blackwood EA, Glembotski C, Karr T, **Velazquez R#,** 2022. "Dietary choline intake is necessary to prevent systems-wide organ pathology and reduce Alzheimer's disease hallmarks". *BioRxiv*, https://doi.org/10.1101/2022.08.14.503929.

2. Winstone JK, Pathak K, Winslow W, Piras IS, White J, Sharma R, Huentelman MJ, Pirrotte P, **Velazquez R#,** 2022**.** "Glyphosate infiltrates the brain and increases pro-inflammatory cytokine TNFα: implications for neurodegenerative disorders." *J. Neuroinflammation*, PMID: 35897073. Impact Factor (IF): 9.587

3. Tallino S, Winslow W, Bartholomew SK, **Velazquez R#**, 2022. Temporal and brain region-specific elevations of soluble Amyloid-β 40-42 in the Ts65Dn mouse model of Down syndrome and Alzheimer's disease. *Aging Cell*. PMID: 35290711. Impact Factor (IF): 11.005

4. Powers B, **Velazquez R**, Strawderman MS, Ginsberg SD, Muson EJ, Strupp BJ, 2021. Maternal choline supplementation as a potential therapy for Down syndrome: Assessment of effects throughout the lifespan. *Front. Aging Neurosci*. PMID: 34690739. Impact Factor (IF): 5.702

5.Winslow W, McDonough I, Tallino S, Decker A, Vural SA, **Velazquez R#**, 2021. "IntelliCage automated behavioral phenotyping reveals behavioral deficits in the 3xTg-AD mouse model of Alzheimer's disease associated with brain weight." *Front. Aging Neurosci*. PMID: 34483889. Impact Factor (IF): 5.702

6. Dave N, Vural AS, Piras IS, Winslow W, Surendra L, Winstone JK, Beach TG, Huentelman MJ, **Velazquez R**[#], 2021. "Identification of the retinoblastoma binding protein 7 (Rbbp7) as a mediator against tau acetylation and subsequent neuronal loss in Alzheimer's disease and related tauopathies." *Acta Neuropathologica*. PMID: 33978814. Impact Factor (IF): 15.887

7. Mifflin MA, Winslow W, Surendra L, Tallino S, Vural AS, **Velazquez R**[#], 2021. "Sex differences in the IntelliCage and Morris water maze in the APP/PS1 mouse model of amyloidosis. *Neurobiology of Aging*. PMID: 33610962. Impact Factor (IF): 5.133

8. Velazquez R[#]**,** Winslow W, Mifflin MA, 2020. "Choline as a prevention for Alzheimer's Disease." *Aging*, PMID: 32039834. Impact Factor (IF): 5.682

9. Velazquez R[#]**,** Ferreira E, Knowles S, Fux C, Rodin A, Winslow W, Oddo S, 2019. "Life-long choline supplementation ameliorates Alzheimer's disease pathology and associated cognitive deficits by attenuating microglia activation." *Aging Cell*, PMID: 31560162. Impact Factor (IF): 7.238

10. Velazquez R, Meechoovet B, Ow A, Foley C, Shaw A, Smith B, Oddo S, Hulme C, Dunckley T, 2019. "Chronic Dyrk1 Inhibition Delays the Onset of AD-like Pathology in 3xTg-AD Mice". *Mol Neurobiol*. PMID: 31240602. Impact Factor (IF): 4.500

11. Velazquez R, Ferreira E, Winslow W, Dave N, Piras I, Naymik M, Huentelman M, Tran A, Caccamo A, Oddo S, 2019. "Maternal choline supplementation ameliorates Alzheimer's disease pathology by reducing brain homocysteine levels across multiple generations". *Mol. Psychiatry*, PMID: 30622336. Impact Factor (IF): 12.384

12. Belfiore R, Rodin A, Ferreira E, **Velazquez R**, Branca C, Caccamo A, Oddo S, 2018. "Temporal and Regional Progression of Alzheimer's disease-like pathology in 3xTg-AD mice". *Aging Cell*, PMID: 30488653. Impact Factor (IF): 7.346

13. Velazquez R, Tran A, Ferreira E, Turner EC, Oddo S, 2018. "Acute Tau knockdown in the hippocampus of adult mice causes learning and memory deficits". *Aging Cell*, *17*, 1-12. PMID: 29749079. Impact Factor (IF): 7.346

14. Velazquez R, Tran A, Ishimwe E, Denner L, Dave N, Oddo S, Dineley KT, 2017. "Central insulin dysregulation and energy dyshomeostasis in two mouse models of Alzheimer's disease." *Neurobiol. of Ag*ing *58*, 1-13. PMID: 28688899. Impact Factor (IF): 4.454

15. Powers BP, Kelly CM, **Velazquez R**, Ash JA, Strawderman MS, Alldred MJ, Ginsberg SD, Mufson EJ, Strupp BJ, 2016. **"**Maternal choline supplementation in a mouse model of Down syndrome: effects on attention and nucleus basalis/substantia innominata neuron morphology in adult offspring." *Neuroscience 340*, 501-514. PMID: 27840230. Impact Factor (IF): 3.277

16. Velazquez R, Shaw DM, Caccamo A, Oddo S, 2016. "Pim1 inhibition as a novel therapeutic strategy for Alzheimer's disease." *Mol Neurodegener. 11*, 1 – 14. PMID: 27412291. Impact Factor (IF): 7.31

17. Powers BP*, **Velazquez R***, Kelley CM, Ash JA, Strawderman MS, Alldred MJ, Ginsberg SD, Mufson EJ, Strupp BJ, 2016. "Attentional function and basal forebrain cholinergic neuron morphology during aging in the Ts65Dn mouse model of Down syndrome." *Brain Struct Funct. 221*, 4337-4352. PMID: 26719290. Impact Factor (IF): 4.05

18. Kelley CM, Ash JA, Powers BP, **Velazquez R**, Alldred MJ, Ikonomovic MD, Ginsberg SD, Strupp BJ, Mufson EJ, 2016. "Effects of Maternal Choline Supplementation on the Septohippocampal Cholinergic System in the Ts65Dn Mouse Model of Down Syndrome." *Curr Alzheimer's Res. 1*, 84-96. PMID: 26391045. Impact Factor (IF): 3.17

19. Strupp BJ, Powers BE, **Velazquez R**, Ash JA, Kelley CM, Alldred MJ, Strawderman MS, Caudill MA, Mufson EJ, Ginsberg SD, 2016. "Maternal Choline Supplementation: A Potential Prenatal Treatment for Down Syndrome and Alzheimer's Disease." *Curr Alzheimer's Res. 13*, 97-106. PMID: 26391046. Impact Factor (IF): 3.17

20. Talboom JS, **Velazquez R**, Oddo S, 2015. "The mammalian target of rapamycin at the crossroad of aging and Alzheimer's disease." *Aging and mechanism of disease.* PMID: 28721257.

21. Ash JA*, **Velazquez R***, Kelley CM, Powers BE, Ginsberg SD, Mufson EJ, Strupp BJ, 2014. "Maternal choline supplementation improves spatial mapping and increases basal forebrain cholinergic neuron number and size in aged Ts65Dn mice." *Neurobiol. Dis 70*, 32-42. PMID: 24932939. Impact Factor (IF): 5.918

22. Kelley CM, Powers BP, **Velazquez R**, Ash JA, Ginsberg SD, Strupp BJ, Mufson EJ, 2014. "Maternal choline supplementation differentially alters the basal forebrain cholinergic system of young-adult Ts65Dn and disomic mice." *J Com Neurol. 522*, 1390-1410. PMID: 24178831. Impact Factor (IF): 3.225

23. Kelley CM, Powers BP, **Velazquez R**, Ash JA, Ginsberg SD, Strupp BJ, Mufson EJ, 2013. "Sex differences in the cholinergic basal forebrain in the Ts65Dn mouse model of Down syndrome and Alzheimer's disease." *Brain Pathol*. 24, 33-44. PMID: 23802663. Impact Factor (IF): 4.354

24. Velazquez R, Ash JA, Powers BE, Kelley CM, Strawderman MS, Luscher ZI, Ginsberg SD, Mufson EJ, Strupp BJ, 2013. "Maternal choline supplementation improves spatial learning and adult hippocampal neurogenesis in the Ts65Dn mouse model of Down syndrome." *Neurobiol. Dis 58*, 92-101. PMID: 23643842. Impact Factor (IF): 5.732

MANUSCRIPTS UNDER REVIEW

1. Readhead B, **Velazquez R**, Lu AK, Nolz J, Shireby G, Yokoyama JS, Lunnon K, Horvath S, Coleman PD; Cochran NJ, Mastroeni D. Differential PIN1 expression levels driven predominantly by female subjects in aging, mild cognitive impairment and subsequent Alzheimer's disease. Under resubmission review in *Neurobiology of aging*.

2. Dave N, Judd JM, Decker A, Winslow W, Sarette P, Espinosa OV, Sandler J, Bilal A, Tallino S, McDonough I, Winstone JK, Blackwood EA, Glembotski C, Karr T, **Velazquez R#,** 2022. "Dietary choline intake is necessary to prevent systems-wide organ pathology and reduce Alzheimer's disease hallmarks". *Under review in Aging Cell.*

PRESS RELEASES

Pesticide research links chemical compound to brain disorder, an interview on AZ PBS
Can a common used herbicide get into our brains? Arizona scientist want to find out
New study shows glyphosate may be linked to neurodegenerative diseases
New study shows that commonly used herbicide crosses blood-brain-barrier
Untangling the brain: new research offers hope for Alzheimer's disease
Edson seed grants advance innovate dementia solutions – grant award to Velazquez Lab
Researchers examine common nutrient choline to battle Alzheimer's disease
Supplementation of common nutrient choline may hold the answers to combat Alzheimer's disease
Essential nutrient may help fight Alzheimer's disease across multiple generations
A pregnant mother's diet is key to reduce disabilities resulting from Down syndrome

SCIENTIFIC ABSTRACTS

1. Huentelman MJ, Piras IS, Beres S, Hudson S, Wright S, Head E, **Velazquez R#**, 2022. Epigenomic-wide association study reveals DNA methylation changes in the brains of people with Down syndrome and Alzheimer's disease. Society for Neuroscience, November 2022, San Diego CA.

2. Judd JM, Dave N, Decker A, Winslow W, Sarette P, Espinosa OV, Tallino S, Sandler J, Bilal A, McDonough I, Winstone JK, Glembotski C, Blackwood EA, Karr T, **Velazquez R#**, 2002. Dietary choline deficiency induces system-wide cellular and molecular dysfunction across several pathogenic axes associated with Alzheimer's disease. Society for Neuroscience, November 2022, San Diego CA.

3. Tallino S, Bartholomew S, Sepulveda I, Winstone J, **Velazquez R#**, 2022. Adulthood choline supplementation in the Ts65Dn mouse model of Down syndrome. Society for Neuroscience, November 2022, San Diego CA.

4. Winslow W, Tallino S, Bartholomew S, **Velazquez R#**, 2022. Temporal and regional-specific elevations of soluble Aß40 and 42 in the Ts65Dn mouse model fo Down syndrome. Society for Neuroscience, November 2022, San Diego CA.

5. Winstone JK, Winslow W, **Velazquez R#**, 2022**.** Glyphosate accelerates amyloid-beta production in the APP/PS1 mouse model of Alzheimer's disease. Society for Neuroscience, November 2022, San Diego CA.

6. Bartholomew S, Winslow W, Shaw Y, Rokey S, Foley C, Hulme C, Dunckley T, **Velazquez R#,** 2022. Validating the efficacy of an potent Dyrk1a inhibitor (DYR533) in the 3xTg-AD mouse model of Alzheimer's disease. Society for Neuroscience, November 2022, San Diego CA.

7. Piras IS, Beres S, Hudson S, Johnson M, Wright S, Tallino S, Head E, Huentelman MJ**, Velazquez R#**, 2022. Multi-omics analysis suggests increased exocytic processes in the brains of patients with Trisomy-21 and Alzheimer's Disease. Arizona Alzheimer's Consortium, September 2022, Tempe AZ.

8. Winstone JK, Pathak K, Winslow W, Piras IS, White J, Sharma R, Huentelman MJ, Pirrotte P, **Velazquez R#,** 2022**.** "Glyphosate infiltrates the brain and increases pro-inflammatory cytokine TNFα: implications for neurodegenerative disorders." Arizona Alzheimer's Consortium, September 2022, Tempe AZ.

9. Bartholomew S, Wendy Winslow, Shaw Y, Rokey S, Foley C, Hulme C, Dunckley T, **Velazquez R#**, 2022. "The novel Dyr533 Dyrk1a Inhibitor reduces AD-like pathogenies in the 3xTg-AD mouse model of Alzheimer's Disease". Arizona Alzheimer's Consortium, September 2022, Tempe AZ.

10. Dave N, Vural AS, Piras IS, Winslow W, Surendra L, Winstone J, Huentelman MJ, **Velazquez R#**, 2021. Identification of the retinoblastoma binding protein 7 (Rbbp7) as a mediator against tau acetylation and subsequent neuronal loss in Alzheimer's disease and related tauopathies. Society for Neuroscience (SFN), Nov 2021, Online conference.

11. Decker A, Winslow W, Winstone J, McDonough I, Blackwood E, Bilal A, Tallino S, Glembotski C, **Velazquez R#**, 2021. Adulthood dietary choline deficiency; a risk factor for obesity, impaired glucose tolerance, cardiac pathology, and subsequent Alzheimer's disease. SFN, Nov 2021, Online conference

12. Tallino S, Decker A, Dave N, Sandler J, Karr T, **Velazquez R#**, 2021**.** Unbiased proteomic analysis reveals dietary choline deficiency-induced changes to neurodegeneration-relevant pathways in 3xTg-AD mouse model of Alzheimer's disease. SFN, Nov 2021, Online conference

13. Winstone J, Pathak KV, Sharma R, Donnay M, Huentelman MJ, Pirrotte P, **Velazquez R#**, 2021. Glyphosate infiltrates the brain and may be a risk factor for Alzheimer's Disease. SFN, Nov 2021, Online conference

14. Tallino S, Winslow W, McDonough I, Decker A, **Velazquez R#**, 2021. First assessment of the 3xTg-AD mouse model of Alzheimer's in the IntelliCage reveals cognitive deficits associated with decreased brain weight and insoluble Amyloid-β40. ASU Biodesign Retreat, April 2021, Tempe AZ.

15. Velazquez R, Ferreira E, Winslow W, Piras IS, Dave N, Naymik M, Huentelman MJ, Oddo S. 2019. Maternal choline supplementation ameliorates Alzheimer's disease pathology by reducing brain homocysteine levels across multiple generations. SFN, October 2019, Chicago IL.

16. Knowles S, **Velazquez R,** Caccamo A, Oddo S, 2018. Pim1 inhibition as a novel therapeutic strategy for Alzheimer's disease. SFN, November 2018.

17. Velazquez R, Tran A, Ferreira E, Turner EC, Oddo S, 2017. "Acute knockdown of tau in the adult hippocampus impairs learning and memory." SFN, November 2017, Washington DC.

18. Belfiore R, Ferreira E, **Velazquez R**, Branca C, Dave N, Rodin A, Caccamo A, Oddo S, 2017. "Staging Alzheimer's disease-like pathology in 3xTg-AD mice." SFN, November 2017, Washington DC.

19. Velazquez R, Shaw DM, Caccamo A, Oddo S, 2017. "Pim1 inhibition as a novel therapeutic strategy for Alzheimer's disease." Alzheimer's drug discovery foundation (ADDF), September 2017.

20. Velazquez R, Tran A, Ferreira E, Oddo S, 2017. "Elucidating the role of tau in adulthood by using an inducible AAV-ShRNAtau." Arizona Alzheimer's Consortium (AAC), May 2017.

21. **Velazquez R**, Tran A, Ishimwe E, Denner LL, Dave N, Oddo S, Dineley KT, 2017. "Central insulin resistance precedes peripheral insulin resistance in two mouse models of Alzheimer's disease." AAC, May 2017.

22. Stokes AM, **Velazquez R**, Oddo S, Quarles C, 2017. "Development of preclinical MRI biomarkers in mouse models of Alzheimer's disease." AAC, May 2017.

23. **Velazquez R**, Caccamo A, Ferreira E, Tran A, Nikhil D, Oddo S, 2016. "Maternal choline supplementation as a preventive therapeutic strategy for Alzheimer's disease-like pathology." SFN, November 2016, San Diego CA.

24. Velazquez R, Ferreira E, Tran A, Oddo S, 2016. "Maternal choline supplementation as a preventive therapeutic option with transgenerational altering properties for Alzheimer's disease pathology". AAC, May 2016.

25. Velazquez R, Shaw DM, Talboom JS, Oddo S, 2016. "Pim 1 inhibition as a novel therapeutic strategy for Alzheimer's disease." AAC, May 2016.

26. **Velazquez R**, Shaw DM, Talboom JS, Oddo S, 2015. "PRAS40 as a novel therapeutic target for Alzheimer's disease". SFN, October 2015, Chicago IL.

27. Velazquez R, Ash JA, Powers BE, Kelley CM, Strawderman MS, Ginsberg SD, Mufson EJ, Strupp BJ, 2012. "Maternal choline supplementation improves spatial learning and increases adult hippocampal neurogenesis in the Ts65Dn mouse model of Down syndrome." SFN, October 2012, New Orleans LA.

28. Powers B, Ash JA, **Velazquez R**, Kelley CM, Strawderman MS, Alldred M, Ginsberg SD, Mufson EJ, Strupp BJ, 2012. "Maternal choline supplementation improves cognitive function in the Ts65Dn mouse model of Down syndrome: Correlations between basal forebrain cholinergic neurons and performance." SFN, October 2012, New Orleans LA.

29. Velazquez R, et al., 2012. "Perinatal choline supplementation improves spatial learning and increases cholinergic neuron number in the medial septum in the Ts65Dn mouse model of Down syndrome." Neurobehavioral Teratology Society, June 2012, Baltimore MA. *Recipient of the prestigious James Bradford award and NBTS best student presentation.*

30. Velazquez R, Kelley CM, Powers BE, Ash JA, Ginsberg SD, Strupp BJ, Mufson EJ, 2011. **"**Age-related alterations in basal forebrain cholinergic neuron populations in the Ts65Dn mouse model of Down syndrome and Alzheimer's disease." SFN, November 2011, Washington DC.

31. Ash JA, **Velazquez R**, Kelley CM, Powers BE, Strawderman MS, Mufson EJ, Ginsberg SD, Strupp BJ, 2011. "Perinatal choline supplementation improves spatial learning and increases cholinergic expression within basal forebrain cholinergic neurons in the Ts65Dn mouse model of Down syndrome." SFN, November 2011, Washington DC.

32. Powers BP, Kelley CM, Ash JA, **Velazquez R**, Strawderman MS, Mufson EJ, Ginsberg SD, Strupp BJ, 2011. **"**Perinatal choline supplementation improves learning of an attention task and alters basal forebrain cholinergic neurons in the Ts65Dn mouse model of Down syndrome." SFN, November 2011, Washington DC.

33. Kelley CM, Powers BP, Ash JA, **Velazquez R**, Strupp BJ, Ginsberg SD, Mufson EJ, 2011. "Morphologic and transcriptomic alterations in cholinergic basal forebrain neurons in maternal choline supplemented trisomic (Ts65Dn mice)." SFN, November 2011, Washington DC.

34. Velazquez R, Menjivar J, Drumheller K, Lee DW, 2008. "Hippocampal damage induces cell proliferation in the septo-hippocampal system." SFN, November 2008, Washington DC.

35. Law M, Menjivar J, Chapleau J, Ngo T, **Velazquez R**, Lee DW, 2006." Injury-induced cell proliferation in the adult zebra finch hippocampus: sex differences and time course comparisons." SFN, November 2006, Atlanta GA.

MANUSCRIPT REVIEWER

Aging cell, FASEB, Behavioral Brain Research, Frontiers in Aging Neuroscience, Frontiers in Behavior Neuroscience, Scientific Reports, Nutritional Neuroscience, Nutrients, Biotechnology reports

SERVICE

1. NIH; Chronic Dysfunction and Integrative Neurodegeneration (CDIN) Study section, Standing member, 4-year term (July 1, 2021 – June 30, 2025)
2. Associate Editor Elsevier: Brain Research peer reviewed journal (June 1, 2021 – May 31, 2024)
3. ASU-Biodesign Chalk Talk committee member (Fall 2020 – present)
4. ASU Interdisciplinary Neuroscience Graduate Program executive committee member (2019 – present)
5. Alzheimer's Association (2017 – present)
6. ASU Neuroscience Seminar Series (2022-present)

TEACHING

1. Course: Psychobiology, undergraduate level (300 students)
Institution/Semester: California State University Long Beach, Fall 2005, Fall 2006, Spring 2007
Instructor: Alexander Lynn Beckman Ph.D., Guido Urizar Ph.D.
Duties: Teaching assistant: preparation of syllabus, grading term papers, office hours to discuss topics with students.

2. Course: Neurobiology of learning and memory, graduate level (25 students)
Institution/Semester: Cornell University, Spring 2008
Instructor: David Smith Ph.D.
Duties: Teaching assistant: led discussion of scientific papers, grading term papers, data entry

3. Course: Obesity and the Control of Body Weight, undergraduate level (35 students)
Institution/Semester: Cornell University, Summer 2013, Summer 2014
Instructor: David Levitsky, Ph.D.
Duties: Teaching assistant: preparation of syllabus, office hours, exam preparation and grading

4. Course: Introduction to Psychology, "The brain and mental illness", undergraduate level (25 students)
Institution/Semester: Cornell University, Fall 2013
Instructor: Ramon Velazquez
Duties: Developed course, syllabus preparation, led discussion, lectures, grading responsibilities.

5. Course: Adult Psychopathology, undergraduate levels (500 students)
Institution/Semester: Cornell University, Spring 2014
Instructor: Harry Segal Ph.D.
Duties: Teaching assistant: led study sections, grading, lectures

6. Course: Pathologies of the Aging Brain, undergraduate/graduate level, (10 students)
Institution/Semester: Arizona State University, Fall 2017, Spring 2018
Instructor: Salvatore Oddo Ph.D.
Duties: Guest lecture on Alzheimer's disease

7. Course: Cellular and Molecular Neurobiology, graduate level (25 students)
Institution/Semester: Arizona State University, Fall 2018
Instructor: Salvatore Oddo Ph.D.
Duties: Guest lecture on Fetal alcohol syndrome and neurodevelopment

8. Course: Neurobiology of Memory and Aging, graduate level (10 students)
Institution/Semester: Arizona State University, Fall 2018
Instructor: Heather Bimonte-Nelson Ph.D.
Duties: Served as a mock NIH panel to review students' specific aims for grant proposals

9. **Course:** Cellular and Molecular Neuroscience, undergraduate level (60 students)
Institution/Semester: Arizona State University, Fall 2019
Instructor: Hong Lei, Ph.D.
Duties: Lectured throughout the semester on Neurodegeneration, learning, memory and neuronal mechanisms

10. Course: Neurobiology, undergraduate level (300 students)
Institution/Semester: Arizona State University, Spring 2020
Instructor: Jason Newbern, Ph.D.
Duties: Lectured on Neurodegeneration and Alzheimer's Disease

11. Course: Human Systems Neuroscience, graduate level (20 students)
Institution/Semester: Arizona State University, Spring 2020
Instructor: James Abbas, Ph.D.
Duties: Lectured on the human learning and memory section of this course

12. Course: BIO 467; Neurobiology (60 students)
Institution/Semester: Arizona State University, Fall 2020, Fall 2021
Instructor: Joshua Klein, Ph.D.
Duties: Provided multiple guest lectures throughout the semester on Neurodegeneration, Alzheimer's disease, learning, memory and neuronal mechanisms.

13. Course: BIO 467; Neurobiology (60 students)
Institution/Semester: Arizona State University, Spring 2021
Instructor: Tim Balmer, Ph.D.
Duties: Guest lectures on Alzheimer's disease

14. Course: Human Systems Neuroscience, graduate level (10 students)
Institution/Semester: Arizona State University, Spring 2021
Instructor: James Abbas, Ph.D.
Duties: Lectured on the human learning and memory section of this course

15. Course: BIO 360; Animal Physiology (335 students)
Institution/Semester: Arizona State University, Spring 2022
Instructor: Ramon Velazquez Ph.D., Gro Amdam Ph.D.
Duties: Instructed course on two of the four units, focused on cell biology and the nervous system

16. Course: BIO 394; Discussion of Animal Physiology (26 students)
Institution/Semester: Arizona State University, Spring 2022
Instructor: Ramon Velazquez Ph.D., Gro Amdam Ph.D.
Duties: Discussion of Animal Physiology readings

17. Course: BIO 498 (6 undergrad students): NEU 598 (7 PhD students); Neurodegenerative disorders of the Aging Brain
Institution/Semester: Arizona State University, Fall 2022
Instructor: Ramon Velazquez Ph.D.
Duties: Developed course on behavioral, cellular and molecular underpinnings of brain disorders

MENTORING

Dr. Velazquez prides himself on mentoring the next generation of scientists and medical professionals. We are very proud of the accomplishments made by students mentored in the Velazquez lab. Click here to see our success stories.

We seek out research opportunities? ASU Golden conversation between Dr. Velazquez and mentee Nikhil Dave

I. Post-Doctoral scholar:
1. Dr. Jessica Judd Ph.D. – Primary mentor of Edson post-doctoral fellow Dr. Judd whose work investigates the mechanistic role of Rbbp7 in tau acetylation and subsequent neurodegeneration in Alzheimer's disease. (2021 - present).

II. Graduate:

1. Joanna Winstone (Ph.D. candidate (post-comps) student primary mentor)– Primary mentor of Joanna's graduate work which investigates whether exposure of the widely used pesticide glyphosate is a risk factor for Alzheimer's disease (2019 - present).

2. Savannah Tallino (Ph.D. student primary mentor) - Primary mentor of Savannah's graduate work which investigates links between Down syndrome and Alzheimer's disease (2021 - present).

3. Samantha Bartholomew (Ph.D. student primary mentor) - Primary mentor of Samantha's graduate work which investigates the role of Dyrk1a in Down syndrome and Alzheimer's disease (2022 - present).

4. **Nikhil Dave** – **(M.S. student primary mentor, graduated Spring 2022)** - Mentored as a high school researcher and undergraduate in my lab. He was the recipient of the 2018 Arizona Flint Foundation Scholarship and was appointed Arizona Student Regents (2020 - 2022). He published various high impact papers on the role of Rbbp7 in Alzheimer's disease. He has accepted a position at Mckinsey & Company Global Consulting as of October 2022.

5. Sara Knowles (Ph.D. student committee member) - On Sara's Ph.D. committee whose primary mentor is Dr. Jason Newbern (2019 - present) at ASU. Her work focuses on the ERK1/2 pathway and its involvement in GABAergic neuron development.

6. James Bonner (Ph.D. student committee member) – On James's Ph.D. committee whose primary mentor is Dr. Bertram Jacobs (2019 - present) at ASU. His work focuses on mechanisms associated with necroptotic cell death.

7. Chelsea Tran (Ph.D. student committee member) - On Chelsea's Ph.D. committee whose primary mentor is Dr. Robert Bowser at Barrow Neurological Institute in Phoenix AZ (2020 - present). Her work focuses on deciphering the molecular mechanisms associated with ALS.

8. Hannah Weisman (M.S. student committee member, graduate spring 2022). Was on Hannah's M.S. committee whose primary mentor was Dr. Rita Sattler (2020 - 2022) at ASU. Her work focused on the role of progranulin in a mouse model of frontal temporal dementia.

9. Sara Walton (Ph.D. student committee member) – On Sara's Ph.D. committee whose primary mentor is Dr. Jeffrey Kordower (2022 - present) at ASU. Her work focuses on mechanisms associated with Parkinson's disease.

10. Gabrielle Kizeev (M.S. student committee member) - On Gabrielle's committee whose primary mentor is Dr. Timothy Balmer (2022-present) at ASU. Her work focuses on cerebellar neurocircuitry.

III. Undergraduate:

1. Zoe I. Lusher – Mentored at Cornell University and was co-authored on one of my publications. She received her B.S. in 2012, an M.D. in 2018 and is now in her medical residency.

2. An L. Tran – Mentored at Arizona State University as part of the Barrett's Honor's college program. She was co-authored on three of my publications (2015 – 2017). She was accepted into a Clinical nursing program at Georgetown university to start in Fall 2021.

3. Lukith Surendra - Mentored at Arizona State University as part of the Barrett's Honor's college program. Defended his thesis in Spring 2020 and was accepted to U of A medical School class of 2024. (2018 - 2020).

4. Marc Mifflin - Mentored at Arizona State University as part of the Barrett's Honor's college program. Defended his thesis in Spring 2020 and is currently applying to law school (2018 - 2020).

5. David Moreno - Co-mentor of an undergraduate working in the laboratory of Elliot Mufson at Barrow Neurological Institute as part of the Barrett's Honor's college program (2019 - 2020). Defended his thesis in Spring 2020.

6. Mara-Clarisa Boiangiu - Mentored at Arizona State University as part of the Barrett's Honor's college program. She defend her thesis in Spring 2022 and started a master's in public health at Georgetown. (2019 - 2022).

7. Oscar Villarreal Espinosa – Undergraduate mentored at Arizona State University to receive more training in biomedical research. Graduated in 2021 and entered a medical program at the University of Wisconsin (2020 – 2021).

8. Leia Brookhouser - Co-mentored in collaboration with Dr. Paul Coleman at Arizona State University as part of the Barrett's Honor's college program. She will prepare and defend her thesis in Spring 2022 (2020 - present).

9. Shelby Coup - Co-mentored in collaboration with Dr. Paul Coleman at Arizona State University as part of the Barrett's Honor's college program. She defended Spring 2022 and applied to Physician assistant school (2020 - 2022).

10. Jennifer White - Undergraduate mentored at Arizona State University to receive more training in biomedical research prior to graduating in Spring 2022 (2020 - 2021).

11. Isabella Sepulveda - WINURE undergraduate underrepresented minority student mentored at ASU to receive training in biomedical research prior to graduating in Spring 2023 (2021- present).

12. Faizan Mistry - Mentored at ASU as part of the Barrett's Honor's college program. He will prepare and defend her thesis in Spring 2024 (2021 - present).

13. Landon Mattingly – ASU Neuroscholar undergraduate student mentored at ASU to receive training in biomedical research prior (May 2022- July 2022).

14. Rachel Etebari – ASU undergraduate research assistant who is a underrepresented minority and is assisting in various projects in the lab (2022- present).

15. Neha Yeturu – Barrett Honor College thesis director for ASU undergraduate who is working with Dr. Drake Duane on a case study of a patient with frontotemporal dementia (2022-present).

16. Kavya Balasubramanian – Barrett Honor College thesis director for ASU undergraduate who is working with Dr. Jason Newbern on ERK1/2 loss-of-function during basal forebrain cholinergic neuron development (2022-present).

PRESENT EMPLOYED STAFF – VELAZQUEZ LAB

1. Wendy Winslow (B.S.) – Laboratory Manager (2019 - present)
2. Ian McDonough – Student Worker (2019 - present)