Ramon Velazquez, Ph.D.

Assistant Professor, rvelazq3@asu.edu
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
Velazquez lab website: https://velazquezlab-asu.github.io/index.html

Bio

I earned my PhD in Neuroscience from Cornell University in 2014, with support by a National Science Foundation (NSF) Graduate research fellowship and completed postdoctoral work at Arizona State University (ASU) with NSF and Alzheimer's Association support. As tenure-track faculty at ASU, I am PI on a various NIH training grants—including a predoctoral T32 bridging AD biology and AI, and an R25 that placed 16 students into top neuroscience Ph.D. programs. In 2025, I launched a collaborative seminar series with LIFETIME Fitness to promote healthy brain aging in older adults and highlight neuroscience research related to the aging brain by inviting physicians and scientific to speak. Overall, I aim to advance research, educating the broader community, while mentoring the next generation of scientists.

Notable media/press releases:

1. "Researchers find link between low choline and Alzheimer's disease risk". AZ PBS, July 2025
2. "How to get more of a nutrient that might help your memory". Washington Post and Consumer reports. April 2025
3. "Study indicates persistent damaging effects of glyphosate herbicide exposure on brain health." The New Ledge. December 2024
4. "Pesticide research links chemical compound to brain disorders". AZ PBS, September, 2022.
5. "The importance of mentorship" ASU Golden Conversations. December 2021.

Education and academic positions

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

Academic positions

1. Assistant Professor, ASU School of Life Sciences (August 2021 - present)
2. Assistant Research Professor, ASU NDRC at the Biodesign Institute (April 2019 – July 2021)
3. Post- Doc, ASU NDRC at the Biodesign Institute (September 2014 - March 2019)
4. Graduate Student, Cornell University, Mentored by Barbara Strupp Ph.D. (August 2008 - August 2014)
5. Project Director, Greater LA Veteran Affairs & UCLA Nicotine Research Unit (August 2007 - July 2008)
6. Undergraduate Trainee, National Institute of Mental Health Career Opportunities in Research (May 2005 - May 2007)

Non-academic positions

1. Research Advisor and Consultant, Performance Lab, Royal Leamington UK (August 2023 - present)
2. Neuroscience Consultant, Performance Lab, Royal Leamington UK (August 2016 - July 2022)
3. Laboratory Technician, Genzyme Genetics, Los Angeles CA (May 2007 - July 2007)

Current funding

1. T32 NIH (mPI Velazquez, Wu, Li, Klein-Seetharaman) $2,354,488.00 (2024 - 2029)
Title: "Integrational Community Driven Training in Alzheimer's Disease Research: An AI+X Approach"

2. NIH-Arizona Alzheimer's Core (AAC) Grant (Co-I Velazquez, PI Stokes) $21,819.00 (2024 - 2025)
Title: "Establishing the Neuropathological Underpinnings of Altered Functional Connectivity Using Preclinical Models of Alzheimer's disease."

3. Edson Foundation Seed grant (ASU Foundation) (PI Velazquez, Co-I Dunckley) $125,000.00 (2024 - 2026)
Title: "Contributions of Dyrk1a microglia to the inflammatory state of the diseased brain."

4. Edson Foundation Seed grant (ASU Foundation) (PI Judd, Co-I Velazquez) $125,000.00 (2025 - 2026)
Title: **"**The Effect of Estrogen Modulation on Endogenous Choline Production, Metabolic Dysfunction, and Inflammation: Implications for Alzheimer's Disease Risk in Women."

5. Edson Foundation Seed grant (ASU Foundation) (PI Oliver, Co-I Velazquez) $125,000.00 (2025 - 2026)
Title: "Amphetamine-type stimulant intake as a risk factor for Alzheimer's and related dementias."

Completed funding

1. R25NS107188-05 HHS: NINDS (PI Velazquez) $251,649.00 (2023 - 2025)
Title: "Workforce Inclusion in Neuroscience through Undergraduate Research Experience (WINURE)"

2. R01 AG062500 HHS: NIH (PI Velazquez) $3,040,398.00 (2019 - 2025)
Title: "S6K1 as a Novel Link Between Aging an Alzheimer's Disease."

3. R01 AG059627 HHS: NIH (PI Velazquez) $3,112,707.00 (2019 - 2025)
Title: "Identifying Common Mechanisms of Neurodegeneration between Down syndrome and Alzheimer's disease."

4. NIH Small Business Technology Transfer (STTR) (PI Dunckley, Co-I Velazquez). $185,965.00 (2022 -2024).
Title: "Commercialization of Selective Dyrk1a Inhibitors for Down Syndrome."

5. NIH-AAC Developmental Grant (PI Velazquez) $219,536.00 (2021 - 2024)
Title: "Neuronal Rbbp7 as a mediator against tau pathology in Alzheimer's disease."

6. Edson Foundation Seed grant (ASU Foundation) (PI Dunckley, Co-PI Velazquez) $97,784.56 (2021 - 2022)
Title: "Validating Efficacy of Dyr533 in 3xTg-AD Mice."

7. Edson Foundation Seed grant (ASU Foundation) (PI Mastroeni, Co-PI Velazquez) $57,800.00 (2021 - 2022)
Title: "Dysfunctional Neuronal Mitochondria Translocate into Neighboring Glial Cells via Tunneling Nanotubes."

8. Edson Foundation Seed grant (ASU Foundation) (PI Velazquez) $100,410.00 (2020 - 2022)
Title: "Glyphosate Exposure: A Risk Factor for Accelerated Cognitive Aging and Alzheimer's Disease."

9. Infectious Disease Society of America (IDSA) grant - (PI Jacobs, Co-I Velazquez) $100,000.00 (2020 - 2021)
Title: "The Role of Microbe-Induced Necroptotic Death in Tauopathy."

10. Alzheimer's Association International Research Grant (PI Velazquez) $174,999.00 (2016 - 2020)
Title: "Pim1 Inhibition as a Novel Therapeutic Strategy for Alzheimer's Disease."

Pending grant proposals

1. R01 NIH (PI Gewritz, Co-I Velazquez) First submission, A0 = 13 percentile.
Title: "Individual Differences in Transcriptional and Epigenetic Mechanisms Underlying Opioid Addiction Vulnerability."

3. R01 NIH (PI Mastroeni, Co-I Velazquez), Resubmission in preparation. Resubmission, A0 = 26 percentile.
Title: "MAC-Mediated Endothelial Cell Death in Cerebral Amyloid Angiopathy."

4. R21 NIH (PI Velazquez, mPI Huentelman), Resubmission review October 2025. A0 = 26 percentile.
Title: "Choline and Cognitive Health: A Translational Approach to Evaluating the Impact of Choline on Cognitive Decline, Alzheimer's Disease Biomarkers, and Tauopathies."

5. R01 NIH (PI Velazquez) Submission to be reviewed in December 2025.
Title: "Neuroprotective Mechanisms of the Retinoblastoma-Binding Protein 7 in Alzheimer's Disease and Related Tauopathies."

Fellowships

1. National Science Foundation (NSF) Post-Doctoral Research Fellowship (1606833), $221,882.00 (2016 - 2018)
Title: "Elucidating the Molecular Mechanisms Linking Maternal Choline Supplementation to Healthy Cognitive Aging."

2. 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.

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

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

Honors and awards

1. ASU Professor of Impact Award for BIO 360 (February 2024)
Awarded a impact award nominated by students of BIO 360 for Fall 2023

2. 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.

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

Publications

h-index (22); i10-index (26); Total citations = 1989**. First author (8); peer-review senior corresponding author (14).**

1. Winslow W*, Judd JM*, Tallino S, Serrano GE, Beach TG, Roust LR, De Filippis E, Brown B, Katsanos C, **Velazquez R.** "Reduced Blood Choline in Obesity Is Associated with Metabolic and Alzheimer's Biomarkers**."** *Aging and Disease*. PMID: 41296930

2. Judd J, Winslow W, I McDonough, Mistry F, **Velazquez R,** 2024. "Modifying reaction time tasks parameters in the automated IntelliCage identifies heightened impulsivity and impaired attention in the 3xTg-AD model of Alzheimer's disease". *Front. Aging Neurosci*. PMID: 39744522

3. Bartholomew SK, Winslow W, Sharma R, Pathak KV, Tallino S, Judd J, Leon H, Turk J, Pirrotte P, **Velazquez R**, 2024. "Glyphosate exposure exacerbates neuroinflammation and Alzheimer's disease-like pathology despite a 6-month recovery period in mice." *J. Neuroinflammation*. PMID: 39633366

4. Tallino S, Etebari R, McDonough I, Leon H, Sepulveda I, Winslow W, Bartholomew SK, Perez S, Mufson E, **Velazquez R**, 2024. "Dietary choline supplementation in adult Down syndrome mice enhances health outcomes." *Nutrients*. PMID: 39683562

5. Judd JM, Jasbi P, Winslow W, Serrano GE, Beach TG, Klein-Seetharaman J, **Velazquez R**, 2023. "Inflammation and the pathological progression of Alzheimer's disease are associated with low circulating choline levels." *Acta Neuropathologica.* PMID: 37548694.

6. de Avial Dal Bo C, Suazo C, Nolz J, Cochran JN, Wang Q, **Velazquez R,** Dammer EB, Readhead B, Mastroeni D, 2023. "Reduced *PIN1* gene expression in neocortical and limbic brain regions in female Alzheimer's patients correlates with cognitive and neuropathological phenotypes." Neurobiology of Aging. PMID: 38964013

7. Tallino S, Winslow W, **Velazquez R**, 2023. "Pathological trajectory of the Ts65Dn model of Down Syndrome." *Aging*. PMID: 36707069.

8. Dave N, Judd JM, Decker A, Winslow W, Sarette P, Villareal Espinosa O, Tallino S, Bilal A, Sandler J, McDonough I, Winstone JK, Blackwood EA, Glembotski C, Karr T, **Velazquez R,** 2023. "Dietary choline intake is necessary to prevent systems-wide organ pathology and reduce Alzheimer's disease hallmarks." *Aging Cell*. PMID: 36642814.

9. 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.

10. 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.

11. 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.

12.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.

13. 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.

14. 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.

15. Velazquez R, Winslow W, Mifflin MA*, 2020. "Choline as a prevention for Alzheimer's Disease." *Aging,* PMID: 32039834.

16. 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.

17. 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.

18. 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.

19. 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.

20. 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.

21. 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.

22. 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.

23. 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.

24. Powers BP, **Velazquez R (1st co-author)**, 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.

25. 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.

26. 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.

27. 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.

28. Ash JA, **Velazquez R (1st co-author)**, 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.

29. 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.

30. 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.

31. 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. Press release

Manuscripts under review

1. Judd JM*, Mistry F*, Winslow W, Tallino S, Turk J, **Velazquez R.** "Neuropathological sex discrepancies across the lifespan of 3xTg-AD mice associate with circulating choline levels." Under resubmission review in *Aging Cell.*

Invited research seminars

1. Tulane University School of Medicine Neuroscience Seminar Series. "Translational approaches and strategies to untangle neurodegeneration of the aging brain", April 23rd, 2025, New Orleans, LA.
2. University of New Mexico School of Medicine Neuroscience seminar series. "Translational approaches and strategies to untangle neurodegeneration of the aging brain." November 14th, 2024, Albuquerque, NM.
3. International: American Association for the Advancement of Science (AAAS) – ACC – Cinvestav – UNAM Professional Meeting: Opportunities for U.S.-Cuba-Mexico Collaboration in Public Health. Talk title: "Preventive and therapeutic strategies to slow Alzheimer's disease. September 2024, Mexico City, MX. Press release.
4. International: AAAS invited speaker to Shared Challenges and Opportunities in Aging and Disaster Management: Potential for U.S.-Cuba Scientific Collaboration. Talk title "Nutritional and pharmacological approaches to slow inflammation and neurodegeneration of the aging brain". March 2024, Havana Cuba. Press release.
5. Tribal Consultation group, Arizona Health Care Cost Containment System (AHCCCS) health awareness talk: "Alzheimer's disease, other dementias, and brain health." July 27th, 2023.
6. State of AZ AHCCCS Brain health awareness talk. "Brain health and Alzheimer's disease." June 7th, 2023.
7. International: Soroka Virtual Symposium. "Translational approaches to untangle Alzheimer's disease and associated neuropathologies." May 2nd, 2023.
8. ASU Edson Lecture Series. "Glyphosate and implications for brain disorders" August 17th, 2022
9. University of California Santa Barbara (UCSB) Neuroscience seminar series. "Untangling Alzheimer's Disease: Identification of early events contributing to pathogenesis", December 3rd, 2021.
10. AZ Regenerative Medicine Conference featured speaker, ASU. **"**Untangling Alzheimer's Disease: Identification of early modifiable events that may reduce pathogenesis", November 18th, 2021.
11. 18th Annual Alzheimer's Drug Discovery Foundation (ADDF), September 13th, 2017. "Pim1 inhibition as a novel therapeutic strategy for Alzheimer's disease."

Outreach seminars and interviews

1. Conecta Arizona, "Connecting with the Spanish speaking community about brain health." September 17th, 2025. Online audiences from the USA and Mexico.
2. LIFETIME fitness Inc. LIFE-BE Seminar Series. "Supporting healthy brain aging through exercise and lifestyle habits", February 11th, 2025. Biltmore, AZ.

3. Mind & Matter Podcast with Nick Jikomes PhD. "Glyphosate, Choline & Alzheimer's: Toxins & Nutrition to Prevent Neurodegeneration", February 04th 2025. Online. Podcast link.
4. ASU Innovation in Action webinar series. "Untangling Alzheimer's disease utilizing innovative strategies at ASU". October 20th, 2022.
5. Consumer Reports interview: Article title. "The Benefits of Choline" Printed December, 2024.
6. Arizona PBS, Interview about "Common supplement for Alzheimer's disease (AD)", Oct. 8th, 2019. Video link.
7. Sip of Science Seminar hosted by the ASU Biodesign Institute. "Clues to curing Alzheimer's disease", March 2019
8. ASU Neuroscience Seminar Series. "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.

Other press releases / media

The surprising connection between obesity, choline and brain inflammation
Mind & Matter Podcast. Glyphosate, Choline & Alzheimer's: Toxins & Nutrition to Prevent Neurodegeneration
Common herbicide could be dangerous for brain health, this ASU researcher found
Study reveals lasting effects of common weed killer on brain health
Lasting effects of common herbicide on brain health
AAAS and Cuban Academy of Sciences Brainstorm on U.S.-Cuba shared challenges and opportunities in Aging and Disaster Management (Featured in New and Ongoing conversation section)
New research links low choline levels in blood to Alzheimer's disease progression
Study Explores Effects of Dietary Choline Deficiency on Neurologic, System-Wide Health
Can a common used herbicide get into our brains? Arizona scientists 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
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

Scientific conference abstracts as ASU Assistant Professor

Contributions. # = senior author. Members in lab * = undergraduate, ** = graduate student, * = post-doctoral fellow**

1. Sharma R, Hansen NP, Martinez MN, Barthomolew S**, Winslow W, Carvajal R, Turk J, Tallino S**, Judd JM***, Leon H*, Pirrotte P, **Velazquez R#**. "Unbiased proteomics reveals glyphosate-induced alterations in neuronal signaling pathways associated with an Alzheimer's disease-like phenotype in control mice." Arizona Alzheimer's Consortium, September 2025, Tempe AZ.

2. Martin AK*, Turk J, Winslow W, Cheng R*, Judd JM***, Serrano G, Beach T, **Velazquez R#**. "Exploring the Role of Choline as a Modulator of Tau Pathogenesis." Arizona Alzheimer's Consortium, September 2025, Tempe AZ.

3. Winslow W, Judd JM***, Tallino S**, Roust LR, De Filippis E, Brown B, Katsanos C, **Velazquez R#.** "Lower Plasma Choline Levels in Obesity Are Associated with Metabolic Dysfunction, Inflammation, and Elevated Neurofilament Light Chain—Risk Factors for Alzheimer's Disease." Arizona Alzheimer's Consortium, September 2025, Tempe AZ.

4. Tallino S**, Piras IS, Huentelman MJ, Head E, **Velazquez R#.** "Region-specific alterations in gene expression of Chromosome 21 genes in the brains of people with Down syndrome and Alzheimer's disease." Society for Neuroscience, November 2025, San Diego CA.

5. Velazquez R#, Bartholomew SK**, Turk J, Winslow W, Rokey S**, Foley C, Hulme C, Dunckley T, 2024. "The therapeutic potential of DYR533, a novel Dyrk1a inhibitor, in slowing tau pathogenesis and neuroinflammation in frontotemporal dementia, Alzheimer's Disease, and Down syndrome." AD/PD 2025 conference, Vienna Austria

6. Winslow W, Judd J***, Katsanos C, **Velazquez R#**, 2024. "The Impact of Low Circulating Choline on Metabolic Dysfunction and Cognitive Health: Comparative Analysis in Prediabetic Humans and the 3xTg-AD model of Alzheimer's disease". AD/PD 2025 conference, Vienna Austria.

7. Tallino S**, Etebari R*, McDonoguh I, Leon H*, Sepulveda I*, Winslow W, Bartholomew SK**, Perez S, Mufson E, **Velazquez R**[#], 2024. "Adulthood choline supplementation in a down syndrome mouse model reduces co-morbidities and improves cognition." AD/PD 2025 conference, Vienna Austria.

8. Judd J***, Winslow W, Huentelman MJ, Piras I, Pirrotte P, Sharma R, Dave N*, **Velazquez R**[#], 2024. "Rescuing deficient chaperone/chromatic remodeling retinoblastoma binding protein 7 (Rbbp7) attenuates autophagy, neuroinflammation and tau pathogenesis in tauopathies." AD/PD 2025 conference, Vienna Austria.

9. Bartholomew SK**, Winslow W, Sharma R , Pathak KV, Tallino S**, Judd J***, Leon H*, Pirrotte P, **Velazquez R**[#], 2024. "Glyphosate exposure exacerbates neuroinflammation and Alzheimer's disease-like pathology despite a 6-month recovery in NonTg and 3xTg-AD mice." Society for Neuroscience, October 2024, Chicago IL.

10. Judd J***, Mistry F*, Winslow W, Tallino S**, Turk J, **Velazquez R**[#], 2024. "3xTg-AD mice exhibit neuropathological sex discrepancies that correlate with circulating choline levels." Society for Neuroscience, October 2024, Chicago IL.

11. Tallino S**, Etebari R*, Leon H*, Sepulveda I*, Bartholomew SK**, **Velazquez R**[#], 2024. "Adulthood dietary choline supplementation modestly lowers metabolic symptoms related to Alzheimer's disease risk in the Ts65Dn model of Down Syndrome". Society for Neuroscience, October 2024, Chicago IL.

12. Turk J, Winslow W, Tallino S**, Judd J***, Bartholomew SK**, Mistry F*, Hulme C, Dunckley T, **Velazquez R**[#], 2024. "Validating the efficacy of a novel potent Dyrk1a inhibitor (DYR533) in the Ts65Dn mouse model of Down Syndrome." Society for Neuroscience, October 2024, Chicago IL.

13. Judd J***, Winslow W, Serrano GE, Beach TG, Piras IS, Huentelman, **Velazquez R**[#]**,** 2023**. "**The retinoblastoma binding protein 7 (Rbbp7), which mediates against tau acetylation and subsequent hyperphosphorylation, is reduced in Alzheimer's disease." Society for Neuroscience, November 2023, Washington DC.

14. Leon H*, Winslow W, Bartholomew SK**, Martinez MN, Pathak K, Sharma R, Pirrotte P, **Velazquez R**[#]**,** 2023. Thirteen weeks of glyphosate exposure at early adulthood followed by cessation is sufficient to exacerbate neuroinflammation, amyloid-β, and tau pathology in the 3xTg-AD mouse model of Alzheimer's disease." Society for Neuroscience, November 2023, Washington DC.

15. Winslow W, Judd JM***, Serrano GE, Katsanos C, Beach TG, **Velazquez R**[#], 2023**.** "Patients with Mild Cognitive Impairment (MCI) and obese prediabetes exhibit low circulating choline levels that correlate with various metabolic and brain pathologies." Society for Neuroscience, November 2023, Washington DC.

16. Judd J***, Winslow W, Jasbi P, Klein-Seetharaman J, **Velazquez R**[#], 2023. "Low circulating choline levels correlate with Alzheimer's disease pathology severity and cognitive impairment." Alzheimer's Association International Conference, July 2023, Amsterdam NL.

17. Tallino S**, Vural A, Villareal Espinosa O*, **Velazquez R**[#], 2023. "Utilization of the novel adeno-associated virus PHP.eB serotype to modulate Intersectin 1 expression in the Ts65Dn mouse model of Down syndrome." Alzheimer's Association International Conference, July 2023, Amsterdam NL.

18. Bartholomew S**, Winslow W, Rokey S**, Hulme C, Dunckley T, **Velazquez R**[#], 2023. "A novel DYRK1a inhibitor, DYR533, reduces tau pathology and TNF alpha in the 3xTg-AD and PS19 mouse models." Alzheimer's Association International Conference, July 2023, Amsterdam NL.

19. Jasbi P, Judd J***, **Velazquez R**, Klein-Seetharaman, 2023. "Metabolomics profiling of aqueous metabolites and short-chain fatty acids in human serum of Alzheimer's disease patients using GC-MS and bioinformatics." Alzheimer's Association International Conference, July 2023, Amsterdam NL.

20. 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.

21. 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**[#], 2022. "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.

22. 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.

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

24. 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.

25. 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.

26. 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.

27. 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.

28. 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.

29. 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, November 2021, Online conference.

30. 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." Society for Neuroscience, Nov 2021, Online conference

31. 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." Society for Neuroscience, November 2021, Online conference

32. 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." Society for Neuroscience, November 2021, Online conference

33. 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.

Scientific conference abstracts as post-doc and graduate student trainee

1. 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." Society for Neuroscience, October 2019, Chicago IL.

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

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

4. 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." Society for Neuroscience, November 2017, Washington DC.

5. 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, September 2017.

6. 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, May 2017.

7. **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." Arizona Alzheimer's Consortium, May 2017.

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

9. **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." Society for Neuroscience, November 2016, San Diego CA.

10. 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." Arizona Alzheimer's Consortium, May 2016.

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

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

13. 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." Society for Neuroscience, October 2012, New Orleans LA.

14. 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." Society for Neuroscience, October 2012, New Orleans LA.

15. 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 presentation.*

16. 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." Society for Neuroscience, November 2011, Washington DC.

17. 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." Society for Neuroscience, November 2011, Washington DC.

18. 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." Society for Neuroscience, November 2011, Washington DC.

19. 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)." Society for Neuroscience, November 2011, Washington DC.

Service

I. Professional Service (National)

1. Associate Editor Elsevier: Brain Research peer reviewed journal (June 1, 2021 - present)

2. NIH; Chronic Dysfunction and Integrative Neurodegeneration (CDIN) Study Section, Standing member, 4-year term (July 1, 2021 – June 30, 2025). **Completed.**

3. Peer reviewer for over 12 journals, including Biological Psychiatry, Science Signaling, and Aging Cell (2021 - present)
4. Florida Department of Health, Ed and Ethel Moore research grant proposal review committee (July 2021 - present)
5. Arizona Alzheimer's Consortium grant reviewer (Jan 2023-present)

II. ASU Service

1. ASU Co-Director of the Interdisciplinary Graduate Program in Neuroscience (IGPN) (April 2025 - present)
2. ASU Graduate Association for Interdisciplinary Neuroscience students (GAINS) Primary Advisor (2024 - present)
3. ASU SoLS Workforce Inclusion in Neuroscience to promote underrepresented minorities in science (2023 - present)
4. ASU SoLS IGPN executive committee member (2019 - present)
5. Barrett Honors college contract – 1 credit hour course in Aimal physiology topics (2022 - present)
6. ASU SoLS Neuroscience Seminar Series (2022 - present)
7. ASU SoLS / SBHSE Stem Cell Biology and Regeneration faculty search committee (2023 - 2024)
8. ASU SoLS Neurodegenerative Disease Research Center faculty search committee (2022 - 2023)
9. ASU-Biodesign Chalk Talk committee member (2020 – 2022)

III. Community Service, Organized Symposia

1. *The WINURE Symposium: Celebrating successful mentorship and building connections in Neuroscience* (June 30th 2025). Lead the conclusion WINURE program symposium, which featured 7 invited speakers, a graduate information panel and a networking hour. (75 attendees).

2. Neuroscience Research Seminar (Fall 2022, Spring 2023, Fall 2023, Spring 2024)
Co-lead the ASU Neuroscience seminar series with invited researchers throughout the USA and ASU PhD students

3. Barrow Neurological Institute (BNI) – ASU symposium (January 28th, 2023, February 2nd 2024)
Co-lead the BNI-ASU symposium with an invited keynote speaker and BNI and ASU faculty and PhD student seminars

4. Neuroscience Grad school information panel (Hosted by WINURE and GAINS – September 26th, 2024)
Lead an information panel for undergraduate students at ASU to learn about the PhD application process in Neuroscience.

5. Lifetime Biltmore seminar series LIFE-B "Lifestyle Influences for Enhanced Brain Health" (December 2024 - present)
Co-lead the LIFE-BE seminar series for 65+ ARORA participants in collaboration with Lifetime Inc.

Teaching

I. Courses instructed

1. Course: Introduction to Psychology, "The brain and mental illness", undergraduate level (25 undergraduate students)
Institution/Semester: Cornell University, Fall 2013
Instructor: Ramon Velazquez

2. Course: BIO 360; Animal Physiology (335 undergraduate students)
Institution/Semester: ASU, Spring 2022
Instructor: Ramon Velazquez Ph.D., Gro Amdam Ph.D.
Student evaluation score: 2.11 Very good overall score (scale; 1 excellent - 5: poor)

3. Course: BIO 394; Discussion of Animal Physiology (26 Honor undergraduate students)
Institution/Semester: ASU, Spring 2022
Instructor: Ramon Velazquez Ph.D., Gro Amdam Ph.D.
Course note evaluated.

4. Course: BIO 498 (6 undergraduate): NEU 598 (7 PhD students); Neurodegenerative disorders of the Aging Brain
Institution/Semester: ASU, Fall 2022
Instructor: Ramon Velazquez Ph.D.
Student evaluation score: 1.08 Excellent overall score (scale; 1 excellent - 5: poor)

5. Course: NEU 591: Neuroscience Research Seminar (29 graduate students)
Institution/Semester: ASU, Fall 2022
Instructor: Ramon Velazquez Ph.D. and Jason Newber Ph.D.
Student evaluation score. 1.71 Excellent-Very good overall score (scale; 1 excellent - 5: poor)

6. Course: NEU 591: Neuroscience Research Seminar (20 graduate students)
Institution/Semester: ASU, Spring 2023
Instructor: Ramon Velazquez Ph.D. and Timothy Balmer Ph.D.
Student evaluation score. 1.4 Excellent-Very good overall score (scale; 1 excellent - 5: poor)

7. Course: BIO 360; Animal Physiology (366 undergraduate students)
Institution/Semester: ASU, Fall 2023
Instructor: Ramon Velazquez Ph.D., Christos Katsanos Ph.D.
Student evaluation score. 1.56 Excellent-Very good score (scale; 1 excellent - 5: poor)

8. Course: BIO 394; Discussion of Animal Physiology (9 Honor undergraduate students)
Institution/Semester: ASU, Fall 2023
Instructor: Ramon Velazquez Ph.D., Christos Katsanos Ph.D.
Course note evaluated.

9. Course: NEU 591: Neuroscience Research Seminar (16 graduate students)
Institution/Semester: ASU, Fall 2023
Instructor: Ramon Velazquez Ph.D. and Jeffrey Kordower Ph.D.
Student evaluation score. 1.57 Excellent-Very good overall score (scale; 1 excellent - 5: poor)

10. Course: BIO 498 (22 undergraduate): NEU 598 (3 PhD students); Neurodegenerative disorders of the Aging Brain
Institution/Semester: ASU, Spring 2024
Instructor: Ramon Velazquez Ph.D.
Student evaluation score. 1.21 Excellent overall score (scale; 1 excellent - 5: poor)

11. Course: NEU 591: Neuroscience Research Seminar (19 graduate students)
Institution/Semester: ASU, Spring 2024
Instructor: Ramon Velazquez Ph.D. and Jason Newbern Ph.D.
Student evaluation score. 1.67 Excellent-Very good overall score (scale; 1 excellent - 5: poor)

12. Course: BIO 360; Animal Physiology (378 undergraduate students)
Institution/Semester: ASU, Fall 2024
Instructor: Ramon Velazquez Ph.D., Christos Katsanos Ph.D.
Student evaluation score. 1.58 Excellent-Very good score (scale; 1 excellent - 5: poor)

13. Course: BIO 394; Discussion of Animal Physiology (22 Honor undergraduate students)
Institution/Semester: ASU, Fall 2024
Instructor: Ramon Velazquez Ph.D., Christos Katsanos Ph.D.
Student evaluation score. 1.00 Excellent score (scale; 1 excellent - 5: poor)

14. Course: BIO 498 (27 undergraduate): NEU 598 (12 PhD students); Neurodegenerative disorders of the Aging Brain
Institution/Semester: ASU, Spring 2025
Instructor: Ramon Velazquez Ph.D.
Student evaluation score, BIO 498 = 1.17, NEU 598: = 1.08. Excellent overall score (scale; 1 excellent - 5: poor)

15. Course: BIO 360; Animal Physiology (386 undergraduate students)
Institution/Semester: ASU, Fall 2025
Instructor: Ramon Velazquez Ph.D., Christos Katsanos Ph.D.
Student evaluation score not available, currently in progress.

II. Invited course guest lectures

1. Course: BIO 498: Neu 598**;** Pathologies of the Aging Brain, undergraduate/graduate level
Institution/Semester: ASU, Fall 2017, Spring 2018
Duties: Guest lecture on Alzheimer's disease

2. Course: NEU 576; Cellular and Molecular Neurobiology, graduate level
Institution/Semester: ASU, Fall 2018
Duties: Guest lecture on Fetal alcohol syndrome and neurodevelopment

3. Course: PSY 591; Neurobiology of cognition, graduate level
Institution/Semester: ASU, Fall 2018
Duties: Served as a mock NIH panel to review students' specific aims for grant proposals

4. **Course:** BIO 476; Cellular and Molecular Neuroscience
Institution/Semester: ASU, Fall 2019
Duties: Lectured throughout the semester on Neurodegeneration, learning, memory and neuronal mechanisms

5. Course: BIO 467; Neurobiology, undergraduate level
Institution/Semester: ASU, Spring 2020
Duties: Lectured on Neurodegeneration and Alzheimer's Disease

6. Course: NEU 555; Human Systems Neuroscience, graduate level
Institution/Semester: ASU, Spring 2020
Duties: Lectured on the human learning and memory section of this course

7. Course: BIO 467; Neurobiology
Institution/Semester: ASU, Fall 2020
Duties: Provided multiple guest lectures throughout the semester on Neurodegeneration, Alzheimer's disease, learning, memory and neuronal mechanisms.

8. Course: BIO 467; Neurobiology
Institution/Semester: ASU, Spring 2021
Duties: Guest lecture on Alzheimer's disease

9. Course: NEU 555; Human Systems Neuroscience, graduate level
Institution/Semester: ASU, Spring 2021
Duties: Lectured on the human learning and memory section of this course

10. Course: BIO 467; Neurobiology
Institution/Semester: ASU, Fall 2021
Duties: Guest lecture on Alzheimer's disease

11. Course: BIO 476; Cellular and Molecular Neuroscience, undergraduate/graduate level
Institution/Semester: ASU, Fall 2021
Duties: Guest lecture on Alzheimer's disease

12. Course: BIO 467; Neurobiology
Institution/Semester: ASU, Spring 2022
Duties: Guest lecture on Alzheimer's disease

13. Course: BIO 467 (18 undergraduate students): NEU 567 Neurobiology
Institution/Semester: ASU, Fall 2022
Duties: Lectured on Alzheimer's disease and led a peer-reviewed article discussion

14. Course: PTX 301; Basics of pharmacology and toxicology
Institution/Semester: ASU, Fall 2022
Duties: Provided a lecture on Alzheimer's disease, choline and its importance for brain and body related functions

Mentoring

Click to watch the ASU Golden Conversations interview on my mentoring strategies with an undergraduate trainee

Current Trainees

I. Post-Doctoral scholar as primary mentor:

1. Dr. William Grendon Ph.D. (Edson post-doctoral fellow, 2025 - present) - Dr. Gendron's work investigates the mechanistic role of Rbbp7 in tau acetylation and subsequent neurodegeneration in AD. He is also interested in understanding links between metabolic dysfunction and AD risk.

II. Graduate trainees as primary mentor:

1. Savannah Tallino (Ph.D. student, 2021 - present) - Savannah's graduate work investigates links between DS and AD. She is currently an ARCS Scholar and ASU T32 AD + AI 2025 recipient.

2. Samantha Bartholomew (Ph.D. student, 2022 - present) - Samantha's graduate work investigates the role of Dyrk1a in Alzheimer's disease and the tauopathies.

III. Graduate trainees as committee member:

1. James Bonner (Ph.D. student, 2019 - present) - Primary mentor, Dr. Bertram Jacobs. His work focuses on mechanisms associated with necroptotic cell death.

2. Briana Ondatje (Ph.D. student, 2022 - present) - Primary mentor, Dr. Rita Sattler at BNI. Her work examines the interplay between astrocytes and microglia in Amyotrophic Lateral Sclerosis (ALS).

3. Ashton Spillman (Ph.D. student, 2022 - present) - Primary mentor, Dr. Rita Sattler at BNI. His work focuses on the role of microglia in ALS.

4. Bruna Genisa Costa Lima (Ph.D. student, 2023 - present) - Primary mentor, Dr. Esther Florsheim. Her work focuses on the role of allergens on inflammation and neuronal function.

5. Pavani Dadi (Ph.D. student, 2024 - present) - Primary mentor, Dr. Dhara Shah. Her work is focused on understanding the role of gut bacteria in producing critical GABA neurotransmitter.

6. Ashley Ruland (Masters student, 2024 - present) - Primary mentor, Dr. Johnathan Lifshitz. Her work is focused on mechanism in traumatic brain injury.

7. Abigail Wohlfert (Ph.D. student, 2025 – present) - Primary mentor, Dr. Henry Tseng. Her work is focused on mechanism tied to tau pathogenesis in the aging brain.

IV. Barrett Honors thesis undergraduate trainees as primary mentor:

1. Alison Martin (2023 - present) – Her thesis is focused on the role of dietary choline in prevention of tauopathies.
2. **Kunal Thakur** (2025 – present) His thesis is focused on understand the role of the ribosomal S6K1 protein in AD.

Former trainees

I. Post-Doctoral trainee as primary mentor:

Dr. Jessica Judd Ph.D. (Edson post-doctoral fellow, 2021 - 2025) - Dr. Judd's work investigated the links between dietary choline consumption, metabolic dysfunction, and AD pathogenesis. She published 3 first author publications, has two currently under review, and was co-authored on 1 publication. In 2025, she received an ASU Edson Seed grant as PI and is currently an Associate Research Scientist at ASU.

II. Post-Doctoral trainee as committee member:

1. Dr. Adrian Fisher Ph.D. (2022 - 2023) - Primary mentor, Dr. Brain Smith. Dr. Fisher's work focused on environmental stressors affecting insect pollinator health. He is now Assistant Professor at ASU SoLS.

III. Graduate trainees as primary mentor:

1. Joanna Winstone (Ph.D. student, 2019 - 2023) - Joanna's graduate work investigated the widely used herbicide glyphosate as a risk factor for AD (defended June 26th, 2023). She is now a post-doc in Brian Kramer's PhD lab at the University of Washington.

2. Nikhil Dave – (Masters student, 2020 - 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 is now at Mckinsey & Company Global Consulting.

IV. Graduate trainees as committee member:

1. Sara Knowles (Ph.D. student, 2019 - 2023) –Primary mentor, Dr. Jason Newbern. Her work focused on the ERK1/2 involvement in GABAergic neuron development. She is now a post-doc at UCSF in the lab of Lennart Mucke MD.

2. Hannah Weisman (Masters student, 2022 - 2022) - Primary mentor, Dr. Rita Sattler. Her work examined progranulin in a mouse model of frontal temporal dementia. She is now a scientific writer at ASU Ira Fulton School of Engineering.

3. Gabrielle Kizeev (Masters student, 2022 - 2023) - Primary mentor, Dr. Timothy Balmer. Her work focused on cerebellar neurocircuitry.

4. Kavya Balasubramanian (Masters student, 2023 - 2024) - Primary mentor, Drs. Jason Newbern and Heather Bimonte-Nelson. Her work examined the effects of ovariectomies on basal forebrain cholinergic dysfunction. She entered a neuroscience PhD program at UNC Chapel Hill in 2024.

5. Nicole Houchin (Masters student, 2023 - 2024) - Primary mentor, Dr. David Medina at BNI. Her work characterized a novel mouse model of mutated Matrin3, a genetic mutation tied to ALS. She is now adjunct faculty at Chandler community college.

6. Sara Walton (Ph.D. student, 2022 - 2025) - Primary mentor, Dr. Jeffrey Kordower. Her work focused on mechanisms associated with Parkinson's disease pathogenesis. She is now a clinical research associate at Medpace in Irving, TX.

7. Chelsea Tran (Ph.D. student, 2020 - 2025) - Primary mentor, Dr. Robert Bowser at Barrow Neurological Institute (BNI). Her work focused on deciphering the molecular mechanisms associated with ALS.

V. Barrett Honors thesis undergraduate trainees as primary mentor:

1. An L. Tran (2015 - 2017) - Her thesis focused on the role of tau in learning and memory. She was co-authored on three publications. She completed a clinical nursing program at Georgetown University in 2022 and is currently a nurse at Sibley Memorial Hospital.

2. Marc Mifflin (2018 - 2020) - His work focused on automated testing paradigm for preclinical mouse models. He was first author on a publication. He is currently a licensed practice nurse at Summa Health.

3. Mara-Clarisa Boiangiu (2019 - 2022) - Her work focused on understanding the role of the RIPK1 kinase across aging. She completed a Master's in public health at Georgetown, and is currently in a MD program at Layola School of Medicine in Chicago.

4. Faizan Mistry (2021 - 2024) – His work focused on assessing the impact of choline levels across aging in preclinical rodent models. He is now a medical student at Midwestern University.

5. Anastasia Culibrk (2024 - 2025) - Her work focused on understanding links between oral hygiene and dementia. She is now in dental school.

6. Shauna Meshkin (2024 - 2025) - Her work focused on understanding links between oral hygiene and dementia. She is applying for medical school in 2025.

VI. Undergraduate research assistants in the Velazquez lab

1. Rodrigo Carvajal (Summer 2025) – ASU-Banner Neuroscholar internship. Currently Junior at Swarthmore College.
2. Raymond Cheng (Summer 2025) - ASU-Banner Neuroscholar internship. Currently Sophomore at Case Western.

VII. Undergraduate WINURE students:

1. Soraya A. Cortes Coria (2022 - 2025) - Primary mentor, Dr. Blair Braden. Her work is focused on understanding the impact of autism in language processing. She is now a PhD student in Neuroscience at UT San Antonio PhD.

2. Johann Valera-Vega (2022 - 2025) - Primary mentor, Dr. Jeffrey Kordower. His work is focused on understanding the role of the irisin protein in degradation of tau protein aggregates. He is now a PhD student in Neuroscience at Duke.

3. Angela Gervassi-Saga (2022 - 2025) - Primary mentor, Dr. Samuel McClure focused. Her work is focused on the neural basis of decision making with the aim of connecting low-level biological processes to high-level behaviors. She is now a Master student in Neuroscience at the University of Barcelona, Spain.

4. Henrique Vieira (2024 – 2025) – He is also part of the WINURE program. His work is focused on deciphering the role of the cerebellum, in particular perineuronal net impact on cognition and sex differences. He is now a PhD student in Neuroscience at Tufts University.

5. Nina Goetz (2024 - 2025) - Primary mentor, Dr. Rita Sattler. Her work focused on deciphering the impact of C9or72 gene in ALS using IPSC models. She is currently at Senior at ASU.

6. Rhys Doyle (2024 - 2025) - Primary mentor, Dr. Jason Newbern. Her work is focused on understanding the impact of ovariectomy on basal forebrain cholinergic neuron dysfunction. She is now a lab manager at ASU.

7. Kamdikachukwu Anyigbo (2024 - 2025) **-** Primary mentor, Dr. Heather Bimonte-Nelson. Her work is focused on understanding the impact of ovariectomy on spatial memory. She is currently at Senior at ASU.

8. Alyssa Lopez (2024 - 2025) - Primary mentor, Dr. Fredric Manfredsson. Her work is focused on deciphering mechanisms continuing to Parkinson's disease. She is currently at Senior at ASU.

VIII. Barrett Honors thesis undergraduate trainees as committee member:

1. Lukith Surendra (2018 - 2020) - Primary mentor, Dr. Salvatore Oddo. His work focused on the role of autophagy in Alzheimer's disease. He completed an MD at UofA in 2024. He is currently a medical resident at UCLA.

2. David Moreno (2020-2022) – Primary mentor, Dr. Elliot Mufson at BNI. His work focused on cerebellar dysfunction in Down syndrome.

3. Leia Brookhouser (2020 - 2022) – Primary mentor, Dr. Paul Coleman. Her work focused on understanding the role of prenatal stress in the aging brain.

4. Shelby Coup (2020 - 2022) - Primary mentor, Dr. Paul Coleman. Her work focused on understanding the role of prenatal stress in the aging brain. She is currently in Physician assistant school.

5. Neha Yeturu (2022 - 2023) - Primary mentor, Dr. Drake Duane. Her work focused on a case study of a patient with frontotemporal dementia.

6. Kavya Balasubramanian (2022 – 2023) - Primary mentor, Dr. Jason Newbern. Her work focused on ERK1/2 loss-of-function during basal forebrain cholinergic neuron development. She is currently a PhD student at UNC Chapel Hill.

7. Chloe Coulter (2023 - 2024) – Primary mentor, Dr. Thomas Martin. Her work investigated Diet-Disease Links in Diabetes & Alzheimer's.

8. Paige Feldman (2023 - 2024) - Primary mentor, Dr. Thomas Martin. She was paired with Chloe Coulter, investigating the Diet-Disease Links in Diabetes & Alzheimer's.

9. Bryce Mortensen (2023 – 2025) – Primary mentor, Dr. Jeffrey Craig. His work focused on the misdiagnoses of Alzheimer's disease and Lewy body dementia.

IX. Undergraduate research assistants in the Velazquez lab

1. Oscar Villarreal Espinosa (2020 - 2021) - Entered a medical program at the University of Wisconsin in 2021.
2. Jennifer White (2020 - 2021) - She is currently a research technologist at BNI.
3. Landon Mattingly (May 2022 - July 2022)
4. Isabella Sepulveda (2021-2023) - WINURE student. She entered an accelerated nursing program at Creighton in 2023.
5. Garima Pilania (May-August 2023) - ASU summer intern as part of the prestigious Khorana scholarship program.
6. Mena Abdullah (2023 - 2024) - Mentored as a part of the NIH funded RISE STEP-UP program. She is currently a medical student at UofA Tucson.
7. Hector Leon (2023 - 2024) - WINURE student. He is currently a PhD student in toxicology at UT Austin.
8. Rachel Etebari (2022 - present) **–** SOLUR student volunteer. Admitted to UofA medical school in 2025.
9. Nicole Quenzler (2024 - present) – Student volunteer. Preparing for medical school applications for 2025.
10. Aastha Wandile (2024 - present) **–** Student volunteer.

Staff – Velazquez Lab

1. Julie Turk (B.S.) - Research Technician (2023 - 2025), Research Specialist (2025 – present)
2. Wendy Winslow (B.S.) - Senior Research Laboratory Manager (2019 - present)
3. Chaya Fux (B.S.) - Research Technician (2019 - 2020)
4. Annika Decker (B.S.) - Research Technician (2019 - 2021)
5. Savannah Tallino (M.S.) – Research Specialist (2019 – 2022), transitioned to Neuroscience PhD student.
6. Austin Vural (M.S.) - Research Specialist transition to PhD in Neuroscience student (2019 - 2022)
7. Samantha Bartholomew - Research Technician transitioned to Neuroscience PhD student (2020 - 2022)
8. Ian McDonough (M.S.) - Student worker transition to Research Technician (2019 - 2024)
9. Oscar Villareal (B.S.) - Research Technician (2021 - 2022)