CURRICULUM VITAE

ASHTON M SPILLMAN
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RESEARCH SUMMARY

Using human stem cells (iPSC's) to model mechanisms of synapse dysfunction in Frontotemporal Dementia (FTD), using co-cultures with neurons, astrocytes, and microglia

Key words: Synapses, synaptosome, Frontotemporal Dementia (FTD), glia, neuroimmunology, neurodegeneration, stem cells

EDUCATION

Doctor of Philosophy (PhD) – Neuroscience 2021 - 202x
Barrow Neurological Institute | Phoenix, Arizona *(laboratory research)*
Arizona State University | Tempe, Arizona *(academic program, transferred from UTSA)*
Advisor: Dr. Rita Sattler, PhD

Bachelor of Science (BS) - Neuroscience & Cognitive Science 2018 - 2021
University of Arizona | Tucson, Arizona

RESEARCH EXPERIENCE

Graduate Research Assistant 2021 – 202x
Barrow Neurological Institute (2022 -)
University of Texas – San Antonio (2021 – 2022, transferred to ASU)
Advisor: Dr. Rita Sattler, PhD (joined 2022)
Rotations: Fredric Manfredsson, PhD (BNI, 2022), George Perry, PhD (UTSA, 2021), Lindsey Macpherson, PhD (UTSA, 2021)

Undergraduate Research Assistant 2019 - 2021
University of Arizona
Neuroscience of Emotion and Thought Laboratory
Advisor: Dr. Jessica Andrews-Hanna, PhD

PUBLICATIONS AND ABSTRACTS

[1]Presenter
Society for Neuroscience, November 2023
A. M. SPILLMAN[1], R. G. SATTLER. Proteomic and transcriptomic analyses of synaptosome preparations from *C9orf72* Frontotemporal Dementia iPSC Neurons

Arizona Alzheimer's Consortium Conference, May 2020
Spillman A[1], Griffith C*, Andrews E, Rafaelli Q, Strojek D, Tran A, Hernandez A, Majeed Z, Lehner A, Wilcox R, Matijevic S, Robertson A, Mehl M, O'Connor MF, Ryan L, Grilli M, Andrews-Hanna JR. "A New Method to Quantify the Dynamics of Thought and Emotion Reveals Effects of Age and Depressive Symptoms". Poster title: "A Novel Method to Quantify Emotional and Cognitive Dynamics to Reveal Effects of Aging and Depressive Symptoms"

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GRANTS AND FELLOWSHIPS

2018 International Baccalaureate Tuition Scholarship - $20,000
University of Arizona

2018 Wildcat Excellence Tuition Scholarship - $12,000
University of Arizona

PROFESSIONAL MEMBERSHIPS

2024- American Society for Neurochemistry, *Graduate Student Member*
2023- Society for Neuroscience, *Graduate Student Member*
2023- Graduate Association of Interdisciplinary Neuroscience Students, *Officer*
2020- Nu Rho Psi (αAZ-199, University of Arizona), National Honorary for Neuroscience
2019 Orientation & Welcome Leader, University of Arizona Admissions
2018 Pride of Arizona Marching Band

PRESENTATIONS

October 2023, “Identifying pro-phagocytic signaling factors in the synaptosome of C9orf72 Frontotemporal Dementia”
Neuroscience Research Seminar
Arizona State University

March 2022, “The Role of Glia in the acceleration of HSPG and CSPG secretion in Alzheimer’s Disease”
Neural Degeneration of the Aging Brain *(course)*
University of Texas – San Antonio

March 2021, “Quantitative Analysis of Emotion and Cognition During ThinkAloud Task for Non-Depressed and Depressed Adults”
NET Lab, Department of Psychology
University of Arizona

CONFERENCES/COURSES ATTENDED

Wellcome Genome Course “Molecular Neurodegeneration and Therapeutic Approaches”, Hinxton, UK
January 2024

Society for Neuroscience, Washington, DC, USA
November 2023

Robert Packard Center for ALS Research, Baltimore, MD, USA
February 2023

ASU Neurodegenerative Disease Research Conference, Scottsdale, AZ, USA
October 2022, 2023

Arizona Alzheimer’s Consortium, Tempe, AZ, USA
September 2020, 2022, 2023

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TEACHING EXPERIENCE

Lead Preceptor 2019 - 2020

General Chemistry I and II
Advisor: Dr. Tori Hidalgo, PhD
Introductory Chemistry course for STEM majors (~500 Students), and my role consisted of communicating with the professor to the student body, and the learning team. This involved hosting office hours, as well as readjusting weekly lesson plans according to the progress of the course

SERVICE

Outreach (*GAINS*) 2023
The mission of GAINS (Graduate Association for Interdisciplinary Neuroscience Students) is to educate the public and engage in outreach, specifically with Title 1 schools for students of Underrepresented Minority backgrounds

Outreach (*Nu Rho Psi*) 2020 - 2021
Affiliated with Tucson High School's to assist in science tutoring, neuroscience education and advocacy, and provided access to resources and opportunities (within Nu Rho Psi's mission)

Outreach (*independent*) 2020
Presentation to high school and middle school students about advocating for science diversity and science accessibility for underrepresented communities

SKILLS & TECHNIQUES

Stem Cell Culture
Immunocytochemistry
Confocal Microscopy
Synaptic Preparations
Protein Isolation
Tissue Culture
Rodent Biomethodology
fMRI analysis

REFERENCES

Reference	Institution	Role	Contact/email
Rita Sattler, PhD	**Barrow Neurological Institute**	**PhD Graduate Advisor/PI**	**rita.sattler@barrowneuro.org**
Ramon Velazquez, PhD	Arizona State University	PhD committee member/Professor	rvelazq3@asu.edu
John Fryer, PhD	Mayo Clinic – Arizona	PhD committee member	fryer.john@mayo.edu
Patrick Pirrotte, PhD	Translational Genomics Research Institute	PhD committee member	ppirrotte@tgen.org
George Perry, PhD	University of Texas - San Antonio	Rotation Professor	george.perry@utsa.edu
Jessica Andrews-Hanna, PhD	University of Arizona	Undergraduate PI	jandrewshanna@email.arizona.edu
Tori Hidalgo, PhD	University of Arizona	Undergraduate Professor	tlockett@email.arizona.edu