DANIELLE M. BLAZIER

USF Health's Byrd Alzheimer's Institute 4001 E Fletcher Ave, Tampa, FL 33613
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PROFESSIONAL SUMMARY

Focused graduate research assistant seeking to leverage formal education in the pathology of neurodegenerative diseases. Magna Cum Laude graduate from the University of South Florida awarded bachelor's degrees in Psychology and Biological Health Sciences. Admitted to the University of South Florida's Morsani College of Medicine doctoral program in Integrated Biomedical Sciences concentrating in Neuroscience. Aiming to continue investigations regarding GWAS identified susceptibility gene, BIN1, and its interaction with the microtubule associated protein Tau in Alzheimer's disease.

EDUCATION

The University of South Florida - Tampa, FL
B.S. Health Sciences with a concentration in Biological Sciences, August 2019
B.A. Psychology, August 2019
Overall GPA: 3.71
Upper-Division Undergraduate GPA: 4.0
Magna Cum Laude

The University of South Florida – Tampa, FL
PhD Student – August 2020-*current*

WORK HISTORY

Graduate Research Assistant under Dr. Yun Chen & Dr. Gopal Thinakaran
USF Health Morsani College of Medicine – Tampa, FL 08/2020 to *current*

- Full-time student, part-time graduate research assistant
- Runs immunostaining (brightfield and fluorescent) and western blotting assays with antibodies
- Prepares protein crystals for x-ray diffraction
- Runs surface plasmon resonance experiments with proteins and peptides
- Purifies proteins on AKTA FPLC
- Preforms cell culture experiments, including transfection & co-immunoprecipitations, and maintains cell lines (HEK293T)
- Executes molecular cloning strategies and analyzes sequencing results
- Participates in weekly lab meetings and presents weekly data/achievements
- Reads neuroscientific literature and participates in monthly journal clubs
- Critically interprets/presents data
- Aids other lab members (students, volunteers, post-docs)
- Attends weekly classes and academic seminars

Association of Medical Sciences Graduate Students: Recruitment Chair
USF Health Morsani College of Medicine – Tampa, FL 08/2020 to *08/2023*

- Mentor to current students in the program (prepares individual meetings, answers questions, guides students through the program, etc.)

- Leads interviewing students through campus on interview days
- Organizes orientation week for incoming PhD students
- Plans and attends interview/orientation week events
- Organizes monthly social events (trivia nights and bowling)
- Prepares and attends monthly dissertation parties
- Participates in monthly meetings

Laboratory Technician under Dr. Laura Blair
USF Health Neuroscience Institute– Tampa, FL 05/2019 to 08/2020

- Full-time.
- Runs free-floating brightfield/fluorescent immunohistochemistry experiments in mouse and human brain tissue against multiple antibodies.
- Preforms immunocytochemistry experiments.
- Identifies markers to use for specific stains.
- Prepares tissue for drug dumps.
- Prepares tissue for organotypic culture using vibratome.
- Preforms weekly mouse mating for primary neuron collection.
- Preforms weekly primary neuron collections for culturing.
- Rapidly decapitates mice for primary neuron collection, organotypics, and drug dump protocols.
- Ear clips mice for genotyping and runs samples in PCR.
- Genotypes new mice from colony generation using QIAGEN QIAxcel Advanced.
- Receives and inventories lab supplies daily using Quartzy.
- Maintains general antibody stocks.
- Maintains carbon dioxide and liquid nitrogen tanks daily.
- Gathers and evaluates stereological data for mouse studies.
- Attends and presents at monthly lab meetings.
- Weans new pups for colony expansions.
- Euthanizes mice by carbon dioxide inhalation or cervical dislocation
- Analyzes data for statistical significance using SPSS and GraphPad software.
- Produces figures and images for publication using Zeiss Axio scanner and Zeiss LSM 880 confocal microscope.
- Makes posters on studies to present at USF Health conferences.

Laboratory Technician under Dr. Daniel Lee
USF Health Byrd Alzheimer's Institute – Tampa, FL 08/2018 to 05/2019

- Part-time.
- Ran Immunohistochemistry experiments against multiple antibodies.
- Trained volunteer research assistants/undergraduates in Immunohistochemistry protocol.
- Examined behavior in mouse models including Open Field, Y Maze, Elevated Plus Maze, Barnes Maze, Radial Arm Water Maze, Marbles Maze, Fear Conditioning etc.
- Organized lab, maintained cleanliness, accepted deliveries/packages, assessed inventory.
- Produced figures from data using GraphPad.
- Attended weekly lab meetings and presented data.

Undergraduate Research Assistant 09/2016 to 08/2018
USF Health Byrd Alzheimer's Institute – Tampa, FL

- Volunteered at least 20 hours/week

- Developed effective skills in Immunohistochemistry and data analysis as a result of working under a trained technician in a deadline-oriented setting.
- Developed technical skills in western blotting and subsequent data analysis.
- Assisted in completion of projects related to the pathology of Alzheimer's disease.
- Examined the effect of Adeno Associated Viral Vectors on different mouse models
- Gained certification in multiple Institutional Animal Care and Use Committee (IACUC) protocols.
- Assessed behavioral changes in mice using multiple different examination procedures.
- Assessed pathological changes in mice using Immunohistochemistry.
- Gained knowledge in programs such as Excel, PowerPoint, SPSS, GraphPad/Prism, AnyMaze, Zeiss Axio Scan.Z1, etc.

Volunteer 08/2017 to 01/2018

H Lee Moffitt Cancer Center – Tampa, FL

- Participated in active and engaging conversation with patients awaiting MRI scanning.
- Helped patients onto the MRI scanning bed.
- Transported biological materials (blood) around the hospital. Identified regions of interest in MRI scans.

Volunteer 10/2017 to 11/2017

Arthritis Foundation – Tampa, FL

- Entered data regarding client address, phone number, condition, and year's part of the foundation.
- Created pamphlets and printed posters to spread awareness.
- Sent out email reminders regarding upcoming volunteer events.

Doctor Shadowing 06/2017 to 07/2017

Hackettstown Medical Center – Hackettstown, NJ

- Shadowed General Surgeon Dr. Gross working in private practice.
- Observed pharmacological and non-pharmacological management and treatment of various disorders and diseases.
- Observed general surgeries.
- Learned how to approach different individuals/medical conditions in a respectful and diligent manor.
- Gained experience with various medical conditions including Cancer, Dementia, Diabetes, Alzheimer's disease/dementia and hernias.

Volunteer 12/2014 to 08/2017

Meals on Wheels in Hunterdon – Flemington, NJ

- Created maps for volunteer drivers to follow in route to their client.
- Organized addresses of clients in company phone book.
- Managed list of current and existing members in Excel.
- Made photocopies of calendar menus and other forms relevant to the foundation.

LAB SKILLS

- Proficiency in immunohistochemical staining (brightfield and fluorescence) and histochemical assays (various silver staining methods, FluoroJade B&C, cresyl violet, etc.)
- Skilled in various programs including Zeiss programing, GraphPad/Prism, Fiji, NearCYTE, Microsoft Office, SPSS, etc.
- Behavior examinations including *Open Field, Elevated Plus Maze, Radial Arm Water Maze, Marble Maze, Fear Conditioning, Wire Hang, Rotarod, Y Maze,etc.*
- Sacrificing mice via cervical dislocation, carbon dioxide, transcardial perfusion, rapid decapitation
- Cell culture, maintaining cell lines, primary neuron cultures, co-immunoprecipitations, transfections
- Western blotting & Coomassie Blue staining Confocal imaging using Zeiss LSM 880 and Nikon STEADYCON Confocal super resolution microscope
- Protein purification/x-ray crystallography/ surface plasmon resonance
- General wet lab processes: centrifugation, buffer assembly, aliquoting, pipetting, micro pipetting, etc. Statistical analysis

TECHNIUES CURRENTLY EMPLOYEED

- X-ray Crystallography
- Western Blotting & Immunostaining
- Molecular Docking
- Molecular Cloning
- Cell culture
- Surface Plasmon Resonance
- Protein Purification

CERTIFICATIONS

- AALAS Aseptic Technique in Rodent Survival Surgical Procedures
- Aseptic Surgical Training Wet Lab Certificate of Completion
- Mouse Rapid Decapitation Training
- Rodent Biomethodologies Wet Lab Training
- EH&S Bio-Safety Training

ACCOMPLISHMENTS/AWARDS

- USF Research Day 2019 – Undergraduate Research in Neuroscience award for poster DOI: 10.13140/RG.2.2.16009.39521
- USF Undergraduate Research Conference 2019 – Excellence in Research Award
- Participant at USF Research Day 2020 – DOI: 10.13140/RG.2.2.15947.87843
- Participant at USF Health Morsani College of Medicine Molecular Retreat – DOI: 10.13140/RG.2.2.13722.52167
- Participant at USF Research Day 2022 – DOI: 10.1093/emboj/17.18.5277
- Recipient of the 2022 USF Health Krzanowski Career Development Award – $500

- Recipient of the 2023 Edith Wright Hartley Award – $2,500
- Recipient of the 2024 Society for Neuroscience Trainee Professional Development Award – $1,000

PRESENTATIONS

- USF Neuroscience Institute Annual Seminar Series (~50 minutes) – *Request through email*

PEER-REVIEWED PUBLICATIONS

1. Leslie A. Sandusky-Beltran[1], Andrii Kovalenko[1], Devon S. Placides[1], Kevin Ratnasamy[1], Chao Ma[1], Jerry B. Hunt[1], Huimin Liang[1], John Ivan T. Calahatian[1], Mallory D. Watler[1], **Danielle M. Blazier[1]**, Laura J. Blair[3], April L. Darling[3], Camilla Michalski[2], Margaret Fahnestock[2], Jeremy D. Baker[3], Sarah N. Fontaine[3], Chad A. Dickey[3], Joshua J. Gamsby[3], Maj-Linda B. Selenica[1], Kevin R. Nash[4], Daniel C. Lee[1]* Aberrant polyamine activation precipitates anxiety, cognitive impairment, and tau neuropathology. Journal of Clinical Investigation Submitted -under revision 10-21-2019

2. Webster JM, Darling AL, Sanders TA, **Blazier DM**, Vidal-Aguiar Y, Beaulieu-Abdelahad D, Plemmons DG, Hill SE, Uversky VN, Bickford PC, Dickey CA, Blair LJ. Hsp22 with an N-Terminal Domain Truncation Mediates a Reduction in Tau Protein Levels. Int J Mol Sci. 2020 Jul 30;21(15):5442. doi:10.3390/ijms21155442. PMID: 32751642; PMCID: PMC7432035.

3. Criado-Marrero M, Gebru NT, Gould LA, **Blazier DM**, Vidal-Aguiar Y, Smith TM, Abdelmaboud SS, Shelton LB, Wang X, Dahrendorff J, Beaulieu-Abdelahad D, Dickey CA, Blair LJ. FKBP52 overexpression accelerates hippocampal-dependent memory impairments in a tau transgenic mouse model. NPJ Aging Mech Dis. 2021 May 3;7(1):9. doi: 10.1038/s41514-021-00062-x. PMID: 33941782; PMCID: PMC8093247.

4. Marangelie Criado-Marrero; Niat T. Gebru; **Danielle M. Blazier;** Lauren A. Gould; Jeremy D. Baker; David Beaulieu-Abdelahad; Laura J. Blair. Hsp90 co-chaperones, FKBP52 and Aha1, promote tau pathogenesis in aged wild-type mice. acta neuropathol commun 9, 65 (2021).https://doi.org/10.1186/s40478-021-01159-w

5. Criado-Marrero M, Gebru NT, Blazier DM, Gould LA, Baker JD, Beaulieu-Abdelahad D, Blair LJ. Correction to: Hsp90 co-chaperones, FKBP52 and Aha1, promote tau pathogenesis in aged wild-type mice. Acta Neuropathol Commun. 2021 May 11;9(1):85. doi: 10.1186/s40478-021-01188-5. Erratum for: Acta Neuropathol Commun. 2021 Apr 8;9(1):65. PMID: 33975631; PMCID: PMC8114680.

6. Rodriguez Ospina, Santiago, **Danielle M. Blazier,** Marangelie Criado-Marrero, Lauren A. Gould, Niat T. Gebru, David Beaulieu-Abdelahad, Xinming Wang, Elizabeth Remily-Wood, Dale Chaput, Stanley Stevens, Vladimir N. Uversky, Paula C. Bickford, Chad A. Dickey, and Laura J. Blair. 2022. "Small Heat Shock Protein 22 Improves Cognition and Learning in the Tauopathic Brain" International Journal of Molecular Sciences 23, no. 2: 851. https://doi.org/10.3390/ijms23020851

7. Criado-Marrero M, **Blazier DM**, Gould LA, Gebru NT, Rodriguez Ospina S, Armendariz DS, Darling AL, Beaulieu-Abdelahad D, Blair LJ. Evidence against a contribution of the CCAAT-enhancer binding protein homologous protein (CHOP) in mediating neurotoxicity in rTg4510 mice. Sci Rep. 2022 May 5;12(1):7372. doi: 10.1038/s41598-022-11025-x. PMID: 35513476; PMCID: PMC9072347.

8. Moorthi Ponnusamy, Shuai Wang, Melike Yuksel, Mitchell T Hansen, **Danielle M Blazier**, Joseph D McMillan, Xiaolin Zhang, Eric B Dammer, Lisa Collier, Gopal Thinakaran, Loss of forebrain BIN1

attenuates hippocampal pathology and neuroinflammation in a tauopathy model, *Brain*, Volume 146, Issue 4, April 2023, Pages 1561–1579, https://doi.org/10.1093/brain/awac318

MENTEES

- Arielle Schwarzberg – 06/2021-09/2021
- Sandhya Ganesh – 06/2023-09/2023