Mikaila Ann T. Bantugan

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EDUCATION

08/2023 – Present **University of Arizona**
Ph.D. Neuroscience Graduate Interdisciplinary Program
Advisor: Dr. Roberta Diaz Brinton, Ph.D.

09/2017 – 06/2021 **University of California, Los Angeles (UCLA)**
B.S. in Neuroscience, Minor in Biomedical Research
College Honors, Neuroscience Departmental Honors
Thesis: "*Investigation of the Neural Circuitry and Transcriptome Profile of Somatostatin-Expressing Neurons for Locomotor Coordination and Behaviors*"

RESEARCH EXPERIENCE

07/2021 – 07/2023 **Research Lab Technician II** Advisor: Dr. Hussein Yassine, M.D.
The University of Southern California - Keck School of Medicine
Profiled plasma and CSF HDL particles with calibrated ion mobility, isolated apoE from human CSF using immunoaffinity purification protocols, quantified pTau181 and amyloid-beta levels in plasma and CSF using Simoa bead technology, genotyped clinical trial participants, processed clinical blood and CSF samples from participants in the USC's Alzheimer's Disease Research Center (ADRC), and maintained animal colony to study biomarkers of Alzheimer's Disease.

08/2020 – 06/2021 **Lab Manager** Advisors: Drs. Eleazar Eskin Ph.D., Valerie Arboleda, M.D., Ph.D.
UCLA Computational Medicine and Human Genetics - SwabSeq
Directed and strategized the production and distribution of 250,000+ COVID-19 test kits to provide accurate, individual, and rapid results to the state of California and healthcare workers in the beginning stages of the pandemic.

01/2018 – 06/2021 **Undergraduate Research Assistant** Advisor: Dr. Daniel C. Lu, M.D., Ph.D.
UCLA Department of Neurosurgery
Investigated the role of the spinal cord in respiratory and locomotor patterns by determining the neural circuits of somatostatin-positive neurons.

01/2019 – 06/2019 **Undergraduate Research Assistant** Advisor: Dr. Katsushi Arisaka, Ph.D.
UCLA Department of Physics and Astronomy
Student-led investigation of the role of microsaccade in human retinal acuity using a computationally coded program PsychoPy to present a variety of visual stimulation and parameters necessary to influence visual acuity and eccentricity.

06/2016 – 07/2016 **Research Intern** Advisor: Dr. Michael Daines, M.D.
University of Arizona BIO5 Institute
Engaged in the University of Arizona KEYS Research Internship, a prestigious and highly competitive research program for high school students, to investigate a receptor-specific drug agonist for mitigating the risks and lung damage of asthma.

PUBLICATIONS

Bantugan, M., Xian, H., Solomon, V., Lee, M., Fonteh, A., Meuret, C., Li, M., Braskie, M. McIntire, L., Jurin,

L., Oberlin, S., Evans, J., Davis, R., Siegmund, K., Mack, W., Abdullah, L., Yassine, H., (2023) "Associations of ApoE4 status and DHA supplementation on plasma and CSF lipid profiles and entorhinal cortex thickness". *Journal of Lipid Research*. DOI: 10.1016/j.jlr.2023.100354

Meuret, C. J., Hu, Y., Smadi, S., **Bantugan, M.**, Xian, H., Martinez, A. E., Krauss, R. M., Ma, Q., Nedelkov, D., Yassine, H., (2023) "An association of CSF apolipoprotein E glycosylation and amyloid-beta 42 in individuals who carry the APOE4 allele". *Alzheimer's Research & Therapy*. DOI: 10.1186/s13195-023-01239-0

Yassine, H., Cordova, I, Mazmanian, A., Kono, N., Aldana, J., De La Cruz, L., Martinez, J., Contreras, L., Trejos, G., Liu, B., Badie, D., **Bantugan, M.**, Grindon, A., Urich, T., Lee, M., D'Orazio, L., Chui, H., Emanuel, B., Mack, W., Harrington, M., Braskie, M., Schneider, L., (2023) "Baseline findings of PreventE4: a double-blind placebo-controlled clinical trial testing high-dose DHA in APOE4 carriers before the onset of dementia". *The Journal of Prevention of Alzheimer's Disease*. DOI: 10.14283/jpad.2023.77.

PUBLICATIONS UNDER REVIEW/IN PREPARATION

Bantugan, M., Kerman, B., Xian, H., Li, M., Yassine, H., (2023) "Plasma pTau181 as a predictor of CSF A□40:42 in Hispanic Populations". In preparation.

Kuklenyik, Z., Liu, J., **Bantugan, M.**, Sanchez, A., Ingles, D., Parks, B., Gardner, M., Andrews, M., Kusovchi, J., Lazau, E., Rees, J. Schieltz, D., Ivanova, A., Sultan, J., Carrasco, S., King, S., Chui, H., Kerman, B, Krauss, R., Ren, G., Barr, J., Yassine, H., (2024) "Quantitative comparison of protein-lipid composition and size distribution of lipoproteins in CSF and plasma". Under review.

SCHOLARLY PRESENTATIONS

Bantugan, M., Brinton, R.D. (2024). Mitochondrial fragmentation in fibroblasts from Alzheimer's Disease patients associated with age, biological sex, and APOE genotype. Poster presented at Society for Neuroscience in Chicago, IL, USA.

*Kerman, B., Makhlouf, M., **Bantugan, M.**, Lee, J., Meuret, C. Wang, S., Cai, Z., Rosa, J., Tuck, T., TCW, J., Yassine, H. (2023). Mechanisms of reduced Apolipoprotein E4 lipidation in iPSC-derived astrocytes. Presented by *mentor at AAIC 2023 in Amsterdam, Netherlands.

*Ma, Q., Li, J., **Bantugan, M.**, Sanchez, A., Sun, Y., Wang, S., Kerman, B., Hurth, K., Hawes, D., Bennett, D.A.,Arvanitakis, Z., Yassine, H. (2023). Activation of neuroinflammation mediated by cPLA2 in gliosomes extracted from postmortem brain. Poster presented by *mentor at the 2023 Southern California Alzheimer's Disease Centers Research Symposium in Irvine, California.

*Shelat, J., Wang, S., Sun, Y. Kerman, B., **Bantugan, M.**, Yassine, H., (2022). The Effect of Cytosolic Phospholipases A2 (cPLA2) Inhibitor on the Blood-Brain Barrier (BBB) in APOE4 Mice. Poster presented by *mentee at USC Bridge Undergraduate Science Program, in Los Angeles, California.

Bantugan, M., Huang, R., Lu, D.C., (2021). Investigating the Transcriptome Profile of Somatostatin-Positive Neurons in the Spinal Cord. Poster presented at UCLA Undergraduate Research Week and UCLA Neuroscience Poster Day, held virtually due to COVID-19.

Bantugan, M., Huang, R., Lu, D.C., (2020). Determining Neural Circuitry in Respiration between Cervical and Lumbar Somatostatin Positive Neurons using Diphtheria Toxin Fragment A. Poster presented at UCLA Undergraduate Research Week, held virtually due to COVID-19.

Bantugan, M., Doustmohammadi, S., Houseworth, R., Suri, I., Arisaka, K., (2019). Impacts of Character Aggregation on Visual Acuity. Poster presented at UCLA Undergraduate Research Week, in Los Angeles, California.

Bantugan, M., Dunn, R., Neenan, T., Williams, E., Daines, M., (2016). The Effects of PAR2 Agonists on Lung Function in Mice. Poster presented at the University of Arizona BIO5 Institute KEYS Research Week in Tucson, Arizona.

TEACHING AND MENTORSHIPS

09/2023 – Present **UCLA Alumni Mentorship Program**
Mentoring UCLA students on academics, career, and personal development.

04/2023 – Present **Project SHORT**
Mentoring prospective students interested in graduate study through graduate school admissions processes.

11/2021 – 07/2023 **USC Undergraduate Research**
Mentored three USC undergraduate students in genotyping clinical participants, calibrated ion mobility, and sample processing with the goal of pursuing medical careers.

06/2022 – 08/2022 **USC Bridge Undergraduate Science Program (BUGS) Jr.**
Mentored a rising high school senior from Artesia High School who presented a poster on the effect of cPLA2 inhibitor on blood-brain barrier integrity at USC BUGS Jr. Symposium.

01/2019 – 06/2019 Initiated and co-created a one-unit, 10 weeks Fiat Lux, "Pilipinx: Activism for a New Generation", with UCLA's Asian American Studies professor for 20 students as the Community Development Intern for the Pilipinx Living Learning Community.

SERVICE AND OUTREACH

04/2022 – 09/2022 **Head Project Manager for Girls in STEM (GiS)**
- GiS is an international-based, student-run organization dedicated to building a community, where young people discover and explore their passion for STEM through exploration, education, and inspiration.
- Recruited mentors well versed in research, maintained active mentor-mentee relationships, and organized a virtual biannual STEM research-mentoring summer program where high schoolers conduct independent research projects at no cost under the guidance of an experienced mentor.

09/2017 – 06/2021 **UCLA InterAxon**
Designed interactive and informational handouts consisting of various neuroscience topics such as neuroanatomy, neurodegenerative diseases, and novel lab techniques for elementary schools in the local community to foster confidence and encourage students to pursue their passions in STEM fields.

09/2017 – 06/2021 **UCLA Neuroscience Undergraduate Society**
Engaged in the UCLA neuroscience community through volunteer work, professor luncheons, lab placement fairs, symposiums, study-buddy, and mentoring programs.

09/2017 – 06/2021 **UCLA Alumni's Scholars Club**
Awarded an Alumni Scholarship and gained opportunities to build constructive relationships with Alumni and Alumni Scholars, serve the UCLA and Los Angeles community, and develop strong and effective leadership skills.

SPEAKING ENGAGEMENTS

04/01/2021 **Discover Your Future Here: Residential Life Panelist**
Built affinity for the UCLA Southeast Asian/Pacific Islander Community of incoming/prospective students and their families by sharing campus resources,

opportunities, a sense of community, and how to maximize prospective student experiences pertaining to residential life.

03/04/2021 **Fireside Chat with UCLA Chancellor Gene Block**
Reported stories and experiences of how the COVID-19 pandemic impacted the UCLA residential and marginalized communities and advocated for mental health resources for UCLA students and institutional support for vulnerable populations.

PROFESSIONAL AFFILIATIONS

2024 Society for Neuroscience

AWARDS & HONORS

06/2021 UCLA Chancellor's Service Award
06/2021 UCLA College Honors
06/2021 UCLA Neuroscience Departmental Honors
2018 – 2021 Dean's Honors List
2018 – 2021 Northrop Grumman Scholarships for Employees' Children
2017 – 2021 UCLA Alumni Scholarship