**Amy Luce Dunn, Ph.D.**

The Jackson Laboratory

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**Education**

**Graduate Education**

2011—2017: Emory University, Atlanta, Georgia.

Degree (5/2017): Ph.D., Neuroscience

Neuroscience doctoral training program

GPA: 3.94

**Undergraduate Education**

2007—2010: University of Maine, Orono, Maine.

Degree (12/2010): B.A., Psychology, concentration in biological and cognitive psychology

Minors: Neuroscience, Spanish

Research-intensive track in Psychology

GPA: 3.95, *summa cum laude*

**Research**

June 2022—present: Research scientist, The Jackson Laboratory

March 2023—present: Deputy Director of AD Drug Discovery Efforts under Dr. Catherine Kaczorowski

PI: Dr. Catherine Kaczorowski and Dr. Kristen M.S. O’Connell

*Identifying sex-specific genetic resilience factors in AD; gene-environment interactions in AD; genetic and molecular bases of variability in susceptibility beyond amyloid pathology AD and ADRDs; Preclinical testing of novel and repositioned compounds for AD therapeutics*

March 2021—May 2022: Associate research scientist, The Jackson Laboratory

PI: Dr. Catherine Kaczorowski

*Characterizing molecular mediators of individual sex differences and gene-by-environment interactions in*

*Alzheimer’s disease and related dementias by developing novel mouse models*

June 2017—March 2021: Postdoctoral associate, The Jackson Laboratory

Research advisor: Dr. Catherine C. Kaczorowski, in collaboration with Dr. Kristen M.S. O’Connell

*Identifying genetic modifiers of diet in Alzheimer's disease pathogenesis and investigating mechanisms of cognitive resilience in aging*

June 2012—May 2017: Predoctoral researcher, Neuroscience training program, Emory University

Research advisor: Dr. Gary W. Miller, Department of Environmental Health and Center for Neurodegenerative Disease

*Investigating the role of synaptic vesicular glycoprotein 2C (SV2C) in mediating dopamine synaptic vesicle function and neuronal vulnerability to toxicity*

February 2012—May 2012: Graduate student researcher (Laboratory rotation), Neuroscience training program, Emory

University

Research Advisor: Dr. Ranjita Betarbet, in collaboration with Dr. Nicholas Seyfried, Center for Neurodegenerative Disease

*Identifying proteomic alterations in postmortem Alzheimer’s disease and mild cognitive impairment cases and modeling disease-related changes* in vitro

October 2011-January 2012: Graduate student researcher (Laboratory rotation), Neuroscience training program, Emory

University

Research advisor: Dr. Lary C. Walker, Department of Neurology and Center for Neurodegenerative Disease

*Examining cerebral amyloid angiopathy (CAA) in aged nonhuman primates via histological and magnetic resonance imaging*

May 2010 – August 2010: Undergraduate research fellow, Department of Neuroscience, Bowdoin College

Research advisor: Dr. Richmond R. Thompson, Department of Neuroscience

*Behavioral and molecular experiments studying the role of a membrane-bound estrogen receptor (GPR30) in the visually-motivated social approach behavior of goldfish*

September 2008 – May 2011: Undergraduate research assistant, Department of Psychology, University of Maine

Research advisor: Dr. Michael A. Robbins, Department of Psychology

*Clinical-based research studying the relationship between cardiovascular disease risk factors, quality of life, and cognitive functioning in the Maine-Syracuse Longitudinal Study*

**Research support**

*Pending* October 2023—September 2028, “Systems genetics analysis of resilience to tauopathy in Alzheimer’s disease and frontotemporal lobe dementia” (Role: PI, MPI R01)

August 2021—August 2026: 1R01AG074012-01, “Systems genetics analysis of sex differences in Alzheimer’s disease” ($6,118,303; Role: Co-I)

September 2019—August 2022: R61NS115129, “Alzheimer's-Related Dementia Models by Precision Editing and Relevant Genetic x Environmental Exposures” (Role: Co-I)

September 2018—September 2021: JAX Scholars Program research fellowship ($10,000)

February 2018—February 2021: Alzheimer’s Association Research Fellowship (Postdoctoral research fellowship) AARF-18-565506. “Mechanisms of an interaction between genetics and diet in AD” ($174,973)

April 2015—September 2017: Kirschstein National Research Service Award predoctoral fellowship, NIH-NINDS F31NS089242. “The synaptic vesicle glycoprotein 2C as a novel mediator of transmitter release and neuroprotection in dopamine cells” ($116,718)

Emory University Department of Toxicology Training Grant, NIH T32ES012870-11, appointee, July 2013—March 2015.

Maine INBRE Undergraduate research fellowship, 2010. ($5,000)

**Awards and honors**

STAT Wunderkind Award, 2019

JAX Scholar Award, 2018-2021

Outstanding Postdoctoral Travel Award (Annual Genes, Brain & Behaviour Meeting), 2018. ($400)

International Behavioural and Neural Genetics Society membership award, 2018.

Alfond Leaders Program award, 2017.

Dopamine 2016 International Meeting travel award, 2016. (€500.00)

Richard M. Ryckman Scholarship for Psychology, University of Maine, 2010.

Presidential Achievement Award, University of Maine, 2008.

Presidential Distinguished Scholar Award, University of Maine, 2007. ($10,000)

**Publications (18)**

Welikovitch, L.A.\*, Dujardin, S.\*, **Dunn, A.R.\***, Fernandes, A.R., Khasnavis, A., Chibnik, L.B., Kaczorowski, C.C., Hyman, B.T. 2023. Rate of tau progression is a heritable disease trait in genetically diverse mouse strains. *iScience, 26*(2): 105983. doi: 10.1016/j.isci.2023.105983. \*Co-first authors

Murdy, T.J., **Dunn, A.R.**, Singh, S., Telpoukhovskaia, M.A., Zhang, S., White, J.K., Kahn, I., Febo, M., Kaczorowski, C.C. 2023. Leveraging genetic diversity in mice to inform individual differences in brain microstructure and memory. *Frontiers in Behavioral Neuroscience, 16*: 1033975. doi: 10.3389/fnbeh.2022.1033975.

Vecchio, L.M., Bermejo, M.K., **Dunn, A.R**., Milenkovic, M., Urs, N., Ramsey, A., Miller, G.W., Salahpour, A. 2021. Enhanced tyrosine hydroxylase activity induces oxidative stress, causes accumulation of autotoxic catecholamine metabolites, and augments amphetamine effects. *Journal of Neurochemistry, 158*(4): 960-79. doi: 10.1111/jnc.15432

McQuail, J.A., **Dunn, A.R.**, Stern, Y., Barnes, C.A., Kempermann, G., Rapp, P.R., Kaczorowski, C.C., Foster, T.C. 2021. Cognitive reserve in model systems for mechanistic discovery: Importance of longitudinal studies. *Frontiers in Aging Neuroscience*, *12*: 607685, doi: <https://doi.org/10.3389/fnagi.2020.607685>

**Dunn, A.R**., Hadad, N., Neuner, S.M., Zhang, J-G., Philip, V., Dumitrescu, L., Hohman, T.J., Herskowitz, J.H., O’Connell, K.M.S., Kaczorowski, C.C. 2020. Identifying mechanisms of normal cognitive aging using a novel mouse genetic reference panel. *Frontiers in Cell and Developmental Biology, 8:* 562662. doi: https://doi.org/10.3389/fcell.2020.562662

**Dunn, A.R.**, Kaczorowski, C.C. 2019. Regulation of intrinsic excitability: Roles for learning and memory, aging and Alzheimer’s disease, and genetic diversity. *Neurobiology of Learning and Memory, 164*: 107069, doi: 10.1016/j.nlm.2019.107069

Stout, K.A., **Dunn, A.R.,** Hoffman, C.A., Miller, G.W. 2019. The synaptic vesicle glycoprotein 2: Structure, function, and disease relevance. *ACS Chemical Neuroscience, 10*(9): 3927-3938, doi: 10.1021/acschemneuro.9b00351

O’Connell, K.M.S., Ouellette, A.R., Neuner, S.M., **Dunn, A.R.**, Kaczorowski, C.C. 2019. Genetic background modifies CNS-mediated sensorimotor decline in the AD-BXD mouse model of genetic diversity in Alzheimer’s disease. *Genes, Brain, and Behaviour*, e12603, doi: 10.1111/gbb.12603.

**Dunn, A.R.,** O’Connell, K.M.S., Kaczorowski, C.C. 2019. Gene-environment interactions in Alzheimer’s disease and Parkinson’s disease. *Neuroscience & Biobehavioral Reviews, 103*: 73-80, doi: 10.1016/j.neubiorev.2019.06.018

**Dunn, A.R.\***, Neuner, S.M.\*, Ding, S., Hope, K.A., Wilmott, L.A., O’Connell, K.M.S., Kaczorowski, C.C. 2018. Cell-type specific changes in the subiculum following learning and novel context exposure. *eNeuro*. 0484-18.2018, doi: https://doi.org/10.1523/ENEURO.0484-18.2018

Bhattacharya, S., Ma, Y., **Dunn, A.R.**, Bradner, J.M., Scimemi, A., Miller, G.W., Traynelis, S., Wichmann, T. 2018. NMDA receptor blockade ameliorates abnormalities of spike firing of subthalamic nucleus neurons in a Parkinsonian non-human primate. *Journal of Neuroscience Research*, *96*(7): 1324-1335. doi: 10.1002/jnr.24230

**Dunn, A.R.,** Hoffman, C.A., Ozawa, M., Stout, K.A., Dhamsania, R.K., Miller, G.W. 2019. Immunochemical analysis of the synaptic vesicle glycoprotein 2C (SV2C) in mouse, macaque and human basal ganglia. *Brain Research*, *1702*:85-95. doi: 10.1016/j.brainres.2017.12.029

**Dunn, A.R.,** Stout, K.A., Ozawa, M., Lohr, K.M., Bernstein, A.I., Li, Y., Wang, M., Sgobio, C., Sastry, N., Cai, H., Caudle, W.M., Miller, G.W. 2017. The synaptic vesicle glycoprotein 2C (SV2C) mediates dopamine release and is disrupted in Parkinson’s disease. *Proceedings of the National Academy of Sciences. 114*(11): E2253-62. doi: http://dx.doi.org/10.1101/077586

*Selected as an NIEHS Extramural Paper of the Year, 2017*

Cliburn, R.A., **Dunn, A.R.,** Stout, K.A., Hoffman, C.A., Lohr, K.M., Bernstein, A.I., Winokur, E.J., Wang, M., Miller, G.W. 2016. Vesicular monoamine transporter 2: Immunochemical characterization and localization in brain. *Journal of Chemical Neuroanatomy*. *83-84*: 82-90. doi: 10.1016/j.jchemneu.2016.11.003.

Stout, K.A., **Dunn, A.R.,** Lohr, K.M., Ozawa, M., Alter, S.P., Guillot, T.S., Miller, G.W. 2016. Selective enhancement of dopamine release in the ventral pallidum of methamphetamine-sensitized mice. *ACS Chemical Neuroscience*, *7*(10): 1364-1373. [10.1021/acschemneuro.6b00131](https://doi.org/10.1021/acschemneuro.6b00131)

Lohr, K.M., Chen, M., Hoffman, C., McDaniel, M., Stout, K.A., **Dunn, A.R.,** Wang, M., Miller, G.W. 2016. Vesicular monoamine transporter 2 (VMAT2) level determines MPTP vulnerability and clearance of excess dopamine in mouse striatal terminals. *Toxicological Sciences, 153*(1): 79-88. doi: 10.1093/toxsci/kfw106

Lohr, K.M., Stout, K.A., **Dunn, A.R.,** Wang, M., Salahpour, A., Guillot, T.S., Miller, G.W. 2015. Increased vesicular monoamine transporter 2 (VMAT2; *Slc18a2*) protects against methamphetamine toxicity. *ACS Chemical Neuroscience*, *6*(5):790-9. doi: 10.1021/acschemneuro.5b00010

Lohr, K.M., Bernstein, A.I., Stout, K.A., **Dunn, A.R.,** Lazo, C.R., Alter, S.P., Wang, M., Li, Y., Fan, X., Hess, E.J., Yi, H., Vecchio, L.M., Goldstein, D.S., Guillot, T.S., Salahpour, A., Miller, G.W. 2014. Increased vesicular monoamine transporter enhances dopamine release and opposes Parkinson’s disease-related neurodegeneration *in vivo*. *Proceedings of the National Academy of Sciences, 111*(27): 9977-82. doi: 10.1073/pnas.1402134111

**Preprints (2)**

Telpoukhovskaia, M.A., Hadad, N., Gurdon, B., Dai, Y., Ouellette, A.R., Neuner, S.M., **Dunn, A.R.**, Willcox, J.A.L., Wu, Y., Dumitrescu, L., Bellur, O., Zhang, J-G., O’Connell, K.M.S., Dammer, E.B., Seyfried, N.T., Muzumdar, S., Gillis, J., Robson, P., Arnold, M., Hohman, T.J., Philip, V.M., Menon, V., Kaczorowski, C.C. 2022. Conserved cell-type specific signature of resilience to Alzheimer’s disease nominates role for excitatory intratelencephalic cortical neurons. *BioRxiv*, doi: https://doi.org/10.1101/2022.04.12.487877

Dai, Y., **Dunn, A.R**., Hadad, N., Zhang, J-G., Poirion, O.B., Korgan, A.C., White, B.S., Philip, V.M., Neuner, S.M., O’Connell, K.M.S., Kaczorowski, C.C. Hypothalamic gene network dysfunction is associated with cognitive decline and body weight loss in Alzheimer’s disease mice. 2022. *BioRxiv*, doi: https://doi.org/10.1101/2022.04.08.487664

**Abstracts**

***Presentations:***

“Mouse behavior and metabolic traits, combined with ‘omics and tissue repository, support gene x diet interactions in the context of aging and AD”. JAX Center for Alzheimer’s & Dementia Research Workshop. 2022, September. Bar Harbor, ME, USA.

“Best practices in sharing and accessing non-human data”. Reserve & Resilience Collaboratory annual meeting. 2021, November. Virtual.

“High-fat diet generally exacerbates, but is sometimes protective against, cognitive decline in female AD mice depending on genetic background”. Complex Trait Genetics annual meeting. 2021, September. Virtual.

“High-fat diet generally exacerbates, but is sometimes protective against, cognitive decline in female AD mice depending on genetic background”. AAIC annual meeting. 2021, July. Virtual.

“Genetics, diet, and sex interact to modulate symptoms of Alzheimer’s disease”. AAIC Neuroscience Next. 2020, November. Virtual.

“Gene-environment-sex interactions modify symptoms of Alzheimer’s disease”. Alzheimer Afternoons seminar series. 2020, May. Virtual.

“Identifying genetic regulators of cognitive effects of a high-fat/high-sugar diet in Alzheimer’s disease”. Invited talk at the Annual Genes, Brain & Behaviour Meeting of the International Behavioural and Neural Genetics Society. 2019, May. Edinburgh, Scotland, UK.

“Gene-by-diet interactions modify symptoms of Alzheimer’s disease**”**. The Maine Chapter of the Society for Neuroscience annual meeting. 2018, October. Portland, ME, USA.

“Gene x Diet Interactions Modify Symptoms of Alzheimer’s Disease”. The Annual Genes, Brain & Behavior Meeting of the International Behavioural and Neural Genetics Society. 2018, May. Rochester, MN, USA.

“Gene-by-diet interactions modify symptoms of Alzheimer’s disease”. JAX Annual Scientific Symposium. 2018, May. Farmington, CT, USA.

“Diet, genetics and cognitive function”. Dementia Education Conference of the Alzheimer’s Association Connecticut Chapter. 2018, April. Uncasville, CT, USA.

“A role of SV2C in dopamine homeostasis and Parkinson’s disease”. Emory Neuroscience Candidates’ Ongoing Research (ENCORE) seminar. October, 2016. Atlanta, GA, USA.

“SV2C and Parkinson’s disease”. Emory Center for Neurodegenerative Disease seminar. January, 2016. Atlanta, GA, USA.

“2C or not 2C: Characterizing the role of the synaptic vesicle glycoprotein 2C in Parkinson’s disease”. Emory Neuroscience Candidates’ Ongoing Research (ENCORE) seminar. December, 2014. Atlanta, GA, USA.

***Posters:***

**Dunn, A.R.**, Ouellette, A.R., Hadad, N., Zhang, J-G., Philip, V.M., O’Connell, K.M.S., Kaczorowski, C.C. Early synaptic gene expression downregulation in the frontal cortex distinguishes Alzheimer’s disease from normal aging in a genetically diverse mouse population. Abstract submitted for a poster presentation at the annual Alzheimer’s Association International Conference; 2022, July. San Diego, California, USA.

**Dunn, A.R.**, Dai, M., Zhang, J-G., Philip, V.M., Bridges, D., O’Connell, K.M.S., Kaczorowski, C.C. High-fat diet generally exacerbates, but is sometimes protective against, cognitive dysfunction in female AD mice depending on genetic background. Abstract submitted for a poster presentation at the annual International Behavioural and Neural Genetics Society meeting, Genes, Brains & Behaviour; 2021, May. Virtual.

**Dunn, A.R.**, O’Connell, K.M.S., Kaczorowski, C.C. Genetics, diet, and sex interact to modulate cognitive decline in Alzheimer’s disease. Abstract submitted for a poster presentation at the annual Alzheimer’s Association International Conference; 2020, July. Virtual.

**Dunn, A.R.**, Ouellette, A.R., Neuner, S.M., Jigang Zhang, Vivek Philip, O’Connell, K.M.S., Kaczorowski, C.C. Gene-by-environment regulation of Alzheimer’s disease symptoms. Abstract submitted for a poster presentation at the annual Alzheimer’s Association International Conference; 2019 July; Los Angeles, CA, USA.

**Dunn, A.R.**, Ouellette, A.R., Neuner, S.M., Jigang Zhang, Vivek Philip, O’Connell, K.M.S., Kaczorowski, C.C. Gene-by-diet interactions modify symptoms of Alzheimer’s disease. Abstract submitted for a poster presentation at the annual Society for Neuroscience meeting; 2018 November; San Diego, CA, USA.

**Dunn, A.R.**, Ouellette, A.R., Neuner, S.M., O’Connell, K.M.S., Kaczorowski, C.C. Gene-by-diet interactions modify symptoms of Alzheimer’s disease. Abstract submitted for a poster presentation at the annual Alzheimer’s Association International Conference; 2018 July; Chicago, IL, USA.

**Dunn, A.R.,** Ouellette, A.R., Neuner, S.M., O'Connell, K.M.S., Kaczorowski, C.C. Effects of diet and genetic background on Alzheimer’s-related cognitive decline and metabolic dysfunction. Abstract submitted for a poster presentation at the Maine Chapter of the Society for Neuroscience annual meeting; 2017 November; Biddeford, ME, USA.

**Dunn, A.R.,** Stout, K.A., Bernstein, A.I., Wang, M., Li, Y., Caudle, W.M., Miller, G.W. (2016, September). Disruption of the synaptic vesicle glycoprotein 2C (SV2C) in Parkinson’s disease. Abstract submitted for a poster at the Dopamine 2016 meeting, Vienna, Austria.

**Dunn, A.R.,** Stout, K.A., Wang, M., Li, Y., Cai, H., Caudle, W.M., Miller, G.W. (2015, October). Disruption of the synaptic vesicle glycoprotein 2C (SV2C) in Parkinson’s disease. Abstract submitted for a poster at the annual meeting for the Society of Neuroscience, Chicago, IL, USA.

**Dunn, A.R.,** Stout, K.A., Ozawa, M., Wang, M., Caudle, W.M., Miller, G.W. (2015, August). The synaptic vesicle glycoprotein 2C (SV2C) is disrupted in Parkinson’s disease. Abstract submitted for a poster at the Catecholamines Gordon Research Conference & Seminar, Sunday River, ME, USA.

**Dunn, A.R.,** Stout, K.A., Ozawa, M., Wang, M., Li, Y., C­­audle, W.M., Miller, G.W. (2015, March). The role of synaptic vesicle glycoprotein 2C (SV2C) in Parkinson’s disease. Abstract submitted for a poster at the annual meeting for the American Society of Neurochemistry, Atlanta, GA, USA.

**Dunn, A.R.,** Stout, K.A., Ozawa, M., Wang, M., Li, Y., Guillot, T.S., Miller, G.W. (2014, November). Effects of genetic deletion of the synaptic vesicle glycoprotein 2C (SV2C). Abstract submitted for a poster at the annual meeting for the Society of Neuroscience, Washington, D.C, USA.

**Luce, A.R.,** Lohr, K.M., Stout, K.A., Bernstein, A.I., Guillot, T.S., Wang, M-Z., Li, Y., Salahpour, A., Miller, G.W. (2013, November). Genetic manipulation of vesicular transport machinery mediates dopamine neurochemistry and release dynamics. Abstract submitted for a poster at the Annual Meeting for the Society for Neuroscience, San Diego, CA, USA.

**Dunn, A.R.,** Stout, K.A., Lohr, K.M., Bernstein, A.I., Guillot, T.S., Yi, H., Wang, M-Z., Li, Y., Salahpour, A., Miller, G.W. (2013, October). Genetic manipulation of vesicle function as a potential mediator of neurotoxicant vulnerability. Abstract submitted for a poster at the Annual Meeting for the Southeast Chapter of the Society for Toxicology, Atlanta, GA, USA.

**Luce, A.R.,** Thompson, R.R. (2010, July). Neuroendocrine influences on social behavior. Abstract submitted for the poster session at the annual Student Poster Symposium, Mount Desert Island Biological Laboratory, Salisbury Cove, ME, USA.

**Luce, A.R.,** Dore, G.A. Robbins, M.A., Elias, M.F. (2010, April). Cholesterol and cognitive functioning: The Maine-Syracuse study. Abstract submitted for a poster at the annual Maine Biomedical Sciences Symposium, Salisbury Cove, ME, USA.

**Luce, A.R.,** Robbins, M.A., Elias, M.F. (2009, Nov). Anxiety, depression and cognitive performance: The Maine-Syracuse study. Abstract submitted for a poster presented at the annual meeting of the Maine Psychological Association, Augusta, ME, USA.

**Other training**

December 2020: The Whole Scientist course

Annual course offered by The Jackson Laboratory for early-career scientists and trainees focusing on developing skills for academic and non-academic scientific careers. The 2020 course focused on project and personnel management

June 2017: Introductory Statistics with R & Quantitative Trait Mapping with R

Data Carpentry courses led by Dr. Susan McClatchy and Dr. Dan Gatti at The Jackson Laboratory

September 2015—May 2017 Atlanta BEST (Broadening Experiences in Scientific Training) program trainee.

NIH-funded program in career development and exploration for biomedical careers

Completed an internship in the Atlanta Clinical & Translational Science Institute (ACTSI): *Coordinating research design consultations for Atlanta-based scientists*

Fall 2014—May 2015: Undergraduate mentoring workshop and certificate, Emory University

Didactic and discussion-based training in mentorship in academic science led by Dr. Leah Roesch

**Teaching and mentoring**

2013 – present: daily mentor for undergraduate and post-baccalaureate research assistants, and graduate laboratory rotation students

*Mentees:*

January 2013—May 2015: Minagi Ozawa, Emory University Neuroscience and Behavioral Biology undergraduate student (Class of 2015). Current position: Sr. Scientist II, Novartis

Recipient of travel grant to present at SfN (2014); recipient of an Emory summer research (SURE) fellowship (2013)

September 2014—September 2015: Emily Winokur, Emory University Neuroscience and Behavioral Biology undergraduate student (Class of 2017). Current position: Cognitive Science PhD student, University of California, San Diego

Recipient of summer research fellowship at University of California, San Diego (2015); Recipient of a Scholarly Inquiry and Research at Emory (SIRE) research grant (2015)

September 2015—May 2017: Rohan Dhamsania, Emory University Neuroscience and Behavioral Biology undergraduate student (Class of 2019). Current position: Medical student, Philadelphia College of

Medicine

Recipient of a SURE fellowship, 2017; NIH IMSD Undergraduate research scholar (2016—

2019)

May 2018—August 2018: Erin Merchant, Research Intern, University of Maine undergraduate

student (Class of 2020)

September 2018—May 2020: Patty Doyle, Research Intern, The Jackson Laboratory.

Current position: PhD student, University of Kentucky

May 2019—August 2019: Andrea Mirow, JAX Summer Student Program intern, Amherst College

undergraduate student (Class of 2022)

August 2020—October 2020: Yeyha Barakat, Tufts Neuroscience PhD Student, Laboratory Rotation

June 2020—July 2022: Miko Dai, JAX Postbaccalaureate Researcher

Current position: PhD student, Washington University, St. Louis

July 2021—present: Tom Murdy, JAX Postbaccalaureate Researcher

March 2014—2017, annually: Poster judge for undergraduate Scholarly Inquiry and Research at Emory (SIRE)

symposium. Evaluating undergraduate students’ ability to effectively communicate their research, present data, and answer scientific questions related to their projects

Summer 2015: Facilitator for Getting a Leg Up at Emory 2015 (GLUE2015)

Instructor and resource for Emory University first-year STEM majors to their transition into the University

October 2014—October 2015: Student mentor for junior graduate students taking oral qualifying exams

Advising 3rd year graduate students in developing an NIH short-format style project proposal and administering mock oral proposal defenses

August 2012 – December 2012: Teaching assistant for Introductory Neurobiology

Developing and leading weekly discussion sections and review for 10-20 undergraduate students; developing exam questions and grading exams

2009—2010: Tutor for introductory biology, chemistry, and psychology courses, UMaine Tutor Program and Residence

Life Student Tutor Program

Developing weekly review materials and lessons for small groups of undergraduate students

**Science outreach**

2018—present, annually: Maine State Science Fair judge

Evaluating high school students’ science fair projects, ability to effectively communicate their background knowledge, research, interpretation of results, and answer questions and speculate about future directions related to their projects.

*2019, 2020: Lead judge for the Social and Behavioral Sciences section*

2019: Downeast Public Health Council and Maine Centers for Disease Control

Presented on ongoing research efforts in aging and Alzheimer’s disease at the Jackson Laboratory to establish a working relationship with the Downeast Public Health Council for the CDC’s Healthy Brain Initiative

2019: Alzheimer’s Awareness Fundraiser, Ellsworth, ME

*Keynote speaker*: Presented ongoing research to a public audience attending an Alzheimer’s Awareness fundraiser organized by Cahoon Care Associates

2019: Dementia Educational Symposium, Bar Harbor, ME

*Outreach presenter*: Presented a scientific talk to a lay audience attending the Dementia Educational Symposium sponsored by the Birch Bay Retirement Village and the LeadingAge Aging advocacy group.

2018: Dementia Education Conference, Uncasville, CT

*Outreach presenter*: Presented a scientific talk to a lay audience attending the Dementia Education Conference sponsored by the Alzheimer’s Association Connecticut Chapter.

2018: DNA Day volunteer, Southwest Harbor, ME

*Outreach presenter*: Leading educational presentations and activities to educate local middle school students about genetics, genomics, and inheritance

2013—2015, annually: Atlanta Chapter for the Society of Neuroscience (ACSfN) BrainBee, Atlanta, GA

2013-14, *Logistics Coordinator:* planning and execution of the annual BrainBee, a neuroscience competition for local high school students supported by ACSfN.

2012—2016, annually: Atlanta Chapter for the Society of Neuroscience (ACSfN) Brain Awareness Month, Atlanta, GA

*Outreach presenter:* Developing lessons and conducting educational presentations and activities to educate local elementary and middle school students about neuroscience

June 2013: Udall Center Community Event for Parkinson’s disease patients, Atlanta, GA

*Volunteer:* Participated in patient-researcher conversations; assistance with event coordination

November 2013: Alzheimer’s Disease Research Center (ADRC) fundraising event, Atlanta, GA

*Volunteer:* Assisted with day-of logistics for an event that facilitates patient-researcher as well as donor-researcher dialogues

**Service and leadership**

2021—present: Executive Committee Member-at-Large for the International Behavioural and Neural Genetics Society

Chair, Membership Committee for the International Behavioural and Neural Genetics Society

2020: Review Editor for *Neurodegeneration*, specialty section of *Frontiers in Neuroscience, Frontiers in Neurology* and *Frontiers in Psychiatry*

2020—2021: Membership committee for the International Behavioural and Neural Genetics Society

2020: Reviewer for *eNeuro* Journal

2019—present: Reviewer for *Nutritional Neuroscience* Journal

2019—present: Reviewer for *Behavioural Brain Research* Journal

2019: Reviewer for *Behavioral and Brain Functions* Journal

2019: Program committee for the annual Genes, Brain and Behaviour meeting (Edinburgh, Scotland)

2019—present: Application reviewer for the highly selective JAX Summer Student Program

2018: Reviewer for *Journal of Neuroscience Research* Journal

2018: Reviewer for *Genes, Brain and Behaviour* Journal

2015—2017: Student representative for Emory Neuroscience Executive Committee

2014: Coordinator of mock qualifying exams, Emory Neuroscience Program

2014—2015: Emory Neuroscience Candidates’ Ongoing Research (ENCORE) seminar Coordinator

**Professional memberships and other activities**

2019: Organized and chaired a session at the annual Genes, Brain and Behaviour meeting (Edinburgh, Scotland)

“Gene-by-environment interactions in brain function and behavior”

2018—present: International Behavioral and Neural Genetics Society

2011—present: Phi Beta Kappa honors society

2010—present: Society for Neuroscience

2010—present: Psi Chi honors society in Psychology (2010: Vice-President of Research for the University of Maine chapter)