

Michael A. Rosario, PhD

Curriculum Vitae

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EDUCATION & TRAINING

Postdoctoral Fellow 2023 – Present

University of Southern California

Leonard Davis School of Gerontology & Dept. of Population and Public Health Sciences

Advisors:

Lauren Brown, PhD; Jennifer Ailshire, PhD (Since 2025)

Megan Herting, PhD (Since 2023)

PhD in Neuroscience 2023

Boston University Chobanian & Avedisian School of Medicine — Graduate Program for Neuroscience

Advisor:

Karin Schon, PhD

Dissertation: *Positive and Negative Modulators of the Medial Temporal Hippocampal Memory System*

BS in Psychology, *magna cum laude* 2017

University of the Virgin Islands, St. Croix Campus

GRANTS & FELLOWSHIPS

NIA K99/R00 Pathway to Independence Award application submitted 2026
(impact score 36; resubmission planned Nov 2026)

Multidisciplinary Research Training in Gerontology, NIA T32 2025

NIEHS Research in Emerging Areas Critical to Human Health, Loan Repayment Program 2025

USC Southern California Center for Children's Environmental Health, Research Translation Pilot Grant (\$30,000) 2025

USC Southern California Environmental Health Sciences Center Pilot Grant (\$10,000) 2025

NIH Blueprint DSPAN Award, K00 phase — (8K00ES036895-03; 1 of 4 postdoc years awarded; program terminated due to administrative changes) 2024

NIDA Scientific Training in Addiction Research Techniques (START) Fellow 2023

Robert Wood Johnson Foundation Health Policy Research Scholars Dissertation Grant 2022

NIH Blueprint Diversity Specialized Predoctoral to Postdoctoral Advancement in Neuroscience (DSPAN) Award, F99 phase (5F99NS124143-02; predoctoral: 2 years) 2021

Society for Neuroscience, Neuroscience Scholars Program Fellow 2020

Marine Biological Laboratory SPINES Fellow 2019

Robert Wood Johnson Foundation Health Policy Research Scholars Grant (\$120,000, 4 years) 2018

Ford Foundation Predoctoral Fellowship (honorable mention) 2018

NIGMS Research Initiative for Scientific Enhancement (RISE) Scholar 2015 – 2017

HONORS & AWARDS

EdDem Network “Integrating Social & Biomedical Science in Dementia Research” Workshop Travel Award	2026
Genomics for Social Scientists Travel Award	2026
Diversity & Inclusion Catalyst Award	2020
Marine Biological Laboratory SPINES / Society for Neuroscience Travel Award	2019
Boston University Graduate Medical School Fellowship Award	2018
University of the Virgin Islands Research Day Best Poster Presentation Award	2017
Association of Virgin Islands Psychologists Julianna Zinn Award (distinguished undergraduate research)	2017
ABRCMS Outstanding Poster Presentation Award, Neuroscience	2016
Boston University School of Medicine Summer Training as Research Scholars Program	2016
National Health Disparities Conference Travel Award	2016

PUBLICATIONS

Peer-Reviewed Publications

1. **Rosario, M. A.**, Cardenas-Iniguez, C., Chavez, J., Bottenhorn, K. L., Ahmadi, H., Herting, M. M., & Thompson, W. K. (2026). Enriched neighborhood environments relate to episodic memory through prefrontal rather than medial temporal pathways during late childhood and early adolescence. *Brain and Environment*. <https://doi.org/10.1016/j.braen.2026.100033>
2. **Rosario, M. A.**, Sukumaran, K., Bottenhorn, K. L., de Jesus, A., Cardenas-Iniguez, C., Ahmadi, H., Habre, R., Abad, S., Pine, J. G., Barch, D. M., Schwartz, J., Hackman, D. A., Chen, J.-C., & Herting, M. M. (2026). Ambient pollution components and sources are associated with hippocampal architecture and memory in pre-adolescents. *BMC Medicine*. <https://doi.org/10.1186/s12916-026-04950-5>
3. Morrel, J., Sukumaran, K., Torgerson, C., **Rosario, M. A.**, Lan, H., Schwartz, J., Chen, J.-C., Choupan, J., & Herting, M. M. (2026). Outdoor air pollution, perivascular space morphology, and cognition in preadolescence. *Biological Psychiatry Global Open Science*. <https://doi.org/10.1016/j.bpsgos.2026.100790>
4. Sukumaran, K., Bottenhorn, K. L., **Rosario, M. A.**, Cardenas-Iniguez, C., Habre, R., Abad, S., ... & Herting, M. M. (2025). Sources and components of fine air pollution exposure and brain morphology in preadolescents. *Science of the Total Environment*, 979, 179448. <https://doi.org/10.1016/j.scitotenv.2025.179448>
5. Morrel, J., Dong, M., **Rosario, M. A.**, Cotter, D. L., Bottenhorn, K. L., & Herting, M. M. (2025). A systematic review of air pollution exposure and brain structure and function during development. *Environmental Research*, 121368. <https://doi.org/10.1016/j.envres.2025.121368>
6. Bottenhorn, K. L., Cardenas-Iniguez, C., Schachner, J. N., **Rosario, M. A.**, Mills, K. L., Laird, A. R., & Herting, M. M. (2024). Adolescent neurodevelopmental variance across social strata. *JAMA Network Open*, 7, e2410441. <https://doi.org/10.1001/jamanetworkopen.2024.10441>

7. **Rosario, M. A.**, Kern, K. L., Mumtaz, S., Storer, T. W., & Schon, K. (2024). Cardiorespiratory fitness is associated with cortical thickness of medial temporal brain areas associated with spatial cognition in young but not older adults. *European Journal of Neuroscience*, 59(1), 82–100. <https://doi.org/10.1111/ejn.16200>

Preprints

8. Del Giacco, A. C.*, **Rosario, M. A.***, Cardenas-Iniguez, C., Chawla, N., Wen, A., Sukumaran, K., Overholtzer, L. N., Chen, J.C., Lahey, B. B., Moore, T. M., & Herting, M. M. (2026). Air pollution, early adversity, and amygdala: Environmental correlates of psychopathology in preadolescents. *bioRxiv*. <https://doi.org/10.64898/2026.08.31.748438>
*Co-first authors
9. **Rosario, M. A.**, Alotaibi, R., Espinal-Martinez, A. O., Ayoub, A., Clark, U., Baumann, A., Cozier, Y., & Schon, K. (2024). Personal mastery attenuates the association between greater perceived discrimination and lower amygdala and anterior hippocampal volume in a diverse sample of older adults. *bioRxiv*. <https://doi.org/10.1101/2024.01.12.575447>

Manuscripts in Preparation

10. **Rosario, M. A.**, Del Giacco, A. C., Sukumaran, K., Wen, A., Chen, J.C., Habre, R., & Herting, M. M. (*in preparation*). Early life adversity does not modify fine particulate matter's link to hippocampal subregions in pre-adolescence.
11. **Rosario, M. A.**, Farina, M., Ailshire, J., & Brown, L.L. (*in preparation*). Amenity Variety Is Linked to Memory but Not Executive Function Trajectories in U.S. Older Adults.

TEACHING EXPERIENCE

Guest Lecture

Environmental Exposures and the Developing Brain: Linking Air Pollution, Hippocampal Structure, and Episodic Memory October 2026
University of Southern California Neuroimaging and Informatics
NIIN 597 - Current Topics in Neuroimaging Informatics

TALKS

Invited Talks

Positive and Negative Modulators of Medial Temporal Hippocampal System Structure and Function Dec 2022
Emory University, Fani Lab — Trauma Neuroscience Research (virtual)

Does Racism-Related Chronic Stress Modulate Hippocampal Memory Function in Older Black Adults? Oct 2019
University of the Virgin Islands, RISE/MARC Program, St. Croix, USVI

Conference Presentations

Prefrontal Working Memory Activity Links Enriched Environments and Episodic Memory Nov 2024
Adolescent Brain Cognitive Development (ABCD) Study Annual Meeting, La Jolla, CA

Social, Societal, and Physical Health Factors in Cognitive Aging Nov 2021

Caribbean Regional Conference in Psychology, Caribbean Alliance of National Psychological Associations (virtual)

SELECTED SCIENTIFIC POSTERS

First-authored presentations shown; presenting mentee contributions appear under Mentorship.

Amenity Variety Is Linked to Memory but Not Executive Function Trajectories in U.S. Older Adults
November 2026
Gerontological Society of America, Baltimore, MD

Ambient air pollution does not modify early life adversity effects on hippocampal structure or function in preadolescents
September 2026
Flux Society, San Diego, CA

Amenity variety and neighborhood-to-neighborhood gaps in it are associated with late-life episodic memory trajectories in the Health and Retirement Study
September 2026
Geroscience Los Angeles Meeting, Los Angeles, CA

Distinct Air Pollution Components and Sources Linked to Hippocampal Architecture in Pre-Adolescents: Findings from the ABCD Study
June 2025
Organization for Human Brain Mapping, Brisbane, Australia (accepted)

Higher levels of physical activity may insulate children from the negative effects of air pollution exposure on memory: a baseline study of the ABCD cohort
Sep 2024
Flux Society Congress, Baltimore, MD

Perceived Control Attenuates the Relationship between Experiences of Discrimination and Left Amygdala Volume in Older Adults
July 2020
Alzheimer's Association International Conference (virtual)

Cortisol and Experiences of Discrimination Modulate Medial Temporal Lobe Structures in Older Adults
May 2020
Cognitive Neuroscience Society Conference (virtual)

Cardiorespiratory Fitness is Associated with Cortical Thickness, but not Surface Area, of the Entorhinal Cortex
February 2019
New England Science Symposium, Boston, MA

MENTORSHIP

Research mentees supervised on projects

Alan Wen — Herting Lab USC; Neuroscience undergraduate – Poster: *Relationship between early life adversity and behavioral motivation systems in 9- to 11-year-olds*. (Dept. of Population and Public Health Science Research Symposium 2026)

Arjun Batra — Schon Lab BU; Summer Training as Research Scholars (STaRS) undergraduate – Poster: *Physical activity as a moderator of inflammatory biomarkers, cognitive function, and hippocampal volume (Framingham Heart Study subsample)*. (Annual Biomedical Research Conference for Minoritized Scientists [ABRCMS] 2022).

Danesha Derima — Schon Lab BU; NIGMS Research Initiative for Scientific Enhancement (RISE) at the University of the Virgin Islands; Psychology undergraduate – Poster: *Stress, sleep, and subjective memory*. (ABRCMS 2022).

Janae Bruce — Schon Lab BU; NIGMS RISE at the University of the Virgin Islands; Biology undergraduate – Poster: *Social discrimination-related stress, metabolic conditions, and episodic memory in older Caribbean adults*. (ABRCMS 2022).

Zachary Croll-Nesbeth — Schon Lab BU; STaRS undergraduate – Poster: *Aerobic fitness negatively predicts recollection in young adults* (ABRCMS 2017).

Reagan Katulege — Schon Lab BU; STaRS undergraduate – Poster: *Associations between depressive symptoms and cortical thickness as modulated by aerobic fitness* (ABRCMS 2017).

LEADERSHIP, SERVICE & OUTREACH

Guest Editor 2026 – Present

Scientific Reports Guest Editor for the Climate, Pollution, and the Neurobiology of Mental Health Collection

Peer Reviewer 2023 – Present

Imaging Neuroscience

European Journal of Neuroscience

Biological Psychiatry: Global Open Science

Journal of Cross-Cultural Psychology

Program Ambassador, NINDS F99/K00 DSPAN Program 2023 – 2024

Liaison between fellows and program staff; co-developed a video series on the F99/K00 application process

Founding Member, GPN Diversity, Equity, Inclusion & Justice Committee 2020 – 2022

Boston University; co-founded committee and authored its mission statement

Panel Organizer & Host, Health Policy Research Scholars 2021

“Transforming Systems: Vision for an Anti-Racist, Non-Carceral Society” policy panel

Vice-President & Co-Chair, Underrepresented Graduate Student Organization 2018 – 2020

STEAM Scholars Academic Symposium, Boston University

Planning Committee Volunteer, New England Science Symposium 2019 – 2020

Supported a research forum for underrepresented trainees

Co-Chair, “Grad School Sucks for Persons of Color,” UGSO 2019

Boston University campus-wide event on barriers to education and community

Program Representative & Panelist (multiple) 2017 – 2019

ABRCMS recruitment (GPN, STaRS); BU BEST and Boston AHEC career panels; STaRS Diversity in Science panel