

Michael A. Rosario, PhD
Curriculum vitae

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RESEARCH INTERESTS

Keywords: learning and episodic memory, neurodevelopment, neurocognitive aging

EDUCATION/TRAINING

Postdoctoral Research Fellow - Leonard Davis School of Gerontology **2025 - Present**
Advisors: Lauren Brown, PhD, Jennifer Ailshire, PhD
University of Southern California

Postdoctoral Research Fellow - Environmental and Population Neuroscience **2023 - Present**
Advisor: Megan Herting PhD
University of Southern California

PhD in Neuroscience **2023**
Advisor: Karin Schon PhD
Graduate Program for Neuroscience - Boston University Chobanian & Avedisian School of Medicine
Dissertation Title: *Positive and Negative Modulators of Medial Temporal Hippocampal Memory System*

Bachelor of Science in Psychology - *magna cum laude* **2017**
The University of the Virgin Islands, St. Croix Campus

GRANTS/FELLOWSHIPS

Multidisciplinary Research Training in Gerontology NIA T32 **2025**

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

USC Southern California Center for Children's Environmental Health **2025**
Research Translation

USC Southern California Environmental Health Sciences Center Pilot Grant **2025**

National Institute of Health Blueprint DSPAN (1 of 4 years awarded) **2024**

NIDA Scientific Training in Addiction Research Techniques Fellow **2023**

Robert Wood Johnson Foundation Health Policy Research Scholars Dissertation Grant **2022**

National Institute of Health Blueprint Diversity Specialized Predoctoral to **2021**
Postdoctoral Advancement in Neuroscience Award F99 (2 years)

Society for Neuroscience - Neuroscience Scholars Program Fellow **2020**

Marine Biological Laboratory SPINES Society for Neuroscience Travel Award **2019**

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

Ford Foundation Predoctoral Fellowship (honorable mention) **2018**

National Institute of General Medicine Sciences Research Initiative for Research **2015 - 2017**

Enhancement Scholar
National Health Disparities Conference Travel Award 2016

HONORS/AWARDS

Diversity & Inclusion Catalyst Award 2020
Marine Biological Laboratory SPINES Fellow 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' Psychologist Julianna Zinn Award (distinguished undergraduate research) 2017
Annual Biomedical Research Conference for Minority Students Outstanding Poster Presentation Award for Neuroscience 2016
Boston University School of Medicine STaRS research program 2016

PUBLICATIONS

1. **Rosario, M. A.**, Sukumaran, K., Bottenhorn, K. L., de Jesus, A., Cardenas-Iniguez, C., Ahmadi, H., ... & Herting, M. M. (2025). Ambient Pollution Components and Sources Associated with Hippocampal Architecture and Memory in Pre-Adolescents. *bioRxiv*, 2025-06. doi: 10.1101/2025.06.05.658105 [under review]
2. **Rosario, M. A.**, Cardenas-Iniguez, C., Chavez, J., Bottenhorn, K. L., Ahmadi, H., Herting, M. M., & Thompson, W. K. (*under review*). Prefrontal working memory activity partially mediates link between enriched neighborhood environments and episodic memory among 9-13-year-olds.
3. Morrel J., Sukumaran K., Torgerson C., **Rosario M. A.**, Lan H., Schwartz J., Chen J.C., Choupan J., Herting M.M.. Outdoor Air Pollution, Perivascular Space Morphology, and Cognition in Preadolescence. (2025). doi: 10.1101/2025.09.26.678867. [under review]
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.
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.
6. Bottenhorn K.L., Cardenas-Iniguez C., Schachner J.N., **Rosario M.A.**, Mills K.L., Laird A.R., Herting MM (2024). Adolescent neurodevelopmental variance across social strata. *JAMA Network Open*, 7, e2410441. doi: 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. doi: 10.1111/ejn.16200
8. **Rosario M.A.**, Alotaibi, R., Espinal-Martinez A.O., Ayoub A., Clark U., Baumann A., Cozier Y., & Schon K. Personal mastery attenuates the association between greater perceived discrimination and lower amygdala and anterior hippocampal volume in a diverse sample of older adults. 2024. *bioRxiv*. doi: 10.1101/2024.01.12.575447

TALKS

Prefrontal Working Memory Activity Links Enriched Environments and Episodic Memory

Adolescent Brain Cognitive Development Study Annual Meeting
La Jolla, CA November 2024

Positive and Negative Modulators of Medial Temporal Hippocampal System Structure and Function

Emory University, Fani Lab - Trauma Neuroscience Research
Virtual Talk December 2022

Social, Societal, and Physical Health Factors in Cognitive Aging

Caribbean Alliance of National Psychological Associations - Caribbean Regional Conference in Psychology – Caribbean Resilience: Psychology’s Response to Historical & Contemporary Disasters
Virtual Talk November 2021

Does Racism-Related Chronic Stress Modulate Hippocampal Memory Function in Older Black Adults

University of the Virgin Islands, RISE/MARC Program
St. Croix, USVI October 2019

SCIENTIFIC POSTERS

**mentees*

Organization of Human Brain Mapping (*accepted*)

Brisbane, Australia June 2025

Distinct Air Pollution Components and Sources Linked to Hippocampal Architecture in Pre-Adolescents: Findings from the ABCD Study

Michael A. Rosario, Kirthana Sukumaran, Katie Bottenhorn, Devyn Cotter, Alethea de Jesus, Carlos Cardenas-Iniguez, Hedyeh Ahmadi, Rima Habre, Shermaine Abad, Joel Schwartz, Jacob G. Pine, Deanna M. Barch, Daniel Hackman, JC Chen, & Megan M. Herting

Flux Society Conference

Baltimore, MD September 2024

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.

Michael A. Rosario, Hedyeh Ahmadi, Alethea de Jesus, Kirthana Sukumaran, & Megan M. Herting

Annual Biomedical Research Conference for Minority Students

Anaheim, CA November 2022

Physical activity as a moderator of inflammatory biomarkers, cognitive function, and hippocampal volume in a matched subsample of the Framingham Heart Study

*Arjun Batra**, Razan Alotaibi, **Michael A. Rosario**, Aletha Baumann, & Karin Schon

Annual Biomedical Research Conference for Minority Students

Anaheim, CA November 2022

Stress, Sleep, and Subjective Memory

*Danesha Derima**, **Michael A. Rosario**, Aletha Baumann, & Karin Schon

Annual Biomedical Research Conference for Minority Students

Anaheim, CA November 2022

Social Discrimination Related-Stress, Metabolic Conditions, and Episodic Memory in Older Caribbean Adults

*Janae Bruce**, **Michael A. Rosario**, Aletha Baumann, & Karin Schon

Alzheimer's Association International Conference

(virtual)

July 2020

Perceived Control Attenuates the Relationship between Experiences of Discrimination and Left Amygdala Volume in Older Adults

Michael A. Rosario, Amara Ayoub, Razan Alotaibi, Urainia S. Clark & Karin Schon

Cognitive Neuroscience Society Conference

(virtual)

May 2020

Cortisol and Experiences of Discrimination Modulate Medial Temporal Lobe Structures in Older Adults

Michael A. Rosario, Amara Ayoub, Razan Alotaibi, & Karin Schon

Boston University School of Medicine Henry I. Russek Student Achievement Day

Boston, MA

May 2019

Cardiorespiratory Fitness is Associated with Cortical Thickness, but not Surface Area of the Entorhinal Cortex

Michael A. Rosario, Rachel K. Nauer, Matthew F. Dunne, Thomas W. Storer, & Karin Schon

New England Science Symposium

Boston, MA

February 2019

Cardiorespiratory Fitness is Associated with Cortical Thickness, but not Surface Area of the Entorhinal Cortex

Michael A. Rosario, Rachel K. Nauer, Matthew F. Dunne, Thomas W. Storer, & Karin Schon

Annual Biomedical Research Conference for Minority Students

Indianapolis, IN

November 2018

Aerobic Fitness Negatively Predicts Recollection in Young Adults

*Zachary Croll-Nesbeth**, **Michael A. Rosario**, & Karin Schon

Annual Biomedical Research Conference for Minority Students

Phoenix, AZ

November 2017

The Associations between Depressive Symptoms and Cortical Thickness as Modulated by Aerobic Fitness

*Reagan Katulege**, **Michael A. Rosario**, Kathryn L. Kern, & Karin Schon

International Neuropsychological Society Conference

New Orleans, LA

February 2017

Cardiovascular Fitness is Positively Correlated with Left Entorhinal Cortical Thickness

Michael A. Rosario, Andres Velez-Lopez, Rachel K. Nauer, & Karin Schon

Annual Biomedical Research Conference for Minority Students

Tampa, FL

November 2016

Cardiovascular Fitness is Positively Correlated with Left Entorhinal Cortical Thickness

Michael A. Rosario, Andres Velez-Lopez, Rachel K. Nauer, & Karin Schon

National Conference on Health Disparities

Washington D.C.

March 2016

Exploring the Determinants of Men's Health in the USVI

Michael A. Rosario, Janis Valmond, & Gloria Callwood

LEADERSHIP, COMMUNITY SERVICE/OUTREACH, and OTHER

SERVICE

Peer review

ongoing

Reviewed manuscripts for EJM, BPSO, and JCCP

NINDS F99/K00 DSPAN Program

Program Ambassador

August 2023 – August 2024

The goal of the NINDS DSPAN Program Ambassador position is to provide critical feedback to the Program Officers and leading staff of the NINDS DSPAN on what works and does not work for DSPAN Fellows and incoming applicants, serving as liaisons between Fellows and Program staff. As a Program Ambassador, I have helped to plan a video series that breaks down the F99/K00 application process.

Graduate Program for Neuroscience

Diversity, Equity, Inclusion, and Justice Committee

Committee Member

June 2020 – June 2022

Helped found the GPN DEIJ Committee, a joint student-faculty led committee to address issues of diversity, equity, inclusion, and justice within the program. Crafted the mission statement for the committee to ensure action-oriented measures would be taken to support Black, Indigenous, and People of Color students, faculty, post-docs, and staff associated with GPN and to ensure inter-departmental collaborations in neuroscience-affiliated programs.

Health Policy Research Scholars

July 2021

Health Policy Panel – Transforming Systems: Vision for an Anti-Racist, Non-Carceral Society

Planned and hosted policy panels which centered abolitionists, people who may be less interested in policy reformation, and more likely to imagine new ways of engaging in research, community work, support, and transformative justice. Panelists were invited to share their visions of a world reimaged through justice, liberation, and love to engage with current HPRS scholars.

Underrepresented Graduate Student Organization

Science, Technology, Engineering, Arts, and Mathematics Scholars Academic Symposium

Vice-President & Co-Chair

November 2018 – June 2020

The UGSO planning committee sought to bring together underrepresented students from the science, technology, engineering, arts, and mathematics fields to share ideas and fellowship while presenting their own work. It also served as a forum to meet with professors who are underrepresented in higher education.

New England Science Symposium

Academic Symposium Planning Committee

Volunteer

August 2019 – April 2020

The New England Science Symposium provides a forum for underrepresented post-doctoral fellows, medical, graduate, undergraduate, and post-baccalaureate students to showcase their research via oral or poster presentations, build a professional network, and engage in career discussions.

Underrepresented Graduate Student Organization

Grad School Sucks for Persons of Color

Co-Chair

May 2019

The Underrepresented Graduate Student Organization is a Boston University campus-wide organization that seeks to bring together students from different fields to share their experiences. During this event we created a space for students to discuss barriers to education and community at Boston University to share tangible needs with the Boston University administration.

Graduate Program for Neuroscience - ABRCMS

Program Representative

November 2018

Attended the Annual Biomedical Research Conference for Minority Students national science conference with the GPN as a current student to interact with and recruit underrepresented students from across the country for the program.

Boston University BEST Program

What does a scientist look like?

Panelist

October 2018

Participated on a panel to discuss how I navigated the process into graduate school to underrepresented undergraduate students from different universities in the Greater Boston Area.

Summer Training as Research Scholars Program – ABRCMS

Program Representative

November 2017

Attended the Annual Biomedical Research Conference for Minority Students national science conference with the STaRS program as an alum to interact with and recruit underrepresented students from across the country for the program.

Boston Area Health Education Center Program

Panelist

October 2017

Participated on a career panel for different career trajectories in health care professions as part of a new program to prepare Boston-area high school students for postgraduate education. Communicated my research and personal experiences and trajectory through undergraduate and postgraduate schooling to underrepresented high school students, and answered questions posed by students regarding potential pitfalls in getting into college.

Summer Training as Research Scholars Program

Diversity in Science

Panelist

July 2017

Participated on a panel discussing issues concerning being an underrepresented student in a predominantly white institution, how representation is not the only answer in solving a lack of diversity in postgraduate studies, and challenges finding and identifying a mentor at your home institution.

MEMBERSHIP in PROFESSIONAL SOCIETIES

Society for Neuroscience

2019-2022

Alzheimer's Association ISTAART

2019-2021

Cognitive Neuroscience Society

2018

Psi Chi International Honor Society in Psychology

2016

Golden Key National Honour Society

2015

CERTIFICATIONS

CITI GCP

CITI HIPAA

SKILLS

Data Analysis: R (proficient), SPSS (proficient)

BioRender (proficient)