

Héctor Abdiel López Rivera

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ABOUT

Fourth-year Biomedical Sciences student with minors in Psychology and Neuroscience. Aspiring physician–scientist focused on integrating neuroscience research with clinical training to improve diagnostic precision and patient outcomes. Experienced in behavioral and molecular research, scientific communication, and leadership in community-centered initiatives. Committed to equity in healthcare and to building a career where science and patient care are not separate paths, but the same one.

Interests: Cognitive Sciences, Behavioral Neuroscience, Neurodegenerative Diseases, Memory and Learning

Fitness keeps me disciplined, travel keeps me curious, and reading keeps me honest. I believe the best physicians and scientists are people who never stop growing outside their field. A workout, a new city, a good book; these are the things that keep me human, and I think that matters in medicine just as much as anything that happens in a clinic or a lab.

EDUCATION

Universidad del Sagrado Corazón, San Juan, PR August 2022 – Present
Bachelor's Degree in Biomedical Sciences | Minor in Psychology | Minor in Neuroscience
GPA: 3.66 | Honors: 5x Dean's List
Expected Graduation: December 2026

Relevant Coursework: Neurobiology, Microbiology, Research Methods, Social Psychology

Escuela Superior Urbana (Vocational), Aguas Buenas, PR August 2018 – June 2022
High School Degree | Nursing Program | Clinical Training
GPA: 4.00

PROFESSIONAL EXPERIENCES

University of Miami Leonard M. Miller School of Medicine, Miami, FL May – July 2026 (Upcoming)
Research Undergraduate Fellowship | NCI-SURF Program

- Selected to conduct neuroscience research through NCI-SURF funded summer undergraduate research fellowship at a leader medical center.

University of Puerto Rico – Río Piedras Campus, San Juan, PR June 2024 – Present
Research Undergraduate Associate | Neuro-ID Program

- Performed behavioral analysis, data collection, and molecular assays in rodent models.
- Co-author and poster presenter at the 2024 Society for Neuroscience Conference.
- Author and poster presenter at the 2025 Society for Neuroscience Conference.
- +1,250 hours of intensive neuroscience research experience.

Projects:

- FAAH Inhibition with URB-597 Attenuates Neuroinflammation-Induced Deficit in Working and Recognition Memory in Male Rats August 2025 – Present
- Effects of Endocannabinoid System Activation in Neuro-Inflammatory Induced Depressive and Anxiety Behaviors Through Lipopolysaccharide Injection | Co-Author June 2024 – June 2025
- Effects of Endocannabinoid System Activation Through Exercise on Sociability in Adolescent Rats | Co-Author June 2024 – June 2025

WestCare Foundation– Guara Bi Caribana, Caguas, PR

September 2025 – March 2026

Research Data Analyst | Internship

- Improved data-entry workflows, contributing to progress toward grant.
- Strengthened analytical and organizational skills through integrating community-level data into program evaluations, ensuring accuracy and confidentiality.
- Completed a total of 350 hours in community-based mental health and addiction services data analysis.

The University of Texas Southwestern Medical Center, Dallas, TX

June – August 2025

Research Undergraduate Internship | Summer Undergraduate Research Fellowship (SURF)

- Performed brain injury assays in *C. elegans* to investigate neuroprotective mechanisms and behavioral outcomes.
- Quantified locomotion and stress-induced phenotypes using Biometric Imaging Systems and automated tracking tools.
- Applied fluorescent microscopy to assess mitochondrial morphology and markers of neurodegeneration.
- Strengthened proficiency in experimental design, data interpretation, and quantitative analysis workflows.
- Completed a 370-hour intensive research program in neuroscience and metabolic biology.

Projects:

- Olfaction Modulates Dopaminergic Survival in *C. elegans* Model of Traumatic Brain Injury | Author

Massachusetts Institute of Technology (MIT), Cambridge, MA

January 2025

2025 Quantitative Methods Workshop Scholar

- Completed 60 hours of intensive computational neuroscience workshops.
- Applied mathematical modeling and coding to simulate neural function and behavior.
- Gained foundational training in Python and R for quantitative analysis and modeling.

Universidad del Sagrado Corazón, San Juan, PR

January – December 2024

Research Intern | Increasing Student Success in STEM (ISSS)

- Developed foundational laboratory skills, including aseptic techniques, staining, and microbial classification.
- Performed sampling, microscopic analysis, and identification of microbial species from coastal benthic environments as part of an academic research initiative.
- Completed 200 hours of microbiology centered research.

Projects:

- Characterization of Microorganisms in Benthic Zones at Laguna Tortuguero
Co-Author | Increasing Student Success in STEM (ISSS)

The University of Virginia – School of Medicine, Charlottesville, VA

June – July 2023

Summer Medical Leadership Program Scholar (SMLP)

- Completed 20 hours of combined clinical exposure and physician shadowing across internal medicine and other specialty clinics.
- Engaged with diverse healthcare environments serving underrepresented communities.
- Collaborated with faculty mentors and peers to explore pathways in medical education, health equity, and physician-scientist training.

PUBLICATIONS

Manuscripts in preparation:

López-Rivera, H.A., Frontera, A., Abreu, E., Rosa, G., Maldonado-Vlaar, C. FAAH Inhibition with URB-59 Attenuates Neuroinflammation-Induced Deficits in Working and Recognition Memory in Male Rats
University of Puerto Rico – Río Piedras; *San Juan, PR.*

PRESENTATIONS

FAAH Inhibition with URB-597 Attenuates Neuroinflammation-Induced Deficits in Working and Recognition Memory in Males Rats

University of Puerto Rico – Río Piedras | Author

Poster Sessions:

- 4th Multidisciplinary Local Symposium - Sagrado | *San Juan, PR* – April 10, 2026
* Awarded 3rd place in the Undergraduate Category

Olfaction Modulates Dopaminergic Survival in *C. elegans* Model of Traumatic Brain Injury

University of Texas Southwestern Medical Center | Author

Poster Sessions:

- 2025 SURF Symposium | *Dallas, TX* – August 6, 2025
- 11th Behavioral Health Research Symposium @ PHSU Medical School | *Ponce, PR* – October 18, 2025
- 2025 Society for Neuroscience Conference | *San Diego, CA* – November 15, 2025
- 33rd Puerto Rico Neuroscience Conference | *San Juan, PR* – December 6, 2025
- Max Planck Florida Institute for Neuroscience | *West Palm Beach, FL* – March 9, 2026

Oral Presentations:

- Neuro-ID Program - University of Puerto Rico – Río Piedras | *San Juan, PR* – September 17, 2025

Effects of Endocannabinoid System Activation in Neuro-Inflammatory Induced Depressive and Anxiety Behaviors Through Lipopolysaccharide Injection

University of Puerto Rico – Río Piedras | Co-Author

Poster Sessions:

- 2025 Society for Neuroscience Conference | *San Diego, CA* – November 17, 2025

Effects of Endocannabinoid System Activation Through Exercise on Sociability in Adolescent Rats

University of Puerto Rico – Río Piedras | Co-Author

Poster Sessions:

- 2024 Society for Neuroscience Conference | *Chicago, IL* – October 5, 2024
- Universidad del Sagrado Corazón Sciences Poster Session | *San Juan, PR* – October 28, 2024

Oral Presentations:

- Neuro-ID Program - University of Puerto Rico – Río Piedras | *San Juan, PR* – May 23, 2025

CLINICAL & SERVICE EXPERIENCE

Clinical and Service Opportunities, Puerto Rico & Continental US
Present

June 2023 –

Clinical Shadowing – 112 hours total

- Neurosurgery – 26 hours
- Psychiatry – 25 hours
- Neurology – 22 hours
- Cardiology – 15 hours
- Additional specialties: Gastroenterology (9), Orthopedics (8), OB-GYN (5), Internal Medicine (2) – 24 hours

Community Service & Outreach – 98 hours total (Puerto Rico)

Campus-based service and outreach across eight academic semesters – 88 hours

- Point-in-time count and needs assessment with unhoused populations, integrating mental health evaluation with service planning and resource coordination – 10 hours

Becados Contigo, San Juan, PR

August 2023 – August 2024; August 2025 – January 2026

Universidad del Sagrado Corazón

Tutor and Mentor

- Provided academic and emotional support to first-year undergraduate peers under the Scholarship Program.
- Completed 70 hours of individualized mentoring focused on academic success, transition support, and resilience-building.

STEM 100x35 Sciences Fair, Bayamón, PR

April 2025

Scientific Judge

- Served as an official judge for high school student scientific projects.
- Evaluated poster presentations and provided feedback at a statewide STEM fair.
- Promoted STEM education by mentoring students and encouraging engagement in scientific inquiry.

LEADERSHIP, OUTREACH & VOLUNTEERING

Society for Neuroscience – Neuronline

January 2026 - Present

Community Leader

- Selected as one of twelve trainees to help lead SfN's Neuronline community platform.
- Facilitate discussions on neuroscience training, career development, mental health and wellbeing.
- Highlight perspectives from Latino/Hispanic and other underrepresented trainees in neuroscience.

American Red Cross – Puerto Rico Chapter, San Juan, PR

November 2025 – Present

Biomedical Services Transport Specialist

- Collaborated with healthcare staff and Red Cross teams to maintain compliance with safety and handling protocols.
- Completing 12 hours supporting island-wide blood supply chain by transporting blood products between collection centers and hospitals across Puerto Rico.

Neuroscience Student Association, San Juan, PR

April 2025 – Present

Universidad del Sagrado Corazón

Founding President

- Founded and led the campus's first undergraduate neuroscience association, focused on promoting research engagement, scientific communication, and collaborative learning across the metropolitan area.
- Recruited 50 active members within the first two months through targeted outreach and peer-networking initiatives.
- Organized and coordinated 10 academic and educational events during the inaugural semester (Aug–Dec 2025), including research seminars, skills workshops, and community

outreach activities.

- Completed 200 hours across planning, outreach event coordination and member development throughout presidential tenure.

American Medical Student Association (AMSA), San Juan, PR

August 2023 – Present

Universidad del Sagrado Corazón's Chapter
Member

- Participates in pre-medical networking events and access to professional development resources for aspiring physicians.
- Earned a Certificate of Recognition for outstanding involvement (May 2024).

HOSA Caguas Region – Escuela Superior Urbana, Aguas Buenas, PR

August 2021 – May 2022

Regional President

- Coordinated regional student activities and served as liaison between school chapters and the Regional Board.
- Supported the development of academic and leadership programming for participating student members.
- Placed 3rd state-wide in the HOSA Medical Terminology Competition.

HOSA Puerto Rico (Future Health Professionals), San Juan, PR.

May 2021 – May 2022

State President

- Represented Puerto Rico in national leadership forums for one of the largest student organizations in the Americas.
- Led a six-member executive team to implement statewide initiatives and expand chapter engagement across the island for high school students.
- Oversaw coordination of academic events, statewide outreach, and leadership development activities for student members.

LICENSES AND CERTIFICATIONS

- European Brain and Behaviour Society - Membership October 2025
- Society for Neuroscience - Membership October 2024
- CITI Program - Social and Behavioral Research October 2024
(ID – 64678793)
Expires October 2027
- CITI Program – Reducing Pain and Distress in Lab Mice and Rats June 2024
(ID: 63070656)
Expires June 2027
- CITI Program – Working with Mice in Research Settings June 2024
(ID: 63070657)
Expires June 2027
- CITI Program – Working with Rats in Research Settings June 2024
(ID – 63070658)
Expires June 2027
- CITI Program – Working with the IACUC June 2024

(ID – 63070654)
Expires June 2027

- ORCID ID: 0009-0002-2247-6870

June 2024

HONORS & AWARDS

Full Ride - Scholarship Recipient – Beca FEE (Universidad del Sagrado Corazón) August 2022 – May 2026

- Merit-based academic scholarship awarded for exceptional academic performance.

Valedictorian – Class of 2022

- Highest academic distinction upon graduation.

Class President

May 2021 – May 2022

- Elected by peers to represent and lead the graduating class.

Student Council Board Spokesman

August 2020 – May 2022

- Served as the liaison between the student body and school administration.

ADDITIONAL INFORMATION

Languages

- Spanish (Native)
- English (Fluent)
- French (Basic)