

Valeria Hernandez Talavera

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Education

- Doctor of Philosophy in Environmental Sciences **September 2020-Present**
 - University of Massachusetts Boston; M.A. Boston
 - Dissertation: A Genomic-Based Environmental Health Assessment in Vieques, Puerto Rico
 - Advisor: Helen Poynton, Ph.D.
 - GPA 3.9
 - August 2026 **May 2020**
 - Master of Science in Biology **January 2015 - 2017**

Concentration: Molecular and Cellular Biotechnology

 - Inter-American University Aguadilla Campus
 - Thesis: Impacts of Microfiber from Laundry Outflow on *Daphnia Magna*
 - GPA 4.0
 - Doctors in Medicine—not conferred
 - University of Medicine and Health Sciences in St. Kitts
 - 107 credits approved, GPA 3.27
 - Bachelor of Science in Biology **May 2015**

Concentration in Genetics)

Minor in Biomedicine

 - University of Puerto Rico, Aguadilla Campus
 - Credits approved: 136. GPA: 3.6
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Research Experience

- Ph.D. Candidate in Environmental Sciences – University of Massachusetts Boston. **September 2020-Present**

Dissertation Title: A Genomic-Based Environmental Health Assessment in Vieques, Puerto Rico

Advisor: Dr. Helen Poynton

 - Conduct an integrative environmental risk assessment to evaluate ecological and human health risks associated with long-term military contamination in Vieques.
 - Developed and applied a Genomic-Based Environmental Health Assessment (GEHA) framework combining sediment toxicity testing, sediment chemistry, RNA-seq-based gene expression profiling, and microbial diversity analyses.
 - Exposed sentinel species (*Parhyale hawaiiensis* and *Cardisoma guanhumi*) to contaminated sediments to identify molecular stress responses and potential adaptive mechanisms.
 - Performed 16S and ITS amplicon sequencing to assess microbial community shifts and environmental degradation across multiple sites.
 - Integrated ecological, toxicological, chemical, and genomic findings into a weight-of-evidence framework to rank risk severity across sampling locations.
 - Apply Community-Based Participatory Research principles through co-designed sampling plans, bilingual materials, and community science engagement.
 - Use research findings to support environmental justice efforts, long-term monitoring, and data transparency for impacted communities.
- Research Assistant, Molecular Toxicology Lab **January 2023-May 2024**

School for the Environment at the University of Massachusetts Boston, Boston, MA

 - Investigated the conserved function of sex-determining and differentiating genes in a model bivalve, the blue

mussel *Mytilus edulis*.

- Conducted controlled experiments to characterize gene function during sexual differentiation.
- Applied molecular techniques including RT-qPCR, histology, in situ hybridization, and RNAi.

- Research Assistant

August 2019-September 2020

FDI Research Clinic Dra. Maribel Rodríguez-Torres, San Juan, PR.

Harvard University, School of Public Health

- Worked alongside teams led by Sigrid Mendoza, gathering 80% of surveys in established sectors within two months.
- Contributed to survey-based public health research in Spanish-speaking communities.
- Collected survey, body weight, food intake, clinical observation, saliva, and hair sample data.
- Helped improve recruitment and data collection strategies through field observations and team reporting.
- Experience in project management, data collection, and community engagement.

Publications

- Estrada-Martínez, L., R. Negrón, J. L. Colón, C.M. Nazario, H. Poynton, **V. Hernández-Talavera**, A. Oyola-Vivas, A.R. Linde-Arias (n.d.) Consequences of and Responses to Compounded Vulnerabilities Rooted in Colonialism: The Case of Vieques, P.R., in *Climate Justice and Health*, R. Srikanth and L. Thompson, eds., University of Massachusetts Press.
<https://www.jstor.org/stable/jj.1614823>, 9 https://www.jstor.org/stable/jj.1614823?turn_away=true

Manuscript under Review

- Estrada-Martínez, L., Negrón, R., Gonzales-Robinson, P., Poynton, H., **Hernández-Talavera, V.**, Meléndez-Mateo, K., Rivera, L., Zlevor, Emily, Chen R. Community Governance as an Environmental Health Intervention: Lessons from the Vieques, Ambiente, Salud y Acción Comunitaria Partnership" to Journal of Community Engagement and Scholarship

Manuscript in Preparation

- **Hernández-Talavera, V.***, Raisa de Jesús, Liz Díaz, Lorena Estrada Martínez, Helen Poynton. Toxicological and Chemical Assessment of Coastal Sediments from Vieques, Puerto Rico: Impacts of Legacy Military Contamination. University of Puerto Rico, Rio Piedras, and University of Massachusetts.
- **Hernández-Talavera, V.**, De Jesus, R., Diaz, L., Estrada-Martínez, L., & Poynton, H. Toxicological and Chemical Assessment of Coastal Sediments from Vieques, Puerto Rico: Impacts of Legacy Military Contamination.
- **Hernández-Talavera, V.**, Zlevor, E., Chen, R., Johannasson, K., Estrada-Martínez, L., & Poynton, H. Transcriptomic Responses in *Parhyale hawaiiensis* and Contaminant Bioavailability Reveal Sublethal Impacts of Legacy Contaminated Sediments from Vieques, Puerto Rico.
- **Hernández-Talavera, V.**, Alvarez, V., Diaz, L., Estrada-Martínez, L., & Poynton, H. Transcriptomics and Inorganic Assessment of Blue Land Crabs (*Cardisoma guanhumi*) After Lifelong Exposure to Contaminants in Vieques, Puerto Rico.
- **Hernández-Talavera, V.**, Kearns, P., James, M., Bowen, J., & Poynton, H. Microbial Community Structure in Sediments of Vieques, Puerto Rico: Assessing Environmental Health through 16S and ITS Amplicon Sequencing.

Honors & Awards

- Graduate Legacy Award, Environmental Science, in honor of Ellen Duglas **May 2026**
 - Awarded due to excellence in research centering environmental justice in ecotoxicology using a community-based participatory research approach.
- SP²ARK Fellowship Recipient **October 2024**
 - Selected as a representative of the Coastal & Estuarine Research Federation (CERF) for the SP²ARK Fellowship. Provided mentoring experience and professional development on coastal estuary policy and stipends for conferences.
- Finalist, Switzer Environmental Fellowship, Robert and Patricia Switzer Foundation **March 2024**
 - Advanced to the interview stage; selected among the top 20 applicants nationwide.
- Rising TIDES Fellow, **October, 2023**
 - Coastal & Estuarine Research Federation (CERF). Awarded the Rising TIDES Fellowship, a program fostering diversity, equity, and inclusion in coastal and estuarine sciences. Provided mentoring, workshops, and stipends for conferences.
- James M. Savicki Graduate Fellowship in the School for the Environment, **May 2023**
 - Nominated due to commitment to teaching and mentoring. A yearly \$6,000 stipend supports full-time graduate students in the University of Massachusetts Boston School for the Environment who are passionate about the ocean, environment, sustainability, and education until they complete their degrees.
- I Can Persist STEM Initiative Scholar **September 2022-2023**
 - This program supports women and girls of color interested in STEM fields. Provided mental health awareness; built community; held workshops for STEM storytelling; and provided professional development on environmental and social justice.
- Horatio Alger National Scholar **April, 2010**
 - Intended for promising students with critical financial need, demonstrating integrity and perseverance in overcoming adversity, and who are determined to succeed. Awarded a 20,000 stipend for undergrad course work.

Work Experience

- Biology Intern in Microbiology Department **September 2023-Present**
Environmental Protection Agency, Region 1, North Chelmsford, MA.
 - Work as a water quality assurance specialist, including field work, lab management, and report editing.
 - Analyze and test drinking water and surface water samples by EPA guidelines to assess drinking water quality standards in watersheds, rivers, and nonprofit monitoring programs.
 - Update standard operating procedures and reports for water quality assurance and testing at Region 1.
 - Engage local tribal nations on the eDNA monitoring program by leading training and information sessions.
- Journal Club Coordinator – UMB-DF/HCC REC Graduate Assistantship **September 2024-Present**
University of Massachusetts Boston
 - Facilitate a 12-week per semester journal club focused on cancer and cancer-related health disparities for undergraduate research interns.
 - Co-develop a journal club syllabus with the research training manager, featuring peer-reviewed articles on health equity, systemic racism, and environmental justice.
 - During summer sessions, lead weekly 90-minute sessions to build student skills in analyzing scientific literature, presenting research, and understanding foundational life science concepts.
 - Guide students in exploring intersectionality, using case studies such as redlining and cancer outcomes to deepen their understanding of structural inequities.
- Teaching Assistant - iTCGA Computational Research Immersion in Cancer Genomics **June 2025**
University of Massachusetts Boston (UMass Boston)
 - Supported a 3-week intensive workshop introducing RNA-seq analysis, genomic dataset management, and research ethics in cancer genomics

- Guided student teams in hands-on computational biology projects using real-world cancer genomics datasets
 - Assisted with lab preparations, lectured on data integrity, reproducibility, and ethical best practices.
 - Evaluated participant progress and helped mentor final project presentations
 - Led a grad student panel for students to understand graduate programs and research opportunities.
 - **Project Coordinator – Vieques, Ambiente, Salud, y Acción Comunitaria (VASC) February 2025 – May 2025**
University of Massachusetts Boston, EPA-Funded Study
 - Coordinated all logistical aspects of a multi-institutional, interdisciplinary environmental health research project assessing long-term impacts of military contamination in Vieques, Puerto Rico.
 - Managed administrative operations, including organizing financial documents (invoices, receipts, reports), submitting IRB protocols, and maintaining compliance with human subjects research requirements.
 - Served as primary liaison between the PI, external collaborators, survey vendors, and community stakeholders; facilitated biweekly meetings, drafted agendas, and synthesized updates.
 - Supported the development of EPA progress reports and assisted with preparing presentations, outreach materials, and communications in both English and Spanish.
 - Created bilingual community-facing materials and coordinated citizen science sampling campaigns across multiple neighborhoods in Vieques.
 - Engaged with local community leaders, municipal representatives, and grassroots organizations to build trust, co-develop sampling strategies, and ensure transparency in research outcomes.
 - Monitored project milestones, including survey distribution, sediment collection, laboratory coordination, and environmental justice-focused educational events.
 - Contributed to the renewal process and program expansion by maintaining thorough documentation and stakeholder engagement across all workstreams.
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Teaching Experience

- **Adjunct Professor, Early College Program September 2025–January 2026**
University of Massachusetts Boston, Boston, MA, Course: Introduction to Environmental Science
 - Taught undergraduate-level environmental science courses for 60 ESL high school students from the Boston Public School system, covering topics on climate change, biodiversity loss, and global pollution for college credit.
 - Introduced foundational concepts in sustainability, ecosystems, and human impacts on the environment, with special projects on environmental health impacts on communities, presented as a poster.
 - Supported students in developing critical thinking and college readiness skills through coursework and mentorship
 - Contributed to expanding access to higher education for underrepresented students through early college programming
 - Developed assignments emphasizing environmental justice, science communication, and community engagement.
 - Guided students in translating scientific information into accessible educational and outreach materials.
- **Adjunct Professor Summer session May-July 2022-2025**
University of Massachusetts Boston, Boston, MA, Course: Global Environmental Change.
 - Instructor for an undergraduate-level course, provided course material to over 25 students per term, conducted lectures, and assisted in the system for in-person and remote settings.
 - Developed coursework on the scientific foundations and social implications of climate change, biodiversity loss, and global pollution, with a focus on environmental crises through case studies and science communication projects
 - Developed alternate activities and mentorship for students to create environmental justice educational media and outreach.
- **Adjunct Professor September 2024–January 2025**

University of Massachusetts Boston, Course: Latinidad in the United States

- Taught a bilingual university-level course on Latinx identity, culture, and history as part of the Early College Program at Margarita Muñiz Academy, the first bilingual high school in New England, for 30 students.
- Designed and delivered engaging lessons on the experiences of Latinx communities in the U.S., incorporating diverse perspectives and fostering critical thinking on race, ethnicity, and cultural identity issues.
- Supported high school students transitioning to higher education by offering mentorship and guidance in academic writing, research skills, and college-level coursework.
- Contributed to developing an inclusive learning environment, focusing on empowering bilingual students and enhancing their academic potential.

● Course instructor

September 2023 - December 2024

I Can Persist STEM Initiative, University of Massachusetts Boston

- Recruited from the ICP Graduate Scholar Program
- Developed and delivered the STEM Equity course for the I Can Persist STEM Initiative, a program dedicated to increasing the diversity and retention of underrepresented students in STEM fields.
- Created alternative activities and provided mentorship for students, encouraging students to develop environmental justice educational media and outreach projects.
- Focused on fostering student engagement and equity in STEM education through inclusive curriculum development, course delivery, and personalized support.

● High School Science Teacher

September 2018 - May 2023

Friedrich Froebel Bilingual School, Aguadilla, P.R.

- Lead online science and math classes for students in grades 7 through 12.
- Assisted in developing a framework for online instruction that focused on ensuring students achieved academic success. As a result, students' academic achievements exceeded the 83% average, and parent satisfaction with the course curriculum exceeded 96%.
- Provided mentorship support to middle and high school students in bilingual institutions through various in-school programs.
- Developed excellent communication, leadership, and problem-solving skills

● Teacher Assistant/Instructor

September 2020 - December 2023

University of Massachusetts Boston, Boston, MA

- Performed the role of teaching assistant for 3 undergraduate courses by providing materials to over 200 students, conducting lectures, and assisting in implementing a system for both in-person and remote settings.
- Developed alternate activities and labs for remote, in-person, and field courses.
- Courses: Assistant for Quantitative Reasoning and the Environment; Global Environmental Change; Intro to Environmental Science Lab; and Coastal and Marine Pollution

● Chemistry Tutor

June 2019-July 2020

S.T.E.M. Center, Inter American University, Aguadilla Campus, P.R.

- Established lab protocols for undergraduate students to ensure safe and reliable experiments.
- Coordinated successful events, such as seminars, workshops, fundraisers, and fieldwork training, between student organizations and the STEM center.
- Teacher assistant in General Chemistry 1 and II labs, providing guidance and support to students.
- Tutored undergraduate-level courses in general chemistry, organic chemistry, analytical chemistry, and biochemistry, resulting in improved student performance.
- Maintained an overall attendance rate of 75% and an end-of-course grade average of 88%.

● Science Teacher, First Bilingual Preparatory School, Aguadilla, P.R.

October 2018 - May 2019

- Established a science fair after three years of inactivity, with a participation rate of 93% of students.
- Science coordinator for the First Bilingual Preparatory School; elementary, middle, and high school divisions, Aguadilla, Puerto Rico.
- Teacher for students in courses from 7th to 12th grades. Courses include Chemistry, Biology, Physical Science,

Earth Science, and Life Science.

- Teacher Assistant Anatomy Lab **August 2015-December 2015**
 - Assisted in dissecting cadavers at the lab while offering guidance to students. Set up laboratory equipment and maintain a safe laboratory environment.
 - Monitored the area to ensure levels of hygiene were followed as required.
 - Coordinated and conducted practice examinations to ensure all students' inquiries were responded to. Attended lab sessions for an anatomy course.
 - Teacher Assistant, Histology, **May 2015-August 2015**
 - Arranged reading material and conducted virtual and lab examinations. Weekly tutorials and group class sessions; arranged office hours.
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Selected Conference Presentations

Oral Presentations

- **Sediment Fungal Communities Track Localized Contamination Gradients in Vieques, Puerto Rico.** Hernández-Talavera, V., Kearns, P., James, M., Bowen, J., & Poynton. Standard oral presentation, Northeastern Estuarine Research Society Spring Meeting, Plattsburgh, NY. April 25, 2026.
- **Fungal and bacterial community indicators: Coastal sediments; Vieques, Puerto Rico.** Hernández-Talavera, V., Kearns, P., James, M., Bowen, J., & Poynton. Oral presentation, Society for Advancement of Chicanos/Hispanics and Native Americans in Science New England Chapters Community Gathering, Boston College, Chestnut Hill, MA, April 11, 2026.
- **Coastal Sediment Chemistry and Toxicity to Assess Environmental Health in Vieques, P.R. Using Coastal Sediment Chemistry and Toxicity.** Hernández-Talavera, V., Kearns, P., James, M., Bowen, J., & Poynton. The Society for Advancing Chicanos/Hispanics and Native Americans in Science (SACNAS) meeting. Ohio, October 28-31, 2025. NDiSTEM Conference. As part of being nominated for C.O.L.O.R. (Chapter Officer Leadership October retreat). C.O.L.O.R. is a 1-day retreat designed to support SACNAS chapter officers as they take leadership positions within their chapters, campuses, and communities. This award included fully funded airfare, lodging, and conference registration.
- **Assessing Environmental Health in Vieques, Puerto Rico: A Genomic and Toxicity-Based Approach.** Hernández-Talavera, V.*, Raisa de Jesús, Liz Díaz, Lorena Estrada Martínez, Helen Poynton. 2025 New England SACNAS Community Gathering: Saturday, April 12, at the Anlyan Center in New Haven, CT. (Award for Best Presentation in Environmental Sciences).
- **Community-Based Participatory Research Approach to Rebuild Trust in Ecological Risk Assessment in Vieques, PR.** Hernández-Talavera, V.*, Raisa de Jesús, Liz Díaz, Lorena Estrada Martínez, Helen Poynton. Policy, Management, and Communication SETAC North America 45th Annual Meeting, 20-24 October 2024, Fort Worth, Texas; Fort Worth Convention Center.

Posters Presentation

- **Assessing Environmental Health in Vieques, P.R. Using Coastal Sediment Chemistry and Toxicity.** Hernández-Talavera, V.*, Raisa de Jesús, Liz Díaz, Lorena Estrada Martínez, Helen Poynton. Poster presentation, Coastal and Estuarine Research Federation Biennial Conference, Richmond, VA. November 10-14, 2025
- **Assessing Environmental Health in Vieques, Puerto Rico: Toxicity-Based Approach.** Hernández-Talavera, V.*, Raisa de Jesús, Liz Díaz, Lorena Estrada Martínez, Helen Poynton. Poster presentation, Annual SFE Earth Day Symposium, Tuesday, April 22nd. 2025 Integrated Science Complex, University of Massachusetts Boston. (Award-Winning)
- **Amplicon Sequencing of Coastal Sediment Samples for Ecosystem Health at Vieques, P.R.** Hernández-Talavera, V., Kearns, P., James, M., Bowen, J., & Poynton. Poster presentation; Society for Advancing Chicanos/Hispanics and

Native Americans in Science (SACNAS) Meeting. Phoenix, Arizona, October 28-31, 2024. NDiSTEM Conference. As part of being nominated for C.O.L.O.R. (Chapter Officer Leadership October retreat). C.O.L.O.R. is a 1-day retreat designed to support SACNAS chapter officers as they take leadership positions within their chapters, campuses, and communities. This award included fully funded airfare, lodging, and conference registration.

- **Genomics-based Environmental Health Assessment of the Lagoons of Vieques, Puerto Rico. Hernández-Talavera, V.***, Raisa de Jesús, Liz Díaz, Lorena Estrada Martínez, Helen Poynton. Poster presentation, Biannual Coastal & Estuarine Research Federation Conference Portland, November 12-16, 2023. As a Rising Tides Scholar, a two-day mentoring retreat covered the conference registration, travel, and hotel. Over the 16-month period, the scholars received mentoring and professional development workshops.
- **Genomics-based Environmental Health Assessment of the Lagoons of Vieques, Puerto Rico. Hernández-Talavera, V.***, Raisa de Jesús, Liz Díaz, Lorena Estrada Martínez, Helen Poynton. Poster presentation, Society for Advancing Chicanos/Hispanics and Native Americans in Science (SACNAS) Meeting. Portland, Oregon, October 26-28, 2023. As part of being nominated for C.O.L.O.R. (Chapter Officer Leadership October retreat). C.O.L.O.R. is a 1-day retreat designed to support SACNAS chapter officers as they take leadership positions within their chapters, campuses, and communities. This award included fully funded airfare, lodging, and conference registration.
- **Methods on Genomics-based tools for an Environmental Health Assessment of the Lagoons of Vieques, Puerto Rico. Hernández-Talavera, V.***, Raisa de Jesús, Liz Díaz, Lorena Estrada Martínez, Helen Poynton. Poster presentation, A Pale Blue Dot under Pressure: Climate Change, Justice, and Resilience in Our Rapidly Warming World. Harvard Radcliffe Institute, 10 Garden St, Cambridge, MA. Friday, October 21, 2022
- **Genomics-based Environmental Health Assessment of the Lagoons of Vieques, Puerto Rico. Hernández-Talavera, V.***, Lorena Estrada Martínez, Helen Poynton. Poster presentation, North Atlantic Society of Environmental Toxicology and Chemistry (SETAC) Regional Meeting, Groton, CT, June 27-28, 2022.
- **Environmental Health Assessment of the Lagoons of Vieques, Puerto Rico. Hernández-Talavera, V.*** Lorena Estrada Martínez, Helen Poynton. Poster presentation at the New England Regional Society for Advancing Chicanos/Hispanics and Native Americans in Science (SACNAS) Meeting. Providence, RI. June 17-18, 2022. 2022 NDiSTEM Conference scholarship: This award covered fully funded airfare, lodging, and conference registration.

Accepted

- **Sediment Exposure and Acute Amphipod Mortality Across a Legacy Military Gradient in Vieques, Puerto Rico. Hernández-Talavera, V.***, Raisa de Jesús, Liz Díaz, Lorena Estrada Martínez, Helen Poynton. Poster presentation (accepted), International Society for Environmental Epidemiology Annual Conference, Munich, Germany. August 30 – September 2, 2026.
- **Bioavailable Metal Fractions and Gene Expression Response for Acute Amphipod Toxicity in Contaminated Coastal Sediments. Hernández-Talavera, V.*** Lorena Estrada Martínez, Helen Poynton Platform (oral) presentation (accepted), PRIMO Conference, McMaster University, Hamilton, Canada. June 2–5, 2026.
- **Assessing Environmental Health in Vieques, Puerto Rico: Toxicity-Chemistry Based Approach. Hernández-Talavera, V.***, Raisa de Jesús, Liz Díaz, Lorena Estrada Martínez, Helen Poynton. Poster presentation, Dr. Samuel M. Nabrit Conference for Early Career Scholars, June 6, 2025.
- **Methods on Genomic-Based Environmental Health Assessment of Lagoons: Vieques, P.R. Hernández-Talavera, V.***, Raisa de Jesús, Liz Díaz, Lorena Estrada Martínez, Helen Poynton. Poster presentation (accepted), Southeastern Estuarine Research Society 50th Anniversary Meeting, Savannah, GA, 2024.

Outreach & Community Involvement

- Professional Affiliate Mentor,

- I CAN PERSIST STEM Initiative, University of Massachusetts Boston; **August 2025–May 2026**
 - Selected to serve as a professional mentor supporting underrepresented students in STEM
 - Participate in monthly mentorship forums (2 hrs/session) focused on academic success, career pathways, and empowerment
 - Contribute to inclusive, community-based programming that promotes persistence and equity in STEM education
- Keynote Speaker, DSP Program Colloquium, University of Massachusetts Boston, **Summer 2025**
 - Invited to deliver keynote talks to summer bridge students in the Directions for Student Potential (DSP) program
 - Highlighted environmental health research, career pathways, and the role of science in advancing social and environmental justice
 - Engaged students in interactive discussion on applying academic disciplines to real-world challenges
- Fundraising Organizer, Hurricane Relief in Puerto Rico **September-October 2022**
 - Assisted and served as a liaison between various nonprofits and the I Can Persist STEM Equity Program.
 - Facilitated funding access to support services for impacted communities by Hurricane Fiona.
 - By providing assistance and guidance to my fellow ICP scholars, we served those in need and helped improve the affected areas.
- Volunteer, COVID-19 Relief Supply Collection, Puerto Rico **June 2020**
 - Sourced and gathered essential supplies such as masks, disinfectants, food, and test appointments for homeless individuals during the COVID-19 pandemic in the northwest region of Puerto Rico.
 - Coordinated with local organizations and businesses to ensure we had enough supplies to meet the needs of those we served.
 - Utilized my communication and organizational skills to ensure a smooth and efficient distribution of supplies.
 - Provided compassionate support and guidance to individuals in need, helping them navigate the challenges of the pandemic.
 - Developed a greater appreciation for community involvement and the importance of helping others in times of crisis.
- Volunteer, Earthquake Relief Supply Collection, Puerto Rico, **January 2020**
 - Sourced and gathered essential supplies for nonprofits (food, water, medicine, tents, clothes) and impacted refugees in the southern region, where more than 8,000 people were homeless and camping outdoors in various types of shelters, with 40,000 others camping outside their homes, due to continuous earthquake swarm events
 - Coordinated with local organizations to identify the most needed supplies and mobilized a team of volunteers to help collect and distribute them.
 - Developed skills in project management, team collaboration, and crisis response.
 - Contributed to a meaningful and impactful volunteer effort that helped those affected by the natural disaster.
 - Demonstrated commitment to community service and a willingness to step up in times of crisis.
- Science Fair Judge **March 2019**
Antolina Vélez High School and Interamerican University, Aguadilla, P.R
 - Provided guidance and mentorship to 15 students by connecting them with appropriate research mentors and ensuring they had the necessary resources to work in labs on weekends to complete their research projects.
 - Coordinated the science fair day and served as a judge.
 - Developed my leadership and communication skills while also contributing to advancing STEM education in the community.

Leadership Experience, Professional Development

- (2025–2026) Cohort Participant, New Hampshire CoastWise , **September 2025–Present**

- Selected for a competitive coastal science and policy training program focused on interdisciplinary collaboration and stakeholder engagement
- Co-president, SACNAS UMass Boston Chapter, Boston, MA, **September 2022- May 2025**
 - Collaborated with university student organizations to provide undergraduates with professional development activities.
 - Coordinated with university resources such as the writing center to offer resume and personal statement writing workshops.
 - Collaborated with advisors and chapter officers to organize and promote events such as Cafe con Ciencia, where we bring guest speakers to communicate their STEM journey and opportunities for our members.
 - Organized programs and events to foster the success of Chicanos/Hispanics and Native Americans in STEM, such as promoting conferences and meetings from national chapters.
 - Developed my leadership and communication skills while also contributing to advancing STEM education in the community.

Professional services

- Session chair, SETAC North America 45th Annual Meeting, October 20–24, 2024
Fort Worth, Texas; Fort Worth Convention Center
 - Session: Community-Based Participatory Research Approaches in Environmental Toxicology and Monitoring; Policy, Management, and Communication. Helen C. Poynton¹, **Valeria Hernandez Talavera**¹ and Alan S. Kolok²: University of Massachusetts Boston¹ (UMass Boston), Boston, United States; ²University of Idaho P.R7.02

Courses

- Undergraduate: Biology I and II, Cellular and Molecular Biology, Immunology, Evolution, Genetics, Human Genetics, Bacterial genetics, Chemistry I and II, Organic Chemistry I and II, Biochemistry, Anatomy I and II, Human growth and development, Virology and Biotechnology, Bioethics, Computer Statistics, Calculus I
- Medicine: Gross and Developmental Anatomy, Molecular and Cell Biology, Physical Diagnosis, Medical Ethics, Histology, Behavioral Science, Biochemistry, Genetics, Microbiology, Immunology, Physiology, Biostatistics/Epidemiology, Neuroscience/Neuroanatomy, Pathology I, Introduction to Clinical Medicine I, History of Medicine, Pathology II, Pharmacology & Therapeutics, Introduction to Clinical Medicine II, Biological Basis of Clinical Medicine
- Graduate Master's: Seminar I and II, Biomolecular laboratory techniques, Bacterial Diagnostics, Integrated biology I, Bioremediation, Biostatistics
- Graduate Ph.D.: Seminar I, II, III, Biological Oceanography, Coast and Communities I, Coast and Communities II, Special topics: Ecological risk assessment, current literature, Toxicology, Geographic information system (GIS), Chemistry of natural waters, Advanced GIS.

Skills

- Molecular Genomic Methods: RNA-seq, RT-qPCR, RNAi, 16S/ITS sequencing, in situ hybridization, histology

- Analysis: R (phyloseq, vegan, ggplot2), QIIME2, GraphPad, GIS, Chimera, Unity
 - Languages: Spanish and English
 - Engagement & Communication: community-based participatory research, bilingual outreach, environmental storytelling
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Professional memberships

- ISEE International Society for Environmental Epidemiology
 - APHA American Public Health Association
 - SACNAS (Society for Advancement of Chicanos/Hispanics and Native Americans in Science)
 - SETAC (Society of Environmental Toxicology and Chemistry)
 - RAE (Restoring America's Estuaries)
 - CASS (Consortium of Aquatic Science Societies)
 - CERF (Coastal & Estuarine Research Federation)
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References

- Helen Poynton: Helen.poynton@umb.edu
- Adan Colon Carmona: adan.colon-carmona@umb.edu
- Lorena Estrada Martinez: lorena.estrada@umb.edu
- Kerie Wilkens Yell: kerrie.wilkins@umb.edu