## BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Claudio, Luz

eRA COMMONS USER NAME (credential, e.g., agency login): luzclaudio

POSITION TITLE: Professor and Chief of the Division of International Health

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

| INSTITUTION AND LOCATION | DEGREE *(if applicable)* | Completion Date MM/YYYY | FIELD OF STUDY |
|---|---|---|---|
| Universidad de Puerto Rico | BS | 05/1984 | Biology |
| Albert Einstein College of Medicine | MS | 06/1988 | Pathology |
| Albert Einstein College of Medicine | PhD | 06/1990 | Neuropathology |

### A. Personal Statement

I am well prepared to serve in this role because I have years of independent research experience with consistent grant funding. I currently serve as tenured professor of Environmental Medicine and Public Health, and Chief of the Division of International Health at the Icahn School of Medicine at Mount Sinai in New York City. I am a dedicated and passionate researcher committed to advancing the field of environmental health sciences. After having trained in neuropathology and having some success in the area of blood-brain barrier research, I switched my research focus to investigating the impact of environmental exposures on human health, with a particular emphasis on vulnerable populations in national and international settings. This focus is more in line with my personal background as a Puerto Rican woman. My research has encompassed a wide range of areas related to environmental health, including air pollution, lead exposure, and environmental justice, and I have consistently sought to bridge the gap between scientific inquiry and public health, by using my basic research training as a neuroscientist.

As an established investigator, my work has been instrumental in shedding light on the disparate burden of environmental exposures faced by marginalized communities. I have led multidisciplinary research teams, collaborated with community organizations, and engaged in science communication efforts to ensure that my findings are translated into meaningful interventions and policies that promote environmental justice and protect public health. My research focused on the intersection of environmental exposures and respiratory health outcomes, with an emphasis on pediatric asthma. Through innovative epidemiological studies and community-based participatory research, I identified and intervened on the epidemic of pediatric asthma in low-income minority communities in New York City. I worked to identify modifiable risk factors and develop targeted interventions to reduce the impact of environmental hazards on children's respiratory health. This work was featured in a TED Talk and helped establish my contribution as an environmental public health researcher.

In addition to my research activities, I am deeply committed to mentoring the next generation of environmental health scientists in the US and abroad. I have had the privilege of supervising and training numerous graduate students, postdoctoral fellows, and visiting scholars, fostering their development as independent researchers and advocates for environmental health equity. I am honored to have received recognition for my work, which has provided crucial support for my innovative research and research training initiatives. I am also an active member of several professional societies and serve on editorial boards, where I contribute to shaping the discourse in environmental health sciences.

Looking ahead, I am driven to continue pushing the boundaries of knowledge in environmental health and translating research findings into tangible benefits for communities affected by environmental injustices. I am committed to leveraging my expertise to inform evidence-based policies and empower individuals to advocate for healthier environments. By integrating rigorous scientific inquiry with a deep sense of social responsibility, I am dedicated to making a lasting impact on public health and environmental well-being. As one of very few tenured faculty of Latina descent, I consider that I bring a unique and necessary perspective to the research endeavor by being able to understand and communicate with racially and ethnically diverse populations. This background and perspective has given me access to community-based research in local and international settings that has been important to advancing public health. I have great enthusiasm for this work and I continue to evolve my approach to research by adding new skills to my portfolio and collaborating with diverse colleagues in multidisciplinary teams. I consider myself a leader in the field, as I bring together diverse partners and students to complete research projects that have impact.

In summary, I am an enthusiastic scientist and mentor. I conduct research on the effects of environmental exposures on particularly vulnerable populations, I translate this research into information that can be understood by everyone, I collaborate with community organizations in the assessment and reduction of environmental health risks, I help trainees to pursue careers in biomedical research, and I collaborate with researchers in other countries to achieve similar goals.

Ongoing and recently completed funded projects include:

Project Number: 1 D43 TW 011403 - 04
Name of PD/PI: Claudio, L.
Source of Support: NIH/ FIC
Project/Proposal Start and End Date: 8/15/2020 - 5/31/2025
Title: International training in Environmental Health Over the Lifespan
Summary: This research and research training program is a collaboration with research institutions and community organizations in Costa Rica to support emerging research in environmental health and climate change.

Project Number: 5 T37 MD001452 - 19
Name of PD/PI: Claudio, L.
Source of Support: NIH/NIMHD
Project/Proposal Start and End Date: 7/8/2005 - 12/31/2024
Title: Global Health Disparities Research Training Program
Summary: As part of the MHRT program, we select and train graduate students underrepresented in science and medicine and place them in collaborative projects based in Mexico, Brazil, Costa Rica, Spain, or Brooklyn, New York to conduct research and learn about global health disparities.

Project Number: 1 R25 HL 108857 - 11
Name of PD/PI: Claudio, L.
Source of Support: NIH/NHLBI
Project/Proposal Start and End Date: 8/1/2019 - 7/31/2028
Title: Short-term Training Program for Minority Students
Summary: This traininig program brings diverse graduate students to receive mentored research training with Mount Sinai faculty on the environmental causes of disease.

**Citations:**


1. Friedman-Jimenez G, Claudio L: Health Disparities in Environmental and Occupational Health. In: *Textbook of Environmental and Occupational Medicine*, Fourth Edition. Rom WN, ed., Lippincott-Raven Press, 2006
2. Claudio L: Impact of Poverty, Disparity and Injustice on Children's Environmental Health. In: *Textbook of Children's Environmental Health*. Landrigan PJ, Etzel RA, Eds. Oxford Univ Press, Chapter 57, 2014

3. Claudio L: *How to Write and Publish a Scientific Paper*: The Step-by-Step Guide. Write Science Now Publishing Co. 2016
4. Claudio L, Ortega-García JA, Rodríguez Villamizar LA. Social inequities hurt babies' hearts: a commentary on Forero-Manzano, MJ, et al. Pediatr Res. 2023 Apr;93(5):1116-1117. doi: 10.1038/s41390-022-02363-7. Epub 2022 Dec 2. PubMed PMID: 36460740; PubMed Central PMCID: PMC10147574

## B. Positions, Scientific Appointments, and Honors

### Positions

2013- present: Tenured Professor, Department of Environmental Medicine & Public Health, Icahn School of Medicine at Mount Sinai

2009 – 2013: Tenured Associate Professor, Department of Preventive Medicine
Chief; Division of International Health, Department of Community and Preventive Medicine, Mount Sinai School of Medicine, New York NY
2001 – 2008: Associate Professor; Department of Community and Preventive Medicine

**Appointments** (National and International)

2022 – present: **The Rachel Carson Council**: National Advisory Council
2021 – present: **New York City Mayor's Office of Climate & Environmental Justice**: Advisory Board
2012 - 2020: **Institute of Medicine of the National Academies**, Member of Roundtable on Environmental Health Sciences, Research and Medicine
2008 – present: **Collegium Ramazzini**: Member of the independent international academy of experts in occupational and environmental health
2003 – 2017: **Environmental Health Perspectives**, Journal of NIEHS/NIH Contributing Editor and member of the Editorial Review Board
2001 – 2017: **American Journal of Industrial Medicine**; Contributing Editor
2006 – 2010: **Fogarty International Center**, NIH; Advisory Board
2003 – 2006: **Healthy Schools Network**; Board of Directors
2003 – 2005: **National Institutes of Health**; Environmental Health Sciences Review Committee of the National Institute of Environmental Health Sciences.
2002 – 2003: **Academy of Education Development**; Advisory Committee on Science and Gender
2000 – 2002: **American Academy of Pediatrics**; Consortium on Latino Children's Health

**Honors** (selected for relevance)

2018: Child Health Advocate Science Award; Children's Environmental Health Network
2018: Award for Outstanding Service to Underserved Communities & Global Health; Auxiliary Board
2007: Faculty Council Award for Academic Excellence; Mount Sinai School of Medicine
2004: Equity Champion; Educational Equity Concepts presented at United Nations
2003: Distinguished Visiting Scholar; Education Development Center
2001: Excellence in the Academy Award; National Education Association

## C. Contributions to Science

**1. Scholarly Research on Health Disparities and Community Health**: With over 20 years of experience as an independent researcher, I have been dedicated to understanding how social and environmental factors contribute to health disparities. One of my significant contributions to the field was the publication of the first paper that clearly demonstrated the substantially higher rates of asthma in communities with low socioeconomic status (SES) compared to those with high SES. This work highlighted the intricate interplay between race, income, language barriers, housing quality, special education, and access to medical care in contributing to asthma disparities. Our findings not only influenced policymakers but also prompted community organizations to direct attention to the communities most affected by asthma and environmental exposures.

It is important to note that all the research publications listed below are coauthored by my students, most of whom are underrepresented minority students from my training programs or leaders of community-based

organizations who have collaborated with me on these research projects. These papers represent a significant contribution to the field, a sample of which is listed below:

a. McGee S, Claudio L. Nativity as a Determinant of Health Disparities among Children. J Immigr Minor Health. doi: 10.1007/s10903-017-0667-4. PMID: 29094273, 2018

b. Claudio L, Gilmore J, Roy M, Brenner B. Communicating environmental exposure results in a community-based participatory research study. BMC Public Health 784. doi: 10.1186/s12889-018-5721-1, 2018

c. Korin MR, Araya F, Idris MY, Brown H, Claudio L. Community-based Organizations as effective partners in the battle against misinformation. Front Public Health 15 March 2022. https://doi.org/10.3389/fpubh.2022.853736

d. Brooks JS, Claudio L, Araya F, Korin M, Pierre K, Korin M. Lights, facts, and goals: A novel framework to enhance community health messaging campaign design, implementation, and assessment. Health Promotion Practice https://doi.org/10.1177/15248399231209 November 2023

These publications exemplify my commitment to fostering diverse and inclusive collaborations that have significantly advanced our understanding of health disparities and community health.

**2. Use of Big Data Science in Epidemiology of Health Disparities**: In response to the growing interest and opportunities in leveraging big data for biomedical research, my team and I have been at the forefront of developing strategies to harness large existing databases to further investigate health disparities, particularly in the context of the interplay between environmental and social factors. This innovative approach has the potential to significantly advance our understanding of the complex mechanisms underlying health inequities and inform targeted interventions. Furthermore, I am proud to have served as the co-Principal Investigator of the Community Research Education and Engagement for Data Science program (CREEDS) (R25EB020393), a component of the NIH's Big Data to Knowledge (BD2K) initiative. Through CREEDS, we established a comprehensive training program focused on big data science, with a specific emphasis on increasing the representation of women and minorities in this rapidly evolving field. By equipping the next generation of researchers with the necessary skills and knowledge, we fostered a more diverse and inclusive scientific community that is better equipped to tackle the complex challenges in population health and health disparities. The impact of our work in utilizing big data science is exemplified by the following publications, which showcase our commitment to leveraging cutting-edge methodologies to address critical public health issues:

a. Deierlein AL, Peat K, Claudio L. Comparison of the nutrient content of children's menu items at US restaurant chains, 2010-2014. Nutr J 14: DOI 10.1186/s12937-015-0066-4, 2015
b. Stingone JA, McVeigh KH, Claudio L. Association between prenatal exposure to diesel particulate matter and perchlorethylene with children's 3rd grade standardized test scores. Environmental Research 148:144-153, 2016
c. Lett LA, Stingone JA, Claudio L. The combined Influence of air pollution and home learning environment on early cognitive skills in children. Int J Environ Res Public Health. 26;14(11). pii: E1295. doi: 10.3390/ijerph14111295. PMID: 29072589, 2017
d. Li Y-C, Hsu H-H L, Chun Y, Chiu P, Arditi Z, Claudio L, Pandey G, Bunyavanich S. Machine learning-driven identification of early-life air toxics combinations associated with childhood asthma outcomes. J Clinical Investigation, 2021, DOI: 10.1172/JCI152088, 2021

These publications underscore our ongoing commitment to pioneering research that integrates big data science with epidemiology to elucidate the multifactorial nature of health disparities and inform evidence-based interventions.

**3. Scholarly Work on Training and Mentoring**: My extensive and impactful training and mentoring activities have been a cornerstone of my career as a researcher. A central focus of my work has been dedicated to training students from disadvantaged backgrounds, empowering them to pursue successful careers in the medical and biomedical research fields. Over the past two decades, I have served as the principal investigator of several highly successful training programs, including T35 ES07298-15 and 1R25HL108857-06, as well as the PI of the continuously funded International Exchange Program for Minority Students (T37 MD001452-19). Collectively, these programs have provided invaluable support to over 190 scholars, with a majority being women. The overarching goal of these programs has been to address health disparities on both national and international fronts, fostering a diverse and inclusive community of future leaders in biomedical research and

public health. In addition to my leadership in these training programs, I have conducted evaluations to assess their impact. The central findings of these evaluations have consistently demonstrated the significant and positive impact of the mentoring component on the research training on participants, underscoring the effectiveness of our approach in nurturing the next generation of diverse scientific leaders. The following publications exemplify my commitment to training and mentoring activities and their impact on addressing health disparities:

a. Claudio L: Building self-reliance in environmental science: The ITREOH experience. Environmental Health Perspectives 111: A460-463, 2003
b. Peres F, Claudio L. Fifteen years of occupational and environmental health experiences in Brazil, Chile and Mexico: A report from the Mount Sinai School of Medicine ITREOH Program. Am J Industrial Med 56: 29-37, 2013
c. Krawczyk N, Claudio L. Outcomes of Global Public Health Training Program for US Minority Students: A Case Report. Ann Glob Health. 2017 May - Aug;83(3-4):605-612. doi: 10.1016/j.aogh.2017.08.001. PMID: 29221535 Epub 2017
d. Claudio L, Rodriguez-Baez R. Generational Environmental Justice in Climate Change and Sustainability Education. In: *Higher Education Leadership for Democracy, Sustainability and Social Justice*. Sjur Bergan, Ira Harkavy, and Ronaldo Munck (eds). Council of Europe Higher Education, Series No. 26. ISBN 978-92-871-9373-5, ISBN 978-92-871-9374-2 (PDF) November, 2023

These publications reflect my enduring commitment to fostering a diverse and inclusive scientific community through impactful training and mentoring initiatives that address critical public health challenges.

**4. Scholarly Work on Global Health and International Research Collaborations:** My career has been marked by the development and sustenance of fruitful international collaborations, which have significantly expanded the scope of my research and training programs beyond national borders. A pivotal initiative in this regard was the International Training in Research on Environmental and Occupational Health (ITREOH TW00640), which facilitated the training of 52 experts in Mexico, Brazil, and Chile. Furthermore, I am currently engaged in mentoring 16 junior researchers in Costa Rica, supporting them in conducting research projects relevant to the country's environmental health, as well as collaborating with two community organizations focused on the effects of climate change. These individuals have become invaluable collaborators in my research and training projects, leading to collaborative publications and successful grant submissions. The impact of these achievements is underscored by my appointment as Chief of the Division of International Health since 2004, a testament to the significance and influence of my contributions to global health and international research collaborations. Several publications that I have co-authored with international collaborators exemplify the impact of these collaborations:

a. Froes Asmus CIR, Camara VM, Raggio R, Landrigan PJ, Claudio L. Positive correlation between pesticide sales and central nervous system and cardiovascular congenital abnormalities in Brazil. Int J Environ Health Res. 2017 Oct;27(5):420-426. doi: 10.1080/09603123.2017.1373272. Epub 2017 Sep PMID: 28877591, 2017
b. Burgos S, Tenorio M, Zapata P, Cáceres DD, Klarian J, Alvarez N, Oviedo R, Toro-Campos R, Claudio L, Iglesias V. Cognitive performance among cohorts of children exposed to a waste disposal site containing heavy metals in Chile. Int J Environ Health Res. 2017 Apr;27(2):117-125. doi: 10.1080/09603123.2017.1292494. PMID: 28245674, 2017
c. Galvan-Portillo M, Sánchez E, Cárdenas-Cárdenas LM, Karam R, Claudio L, Cruz M, Burguete-García AI. Dietary patterns in Mexican children and adolescents: Characterization and relation with socioeconomic and home environment factors. Appetite 121: 275-284. doi:10.1016/j.appet.2017.11.088. 2018
d. Ortega-Garcia JA, Ruiz-Marin M, Carceles-Alvarez A, Campillo I Lopez F, Claudio L. Social distancing at health care centers early in the pandemic helps to protect population from COVID-19. Environ Res 189; https://doi.org/10.1016/j.envres.2020.109957, 2020

These publications reflect the tangible outcomes of my commitment to global health and international research collaborations.

My bibliography can be found here:
https://www.ncbi.nlm.nih.gov/myncbi/1TAKB5dIxiJQ7/bibliography/public/?sortby=pubDate&sdirection=ascending