

**Félix E. Rivera-Mariani, PhD**

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**Education**

2010 – 2013

**Johns Hopkins Bloomberg School of Public Health, Baltimore, MD**

*Postdoctoral Fellow* in Environmental Health Sciences

(mentors: Patrick Breyse, PhD, Thomas Hartung, PhD, MD)

2004 – 2010

**School of Medicine, University of Puerto Rico, San Juan, PR**

*PhD in Microbiology* (mentor: Benjamín Bolaños, PhD)

2001

**Southeastern Louisiana University, Hammond, La**

*BS in Biology*, minor in Chemistry; Baseball Athletic Scholarship

**Additional Training**

2016 – 2017

**Johns Hopkins University** (on [www.coursera.org](http://www.coursera.org))

- *Mastering Software Development in R* (5-courses series)

**University of California at San Diego** (on [www.coursera.org](http://www.coursera.org))

- *Bioinformatics Specialization* (7-courses series)

2016

**Johns Hopkins University** (on [www.coursera.org](http://www.coursera.org))

- *Data Science Specialization* (10-courses series)
- *Genomic Data Science Specialization* (8-courses series)
- *Executive Data Science Specialization* (5-courses series)

**Icahn School of Medicine at Mount Sinai** (on [www.coursera.org](http://www.coursera.org))

- *System Biology and Biotechnology Specialization* (6-courses series)

2015 – 2016

**Johns Hopkins School of Public Health** (on [www.coursera.org](http://www.coursera.org))

- *Statistical Reasoning for Public Health I: Estimation, Interference, Interpretation*
- *Statistical Reasoning for Public Health II: Regression Models*

2013 – 2014

**American Society for Microbiology, Washington, DC**

- *Science Teaching Fellowship*

**Work Experience**

2017 – Present

**College of Biomedical Sciences, Larkin University, Miami, FL**

*Assistant Professor and Academic Director*

2013 – Present

**Consultant**

Aerobiology, Immunology, Computational Biological/Non-Biological Data Analysis

2014 – Present

**Miami-Dade College, Miami, FL**

*Adjunct Professor* (Biology, Microbiology, Biochemistry)

2012 – 2015

**American Journal Experts**

Developmental Editor

2010 – 2013

**Johns Hopkins Bloomberg School of Public Health, Baltimore, MD**  
Postdoctoral Fellow (NIH T32 Training Program)

### **Publications**

- González de Leon J, González Méndez R., Cadilla Vázquez CL, **Rivera-Mariani FE**, Bolaños-Rosero B. Serological Reactivity and Identification of Immunoglobulin E – Binding Proteins of Xerophilic Fungus *Aspergillus penicilloides* Crude Mycelial Mat Extract in Puerto Rican Atopic Subjects. *Int Arch Allergy Immunol*. DOI: 10.1159/000484898.
- Vila-Herester F, **Rivera-Mariani FE**, Bolanos-Rosero B. Serological reactivity and IgE-binding polypeptides to *Ganoderma applanatum* Crude Spore Cytoplasmic Extract in Puerto Rico Subjects. *Int Arch Allergy Immunol* 2017; 172:139–149.
- Bose S, **Rivera-Mariani FE**, Chen R, Williams D, Aloe, Belli D, Breysse, PN, Diette G, Hansel N. Domestic exposure to endotoxin and respiratory morbidity in former smokers with COPD. *Indoor Air*. 2016. 26(5): 734-42.
- Vesper S, Choi H, Perzanowski P, Acosta LM, Divjan A, Bolaños-Rosero B, **Rivera-Mariani FE**, Chew GL. Comparison of mold populations in settled dust and dust mite allergens in mattress dust samples in the Puerto Rico Health Regions. *Int J Environ Health Research*. 2016. 26(2): 198-207.
- **Rivera-Mariani FE**, Vysyaraju K, Negherbon J, Levetin E, Horner WE, Hartung T, Breysse PN. Comparison of the interleukin-1 $\beta$ -inducing potency of allergenic spores from higher fungi (Basidiomycetes) in a cryopreserved human whole blood system. *International Archives of Allergy and Immunology*. 2013. 163 (2): 154-62.
- **Rivera-Mariani FE**. Cryopreserved human whole blood: a human-based *in-vitro* immunotoxicological system expanded into environmental health and medical mycology studies. **Invited Special issue** of *ATLA*. 2013. 41(6): 483-90.
- Hasiwa N, Daneshian M, Bruegger P, Fennrich S, Fleck S, Hochadel A, Hoffman S, **Rivera-Mariani FE**, Rockel C, Schindler S, Spreitzer I, Stoppelkamp S, Vysyaraju K, Hartung T. Evidence for the detection of non-endotoxin pyrogens (NEPS) by the whole blood monocyte activation test. *ALTEX*, 2013. 30(2): 169-208.
- **Rivera-Mariani FE**, Mihalic JN, Rule AM, Breysse PN. Immunodetection of airborne (1-3)- $\beta$ -Dglucan-carrying particles with the Halogen immunoassay in occupational setting. *J Immunol Methods*. 2013. 388: 86-89.
- **Rivera-Mariani FE**, Matsui E, Breysse PN. Performance of the Halogen Immunoassay to Assess Airborne Mouse Allergen-Containing Particles in a Laboratory Animal Facility. *Journal of Exposure Science and Environmental Epidemiology*. 2012. 24 (1): 3-8.
- **Rivera-Mariani FE** and Bolaños-Rosero B. Allergenicity of airborne basidiospores and ascospores: need for further studies. *Aerobiologia* 2012: 28(2): 83-97.
- **Rivera-Mariani FE**, Nazario-Jiménez S, López-Malpica F, and Bolaños-Rosero B. Skin Test Reactivity of Allergic Subjects to Basidiomycetes' Crude Extracts in a Tropical Environment. *Medical Mycology*. 2011. 49(8): 887-91.

- **Rivera-Mariani FE**, Nazario-Jiménez S, López-Malpica F, and Bolaños-Rosero B. Sensitization to Airborne Ascospores, Basidiospores, and Fungal Fragments by Allergic Rhinitis and Asthmatic Subjects in San Juan, Puerto Rico. *International Archives of Allergy and Immunology*. 2011; 155(4): 322-34.
- Quintero E, **Rivera-Mariani FE**, and Bolaños-Rosero B. Analysis of Environmental Factors and Their Effects on Fungal Spores and Pollen in the Atmosphere of a Tropical Urban Area (San Juan, Puerto Rico). *Aerobiologia*. 2010; 26(2): 113-124.

### **Science Teaching Publications**

- **Rivera-Mariani, FE**. RNA-seq Data Analysis Workflow to Evaluate Differential Gene Expression between Fetus and Adult Brains from Publicly-Available Data as a Genomic Data Science Demonstration in an Upper Microbiology Course. Technical Report at Researchgate.com <http://dx.doi.org/10.13140/RG.2.2.14868.09604>
- **Rivera-Mariani, FE**. Peer-Evaluations as an Intervention Tool to Identify Students' Misconceptions and Interpretation Errors in the Streak-Plate Method in an Introductory Microbiology Lab Course. 2016. Technical-Report at Researchgate.com. <http://dx.doi.org/10.13140/RG.2.1.2693.5921>
- **Rivera-Mariani FE**. Rethinking our Postdoctoral Training. *Postdoctoral Journal*. 2012; 2 (2): 27-29.

### **Published Abstracts**

- **Rivera-Mariani FE**, Vysyaraju K, Levetin E, Hartung T, Breysse PN. Determination of the Proinflammatory Potential of Spores from Different Basidiomycetes Species with a Human Whole Blood Assay. *J Immunol*. 2012; 188: AB55.13. Poster Presentation. American Association of Immunologists Annual Meeting May 2012. Boston, MA.
- **Rivera-Mariani FE**, Hartung T, Breysse PN. Evaluation of the Pro-inflammatory Activity of Basidiospores and Spore-bearing Tissue from the Mushroom *Chlorophyllum molybdites* using Human Whole Blood. *J Allergy Clin Immunol*. 2012; 129(2): AB18. Poster Presentation. American Academy of Allergy, Asthma, and Immunology Annual Meeting, March, 2012. Orlando, FL.
- **Rivera-Mariani FE**, Nazario-Jiménez S, López-Malpica F, and Bolaños-Rosero B. Prevalence of IgE Reactivities by Rhinitis and Asthmatic Patients to Airborne Particulate. *J Allergy Clin Immunol*. 2010; 125(2): AB80. Poster Presentation. American Academy of Allergy, Asthma, and Immunology Annual Meeting, February, 2010. New Orleans, La.

### **Presented Abstracts**

- **Rivera-Mariani FE**, Levetin E, Hartung T, Breysse PN. Role of spores' surface area and endotoxin contamination in the proinflammatory potential of spores from allergenic basidiomycete fungi in a cryopreserved human whole blood system. *Gordon Research Seminar/Conference Immunology to Fungal Infections*. January 2013. Galveston, TX.
- **Rivera-Mariani FE**, Vysyaraju K, Negherbon J, Hartung T, Breysse PN, Hansel N. Assessment of the proinflammatory potential of indoor air particulate matter based on the cytokine release in a cryopreserved human whole blood system. *International Society for Exposure Science Annual Meeting*, October, 2012. Seattle, WA.

- **Rivera-Mariani FE**, Mihalic JN, Rule AM, Breysse PN. Immunodetection of (1-3)- $\beta$ -D-glucan with the Halogen Immunoassay. Poster Presentation. *American Industrial Hygiene Association Annual Meeting*, June, 2012. Indianapolis, IN. **Best Poster in the Sampling and Laboratory Analysis Session.**
- **Rivera-Mariani FE**, Hartung T, Breysse PN. Evaluation of the Cooperative Proinflammatory Effect between Endotoxin and (1-3)- $\beta$ -D-glucan with the *in-vitro* Pyrogen Test. Poster Presentation. *Society of Toxicology Annual Meeting* March, 2012, San Francisco, CA.
- **Rivera-Mariani FE**, Matsui E, Breysse PN. Immunodetection of Airborne Particulate Carrying Mouse Allergen. Poster Presentation. *International Society for Exposure Science Annual Meeting*, October, 2011. Baltimore, MD.
- **Rivera-Mariani FE**, Nazario-Jiménez S, López-Malpica F, and Bolaños-Rosero B. Airborne Ascospores and Basidiospores as Potential Allergens for Allergic Respiratory Diseases. Oral Presentation. International Association for Aerobiology 9<sup>th</sup> *International Congress on Aerobiology*, August, 2010. Buenos Aires, Argentina.
- **Rivera-Mariani FE**, Nazario-Jiménez S, and Bolaños-Rosero B. Prevalence of IgE Reactivities to Airborne Particulate by Asthmatic Subjects. Oral Presentation. *Pan-American Aerobiology Association Annual Meeting*, July, 2009. Kansas City, MO.
- **Rivera-Mariani FE**, Quintero E, and Bolaños-Rosero B. Fungal Spore in the Atmosphere of San Juan and Caguas: A Comparative Study. Oral presentation. *Pan-American Aerobiology Association Annual meeting*, June, 2007. Penn State University, Stage College, PA.
- Quintero E, **Rivera-Mariani FE**, and Bolaños-Rosero B. Fungal Spore and Pollen in the Atmosphere of San Juan. Poster presentation. *Pan-American Aerobiology Association Annual Meeting*, June 2007. Penn State University, Stage College, PA.

### **Invited Talks**

- **University of Puerto Rico – Carolina Campus. June 2017. Workshop.** Image Analysis in Biological Sciences (from Western blot to Data-Driven Decisions).
- **Math and Sciences Specialized High School Thomas Armstrong Toro. Ponce, PR. 2016 and 2017. Workshop.** Doing Science: From Start to Finish.
- **9<sup>th</sup> Annual NIH Career Symposium, Bethesda, Maryland. 2016.** Teaching-Intensive Careers.
- **Department of Microbiology, School of Medicine, University of Puerto Rico – Medical Sciences Campus. San Juan, February 2015.** Immunological intervention to evaluate the human health effects of indoor and outdoor biological and non-biological airborne contaminants.
- **Department of Biology, University of Puerto Rico – Bayamon Campus. Bayamon, PR. March 2015.** Immunological intervention to evaluate the human health effects of indoor and outdoor biological and non-biological airborne contaminants.
- **Department of Microbiology, College of Medical Sciences, Nova Southeastern University, Davie, FL. August, 2013.** A Review of Fungi Relevant to Dentistry.

- **National Postdoctoral Association 11<sup>th</sup> Annual Meeting.** Postdoc Diversity: Solution for Faculty Diversity. Co-Presenter with Dr. Jennifer Cohen and Dr. Cara Altimus. Charleston, SC. March 2013.
- **Department of Biology of the College of Sciences and Technology, Southeastern Louisiana University, Hammond, LA. October 2012.** Allergenicity and proinflammatory potential of uncharacterized airborne fungi.

### Courses Taught

2017 – 2018	<b>Fall Term, College of Biomedical Sciences, Larkin University, Miami, FL</b> <i>Medical Biochemistry (MSB501)</i>
2017 – 2018	<b>Fall Term, Miami Dade College, Miami, FL</b> <i>General Education Biology (BSC1005, section 1812)</i> <i>Microbiology (MCB2010, section 2001)</i> <i>Microbiology Lab (MCB2010L, sections 1737, 1749)</i>
2016 – 2017	<b>Summer Term, Miami Dade College, Miami, FL</b> <i>General Education Biology (BSC1005, section 1501)</i> <i>Microbiology Lab (MCB2010L, section 1419)</i> <i>Microbiology Lab (MCB2010L, section 1441)</i>
	<b>Spring Term, Miami Dade College, Miami, FL</b> <i>General Education Biology (BSC1005, section 1852)</i>
	<b>Fall Term, Miami Dade College, Miami, FL</b> <i>Principles of Microbiology (MCB3023, section 13352)</i> <i>Microbiology Lab (MCB3023L, section 13354)</i>
2015 – 2016	<b>Summer Term, Miami Dade College, Miami, FL</b> <i>Principles of Biology 2 (BSC2011, section 1247)</i> <i>Microbiology Lab (MCB2010L, section 1732)</i>
	<b>Spring Term, School of Medicine, University of Puerto Rico, San Juan, PR</b> <i>Principles of Immunology (invited professor)</i>
	<b>Spring Term, Miami Dade College, Miami, FL</b> <i>General Education Biology (BSC1005, section 6941)</i> <i>Microbiology Lab (MCB2010L, section 8955)</i>
	<b>Fall Term, Miami Dade College, Miami, FL</b> <i>Intro Biochemistry (BCH3023, section 1988)</i> <i>General Education Biology (BSC1005, section 2514)</i> <i>Microbiology Lab (MCB2010L, section 1774)</i> <i>Microbiology Lab (MCB2010L, section 1777)</i>

2014 – 2015

**Summer Term, Miami Dade College, Miami, FL**

*Microbiology Lab* (MCB2010L, section 1773)

*Microbiology Lab* (MCB2010L, section 1774)

*Microbiology Lab* (MCB2010L, section 1775)

**Spring Term, Miami Dade College, Miami, FL**

*General Education Biology* (BSC1005, section 3369)

*Microbiology Lab* (MCB2010L, section 2230)

*Microbiology Lab* (MCB2010L, section 2231)

**Fall Term, Miami Dade College, Miami, FL**

*Intro Biochemistry* (BCH3023, section 2546)

*Intro Biochemistry Lab* (BCB3023L, section 6164)

*Microbiology Lab* (MCB2010L, section 2226)

*Microbiology Lab* (MCB2010L, section 2230)

2013 – 2014

**Summer Term, Miami Dade College, Miami, FL**

*Microbiology Lab* (MCB2010L, section 1732)

*Microbiology Lab* (MCB2010L, section 1764)

*Microbiology Lab* (MCB2010L, section 1766)

**Mentoring Experience**

2017 – Present

**College of Biomedical Sciences, Larkin University**

Respiratory and Immunology Project at Larkin University, 13-students research group

[https://friveramariani.github.io/RIPL\\_Effect/](https://friveramariani.github.io/RIPL_Effect/)

2014 – Present

**Department of Microbiology, School of Medicine, University of Puerto Rico**

Isabelita Martínez (MS Thesis Committee); Frances Vila (MS Thesis Committee)

2014 – 2015

**Department of Microbiology, School of Medicine, University of Puerto Rico**

Angélica M. Rivera (Research Initiative for Scientific Enhancement awardee)

2011 – 2013

**Johns Hopkins Bloomberg School of Public Health, Baltimore, MD**

Dr. Jesse Negherbon (Dr. Breyse graduate student; NIOSH grant awardee) Kranthi

Vysyraj (Dr. Hartung's graduate student; earned MS degree)

**Research Awards**

2016

**Teachers in Space, Inc.**

Design of a CubeSat with a Removable Specimen Collector to Investigate the Potential of Allergenic Fungal Spores to Reach into the Stratosphere.

**Principal Investigator:** (<http://teachers-in-space.com/perlan-cubesat-participants-for-2016/>)

2013

**Postdoctoral Collaboration - 3R01ES018845-04S1 (PI: Nadia Hansel)**

Genetic Susceptibility to Asthma and Indoor Air Pollution in Peru

2012

**Ethical Consumer Association, London, UK**

Lush Prize Young Researcher Award, \$20,000.

2011                    **Johns Hopkins University, Bloomberg School of Public Health**  
David Leslie Swift Fund in Environmental Health Engineering, \$2,000.

2010                    **International Association for Aerobiology**  
Young Aerobiologist Award

#### **Travel Awards**

2013                    **Immunology of Fungal Infections, Gordon Conference, Galveston, TX**  
Carl Storm Underrepresented Minority Fellowship Travel Award

2012                    **International Society for Exposure Science, Seattle, WA**  
New Researcher Travel Award

2012                    **American Academy of Allergy, Asthma and Immunology, Orlando, FL**  
Domestic Fellows-in-Training Travel Award

2011                    **Federation of American Societies for Experimental Biology, Virginia Beach, VA.**  
Minority Access to Research Careers Travel Award

2010                    **American Academy of Allergy, Asthma and Immunology, New Orleans, LA**  
Fellow-in-Training Travel Award

2010                    **International Association for Aerobiology Meeting, Buenos Aires, Argentina**  
Latin American Travel Award

2009                    **Pan American Aerobiology Association, Kansas City, MO**  
Latin American Travel Award

2007                    **Pan American Aerobiology Association, State College, PA**  
Lanzoni's Student Award

#### **Current Professional Memberships**

2012 – Present        **Sigma Xi, The Scientific Research Society**

2011 – Present        **Society of Toxicology**

2007 – Present        **International Association for Aerobiology**

2002 – Present        **American Society of Microbiology**

#### **Editorial activities**

2017                    **Annual Biomedical Research Conference for Minority Students 2017 Annual Meeting** (Judge of Posters and Presentations)

2017 – Present        **Annual Biomedical Research Conference for Minority Students** (Abstract

Reviewer)

- 2015 – Present      **Conrad Spirit Innovation Challenge** (Proposal Reviewer)
- 2013 – Present      **Sigma Xi Student Research Showcase** (Abstract Reviewer)
- 2011 – Present      **Aerobiologia** (Ad Hoc Reviewer)
- 2011 – Present      **SACNAS National Conference** (Abstract reviewer)
- 2013                  **Journal of Postdoctoral Research (Editor)**
- 2012 – 2013        **Johns Hopkins Postdoctoral Association** (Co-Editor Quarterly Newsletter)
- 2011 – 2012        **Society of Toxicology** (Ad Hoc Reviewer, Occupational, Public Health section)

**Leadership Experience**

- 2011 – 2013        **Johns Hopkins Postdoctoral Association** (Professional Development Committee)
- 2010 – 2014        **National Postdoctoral Association** (Resources Development Committee)
- 2006                  **Puerto Rico Legislature** (*Ad Hoc* Committee, Law 136 of July 27<sup>th</sup>, 2006 – Regional Medical Academic Centers)
- 2005 – 2009        **General Student Council, University of Puerto Rico - Medical Sciences Campus**  
(*elected President 2005-2009; Academic Senate 2005-2009*)