Jessica Marie Rodríguez-Ríos

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EDUCATION

University of Puerto Rico-Río Piedras:

Ph.D. Candidate,Biology — August 2018 to Present

- Current GPA: 4.0/4.0
- Received National Science Foundation Bridge to the Doctorate Fellowship.
- Received National Science Foundation Graduate Research Fellowship.
- President of the Association of Graduate Students of Biology.

B. S, *cum laude,* Integrative Biology, GPA: 3.3/4.0 — March 2018

- Nominated by the Natural Sciences Faculty and received the *Julio García Díaz Award for Biology.* — May 2019

EXPERIENCE

• ***Graduate Research Assistant***, Laboratory of Dr. José A. Rodríguez-Martinez — 2018 - present
University of Puerto Rico- Río Piedras
GATA4, NKX2-5 and TBX5 are cardiac transcription factors that are central components of the gene regulatory network of heart development and function. However, the DNA-binding specificity of the cooperative complexes between these remain undetermined. We want to know the intrinsic DNA binding preferences and the emergent properties that result from these TFs complexes.
NIH SC1GM127231

• ***Undergraduate Research Assistant***, Laboratory of Dr. José A. Rodríguez-Martinez — 2016 - 2018
University of Puerto Rico- Río Piedras
As part of our research, it involves identifying DNA sequences the transcription factor *optix* interacts with; *optix* controls red color patterns in the wings of *Heliconius* butterflies. I assisted on the successful cloning, expression and purification of *optix* protein. I had the chance to work in a team developing skills to work in a group in a harmonious and productive way as well as working independently.
NSF EPSCor Research Infrastructure grant award 1736026

• ***Genetics Tutor (Volunteer)*** — 2017-2019
University of Puerto Rico- Río Piedras

• ***Genetics Tutor for the Center for Renewable Energy and Sustainability (CRES)*** — 2016-2017
University of Puerto Rico- Río Piedras
Worked effectively with students with diverse learning needs and cultural backgrounds to achieve a general knowledge in Genetics. Developed leadership with all other tutors. Assisted the professor with the class. Established action plans. Created worksheets and quizzes to help student prepare for their daily class. **Grant Proposal # P031C110104** (U.S. Department of Education) Educational Initiative for a Sustainable Future HSI-STEM (Hispanic Serving Institutions For Science, Technology, Engineering and Mathematics)

• ***Undergraduate Research Assistant***, Dra. Ines Garcia and Lourdes Garcia — 2015
Department of Pediatric, University of Puerto Rico – Medical Sciences Campus
Project of Preemies and Families of Neonatology, Clinical research experience with a focus on gastroesophageal reflux in premature babies. Created and delivered questionnaires to evaluate families with premature babies.

AWARDS AND FUNDING

• Yale Ciencia Academy Fellow • ***NSF Bridge to the Doctorate Fellow (2018-2020*) Award # 1826558** • *2nd place for the* ***Robert I. Larus Award*** *for Outstanding Science Research by a Graduate Student at the AAAS Caribbean Division Annual Conference (2019)* • ***Julio García Díaz Award*** *from the Honor Roll of Natural Sciences Faculty (2019)* • National Cancer Institute Scholarship for Cold Spring Harbor Laboratory Course: Expression, Purification & Analysis of Proteins (2019) • 6th BioXFEL International Conference Travel Award (2019) • FASEB DREAM Travel Award for Rigor and Reproducibility Workshop and Course (2018) • 22nd Annual ASBMB Undergraduate Travel Award (2018) • 3rd place poster presentation in 4th Cell and Molecular Biology Meeting (2018) • ***Puerto Rico Louis Stokes Alliance For Minority Participation (PR-LSAMP) Undergraduate fellow*** **(2017-2018)**

WORKSHOPS AND COURSES

• **Científicos al Servicio** (2019) • Expression, Purification & Analysis of Proteins & Protein Complexes Course. Cold Spring Harbor Laboratory, New York. (2019) • Data Carpentry Genomics (2018) • Ecology Data Carpentry (2018) • Grants and Fellowships Application Workshop (2018) • FASEB Rigor and Reproducibility: Promoting Credible Science and Interdisciplinary Collaborations. Short Course Part II. University of Kansas, Lawrence (2018) • CUREs Workshop Course-based Undergraduate Research Experiences Network 2 (CUREnet2) University of Puerto Rico-Río Piedras (2018) • FASEB Rigor and Reproducibility: Promoting Credible Science and Interdisciplinary Collaborations. Workshop Part I. Myrtle Beach, South Carolina (2018) • BioXFEL Protein Production and Purification, University of Puerto Rico, Río Piedras (2018) • UPR Tutor training (2016)

MENTORING, OUTREACH AND TEACHING EXPERIENCE

University of Puerto Rico – Río Piedras:

- **Guest Lecturer** – Genetics Course: Sex-Linked and Pedigrees 2019
- **Mentor**, NSF REU CLIMB 2019

Mentored one student during their summer research experience.

- **Mentor**, ACS Project SEED 2019

Mentored high school student from 11th grade.

- **Mentor**, PR-LSAMP 2018-2019

Mentored two PR-LSAMP undergraduate student majoring in Biology.

- **Outreach**, PR-LSAMP 2018-2019

Visited one public school per semester to talk about my experience as a Ph.D. student.
Planned and developed science activities with a Montessori School.

- **Guest Lecturer** – Genetics Course: DNA Replication 2018
- **Guest Lecturer** – Genetics Course: Genetic Transfer and Mapping in Bacteria 2017

University of Puerto Rico – Mayaguez:

- **Moderator**, Life/Biological Sciences Undergraduate Oral Presentations 2019

38th Puerto Rico Interdisciplinary Scientific Meeting/53nd Junior Technical Meeting

University of Puerto Rico – Bayamon:

- **Panelist**, Graduate School, perspectives from the inside 2018

Others:

- **Outreach**, PR Science Heroes Outreach Program 2018
- **Outreach**, Ecoexploratorio PR Science Museum 2017

Solar Eclipse Education Fair at Puerto Rico Convention Center

- **Volunteer**, MEDLIFE Mission Trip 2016

Cusco, Peru

- **Volunteer**, Virtual Educa 2016

Puerto Rico Convention Center

PROFESSIONAL MEMBERSHIPS

- American Association for the Advancement of Science (AAAS), member since 2019.
- American Society for Biochemistry and Molecular Biology (ASBMB), member since 2016.

SELECTED POSTERS AND ORAL PRESENTATIONS (6 of 11)

- Rodríguez-Ríos JM, Rosado-Rodríguez E., Rodríguez-Martínez JA. Uncovering DNA Binding Specificity of Cardiac Transcription Factors Complexes. (**Student E-Poster**) American Association for the Advancement of Science (AAAS) Annual Meeting, Seattle WA, February 13, 2020

- Rodríguez-Ríos JM, Rosado-Rodríguez E., Rodríguez-Martínez JA. DNA Binding Specificity Of Cardiac Transcription Factor Complex GATA4 and NKX2-5. 1040 (**Student Poster**) Keystone Symposia Conference Gene Regulation: From Mechanisms to Disease, Keystone CO, January 26, 2020

- Rodríguez-Ríos JM, Rosado-Rodríguez E., Rodríguez-Martínez JA. Uncovering DNA Binding Specificity of Cardiac Transcription Factors Complexes. (**Student Poster**) Neurobiology Symposium: Moving and sensing in a complex environment, San Juan PR, November 7, 2019

- Rodríguez-Ríos JM, Rosado-Rodríguez E., Rodríguez-Martínez JA. Uncovering DNA Binding Specificity of Cardiac Transcription Factors Complexes of GATA4, NKX2-5 and TBX5. 8 (**Student Poster**) Louis Stokes Midwest Regional Center of Excellence (LSMRCE) Annual Conference, Indianapolis IN, October 25, 2019

- Rodríguez-Ríos JM, Rosado-Rodríguez E., Rodríguez-Martínez JA. Uncovering DNA Binding Specificity of Cardiac Transcription Factors Complexes. (**Student Poster**) Ford Fellows Conference, San Juan PR, October 4, 2019

- Rodríguez-Ríos JM, Rosado-Rodríguez E., Rodríguez-Martínez JA. Uncovering DNA Binding Specificity of Cardiac Transcription Factors Complexes. 9 (**Student Poster**) American Association for the Advancement of Science (AAAS) Caribbean Division Annual Conference, San Juan PR, September 28, 2019