Francheska López Rivera

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Education

Harvard University — Cambridge, MA
PhD in Biological and Biomedical Sciences — Nov. 2021
Advisor: Dr. Fred Winston

University of Puerto Rico-Río Piedras — San Juan, PR
Bachelor of Environmental Design (Architecture) — Jun. 2013
Second Concentration in Integrative Biology
magna cum laude

Teaching, Leadership, and Volunteer Experience

Teaching and Leadership

Vice-President of the Harvard Puerto Rican Student Association (HPRSA) Harvard-wide student group — 2019-2020, MA

Research talk to senior students at Carvin High School — Sept. 2019, PR

Research talk to AP biology students from the Acton-Boxborough High School — 2017-2019, MA

Co-President and co-Founder of the Harvard Puerto Rican Student Association (HPRSA) Harvard-wide student group — 2018-2019, MA

- Recruited students across Harvard University
- Obtained and maintained official group recognition
- Wrote funding grants
- Organized Puerto Rico-related events for the Harvard and Massachusetts communities
- Advocated for compatriots back in the archipelago
- Established and maintained relationships with other organizations across Harvard and the US

Peer Mentor Coordinator of the Harvard Medical School Summer Honors Undergraduate Research Program — Summer 2018, MA

- Matched undergraduate summer students with current doctoral student mentors
- Organized social events for mentors and mentees
- Led two journal clubs on the discovery of the CRISPR system in yogurt bacteria
- Proctored exams taken by two undergraduate summer students

High school student's research mentor in Dr. Fred Winston's lab at Harvard Medical School — Aug. 2017, MA

- Introduced a high school student from the Commonwealth High School in Boston to research in genetics and molecular biology for two weeks
- The student learned about yeast genetics, yeast transformation, PCR, gel electrophoresis, and Sanger sequencing while she helped me characterize a group of yeast mutants that I obtained from a genetic selection and screen.

Principles of Molecular Biology Teaching Assistant at Harvard Medical School — Fall 2016, MA
- Led six discussion sections throughout the semester, which consisted of group discussions or students chalk talks that answered experimental design questions about topics in molecular biology
- Graded problem sets, worksheets, and student chalk talks
- Attended all BCMP 200 lectures during the semester

Math tutor for high school students at Centro de Acción Urbana, Comunitaria y Empresarial (CAUCE) — Jan.-Jun. 2013, PR
- Assisted math and art teachers who tutored high school students after school during the regular school semester and in a summer camp

Education courses and workshops
- Teaching 101 Course: Bringing Effective Teaching Practices to your Classroom at Harvard Medical School — Jan.-Mar. 2021
- Science Undergraduate Mentoring Workshop Intensive I, II, and III by the Harvard Faculty of Arts and Sciences Division of Science — Spring, 2021
- BBS 301: Embedded Teaching Practicum for Teaching Assistants at Harvard Medical School — Fall 2016

Mentoring and volunteering
- Volunteer at the Harvard Biological and Biomedical Sciences PhD Program Student Recruitment Diversity Breakfast — Jan., Feb. 2019-2021
- Spanish-English translator and slideshow maker at International House of Glory, (Framingham, MA), now Radical Church (Leominster, MA) — 2017-2020
- Volunteer at 2019 Ivy Plus Puerto Rico Graduate Student Fair — Sept. 2019
- Student Panelist at the Biomedical Science Careers Conference Skills Workshops for College and High School Students — Nov. 2018
- Student Panelist at Sociedad Latina Educational Events — Jul., Nov. 2018
- Volunteer at the *I love Science* Family Festival — Feb. 2018
- Peer Mentor at the Harvard Medical School Summer Honors Undergraduate Research Program — Summer 2017
- Volunteer at Harvard Medical School Explorations Program — Oct. 2014

Research Experience

University of Utah — Salt Lake City, UT
Postdoctoral Research Associate — Oct. 2021-present
Advisor: Dr. Janet Iwasa
- Produces visual hypotheses of scientific processes using animation and illustration

Harvard Medical School — Boston, MA
Postdoctoral Research Fellow — Aug.-Oct. 2021
Advisor: Dr. Fred Winston
- Study the function of the essential protein Spn1 in *Saccharomyces cerevisiae* using genetics, molecular biology, and genomics

Harvard Medical School — Boston, MA
PhD in Biological and Biomedical Sciences — Jul. 12, 2021
Advisor: Dr. Fred Winston
- Study the function of the essential protein Spn1 in *Saccharomyces cerevisiae* using genetics, molecular biology, and genomics

Harvard Medical School Boston, MA
Post-Baccalaureate Student, Harvard GSAS Research Scholar Initiative 2013-2015
Advisor: Dr. Angela DePace

- Studied the effect of binding site mutations in the *even-skipped* stripe 2 enhancer of the *Drosophila melanogaster* embryo

University of Puerto Rico-Río Piedras San Juan, PR
Undergraduate Research Student Fall 2012
Advisor: Dr. Carlos I. González

- Used *Saccharomyces cerevisiae* to study the role of the phosphoprotein Upf2 in nonsense-mediated mRNA decay

Massachusetts Institute of Technology Cambridge, MA
Summer Research Student, MIT Summer Research Program in Biology Summer 2012
Advisor: Dr. Wendy Gilbert

- Studied the possible autoregulatory function of the ribosomal protein Rack1 in *Saccharomyces cerevisiae*

University of Puerto Rico-Río Piedras San Juan, PR
Undergraduate Research Student 2011-2012
Advisor: Dr. Carla Restrepo

- Elaborated a protocol to prepare increment core samples from tropical tree species
- Digitized landslides in high resolution images using GIS software tools

University of Puerto Rico-Mayagüez Mayagüez, PR
High School Summer Student in the Biotechnology Summer Camp Summer 2005

Publications

López-Rivera F, Spatt D, Chuang J, Gopalakrishnan R, Winston F. Suppressors that make the essential transcription factor Spn1/Iws1 dispensable. *in preparation*

Viktorovskaya O, Chuang J, Jain D, Reim NI, **López-Rivera F**, Murawska M, Spatt D, Churchman LS, Park PJ, Winston F. Essential histone chaperones collaborate to regulate transcription and chromatin integrity. *Genes & Development, in press*.

López-Rivera F, Foster Rhoades OK, Vincent BJ, Pym ECG, Bragdon MDJ, Estrada J, DePace AH, Wunderlich Z (2020) A Mutation in the *Drosophila melanogaster eve* Stripe 2 Enhancer is Buffered by Flanking Sequences. *G3: Genes, Genomes, Genetics*, 10(12): 4473-4482. https://doi.org/10.1534/g3.120.401777

Vincent BJ, Staller MV, **Lopez-Rivera F**, Bragdon MDJ, Pym ECG, Biette KM, Wunderlich Z, Harden TT, Estrada J, DePace AH (2018) Hunchback is counter-repressed to regulate *even-skipped* stripe 2 expression in Drosophila embryos. *PLOS Genetics*, 14(9): e1007644. https://doi.org/10.1371/journal.pgen.1007644

Vincent BJ, Scholes C, Staller MV, Wunderlich Z, Estrada J, Park J, Bragdon MD, **Lopez Rivera F**, Biette KM, DePace AH. (2015). Yearly planning meetings: individualized development plans aren't just more paperwork. *Mol Cell*, 58(5): 718-721.

Vincent BJ, **Lopez-Rivera F**, Park J, Staller M, Bragdon M, Wunderlich Z. (2015). Protocol: Visualizing Gene Expression. *Method Quarterly*, http://www.methodquarterly.com/2015/02/protocol-visualizing-gene-expression/

Presentations

López Rivera F, Spatt D, Gopalakrishnan R, Winston F. *Saccharomyces cerevisiae* mutants that bypass the need for the essential transcription factor Spn1/Iws1(poster)
Cold Spring Harbor Laboratory: Epigenetics and Chromatin Virtual Meeting — Sept. 2020

López Rivera F, Spatt D, Winston F. Genetic Analysis of the Essential Transcription Factor Spn1 in *Saccharomyces cerevisiae* (poster)

- Harvard Medical School Department of Genetics Retreat — Feb. 2020, MA
- Harvard Medical School Department of Genetics Retreat (poster award) — Feb. 2019, MA
- 18th New England Science Symposium — Apr. 2019, MA

López Rivera F, Spatt D, Winston F. Genetic Analysis of the Essential Transcription Factor Spn1 in *Saccharomyces cerevisiae*

- Harvard Medical School, Department of Genetics Data/Journal Club — Jan. 2020, Nov. 2018, MA

López Rivera F, Spatt D, Winston F. Elucidating the Function of the Essential Protein Spn1 in Transcription and Chromatin Organization.
Albert J. Ryan Fellows Retreat — May 2018, NH

López Rivera F, Spatt D, Winston F. Elucidating the Function of the Essential Protein Spn1 in Transcription and Chromatin Organization (poster)

- 17th New England Science Symposium — Apr. 2018, MA
  Ruth and William Silen M.D. Award in the category of "Microbiology, Immunology, Genetics, or Molecular Biology" (2nd place)
- Ford Foundation Fellowship Conference — May 2018, DC
- Program in Genetics and Genomics G4+ Symposium — May 2018, MA

López Rivera F, Wunderlich Z, Bragdon M, DePace A. Flanking sequences compensate for mutations in *Drosophila melanogaster* minimal enhancers (poster)

- 13th New England Science Symposium — Apr. 2014, MA
  The Beth Israel Deaconess Medical Center Department of Neonatology Award (outstanding neonatology-related poster presentation)
- 2nd Ivy Plus Symposium — Mar. 2014, MA

López F, Restrepo C. The Application of Dendrochronological Techniques in Tropical Tree Species — Mar. 2012, PR

Honors and Scholarships

- Biomedical Science Careers Program Hope Scholarship — 2018-2020
- Ford Foundation Pre-Doctoral Fellowship — 2017-2020
- Harvard GSAS Professional Development Fund — 2018
- Albert J. Ryan Fellowship — 2018
- Harvard Biological and Biomedical Sciences PhD Program in Genetics and Genomics NIH Training Grant — 2016-2017
- Member of the Golden Key International Honour Society — 2012-present
- Scholarship for Children of Members of the Government of Puerto Rico Employees Association (AEELA) — 2012
- Honor Enrollment at the University of Puerto Rico, Río Piedras — 2007-2012
- The Puerto Rico Louis Stokes Alliance for Minority Participation (PR-LSAMP), Summer Undergraduate Research Opportunity — 2011

- Honors at the School of Architecture at the University of Puerto Rico, Río Piedras, Dean's List 2006-2011
- The National Science and Mathematics Access to Retain Talent Grant (SMART) 2008-2009
- Academic Competitiveness Grant (ACG) 2006-2008