



*Curriculum Vitae*

**Keishla M. Rodríguez-Graciani**

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## **Education and Training**

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| <b>August-2023</b> | <b>University of Puerto Rico<br/>Medical Sciences Campus</b><br>Doctor of Philosophy<br>Department of Physiology                              |
| <b>May-2016</b>    | <b>Interamerican University of Puerto Rico<br/>Ponce Campus</b><br>Bachelor of Biomedical Science<br>Minor in Microbiology<br>Magna Cum Laude |

## **Academic, Professional, and Research Appointments**

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| <b>2023-present</b> | <b>Postdoctoral fellow</b><br>LSUHSC-New Orleans, Department of Physiology<br>New Orleans, LA<br>Research Advisor: Dr. Liz Simon  |
| <b>2016-2023</b>    | <b>Graduate Student</b><br>UPR- Medical Sciences Campus, Department of Physiology<br>San Juan, PR<br>Research Advisor: Dr. Sabzali Javadov<br>Thesis: Mechanisms of remodeling of the mitochondrial inner membrane during cardiac ischemia-reperfusion: the role of swelling and OPA1 cleavage  |
| <b>2013-2016</b>    | <b>Undergraduate Student Researcher</b><br>InterAmerican University of Puerto Rico, Ponce Campus<br>Department of Biomedical Sciences<br>Research Advisor: Prof. Lourdes Díaz and Dr. Edmy Ferrer)<br>Project: Antimicrobial activity of enhanced antibiotics mixed with metallic nanoparticles |

<b>Summer – 2016</b>	<b>Research Mentor for High School Students</b> InterAmerican University of Puerto Rico, Ponce Campus Upward Bound Program Role: Guidance in topic selection, project design and planning, literature review, technical skills development, data collection and analysis, communication, and presentation.
<b>Summer-2015</b>	<b>Organic Chemistry Laboratory Assistant</b> InterAmerican University of Puerto Rico, Ponce Campus Department of Biomedical Sciences Role: Laboratory preparation, safety compliance for students, technical assistance, demonstration and explanation of experimental procedures, organization, and inventory of laboratory materials

## Membership in Professional Organizations

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<b>2023-present</b>	Association for Women in Science (Southern Louisiana Chapter)
<b>2023-present</b>	National Hispanic Science Network (NHSN)
<b>2023-pending</b>	Research Society on Alcohol (RSA)
<b>2016-present</b>	American Physiological Society (APS)
<b>2016-present.</b>	Puerto Rico Physiological Society (PRPS)

## Awards and Honors

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<b>2025</b>	Martin Frank Diversity Travel Award <b>American Physiology Summit</b>
<b>2025</b>	Carl Storm Underrepresented Minority (CSURM) Fellowship <b>Gordon Research Conference: Alcohol-Induced End Organ Diseases</b>
<b>2025</b>	Junior Investigator Meeting Award for the 2025 Scientific Meeting <b>Research Society for Alcohol</b>
<b>2024</b>	Basic Sciences Poster <b>National Hispanic Science Network Meeting 2024</b>
<b>2024-2026</b>	<b>NIH/NIAAA F32 Individual Postdoctoral Fellowship</b> NoA: 8/28/2024 <b>Activated: 2/16/2025</b> Alcohol-mediated mitochondrial adaptations in skeletal muscle: role of Sirtuin1
<b>2024</b>	Junior Investigator Meeting Award for the 2024 Scientific Meeting <b>Research Society for Alcohol</b>
<b>2022-2023</b>	<b>Research Excellence</b> UPR-Medical Sciences Campus
<b>2022-2023</b>	<b>Leadership Excellence</b> UPR-Medical Sciences Campus

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<b>2019-2023</b>	<b>Academic Excellence</b> UPR-Medical Sciences Campus
<b>2019</b>	<b>27<sup>th</sup> RCMI Professional Development Award</b> UPR-Medical Sciences Campus
<b>2019</b>	<b>2<sup>nd</sup> Place Poster Presentation Award</b> 8 <sup>th</sup> PR Physiological Society Meeting: Metabolism & Diseases UPR-Medical Sciences Campus
<b>2016</b>	<b>Humberto Del Canto Award Graduation Medal</b> Distinguished Recognition for Research & Leadership Excellence InterAmerican University of Puerto Rico, Ponce Campus
<b>2016</b>	<b>Honor Program Distinguished Graduation Medal</b> InterAmerican University of Puerto Rico, Ponce Campus
<b>2014-2016</b>	<b>Recognition for Participation in Research Projects</b> InterAmerican University of Puerto Rico, Ponce Campus
<b>2013-2016</b>	<b>Dean's List of Academic Excellence</b> InterAmerican University of Puerto Rico, Ponce Campus
<b>2013-2016</b>	<b>Recognition for participation in Extracurricular Activities</b> InterAmerican University of Puerto Rico, Ponce Campus
<b>2011-2016</b>	<b>Honor Program Scholarship</b> InterAmerican University of Puerto Rico, Ponce Campus

## Research and Scholarship

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### Ongoing Research Support:

NIH/NIAAA F32 Individual Postdoctoral Fellowship

Role: PI

NoA: 8/28/2024

Activated: 2/16/2025

Alcohol-mediated mitochondrial adaptations in skeletal muscle: role of Sirtuin1

T32AA007577 Molina, P. (PI)

Activation Date: 02/16/2025

NIH/NIAAA Institutional Research Training Grant

Role: Post-doctoral fellow

This program provides research training in alcohol-related fields. It provides resources to educational institutions to enhance and expand their training programs, enabling the development of a skilled workforce in alcohol-related research.

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## Publications:

### Postdoctoral Research

1. Cruise S, Secci ME, Kelley LK, Sharfman NM, **Rodríguez-Graciani K**, Wills TA, Gilpin NW, Avegno EM. Chronic alcohol withdrawal-associated increases in VTA *Hcrtr1* expression are associated with heightened nociception and anxiety-like behavior in female rats. *Adv Drug Alcohol Res*. 2025 Apr 3;5:14199. doi: 10.3389/adar.2025.14199. PMID: 40247884; PMCID: PMC12004375.
2. Jones AF, Wang Q, **Rodríguez-Graciani KM**, Díaz ZT, Simon L, Gilpin NW. Sex and age effects on chronic inflammatory pain development, maintenance, and resolution in Wistar rats. *J Pain*. 2025 Jan 20;28:104789. doi: 10.1016/j.jpain.2025.104789. Epub ahead of print. PMID: 39842650.
3. Levitt DE, Bourgeois BL, **Rodríguez-Graciani KM**, Molina PE, Simon L. Alcohol Impairs Bioenergetics and Differentiation Capacity of Myoblasts from Simian Immunodeficiency Virus-Infected Female Macaques. *Int J Mol Sci*. 2024 Feb 19;25(4):2448. doi: 10.3390/ijms25042448. PMID: 38397125; PMCID: PMC10888832.

### Graduate Research

1. **Rodríguez-Graciani, K. M.**, Chapa-Dubocq, X. R., Ayala-Arroyo, E. J., Chaves-Negrón, I., Jang, S., Chorna, N., Maskrey, T. S., Wipf, P., & Javadov, S. (2024). Ferroptosis-Induced Metabolic Shifts in Cardiac Cells: Exploring the Influence of Glutaminolysis. *New Visions in Medicine and Medical Science Vol. 5*, 65–90. <https://doi.org/10.9734/bpi/nvmms/v5/7833C>
2. Chapa-Dubocq XR, **Rodríguez-Graciani KM**, García-Báez J, Vadovsky A, Bazil JN, Javadov S. The Role of Swelling in the Regulation of OPA1-Mediated Mitochondrial Function in the Heart In Vitro. *Cells*. 2023 Aug 8;12(16):2017. doi: 10.3390/cells12162017. PMID: 37626827; PMCID: PMC10453793.
3. Chapa-Dubocq XR, **Rodríguez-Graciani KM**, Escobales N, Javadov S. Mitochondrial Volume Regulation and Swelling Mechanisms in Cardiomyocytes. *Antioxidants (Basel)*. 2023 Jul 28;12(8):1517. doi: 10.3390/antiox12081517. PMID: 37627512; PMCID: PMC10451443.
4. Jang S, Chorna N, **Rodríguez-Graciani KM**, Inyushin M, Fossati S, Javadov S. The Effects of Amyloid- $\beta$  on Metabolomic Profiles of Cardiomyocytes and Coronary Endothelial Cells. *J Alzheimers Dis*. 2023;93(1):307-319. doi: 10.3233/JAD-221199. PMID: 36970904; PMCID: PMC10204711.
5. **Rodríguez-Graciani KM**, Chapa-Dubocq XR, Ayala-Arroyo EJ, Chaves-Negrón I, Jang S, Chorna N, S Maskrey T, Wipf P, Javadov S. Effects of Ferroptosis on the Metabolome in Cardiac Cells: The Role of Glutaminolysis. *Antioxidants (Basel)*. 2022 Jan 29;11(2):278. doi: 10.3390/antiox11020278. PMID: 35204160; PMCID: PMC8868370.
6. **Rodríguez-Graciani KM**, Chapa-Dubocq XR, MacMillan-Crow LA, Javadov S. Association Between L-OPA1 Cleavage and Cardiac Dysfunction During Ischemia-Reperfusion Injury in Rats. *Cell Physiol Biochem*. 2020 Oct 30;54(6):1101-1114. doi: 10.33594/000000303. PMID: 33119220; PMCID: PMC8170594.

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7. Chapa-Dubocq XR, **Rodríguez-Graciani KM**, Guzmán-Hernández RA, Jang S, Brookes PS, Javadov S. Cardiac Function is not Susceptible to Moderate Disassembly of Mitochondrial Respiratory Supercomplexes. *Int J Mol Sci*. 2020 Feb 25;21(5):1555. doi: 10.3390/ijms21051555. PMID: 32106430; PMCID: PMC7084778.

## Abstracts

1. **Keishla M. Rodríguez-Graciani**, Patricia Molina, and Liz Simon. *Electrical Pulse Stimulation and N-Acetylcysteine Protect Against Oxidative Stress-Induced Mitochondrial Dysfunction in Muscle Cells*. American Physiological Society Summit, April 24-27, 2025, Baltimore, MD.
2. **Keishla M. Rodríguez-Graciani**, Patricia Molina, and Liz Simon. *Role of Antioxidants and Electrical Pulse Stimulation in Protecting Against Oxidative Stress-Induced Mitochondrial Dysfunction in Aged Muscle Cells*. Alcohol-Induced End Organ Diseases Gordon Research Conference, March 16-21, 2025, Ventura, CA.
3. **Keishla M. Rodríguez-Graciani**, Patricia Molina, and Liz Simon. *Alcohol-Induced Impairment of Skeletal Muscle Mitochondrial Bioenergetics: Implication of SIRT1 Regulation*. National Hispanic Science Network Conference, October 3-5, 2024, New Orleans, LA.
4. **Keishla M. Rodríguez-Graciani**, Patricia Molina, and Liz Simon. *Exploring Sirt1 regulation of impaired skeletal muscle mitochondrial bioenergetics with alcohol*. Research Society on Alcohol Scientific Meeting, June 22-26, 2024, Minneapolis, MN, USA.
5. **Keishla M. Rodríguez-Graciani**, Patricia Molina, and Liz Simon. Alcohol-associated skeletal muscle mitochondrial dysfunction: insights into Sirt1 regulation. American Physiological Society Summit, April 4-7, 2024, Long Beach, CA.
6. **Keishla M. Rodríguez-Graciani**, Patrick McTernan, Patricia Molina, and Liz Simon. Alcohol increases oxidative stress and mitochondrial content in myoblasts from SIV-infected female macaques. Alcohol and Drug Abuse Center of Excellence (ADACE) 18th Scientific Retreat, December 13<sup>th</sup>, 2023. New Orleans, LA.
7. **Keishla M. Rodríguez-Graciani**, Patrick McTernan, Danielle E. Levitt, Patricia Molina, and Liz Simon. *Effect of chronic binge alcohol administration on myoblast mitochondrial integrity in SIV-infected female macaques*. National Hispanic Science Network Conference, September 21-23, 2023, Washington D.C.
8. **Keishla M. Rodríguez-Graciani**, Xavier Chapa-Dubocq, Natalya Chorna, Sabzali Javadov. *The role of IR-induced swelling in OPA1-MICOS interaction in cardiac mitochondria*. Experimental Biology Conference, April 2-5, 2022, Philadelphia, PA.
9. **Keishla M. Rodríguez-Graciani**, Xavier Chapa-Dubocq, Natalya Chorna, Sabzali Javadov. *Metabolomic profile of ferroptosis in cardiac cells*. Experimental Biology Virtual Conference – 2021, April 27-30, 2021
10. **Keishla M. Rodríguez-Graciani**, Xavier R. Chapa-Dubocq, Lee Ann MacMillan-Crow and Sabzali Javadov. *The role of L-OPA proteolytic cleavage in cardiac ischemia-reperfusion injury*. 9<sup>th</sup> PR Physiological Society- American Physiological Society Chapter meeting, February 21, 2020

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11. **Keishla M. Rodríguez-Graciani**, Xavier R. Chapa-Dubocq, and Sabzali Javadov. *Challenges in the separation of purified cardiac mitochondrial membranes*. Experimental Biology Meeting – 2019, April 6-9, 2019, Orlando FL
12. Xavier R. Chapa-Dubocq, **Keishla M. Rodriguez-Graciani**, Roberto A. Guzman-Hernandez, Sehwan Jang, and Sabzali Javadov. *Elucidating the Physiological Role of Mitochondrial ETC Supercomplexes in the Heart*. Experimental Biology Meeting – 2019, April 6-9, 2019, Orlando FL
13. **Keishla M. Rodríguez-Graciani**, Xavier R. Chapa-Dubocq, and Sabzali Javadov. *Proteolytic cleavage of OPA1 in response to ischemia-reperfusion in the heart: the role of mitochondrial permeability transition*. 8<sup>th</sup> PR Physiological Society- American Physiological Society Chapter meeting, February 15, 2019
14. Xavier R. Chapa-Dubocq, **Keishla M. Rodriguez-Graciani**, Roberto A. Guzman-Hernandez, Sehwan Jang, and Sabzali Javadov. *Uncovering the Physiological Role of Mitochondrial Respiratory Supercomplexes in the Heart*. 8<sup>th</sup> PR Physiological Society- American Physiological Society Chapter meeting, February 15, 2019
15. Jorge Garcia-Baez, Xavier Chapa-Dubocq, Carlos Rivero-Quiles, Roberto Hernandez-Guzman, **Keishla M. Rodríguez-Graciani**, Annabell C Segarra and Sabzali Javadov. *Acute effects of cocaine on the respiratory function of mitochondria in the brain*. 8<sup>th</sup> PR Physiological Society- American Physiological Society Chapter meeting, February 15, 2019
16. Roberto Guzmán-Hernández, Xavier Chapa-Dubocq, **Keishla Rodríguez-Graciani**, and Sabzali Javadov. *Elucidating Functional Characteristics of Mitochondrial Subpopulations in the Rat Heart*. Annual Biomedical Research Conference for Minority Students (ABRCMS-2018). November 14-17, 2018. Indianapolis, Indiana.
17. **Keishla Rodríguez Graciani**, Raúl Alenó, Eulalia Medina, Lourdes Díaz, Edmy J. Ferrer Torres. *Antimicrobial effect of improved antibiotics combined with Ni and Semi-Green Ag nanoparticles in Klebsiella pneumoniae*. 249th American Chemical Society National Meeting and Exposition. March, 22 – 26, 2015. Colorado Convention Center, Denver Colorado, US

## Oral Scientific Presentations

1. **Keishla M. Rodríguez-Graciani**, Patrick McTernan, Patricia Molina, and Liz Simon. Alcohol increases oxidative stress and mitochondrial content in myoblasts from SIV-infected female macaques. ADACE 18<sup>th</sup> Scientific Retreat, December 13<sup>th</sup>, 2023, New Orleans, LA.
2. **Keishla Rodríguez**, Marangeli Feliciano, Raúl Alenó, Anthony Lopez, Eulalia Medina, Lourdes Díaz, José Ramírez and Edmy J. Ferrer Torres. Antimicrobial Activity of Enhanced Antibiotics mixed with MgO and CuO Nanoparticles. 6th Symposium of Researcher Students in the Area of Biosciences. April 4, 2014. Interamerican University of Puerto Rico, Barranquitas Campus.

## Teaching Experience

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### Formal Lectures:

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- 2023-2024** Dental Hygiene DHY3202– LSU Health Sciences Center  
General and Oral Physiology  
Muscle Physiology
- 2019-2023** Human Physiology – UPR-School of Medicine  
Laboratories on Cardiovascular, Renal, Pulmonary and Gastro-Physiology  
Clinical Case - Small Group Discussions
- 2019-2022** FISA8532- Instrumentation - UPR-School of Medicine  
Western Blot, Immunoprecipitation and Protein Quantification Lab

## **Community Service and Outreach Activities**

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### **Professional Service:**

- Fall-2024** Alcohol and Drug Abuse Center of Excellence (ADACE) Post-doctoral Seminars  
Organizing Committee  
LSUHSC-New Orleans
- Fall-2024** National Hispanic Science Network  
Early Career Leadership Committee  
LSUHSC-New Orleans

### **Community Service & Outreach:**

- November 2023** **Volunteer for Laboratory Rotations**  
Jack and Jill of America, Inc.  
Gave a guided tour of the Physiology labs to high school students
- October 2022** Participated in of Biomedical Sciences Open House at UPR-Medical Sciences Campus  
Gave a presentation about the importance of researching cardiac ischemia reperfusion injury and mitochondria.
- May 2021** Participated in promotion of Biomedical Sciences in the School of Fine Arts, Humacao  
Gave a presentation about the importance of performing graduate studies in Puerto Rico
- January 2021** Participated as a judge of Science Fair in CIMATEC, Caguas  
Evaluated different oral presentations and posters made by middle school students in the area of general sciences
- 2020-2021** Student Representative of the Promotion and Recruitment Committee under the Graduate Program of the School of Medicine
- 2020-2021** Student Representative of the Physiology Department in the Association of Graduate Students (AEG) in UPR-RCM

<b>2019-2020</b>	Organized/Participated in “Tours” activities in the Biomedical Sciences Graduate Program under the initiative of the Promotion and Recruitment Committee of UPR-MSc Students from different universities and schools come to “tour” our different schools to receive feedback about our programs for future academic purposes.
<b>2019-2020</b>	Student Representative of the Promotion and Recruitment Committee under the Graduate Program of the School of Medicine
<b>2019-2020</b>	Current Student Representative of the Physiology Department in the Association of Graduate Students (AEG) in UPR-RCM.
<b>January 2019</b>	Judge of Science Fair Evaluating middle school and high school student’s science projects School: CIMATEC, Caguas, P.R.
<b>November 2018</b>	Organizer of the PhUn-Week 2018 Organizer of the American Physiological Society outreach activity for the Physiology Department in the UPR-MSc School- CIMATEC, Caguas, P.R.
<b>2018-2020</b>	Volunteer in Susan G. Komen Puerto Rico Organization that addresses breast cancer on multiple fronts such as research, community health, global outreach and public policy
<b>October 2018</b>	Open House of the Biomedical Sciences Program, UPR-MSc
<b>April 2018</b>	“Lo que un científico hace por ti”, in collaboration with the Hispanic Center of Excellence Presentations of different physiological systems to high school students from the schools: Brígida Álvarez of Vega Baja; Petra Corretjer of Manatí and CIMATEC of Caguas
<b>June 2017</b>	Student’s assistant at the Summer Seminar for Underrepresented Communities
<b>September-2017</b>	Open House of the Biomedical Sciences Program, UPR- MSC
<b>November-2016</b>	Presenter in the PhUn - Week 2016 School- Francisco Gaztambide Vega School, Bayamon, PR
<b>September-2016</b>	Open House of the Biomedical Sciences Program, UPR- MSC
<b>2013-2016</b>	Chemistry Week Demonstrations in <i>Paseo la Princesa</i> Old San Juan, P. R.
<b>2012-2016</b>	International Water Quality Monitoring Day
<b>January 2015</b>	Research Mentor for High School Students in the Interamerican Ponce Academy
<b>October-2014</b>	Chemical Demonstrations to K-12 students in collaboration

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