

Education

University of Puerto Rico-Mayagüez Campus	Industrial Microbiology	B.S.	1988
Rutgers, The State University of New Jersey	Microbiology & Molecular Genetics	M.S.	1991
Rutgers, The State University of New Jersey	Microbiology & Molecular Genetics	Ph.D.	1996
Univ. of Medicine & Dentistry of New Jersey	Molecular Genetics & Microbiology	Post-Doc	1996 – 1999

Professional Experience

March 2019 – present	Deanship for Graduate Studies and Research, Acting Dean
Dec. 2014 - Feb. 2018	College of Natural Sciences, UPR-RP, Dean
August 2014 - Nov. 2014	College of Natural Sciences, UPR-RP, Acting Dean
June 2014 - August 2014	Department of Biology, UPR – RP, Acting Chair
August 2011 – July 2014	Department of Biology, UPR – Río Piedras, Faculty Advisor , ASBMB UAN Undergraduate Student Chapter
August 2006 – present	Department of Biology, UPR – Río Piedras, Associate Professor & Investigator
April 2008 – June 2014	Department of Biochemistry, UPR-MSU, Adjunct Associate Professor
August 2001 – July 2006	Department of Biology, UPR – Río Piedras, Assistant Professor & Investigator
1999 – 2009	Department of Molecular Genetics and Microbiology, University of Medicine and Dentistry of New Jersey, Adjunct Professor
2000 – 2001	Graduate Program of Molecular Biosciences, University of Medicine and Dentistry of New Jersey, Faculty Advisor – Minority Graduate Student Association
1996 - 2000	Department of Molecular Genetics and Microbiology, University of Medicine and Dentistry of New Jersey, Post-Doctoral Research Fellow
1994 – 1996	Department of Biological Sciences, Rutgers University, Teaching Assistant

Honors (Partial list):

2012	Howard Hughes Medical Institute Summer Sabbatical at Whitehead Institute & MIT, Cambridge, MA (Laboratory of Dr. Harvey F. Lodish).
2012	UPR-RP, ASBMB Faculty Travel Award , ASBMB 2012 Meeting, San Diego, CA.
2011	UPR-RP, Plenary Lecture , AMGEN and UPR-GK-12 NSF-Sponsored Program.
2010	UPR-RP, Plenary Lecture , Puerto Rico Society for Microbiology, ASM Member Chapter, Caguas, PR.
2009	UPR-RP, Plenary Lecture , AAAS Caribbean Chapter, San Juan, PR.
2008	UPR-RP, Faculty Travel Award , NIH-NIGMS, NIH Grantsmanship Workshop, University of Kentucky, Lexington, KY.
2006	UPR-RP, FASEB Summer Research Conference Travel Award , FASEB Summer Research Conference, Snowmass Village, Colorado, USA.
2002	UPR-Río Piedras, David and Lucile Packard Foundation Travel Award , Gordon Research Conference, Rhode Island, USA.
1999	Recipient KO1 Award, National Heart, Lung and Blood Institute Research Scientist Development Award for Minority Faculty .
1996 - 1999	UMDNJ, National Institute of Health Post-Doctoral Research Supplement for Underrepresented Minorities .
1990 - 1994	Rutgers University, New Jersey, Minority Advancement Program Fellowship .
1994	Department of Microbiology and Molecular Genetics. Rutgers University, New Jersey. Conference Travel Award .
1991 - 1992	Department of Biological Sciences. Rutgers University, New Jersey. Anne B. and James R. Leathem Research Fund .
1989 - 1992	Commonwealth of Puerto Rico. San Juan, Puerto Rico. Association of Employees from the Commonwealth of Puerto Rico Graduate Fellowship .
1988 - 1990	Commonwealth of Puerto Rico. San Juan, Puerto Rico. Economic Development Administration Graduate Fellowship .
1989	Washington, D.C. National Science Foundation Travel Award to American Society for Cell Biology National Meeting .

1987

University of Kansas Medical Center, **American Society for Microbiology Undergraduate Research Fellow****Service:**

2003 - 2005

NSF Panel Member "Signal Transduction and Cellular Regulation"

2003 – Present

Ad Hoc Reviewer – National Science Foundation, several journals including: *Nature Genetics*, *MCB*, *TIGS*, *Gene*, *NAR*, *EMBO J.*, among others.**Selected peer reviewed publications (partial list):**

1. Díaz-Cartagena, D.; Hernández-Cancel, G.; Bracho-Rincón, D.; González-Feliciano, J.; Cunci, L.; **González, C.I.**; Cabrera, C.R. 2019. Ablated Accu-Chek Aviva® Au Strip for Label-Free Telomerase Activity Detection via Electrochemical Impedance Spectroscopy *ACS Omega*, in press.
2. Díaz-Cartagena, D.C.; Hernández, G.; Bracho-Rincon, D.; González-Feliciano, J.A.; Cunci-Perez, L.; **González, C.I.**; Cabrera, C.R. 2017. Development of an Electrochemical Impedimetric Biosensor for the Detection of Telomerase Activity in Cancer Cells. *ECS Trans.* 77(11)1833-1840.
3. Díaz-Diestra, D.; Beltran-Huarac, J.; Bracho-Rincon, D.P.; González-Feliciano, J.A.; **Gonzalez, C. I.**; Weiner, B.R.; Morell, G. 2015. Direct water-synthesized ZnS:Mn quantum dots for multiple biological detection and enzyme immobilization: An emerging biomaterial. *Journal of Nanoparticle Research*, s11051-015-3269 DOI: 10.1007.
4. Habibaa, K.; Bracho-Rincon, D.P.; Gonzalez-Feliciano, J.A.; Villalobos-Santos, J.C.; Makarova, V.I.; Ortiz, D.; Avalos, J.A.; **Gonzalez, C. I.**; Weiner, B.R.; Morell, G. Synergistic antibacterial activity of PEGylated silver–graphene quantum dots nanocomposites. 2015. *Applied Materials Today* 2015, 180-87.
5. Cunci, L.; Vargas, M.M.; Cunci, R.; Gómez-Moreno, R.; Pérez, I.; Baerga-Ortiz, A.; **González, C.I.**; Cabrera, C.R. 2014. Real-Time Detection of Telomerase Activity in Cancer Cells using a Label-Free Electrochemical Impedimetric Biosensing Microchip. *RCS Advances* 4(94)52357-52365.
6. González-Feliciano JA, Hernández-Pérez M, Estrella LA, Colón-López DD, López A, et al. (2014). The Role of HuR in the Post-Transcriptional Regulation of Interleukin-3 in T Cells. *PLoS ONE* 9(3): e92457. doi:10.1371/journal.pone.0092457
7. Clarivel Lasalde, Andrea V. Rivera, Alfredo León, José A. González, Luis A. Estrella, María E. Correa, Iván J. Cajigas, Dina P. Bracho, Irving E. Vega, Miles F. Wilkinson and **Carlos I. González** (2013). Identification and Functional Significance of Novel Phosphorylation Sites in the NMD Protein Upf1. *NAR-00916-A-2013*.
8. Betzaida Castillo, Lev Bromberg, Xaira López, Badillo, V., Gonzalez Feliciano, J., **Gonzalez, C.I.**, Hatton, T.A. and Barletta, G. "Intracellular Delivery of siRNA by Polycationic Superparamagnetic Nanoparticles," *Journal of Drug Delivery*, vol. 2012, Article ID 218940, 12 pages, 2012. doi:10.1155/2012/218940.
9. Diaz-Balzac, C., Lazaro, M.I., **González, C.I.**, Garcia-Rivera, E. and Garcia Arraras Jose E. 2012. Calbindin-D32k is Localized to a Subpopulation of Neurons in the Nervous System of the Sea Cucumber *Holothuria glaberrima*. *PLoS ONE* 7(3):e32689.
10. Estrella, L.A., Wilkinson, M.F. & **González, C. I.** 2009. The SR protein, Npl3p, affects the accuracy of translation termination in *Saccharomyces cerevisiae*. *Journal of Molecular Biology* 394:410-422.
11. **Gonzalez, C.I.**, Wilusz, C.J, and Wilusz, J. 2007. The interface between mRNA turnover and translational control. In *Translational Control and Medicine*, Cold Spring Harbor Laboratory Press, eds. Michael Mathews, Nahum Sonenberg and John W.B. Hershey, 719-745.
12. Wang, W., Cajigas, I.J., García, E., Peltz, S.W, Wilkinson M. and **González, C.I.** 2006. Recognition of the marker protein Hrp1p by Upf2p is required for activation of nonsense-mediated mRNA decay in yeast. *Molecular and Cellular Biology*, 26: 3390-3400.
13. Windgassen, M., Sturm D., Cajigas, I.J., **González, C.I.**, Sedorf, M. and Krebber, H. 2004. mRNA export and translation are coupled by the shuttling SR-type mRNA binding protein Npl3. *Molecular and Cellular Biology*, 24: 10479-10491.

14. Vemula M., Kandasamy, P., Oh, C.S., Chellappa, R., **González, C.I.** and Martin C.E. 2003. Maintenance and regulation of mRNA stability *S. cerevisiae* *OLE1* gene requires multiple elements within the transcript that act through translation-independent mechanisms. *JBC*, **278**: 45269-45279.
15. **González, C.I.**, Wang, W. and Peltz, S.W. 2002. Nonsense-mediated mRNA decay in *Saccharomyces cerevisiae*: a quality control mechanism that degrades transcripts harboring premature termination codons. *66th Cold Spring Harbor Symposium on Quantitative Biology*, 321-328.
16. **González, C.I.**, Ruiz-Echevarría, M.J., Vasudevan, S., Henry, M. and Peltz, S.W. 2000. The yeast hnRNP-like protein Hrp1/Nab4 marks a transcript for nonsense-mediated mRNA decay. *Molecular Cell*, **5**: 489-499.
17. **González, C.I.**, Bhattacharya, A., Wang, W. and Peltz, S.W. 2001. Nonsense-mediated mRNA decay in *Saccharomyces cerevisiae*. *Gene*, **274**:15-25.
18. Czaplinski, K., Ruiz-Echevarría, M.J., **González, C.I.** and Peltz, S.W. 1999. Should we kill the messenger? The role of the surveillance complex in translation termination and mRNA turnover. *Bioessays*, **21**:685-696.
19. Cui, Y., **González, C.I.**, Dinman, J.D., Kinzy, T.G. and Peltz, S.W. 1999. Mutations in the *MOF2/SUI1* gene affect both translation and nonsense-mediated mRNA decay. *RNA* **5**: 794-804.
20. Ruiz-Echevarría, M.J., **González, C.I.** and Peltz, S.W. 1998. Identifying the right stop: Determining how the surveillance complex recognizes and degrades an aberrant mRNA. *The EMBO Journal* **17**:575-589.
21. **González, C.I.** and Martin, C.E. 1996. Fatty acid-responsive control of mRNA stability: Unsaturated fatty acid-induced degradation of the *Saccharomyces cerevisiae* *OLE1* transcript. *The Journal of Biological Chemistry*, **271**:25801-25809.

Research Support (partial list)

- 1) Previously sponsored by NIH NIGMS and NHLBI, I have been the PI of several research initiatives. As the PI, I have been involved in conducting research and designing experimental strategies related to Post-Transcriptional Control of the human IL-3 mRNA. The goal of this project has been to elucidate the mechanism by which the ARE-mediated mRNA degradation and microRNAs control the expression of the human interleukin-3 mRNA and its role in leukemia. Active.
- 2) During the past five years, I have been a Co-PI in several collaborative research initiatives with Dr. Carlos Cabrera. We have recently submitted (July 2019) a NSF SBIR Phase II grant. Presently sponsored by PR Science, Technology and Research Trust Funds, as well as a recently completed NSF SBIR Phase I grant (2017), we are involved in the Development of a Biosensor Microchip for the Detection of Microorganisms and Cancer Cells at the Point-of-Care. In this research project we explore on the development of a point-of-care testing (POCT) technology for the sensitive detection of cancer cells and microbial DNA in real time. The proposed technology is based on the detection of disease specific biomarkers by means of sensitive electrochemical events occurring at the very interface of a conductive microchip surface. The main objective is to transfer the technology developed during research to a marketable bio-sensing system device prototype. Active.
- 3) Sponsored by UPR institutional funds (FIPI, PES, etc.), I have been the PI of a research initiative in my laboratory related to Understanding the Post-Transcriptional Control of the human IL-3 mRNA. The goal of this project is to elucidate the mechanism by which ARE-mediated mRNA degradation controls the expression of the human interleukin-3 mRNA and its role in leukemia, completed.
- 4) Sponsored by UPR institutional funds (FIPI, PES, etc.), I have also been the PI of a research initiative in my laboratory related to Understanding the role of Phosphorylation in the Nonsense-mediated mRNA decay pathway. The goal of this project is to understand the role of phosphorylation of various proteins involved in promoting Nonsense-Mediated mRNA Decay in *Saccharomyces cerevisiae*. completed.
- 5) "Understanding the Post-Transcriptional Control of IL-3 in Multiple Myeloma" 2012-2014. The goal of this project is to understand the post-transcriptional control of human Interleukin-3 (IL-3) by the Adenosine/Uridine-rich element-mediated pathway. PI: Carlos I. Gonzalez, Ph.D. Type: Institutional-Bridge Funds from UPR Vice-Presidency, \$25,000/year, completed.

- 6) *"The role of phosphorylation in the NMD RNA surveillance mechanism"* 2009-2012. The goal of this project is to understand the role of phosphorylation of various proteins involved in promoting Nonsense-Mediated mRNA Decay in the yeast *Saccharomyces cerevisiae*. Co-Principal Investigator: Carlos I. González, Ph.D., Co-Principal Investigator: Miles Wilkinson, Ph.D. Type: U54-NIH, The University of Puerto Rico Cancer Center/The University of Texas M.D. Anderson Cancer Center Partnership for Excellence in Cancer Research, \$125,000/year, completed.
- 7) *"Advancing Competitive Biomedical Research in Puerto Rico"* 2009-2013. The goal of The Puerto Rico Alliance for the Advancement of Biomedical Research Excellence (PR-AABRE) project is to advance the development, coordination and sharing of research resources and expertise that emerged from the implementation of the BRIN-PR Program initiated in October 2001. In addition, this program has been created to expand research opportunities for the biomedical community in Puerto Rico, with emphasis on the Undergraduate institutions of the Alliance. For this project, I am the research mentor for a sub-project. Program Director: Pena de Ortiz, Sandra, Ph.D. Co-PI: Carlos I. Gonzalez, Ph.D. Type: NIH-NCRR, completed.
- 8) *"The Role of Upf1 Phosphorylation in the Activity of the NMD RNA Surveillance Mechanism"* 2008-2010. The goal of this project is to understand the role of Upf1 phosphorylation in promoting Nonsense-Mediated mRNA Decay in the yeast *Saccharomyces cerevisiae*. PI: Carlos I. Gonzalez, Ph.D. Type: Institutional-FIPI, \$15,000/year, completed.
- 9) *"Molecular characterization of the HRP1/DSE complex"* 2004-2008. The goal of this project is to characterize the sequence requirements of the DSE and the role of the HRP1/DSE complex in promoting Nonsense-Mediated mRNA Decay in the yeast *Saccharomyces cerevisiae*. Program Director: Arce, Rafael, Ph.D. Co-PI: Carlos I. Gonzalez, Ph.D. Type: Institutional Minority Training Grant SCoRE Program NIGMS (NIH), \$146,911/year, completed.
- 10) *"The role of phosphorylation in the NMD RNA surveillance mechanism"* 2004-2007. The goal of this project is to understand the role of phosphorylation of various proteins involved in promoting Nonsense-Mediated mRNA Decay in the yeast *Saccharomyces cerevisiae*. Co-Principal Investigator: Carlos I. González, Ph.D., Co-Principal Investigator: Miles Wilkinson, Ph.D. Type: U54-NIH, The University of Puerto Rico Cancer Center/The University of Texas M.D. Anderson Cancer Center Partnership for Excellence in Cancer Research, \$100,000/year, completed.
- 11) *"Identification and Characterization of Trans-Acting Factors involved in NMD pathway"* 2002-2004. The goal of this project is to identify and characterize trans-acting factors required for promoting Nonsense-Mediated mRNA Decay in the yeast *Saccharomyces cerevisiae*. PI: Carlos I. Gonzalez, Ph.D. Type: Institutional-FIPI, \$15,000/year, completed.
- 12) *"Post-transcriptional control of the heart and lungs"*. 2000-2005. The long-term goal of this project is to define the role of AU-rich elements in mRNA turnover and translation. The proposed research focuses on the analysis of the β -adrenergic receptors, IL-3 and VEGF AU-rich elements and how they regulate the stability and translation of their mRNAs in mammalian cells. Principal Investigator: Carlos I. González, Ph.D. Type: National Heart, Lung and Blood Institute Research Scientist Development Award for Minority Faculty, \$116,400/year, completed.

Mentorship – Post-Doctoral, Graduate and Undergraduate Students

Post-Doctoral Fellows – Dr. Luis E. Estrella, Dr. Ivan Cajigas and Dr. José Cardé

Former Graduate Students – Kirla R. Maurás, M.S. (graduated on November 2004, now at Amgen); José Cardé-Serrano, Ph.D., (currently an Associate Professor, Molecular Biology, UPR-Aguadilla); Eva Nilda Rodríguez, M.S. (graduated in June 2007, graduated Ph.D. at UPR-RP 2013); Alfredo León, M.S. (graduated in June 2007, Biology Teacher, Miami Dade College); Iván Cajigas, Ph.D. (graduated on 2008, previously research Associate at Max Plank Institute, Frankfurt, Germany; currently research scientist at Amgen); María Lázaro, M.S. (graduated on 2010, currently Ph.D. student at Albert Einstein School of Medicine); José A. González, Ph.D. (graduated on December 2012, currently post-doc at UPR MSB); Clarivel Lasalde, M.S. (graduated from my lab with a Ph.D. on June 2014, currently Assistant Professor of Molecular Biology at UPR-Bayamon); Marimar Hernández, Ph.D. (graduated on June 2015, currently Post-

Doc at Dept. of Pediatrics, Indiana University School of Medicine); Marina Martínez, Ph.D. (graduated on June 2016, currently post-doc at Dept. of Medicine; Baylor School of Medicine); Edgardo Colón, Ph.D. (graduated on June 2017, currently Instructor of Molecular Biology, Biochemistry, Biotechnology and General Biology at UPR-RP).

Current Graduate Students - Dina P. Bracho (Ph.D. student, expected dissertation defense Nov. 2019), Maria Fernanda Duque (M.S. student, expected thesis defense Dec. 2019), Miguel Santiago (M.S. student, expected thesis defense, June 2020)

Undergraduate Students – (Partial List of approximately 50): Mauro García, María Lazaro, Yaritza Vega, Daviana Martínez, Félix Araujo, Brenda Basabe, Rubén Cortes, Aníbal Soto, Fátima Cintrón, Paloma Guzzardo, Ana Rosado, Roseleni Ortiz, Betzabel Flores, Sarimar Medina, Margaret Torres, Edwin García, Damaris Ortiz, Idelis Sanchez, Judy Ann Meléndez, Viviana Figueroa, Radamés Cordero, Brenda Cádiz, Fernando Quiñones, Doriann de Jesús, Julián Betancourt, Alberto Arocho, Andrea Rivera, Myriam Diaz, Abby J. Agosto, Daisy Colon, Laura Torres, Natalia Viera, Andres Diaz, Maria E. Correa, Paula Marin, Armando Lopez.

Laboratory Technicians - Amayla Budet de Jesús, Brenda Basabe, Daviana Martínez, Yesenia González, Aníbal Soto, Betty del Río.

Recent Collaborations (Partial List)

1. Dr. Miles F. Wilkinson – Professor, Dept. of Reproductive Medicine, UCSD School of Medicine, La Jolla, CA.
2. Dr. Jeffrey Wilusz – Professor, Dept. of Microbiology, Immunology and Pathology, Colorado State University, Fort Collins, Colorado.
3. Dr. Michael Culbertson – Professor and Chair, Department of Genetics, University of Wisconsin at Madison.
4. Dr. Heike Krebber – Professor, Institute for Molecular Biology and Tumor Research, University of Marburg, Germany.
5. Dr. Steven Massey – Assistant Professor, Department of Biology, UPR-RP.
6. Dr. José Lasalde – Professor, Department of Biology, UPR-RP.
7. Dr. Gabriel Barletta - Professor, Department of Chemistry, UPR-Humacao.
8. Dr. Michael F. Henry – Assistant Professor, Department of Molecular Biology, UMDNJ, Stratford, NJ.
9. Dr. Carol Wilusz - Professor, Dept. of Microbiology, Immunology and Pathology, Colorado State University, Fort Collins, Colorado.
11. Dr. Carlos Cabrera, Department of Chemistry, UPR-RP.
12. Dr. Stuart Peltz – CEO, PTC Therapeutics, South Plainfield, NJ - **Post-Doctoral Advisor**
13. Dr. Charles E. Martin – Professor, Department of Cell and Developmental Biology, Rutgers University, New Brunswick, NJ – **Ph.D. Advisor**

Professional Memberships:

American Society for Microbiology
 American Association for the Advancement of Science
 American Society for Biochemistry and Molecular Biology
 RNA Society
 Puerto Rico Society of Microbiology
 The National Mentoring Partnership

Abstracts and Presentations:

Approximately 10-15 abstracts and oral presentations (PR, USA, Europe) per year since establishing the laboratory at UPR-RP on 2001 until 2017 (prior to Maria). The complete list is available upon request.