

## CURRICULUM VITAE

### WALTER I. SILVA ORTIZ, Ph.D.

**ADDRESS (Work)** Department of Physiology and Biophysics  
University of Puerto Rico  
Medical Sciences Campus  
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**TELEPHONE NUMBER (Mobile)** (787)-454-1696 (Mobile phone)

### **EDUCATION**

**Ph.D. - 1986 - PHARMACOLOGY** City University of New York, Mount Sinai School of Medicine, NY  
**M.S. - 1981 - BIOLOGY** University of Puerto Rico, Río Piedras, Puerto Rico.  
**B.S. - 1979 - BIOLOGY** University of Puerto Rico, Río Piedras, Puerto Rico.  
**Minor-1979 - PEDAGOGY/EDUCATION** University of Puerto Rico, Río Piedras, Puerto Rico.  
(All course work conducive to a major in Education completed, except a final semester Practice course).  
**Certificate Degree Program - Data Science** UPR Medical Sciences Campus  
(2019) School of Allied Health Professions

### **ACADEMIC POSITIONS**

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| <b>Professor</b>   | UPR School of Medicine,<br>Physiology Department, Medical<br>Sciences Campus | July 2003 to present             |
| <b>Vice President for Research and<br/>Technology (Interim)</b>                          | UPR Central Administration, San<br>Juan, PR                                  | May 2013 to September<br>2013    |
| <b>Associate Vice President for<br/>Research</b>   | UPR Central Administration, San<br>Juan, PR                                  | Nov 2010 to May 2013             |
| <b>Associate Dean for Biomedical<br/>Sciences &amp; Director of Graduate<br/>Studies</b> | UPR School of Medicine, Medical<br>Sciences Campus                           | December 2000 to<br>October 2010 |
| <b>Associate Professor</b>   | UPR School of Medicine,<br>Physiology Department, Medical<br>Sciences Campus | January 1999 to June 2003        |
| <b>Associate Dean for Graduate<br/>Studies and Research</b>                              | Ponce School of Medicine (PSM),<br>Ponce, PR                                 | July 1995 to December<br>1998    |
| <b>Professor and Acting Chairman</b>   | Department of Pharmacology and<br>Toxicology, PSM, Ponce PR                  | January 1997 to January<br>1999  |
| <b>Professor</b>   | Department of Pharmacology and<br>Toxicology, PSM, Ponce PR                  | July 1995 to December<br>1998    |
| <b>Adjunct Professor</b>   | Department of Pharmacology,<br>Universidad Central del Caribe                | June 1996 to present             |

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|                               | School of Medicine (UCC-SOM),<br>Bayamón, PR                         |  |
| <b>Professor and Chairman</b> | Department of Pharmacology,<br>UCC-SOM, Bayamón, PR                  | January 1994 to July 1995  |
| <b>Professor</b>              | Department of Pharmacology,<br>UCC-SOM, Bayamón, PR                  | July 1989 to January 1994  |
| <b>Associate Professor</b>    | Department of Pharmacology,<br>UCC-SOM, Bayamón, PR                  | June 1986 to July 1989   |
| <b>Assistant Professor</b>    | Department of Pharmacology,<br>UCC-SOM, Bayamón, PR                  | June 1986 to July 1989   |
| <b>Acting Chairman</b>        | Department of Pharmacology,<br>UCC-SOM, Bayamón, PR                  | August–September 1993<br>October–November 1992<br>November–Dec 1991<br>October–November 1990<br>November–Dec 1989<br>October–November 1988 |
| <b>Adjunct Professor</b>      | Department of Biology, University<br>of Puerto Rico, Río Piedras, PR | April 1993 to present  |
| <b>Assistant Professor</b>    | Department of Biology, University<br>of Puerto Rico, Río Piedras, PR | August 1985 to June 1986   |

#### **EDUCATION ADMINISTRATION DISTINCTIONS (\* Active)**

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| <b>Course Principal Coordinator*</b>                | Human Medical Physiology (MS1),<br>School of Medicine, University of<br>Puerto Rico, Medical Sciences<br>Campus                       | May 2016 to present               |
| <b>Director of Graduate Studies</b>                 | Division of Biomedical Sciences and<br>Graduate Studies, School of<br>Medicine, University of Puerto<br>Rico, Medical Sciences Campus | December 2000 to<br>November 2010 |
| <b>Coordinator, Graduate Studies</b>                | Division of Biomedical Sciences and<br>Graduate Studies, School of<br>Medicine, University of Puerto<br>Rico, Medical Sciences Campus | July 1999 to December 2000        |
| <b>Coordinator, Graduate Physiology<br/>Program</b> | Department of Physiology and<br>Biophysics, School of Medicine,<br>University of Puerto Rico, Medical<br>Sciences Campus              | January 1999 to October<br>2000   |
| <b>Program Director</b>                             | Doctoral Degree Program in Basic<br>Biomedical Sciences, Ponce Medical<br>School  | July 1995 to December 9,<br>1998  |

#### **RESEARCH ADMINISTRATION DISTINCTIONS (\* Active)**

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| <b>Director*</b> | Pilot and Seeds Projects Program of<br>the COBRE Phase 2-Neuroplasticity<br>Center at the UPR Medical Sciences<br>Campus | October 2018 to present |
| <b>Director*</b> | Support of Competitive Research<br>Enhancement (SCORE) Internal, UPR   | August 2008 to present  |

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|                         | Medical Sciences Campus, San Juan PR  |                                  |
| <b>Director</b>         | Office for Research Compliance and Integrity, Office of the Vice President for Research and Technology, UPR Central Administration, San Juan, PR  | September 2013 to September 2014 |
| <b>Program Director</b> | S06-Support Competitive Research Excellence (SCORE), Minority Biomedical Research Support Program (MBRS), National Institute of General Medical Sciences (NIGMS)/NIH, University of Puerto Rico – Medical Sciences Campus | March 2003 to July 2009          |
| <b>Director</b>         | Office for Research Affairs, Office of the Chancellor, University of Puerto Rico - Medical Sciences Campus  | February 2004 to June 2005       |
| <b>Program Director</b> | Research Center for Minority Institutions (RCMI) Program Ponce School of Medicine, Ponce, PR National Center for Research Resources (NCRR)/NIH  | July 1995 to December 9, 1998    |
| <b>Director</b>         | Office of Sponsored Research Projects and Program, Ponce School of Medicine   | October 1997 to December 1998    |
| <b>Program Director</b> | Minority Biomedical Research Support (MBRS) Program, Universidad Central del Caribe, School of Medicine, National Institute of General Medical Sciences (NIGMS)/NIH   | August 1994 to July 1995.        |

### **HONORS AND AWARDS**

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| <b>Ramón Emeterio Betances Award Distinguished Faculty Award</b>              | Students General Council 2004<br>University of Puerto Rico - Medical Sciences Campus<br>May 2004                                 |
| <b>Alpha Omega Alpha (Elected Faculty Member)</b>                             | Medical Students Honor Society<br>University of Puerto Rico – School of Medicine<br>April 2004                                   |
| <b>Outstanding Professor of 1<sup>st</sup> Year Medical School Curriculum</b> | Medical Students Class of 2005<br>University of Puerto Rico – School of Medicine<br>Medical Sciences Campus<br>January 2003      |
| <b>Board of Directors Member</b>  | INDUNIV Consortium<br>March 1998 to December 9, 1998   |
| <b>National Advisory/Review Committee Member</b>                              | Research Center for Minority Institutions (RCMI)<br>National Center for Research Resources (NCRR)/NIH<br>July 1992 to June 1995. |

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| <b>President</b>   | Society for Neurosciences, Puerto Rico Chapter<br>San Juan, P.R.<br>December 1994 to 1995                                    |
| <b>Secretary</b>   | Society for Neurosciences, Puerto Rico Chapter<br>San Juan, PR.<br>December 1993 to 1994.                                    |
| <b>First Independent Research Support Transition (FIRST) Award (R29)</b> | National Institute of Neurological Disorders and Stroke (NINDS)-NIH<br>April 1989 to March 1996.                             |
| <b>National Service Research Award</b>                                   | Doctoral Training Grant (Institutional)<br>NIGMS-NIH<br>Mount Sinai Medical School CUNY, N.Y.<br>August 1981 to August 1985. |
| <b>MBRS Graduate Student</b>   | Minority Biomedical Research Support Program<br>University of Puerto Rico, Río Piedras, P.R.<br>August 1979 to July 1981.    |
| <b>Magna Cum Laude</b>   | B.S. in Biology, 1979<br>University of Puerto Rico, Río Piedras, P.R.  |
| <b>Magna Cum Laude</b>   | M.S. in Biology, 1981<br>University of Puerto Rico, Río Piedras, P.R.  |

**MEMBERSHIP IN SCIENTIFIC/ACADEMIC AND EDUCATIONAL SOCIETIES (\*Active)**

- American Physiological Society (APS) PR Chapter\*
- PR Chapter of Sponsored Research Administrators (SAI)
- American Society for Neurochemistry
- National Council of University Research Administrators
- American Association for the Advancement of Science
- Society for Neurosciences
- Society for Experimental Biology and Medicine
- Association for Medical School Pharmacology

**PARTICIPATION IN NATIONAL/ INTERNATIONAL PEER REVIEW & OTHER SCIENTIFIC ORGANIZATION ACTIVITIES**

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| <b>CHE Consultant</b>             | Council of Higher Education of PR<br>Undergraduate Biomedical Sciences Program<br>Advisory Board Member, 2004<br>San Juan, PR  |
| <b>Ad Hoc Manuscript Reviewer</b> | * Scientific Reports, Nature Publishing Group<br>* Pharmacology, Biochemistry and Behavior<br>* Neurosciences Letters<br>* Cell and Tissue Research<br>* Regulatory Peptides<br>* Viruses<br>* Applied Sciences<br>* Cancers<br>* Journal of Biochemical and Biophysical Methods<br>* Journal of Neuroscience Research<br>* Journal of Veterinary Sciences<br>* Puerto Rico Health Science Journal |
| <b>Editorial Board Member</b>     | Puerto Rico Health Science Journal<br>University of Puerto Rico, Medical Sciences Campus   |

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| <b>NIH Reverse Site Visit Team Member</b>                 | February 21, 1995 to 2000.<br>RCMI-NCRR-NIEHS Research Initiative<br>National Institute of Health<br>Bethesda, Maryland<br>June 1994.   |
| <b>National Advisory/Review Committee Member-NIH-NCRR</b> | Chartered National RCMI Review Committee, National Center for Research Resources, NIH<br>July 1992 to June 1995.  |
| <b>NIH Reviewers Reserve Member</b>                       | NIH Reviewers Reserve (NRR), NIH<br>January 1, 1996- June 30, 1999.   |
| <b>Co-Moderator</b>                                       | Symposium on Muscarinic Receptors<br>1st World Congress Cellular & Molecular Biology, Paris, France<br>September 1991.  |
| <b>Organizing Committee Member</b>                        | 5th International Symposium on Neurotoxins in Neurobiology, Mayaguez, Puerto Rico<br>August 31-September 5, 1995.   |
| <b>US Pharmacopeia Member and Delegate</b>                | US Pharmacopeia<br>January, 1995 to June, 1995  |
| <b>Scientific Affairs Committee</b>                       | INDUNIV, 1998   |
| <b>Biotechnology Cluster Member</b>                       | Puerto Rico Industrial Development Corporation (PRIDCO)<br>Industry-Academia-Government Partnerships Committee<br>2002 to 2006  |
| <b>Organizing Committee Member</b>                        | 6 <sup>th</sup> International RCMI AIDS Symposium, 1996   |
| <b>Co-Host, Committee Member</b>                          | Morehouse School of Medicine & Ponce School of Medicine<br>6 <sup>th</sup> International RCMI AIDS Symposium, 1998  |
| <b>Symposium Organizer</b>                                | 2 <sup>nd</sup> International World Congress of Cellular and Molecular Biology Symposium: "Coated Vesicular Organelles"<br>Diversity in Structure and Function. Ottawa, Canada<br>September, 1996 |
| <b>Committee Member</b>                                   | Local Organizing Committee<br>5 <sup>th</sup> , 6 <sup>th</sup> , 7 <sup>th</sup> , 8 <sup>th</sup> , PR Neurosciences Conferences<br>1996-2000   |
| <b>Chair, Organizing Committee</b>                        | Biomedical Sciences Research Forum<br>University of Puerto Rico School of Medicine, 2002  |
| <b>Chair, Organizing Committee</b>                        | XXIII Annual Research and Education Forum<br>University of Puerto Rico, Medical Sciences Campus, 2003   |
| <b>Member, Organizing Committee</b>                       | XXIII Annual Research and Education Forum<br>University of Puerto Rico, Medical Sciences Campus, 2004   |

#### **PARTICIPATION IN FORMAL COLLEGE, GRADUATE AND MEDICAL EDUCATION COURSES**

##### **PRESENT\***

|                                   |  |                     |
|-----------------------------------|--|---------------------|
| <b>*Molecular Medicine Course</b> | Lecturer (Neurotransmitters)<br>Department of Biochemistry<br>UPR School of Medicine       | August 2017 to 2020 |
| <b>*Human Physiology Course</b>   | Principal Coordinator<br>Department of Physiology and Biophysics<br>UPR School of Medicine | May 2016 to present |
| <b>*Human Physiology Course</b>   | Lecturer<br>Department of Physiology and Biophysics<br>UPR School of Medicine              | Jan 1999 to present |

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| <b>*Graduate Physiology Courses (various)</b>         | Lecturer<br>UPR School of Medicine  | Aug 1999 to present                      |
| <b>*Medical Pharmacology and Neuroscience Courses</b> | Lecturer<br>UCC-SOM   | Aug 1986 to present                      |
| <b>*Graduate Studies Program UPRRP</b>                | Lecturer, mentor & Invited Speaker<br>Department of Biology<br>UPR Río Piedras, PR                    | Aug 1988 to present                      |
| <b>Medical Neurosciences Course</b>                   | Coordinator/Lecturer<br>UPR School of Medicine  | Jan 2000 to 2003                         |
| <b>Neurology Residence Program</b>                    | Lecturer Basic Neuropharmacology<br>UPR School of Medicine  | Apr 2014                                 |
| <b>Ocular Pharmacology</b>                            | Lecturer<br>Iberoamerican Ophtalmology Course<br>Department of Ophtalmology<br>UPR School of Medicine | Jan 2000 to Jan 2011                     |
| <b>POPS Seminar/Workshop</b>                          | Faculty Development Program<br>UPR School of Medicine   | Jan 2000 to 2003                         |
| <b>Pharmacology/Toxicology Course</b>                 | Lecturer<br>Ponce School of Medicine  | August 1995 to 2006                      |
| <b>Biochemistry Course</b>                            | Lecturer<br>Ponce School of Medicine  | August 1995                              |
| <b>Neuropsychopharmacology of Substance Abuse</b>     | Center for Substance Abuse<br>Department of Family Medicine<br>UCC-SOM                                | August 1994                              |
| <b>Cellular/Molecular Biology Course</b>              | Lecturer<br>UCC-SOM   | August 1996<br>Aug 1992 - July 1995      |
| <b>Neurosciences Course</b>                           | Lecturer<br>UCC-SOM   | August 1996-present<br>1987 to July 1995 |
| <b>Introduction to Pharmacology</b>                   | Lecturer<br>Department of Biology<br>Inter American University<br>Metropolitan Campus                 | Aug-December 1988                        |
| <b>General Biology Course</b>                         | Lecturer<br>Department of Biology<br>UPR Río Piedras, P.R.  | Aug 1985-June 1986                       |

#### **PARTICIPATION IN ACADEMIC COMMITTEES (partial list)**

##### **UNIVERSITY OF PUERTO RICO, OFFICE OF THE VP RESEARCH AND TECHNOLOGY**

- UPR's NSF Corrective Action Plan, Coordinator (November 2010 to September 2014), Office of the Vicepresident for Research and Technology
- Coordinator, UPR PRESIDENT'S Commission to Evaluate the Future of the UPR Resource Center for Science and Engineering (RSCE) and NSF Projects under RSCE, Summer 2013
- Systemic UPR Committee for Sponsored Programs Policies and Procedures, Chair (July 2012 to September 2014)
- Molecular Sciences Building, Board of Directors, Vicepresident (May-September, 2013)
- University Board, Member (May 2013 to September 2013)
- Ad Hoc Task Group for Creation of Systemic Office for Research Compliance and Integrity
- Committees related to position: INDUNIV; Health Sciences Cluster, MCC, INDUNIV PRIDCO, etc

##### **UNIVERSITY OF PUERTO RICO, MEDICAL SCIENCES CAMPUS:**

- MS1 Monitoring Committee, member 2018 to present
- MS1 Curriculum Committee, member 2016 to present

- MS1 Promotions Committee, member 2016 to 2018
- MBRS SCORE Research Program Steering Committee, Chair, 2014 to present
- Intellectual Property Committee, Chancellor's OFFICE, 2015
- Ad hoc Committee for Animal Use and Care University Statement, member October 2009.
- Molecular Sciences Building Construction Grant C06-ARRA Initiative Coordinator, June 2009
- Planning Committee, Intercampus Molecular Sciences Building, Co-chair (2004-2006)
- Ad hoc Committee for Scientific Integrity Inquiry at Medical School Level, member
- Middle States Association Periodic Report-Research Subcommittee Chair (2005-06)
- LCME Accreditation Steering Committee, Member
- Graduate Studies Committee, Division of Biomedical Sciences, President.
- Annual Research & Education Forum Organizing Committee, Deanship Academic Affairs, Chair.
- Bailey K. Ashford Memorial Lecture, School of Medicine, President.
- Strategic Planning Committee (COPE), School of Medicine, Member and Leader of Research Subcommittee.
- Dean's Advisory Committee, School of Medicine, Member.
- Research Space Management Guidelines Development Ad hoc Committee, MSC Administrative Board, Chair.
- Administration Committee(CoA), School of Medicine, Member.
- Committee Educational Programming & Interaction (CIPE), Deanship Academic Affairs, Member.
- Assistantships Committee, Deanship of Academic Affairs, Member.
- AAMC, Graduate Research, Education and Training (GREAT) Committee, MSC representative
- Department of Physiology, Graduate Committee, Member.
- Curricular Revision Committee, School of Medicine, Member.
- Ex-officio Member, School of Medicine Committees (9).
- Resolutions Committee, Past Member.
- RISE Program, Internal Advisory Committee, Member.
- Middle States Accreditation, Educational Programs and Curricula, Member

#### **PONCE SCHOOL OF MEDICINE (PSM)**

- Middle States Association Accreditation Committee, Member
- Strategic Planning Committee, Member
- Institutional Human Research Review Board (IRB) Committee, Member
- Space Committee, Member
- Biomedical Research Committee, Member
- Graduate Steering Committee, Chairman
- Research Center in Minority Institutions (RCMI) at PSM Internal Advisory Committee, Chairman
- American Association of Medical Colleges (AAMC) Group on Institutional Planning Committee, PSM representative
- American Association of Medical Colleges (AAMC) Group on Student Affairs (Minority Affairs), PSM representative
- AAMC, Graduate Research, Education and Training (GREAT) Committee, PSM representative
- Academic Senate, Ex-Officio Member
- Academic Senate, Subcommittee for Academic Affairs, Member
- Curriculum Committee, Ex-officio Member
- Internet Committee, Member
- Hispanic Centers for Excellence Proposal Development Committee, Member
- MD/Ph.D. Combined Degree Program Development Committee, Member
- Medical Students Promotions Committee
- Inter-universities Graduate Neurosciences Program Development Task Force, Member.

#### **UNIVERSIDAD CENTRAL DEL CARIBE, ESCUELA DE MEDICINA (UCCEM)**

- Library Committee

- Faculty Affairs Committee
- Biomedical Research Committee
- Program of Graduate Studies, Secretary and Pharmacology representative
- Research Center for Minority Institution (RCMI) at UCC Steering Committee
- Research Center for Minority Institution (RCMI) at UCC Advisory Committee
- Committee for the Scientific Meeting and UCC/HURRA Anniversary celebration, 1993
- Curriculum Committee, Neurosciences and Pharmacology representative
- Administration Committee, Pharmacology representative
- Committee for the Development and Support of Research at UCCEM, Chairman
- RCMI Supplemental Applications Internal Review Committee, Chairman
- Committee Graduate Education in the Basic Sciences and Research, LCME Database Generation
- Extramural Research Construction Initiative Committee, NCCR.
- Institutional Review Board, Committee Member
- Strategic Development Plan Committee, Member
- Committee for Generation of an Institutional Administrative Research Infrastructure, Chairman
- Committee for the Generation of a Howard Hughes Medical Institute Proposal at UCC, Member
- Steering Committee of the MBRS Program at UCC, Chairman and Program Director.
- Advisory Committee of the MBRS Program at UCC, Chairman and Program Director.

## **RESEARCH EXPERIENCE**

- Differential chemosensitivity and synergy analysis of chemotherapeutic drugs in human cellular models of astrocytoma, glioblastoma, lymphoma, breast cancer and prostate cancer.
- *In Silico* discovery and development of novel antiviral and cancer chemotherapeutic agents. Focus on Dengue, West Nile, Influenza, and HIV; and, drugs for several forms of cancer
- Membrane Rafts in a Mechanical Injury and Alzheimer's Disease Model System using 1321N1 Human Astrocytoma and Other Glial Cell Lines, UPR-MS
- The Alzheimer's Disease risk factor SorLA and its trafficking routes in glia cell lines, UPR-MS
- HIV-gp120 and alpha-7 nicotinic receptor expression/function, UPR-MS and UPR-RP.
- Caveolins and nicotinic receptor structure and function, UPR-MS and UPR-RP
- Caveolae and caveolins in T Cells and Jurkat cells, UPR-MS and UCCEM, PR
- Glial cell caveolae and purinergic receptor trafficking. UPR-MS and UPR-RP.
- Role of caveolae and caveolins in the differentiation of C6 glial cells and rat aorta smooth muscle cells. UPR-MS, San Juan, PR.
- Characterization of caveolae in bovine adrenal medullary endothelial cells, PC12 and C6 glioma cells. Ponce School of Medicine, Ponce, PR.
- Interaction of marine neurotoxins with the assembly/disassembly machinery of clathrin coated vesicles. Ponce School of Medicine, Ponce, PR.
- Neuropeptide processing enzyme transport in neuronal coated vesicles: prohormone convertases, aminopeptidases, and endoprotease expression. PSM, Ponce, PR.
- Biochemical characterization of ACE in brain clathrin-coated vesicle preparations. UCCEM, Bayamón, PR./PSM, Ponce, PR.
- Biochemical characterization of acid and alkaline carboxypeptidases in bovine brain clathrin coated vesicles. UCCEM, Bayamón, P.R./PSM, Ponce, PR.
- Anti-muscarinic, and sodium channel blocking properties of novel alkaloids isolated from marine sponges of the Aegelas genus. UCCEM, Bayamón, P.R., UPR's Institute of Neurobiology and Department of Chemistry/PSM, Ponce, PR
- Potential interactions of angiotensin converting enzyme (ACE) inhibitors with biological receptors. UCCEM. Bayamón, P.R. & UPR, Medical Sciences Campus, San Juan, P.R.
- Immunochemical characterization of GTP-binding proteins in neuronal clathrin coated vesicles. UCCEM. Bayamón, P.R.



- Immunochemical characterization of GTP-binding proteins and Clathrin heavy/light chains in the ciliated protozoan *Tetrahymena termophila*. UCCEM, Bayamón, P.R.
- Pharmacological characterization of opiate receptors in *Tetrahymena termophila*. UPR, Río Piedras, P.R. & UCCEM, Bayamón, P.R.
- Characterization Neuropeptide Y receptors cultured endothelial cell lines. UCCEM, Bayamón, PR.
- Immunochemical detection of neuropeptides (NPY/SS/CCK) and their receptors in brain clathrin-coated vesicle. UCCEM, Bayamón, PR.
- Interactions of diuretic amiloride with muscarinic receptors of rat trachea and brain. UCCEM, Bayamón, P.R.
- Immuno-isolation of muscarinic receptor compartments from bovine membranes. Mount Sinai School of Medicine & UCCEM.
- Brain clathrin-coated vesicles, cyclic nucleotide phosphodiesterases and muscarinic cholinergic receptors. Mount Sinai School of Medicine & UCCEM.
- Kinetic analysis of phospholipase A2, protein kinase and transglutaminase. Mount Sinai School of Medicine & Montefiori Hospital, N.Y.
- Visual system of *Chlamydomonas reinhardtii*. Mount Sinai School of Medicine, N.Y.
- Pharmacological characterization of 5-HT receptors in the isolated rabbit aorta. Mount Sinai School of Medicine, N.Y.
- The effect of metergoline in the early cleavage stages of sea urchin embryos. Division of Cellular and Molecular Embryology. Concilio Nazionale de la Riserca, Arco Felice, Naples, Italy.
- Cyclic AMP and serotonergic drugs in the differentiation of *Naegleria gruberi*. University of Puerto Rico, Río Piedras, P.R.

## **PUBLICATIONS**

### **THESIS**

**Master Thesis:** "Role of Serotonin and Related Compounds on the Differentiation of *Naegleria gruberi*".

Advisor: Fernando Renaud, Ph.D.

**Doctoral Thesis:** "Pharmacological and Biochemical Characterization of the Cyclic Nucleotide Phosphodiesterase Activity and Muscarinic Acetylcholine Receptors of Bovine Brain Coated Vesicles".

Advisor: Saul Puszkin, Ph.D.,

### **ABSTRACTS (Partial listing)**

1. Clancy, B., Silva, W., and Maayani, S. (1983). Pharmacological characterization of serotonin receptors in the isolated rabbit aorta. Federation Proceedings 43:5026a.
2. Silva, W., and Puszkin, S. (1985). Cyclic nucleotide phosphodiesterase activity of bovine brain coated vesicles. Journal of Neurochemistry 16(1):76a.
3. Silva, W., and Puszkin, S. (1985). Muscarinic acetylcholine receptors of brain coated vesicles. Journal of Cell Biology 101:182a.
4. Silva, W., and Puszkin, S. (1986). Bovine brain coated vesicles display heterogeneity of muscarinic receptors. Journal of Neurosciences.
5. Santacana, G.E., and Silva, W.I. (1988). Antagonistic action of amiloride on the muscarinic receptors of rat trachea. The Physiologist 31(4):91a.
6. Silva, W.I., Santiago, N., Garcí-Arrarás, J.E., and Carrasquillo, B. (1989). Electroimmunoblotting of Neuropeptide Y: Application to the rat vas deferens. Hypertension 13(5):130a.
7. Silva, W.I. (1990). Neuromodulatory actions of Neuropeptide Y. Bulletin of the Medical Association of Puerto Rico 82(2):p86.

8. Silva, W. I., Sanabria, P.S., Jiménez, C. and Santacana, G. (1990). Concept Paper Presentation: Cardiovascular Research Center at UCCEM Proceedings at the Cardiovascular Diseases in Minority Populations Symposium, Washington, D.C.
9. Ortiz, E., Silva, W.I., and Velázquez, J.M. (1990). Immunochemical characterization of clathrin and its associated proteins in *Tetrahymena pyriformis*. Presented at the MBRS Symposium, Tennessee, October 1990.
10. Sanabria, P., and Silva, W.I. (1990). Specific <sup>125</sup>I-BH-NPY binding to intact cultured bovine adrenal medulla capillary cells. *The Physiologist* 33(4):105a.
11. Jiménez-Rivera, C.A., Savage, D., Santacana, G., Silva, W.I., and Weiss, G. (1990). Effects of chronic administration of imipramine on CNS alpha-2 receptors. *The Physiologist* 33(4):130a.
12. Altieri, P.I., W.I. Silva, R. Rodríguez-Servera, A. Laureano, H.L. Banchs, J.M. Martínez-Toro and N. Rosario (1991). Pulmonary artery hypertension and hypoxia induced by orally dissolved angiotensin converting enzyme inhibitors. Fourth International Symposium on Cardiovascular Chemotherapy, Geneva, Switzerland.
13. Silva, W.I., P.I., Altieri, P. Sanabria, N. Rosario, and L. Martínez (1991). Lack of interaction of angiotensin converting enzyme inhibitors with muscarinic and NPY receptors. Fourth International Symposium on Cardiovascular Chemotherapy, Geneva, Switzerland.
14. Silva, W.I., and Puszkín, S. (1991). Subcellular transport of muscarinic receptors in neurons. First World Congress of Cellular and Molecular Biology, Paris, France.
15. Silva, W.I., K. Benítez, and J. Ocasio (1992). Carboxypeptidases of bovine brain clathrin coated vesicles. 8vo. Congreso Estudiantil de Investigación Científica, San Juan, P.R.
16. Rosa, R., GE de Motta, W.Silva, AD Rodríguez and JJ Morales. (1992). Effect of alkaloids from tropical marine sponges on molecular targets in excitable membranes. First Symposium on Biomedical Research, Ponce, P.R. *Boletín Científico del Sur* 19(2):33.
17. Escalona de Motta, GE, R. Rosa, A.D. Rodríguez, W. Silva, and C. Jiménez (1992). Alkaloids isolated from tropical marine sponges bind to molecular targets in rat brain membranes. Society for Neurosciences, Anaheim, California.
18. Mercado, J. GE Escalona de Motta, W. Silva, T. Tosteson, and R. Blanco (1992). Toxic extracts from the benthic dinoflagellate *Ostreopsis lenticularis* bind to rat brain muscarinic receptors. Society for Neurosciences, Anaheim, California.
19. Silva, W.I., K. Benítez, J. Ocasio, L. Martínez, and N. Rosario (1992). Biochemically distinct carboxypeptidase activities in bovine brain clathrin coated vesicles. First Puerto Rico Neuroscience Conference, Bayamón, P.R.
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### ***In preparation***

- Nicole M. Nieves<sup>1</sup>, Noel Mayol<sup>1</sup>, Adriana O. Díaz-Quiñones<sup>1</sup>, Iris K. Salgado<sup>1</sup>, Walter I. Silva<sup>2</sup>, and Héctor M. Maldonado<sup>1</sup>. Anticancer And Chemosensitizing Effects Of Wee-1 Kinase Inhibitor Mk-1775 In Triple Negative (Mb-231) Breast Cancer Cells.
- Gabriel Rodríguez<sup>1</sup>, Ricardo Carrero<sup>1</sup>, Iris Salgado Ph.D.<sup>1</sup>, Walter I. Silva Ortiz Ph.D.<sup>2</sup>, Héctor Maldonado Ph.D.<sup>1</sup> A comprehensive study of the chemosensitizing effects of AZD-1775, WEE-1 inhibitor in combination with DNA damaging treatments in the Jurkat model.

### **PARTICIPATION IN STUDENT TRAINING AND/OR THESIS COMMITTEE**

#### **Student, Mentor, Institution, Degree (\*See manuscript, abstract or paper)**

1. Juan C. Mercado, Dr. Silva, Catholic School of Bayamón, High School
2. Elizabeth Ortíz, Dr. Velázquez, UPR, Cayey Campus, Undergraduate\*
3. Yazmin García, Dr. Silva, UPR, Cayey Campus, Undergraduate
4. Sheila García, Dr. Silva, UPR, Cayey Campus, Undergraduate

5. Nelly Cuevas, Dr. Miranda, Interamerican University, Undergraduate\*
6. Alejandro Ucros, Dr. Miranda, Interamerican University, Undergraduate\*
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8. Mayra Román, Dr. Renaud, UPR, Río Piedras, MS\*
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10. Ricardo Chiesa, Dr. Renaud, UPR, Río Piedras, MS\*
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15. Julio Ocasio, Dr. Silva, UCCEM, Bayamón, MD\*
16. Javier I. Arroyo, Dr. Silva, UCCEM, Bayamón, MD\*
17. Francisco Cardona, Dr. Silva, UCCEM, Bayamón, MD\*
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55. Vydia Rodríguez, Dr. Silva, PSM/CUC, Howard Hughes Program Honor Student-UG

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58. Jocelyn Montalvo, Dr. Silva, UPR-MSc, M.S. Student\*
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65. Sheila Valentín, Dr. Silva, UPR-Río Piedras, undergraduate student
66. Isabel Sambrana, Dr. Silva, UPR-Río Piedras, undergraduate student
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70. Carol Santos, Dr. Silva, JuvEmpleo Program
71. Yesenia Ramos, Dr. Silva, UPR-RP, RISE-MBRS Student\*
72. Tamara Irizarry, Dr. Silva, UPR-RP, SCORE-MBRS Student
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74. Elsa Silva-López, Dr. Silva, UPR-Humacao, RISE-MBRS Student
75. Dra. Edna Aquino, Dr. Fernando González, MBRS-SCORE, PostDoctoral Fellow\*
76. Dra. Marie Rubio-Dávila, Dr. Silva, MBRS-SCORE, PostDoctoral Fellow\*
77. Carlos Galeano, RISE-MBRS Student (2002)
78. Javier Jardón, UPR-RP, undergraduate student, Medical student-UPR\*
79. Enrique Rodríguez, UPR-RP, Ph.D. student
80. Johnny Figueroa, UPR-MSc, Ph.D. student.
81. Guermarie Velázquez, UPR-MSc, MS and PhD student\*.
82. José García, UPR-MSc, Ph.D. student\*
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84. Jaimarí Cumba, Dr. Silva, RISE-MBRS Student
85. Cristina Pagán, Dr. Silva, RISE-MBRS Student\*
86. Hermes Pagán, Dr. Silva, RISE-MBRS Student
87. Yesseinia Angleró, UPR-Humacao, Undergraduate Student and RISE-MBRS Student\*
88. Oneira Velázquez, Dr. Julio Lavergne, UPR-SoM, MS student
89. Michelle Burgos, Dr. Fernando González, UPR-SoM, PhD student
90. Migdalia Cheveres, Dr. Fernando González, UPR-SoM, PhD student
91. Aimee Rivera, Dr. Fernando González, UPR-SoM, PhD student
92. Carlos A. Baez-Pagan, Dr. Jose A. Lasalde, PhD student\*
93. Olga, Dr. Silva, PSM, MD student
94. Nicole Ross, Dr. Walter Silva, UPR-SoM, Undergraduate student
95. Adriana Diaz, Dr. Hector Maldonado, UPR-Cayey, Biominds/RISE programs, UG\*
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100. Namyr Martinez, Dr. Walter Silva, UPR-SoM, MD/PhD student\*
101. Iris Salgado Villanueva, Dr. Walter Silva, PhD Student\*
102. Yashira Rivera, Dr. Walter Silva, UPR-RP, undergraduate student
103. Mónica Quiñones, Dr. Walter I. Silva, IAU, Metro, undergraduate student
104. Magdiel Martínez, Dr. Walter Silva, PhD Student\*
105. María del Mar Meléndez, Dr. Walter Silva, UPR-RP, undergraduate student
106. Paola Figueroa Carrasquillo, Dr. Walter Silva, UPR-RP, undergraduate student

- 107. Iván E. Aponte Taboas, Dr. Walter Silva, IAU, Metro, undergraduate student
- 108. Víctor Aponte Taboas, Dr. Walter Silva, IAU, Metro, undergraduate student
- 109. Alejandro Rodriguez, Boston College, MA, undergraduate student
- 110. Genesis Padilla, UPR-RP, undergraduate student
- 111. Nilmary Grafals, Dr. Pablo Vivas, PhD student
- 112. Jonathan Cooke, Dr. María A. Sosa, PhD student
- 113. Cristina Román, Dr. Guillermo Yudovsky/Dr. Jorge D. Miranda, PhD student
- 114. Keishla Rodriguez Graccianni, Dr. Walter Silva, PhD Student

**STUDENT AWARDS**

- José O. García. First Place Poster Presentation. 1st Annual Puerto Rico Physiological Society Meeting, University of Puerto Rico – School of Medicine, San Juan, PR. 2011
- Iris K. Salgado. First Place Poster Presentation. 3rd Annual Puerto Rico Physiological Society Meeting, University of Puerto Rico – School of Medicine, San Juan, PR. 2012
- Namyr A. Martínez. First Place Poster Presentation. 3rd Annual Puerto Rico Physiological Society Meeting, University of Puerto Rico – School of Medicine, San Juan, PR. 2013
- Mónica I. Quiñones. Third Place Poster Presentation. 3rd Annual Puerto Rico Physiological Society Meeting, University of Puerto Rico – School of Medicine, San Juan, PR. 2013

**Patents: applied, declined.**

| APPLICATION                 | DATE  | INVENTOR   | INSTITUTION                            | TITLE  |
|-----------------------------|---|--|--|--|
| 61/503,915<br>(provisional) | July 1, 2011<br>(submitted)<br>2015<br>(declined) | José A. Lasalde<br>Orestes Quesada<br>Carlos Báez<br>Gary Grajales<br>Walter Silva | RRP<br>RRP<br>RRP<br>RRP<br>RRP<br>MSC | Nicotinic<br>Acetylcholine<br>Receptor as<br>Novel Candidate<br>in the Search for<br>Genes Associated<br>to Statin Adverse<br>Drug Reactions |

**GRANTS**

**Active (2018-2023)**

NIH- NIGMS – 2 P20 GM103642-06

COBRE Phase 2 Neuroplasticity Center at the UPR Medical Sciences Campus

Program Director/Principal Investigator: Dr. Jose A. Lasalde Dominici

Dr. Walter I. Silva Ortiz

COBRE Pilot Projects Program (CP3) and COBRE Collaborative Seeds Projects (CCSP) Director

Total Grant Costs (5 Years): Approximately \$11,937,657

**Years 1986-2014**

NIH: Research Center for Minority Institutions (RCMI) Grant #1-G12-RR03035

Principal Investigator: Dr. Raúl Marcial-Rojas, Program Director: Dr. Eddy Ríos-Olivares

Principal Investigator of the Neurosciences Research Center Subproject F: W.I. Silva

**Title: Pharmacological Correlates of Brain Clathrin Coated Vesicles**

Total length of grant: 1986-1991

Total direct costs: Approximately \$120,000.

NIH: Research Center for Minority Institutions (RCMI). Grant #1-G12-RR03035

Principal Investigator: Dr. Raúl Marcial-Rojas; Program Director: Dr. Eddy Ríos-Olivares

Principal Investigator of the Cardiovascular Research Center Subproject 2: W.I. Silva

**Title: Molecular correlates of interaction between NPY and neurotransmitters in central cardiovascular nuclei**

Total length of grant: 1991-1994

Total direct costs: \$132,310.

NIH: Research Center for Minority Institutions (RCMI). Grant #1-G12-RR030035

Principal Investigator: Dr. Raúl Marcial-Rojas; Program Director: Dr. Eddy Ríos-Olivares

Co-PI Cardiovascular Research Center Project A: Dr. Walter I. Silva

**Title: Interactions of Neuropeptide Y with Vascular Endothelial Cells**

Total Length of Grant: 1991-1994

Total direct costs: Approximately \$179,893

NIH: Research Center for Minority Institutions (RCMI). Grant # G-12-RR03035

Principal Investigator: Dr. Raúl Marcial-Rojas; Program Director: Dr. Eddy Ríos-Olivares

Co-PI Cardiovascular Research Center Project C: Dr. Walter I. Silva

**Title: Vasoactive Agents Modulation of Unit Activity in General Cardiovascular Nuclei**

Total length of Grant: 1991-1994

Total direct costs: \$197,065.

NIH: National Institute of Neurological Disorders and Stroke. Grant # 1-R29-NS-27259

First Independent Research Support and Transition Award

Principal Investigator: Dr. W.I. Silva

**Title: Neuropeptides and their Receptors in Brain Coated Vesicles** Total length of grant: 1989-1995

Total direct costs: \$258,438.

NIH-Minority Biomedical Research Support: Grant # 1-S06-GM-50695

Program Director (PI/PD): Dr. Walter I. Silva

**Title: MBRS Program of UCCEM**

08-01-94 to 07-31-95

Total direct costs: for three year Program approx. \$1,200,000.

NIH-Minority Biomedical Research Support: Grant # 1-S06-GM-50695

Subproject PI: Dr. Walter I. Silva

**Subproject Title: Biochemical Characterization of the Novel Carboxypeptidase I**

MBRS Project at UCC 08-01-94 to 06-30-95

Total Direct Costs: Approx. \$39,000.

NIH: Research Center for Minority Institutions (RCMI Program): Grant # G12 RR 03050

Ponce School of Medicine, Ponce, Puerto Rico

Principal Investigator: Dr. Walter I. Silva

**Subproject Title: Marine Neurotoxins effects on the Assembly-Disassembly Machinery of Clathrin**

Coated Vesicles. October 1995-July 1996

Total direct costs: Approx. \$70,000.

NIH: Research Center for Minority Institutions (RCMI Program): Grant # G12 RR 03050

**Program Title: RCMI Program at the PSM**

Principal Investigator: Dr. Jaime Rivera Dueño

Program Director: Dr. Walter I. Silva

Ponce School of Medicine, Ponce, Puerto Rico

August 1995 to 1998

Total direct costs: approx. 6 million dollars.

NIH-NIEHS: RCMI Program: Environmental Toxicology Supplement

Ponce School of Medicine, Ponce, Puerto Rico  
Principal Investigator: Dr. Walter I. Silva  
**Subproject Title: Coated Vesicular Organelles: Effects of Marine Toxins**  
August, 1997-July,2000 (Transferred to UPR-MS).  
Total direct costs: \$268,152.

NIH: Minority Biomedical Research Support (MBRS Program): Grant #S06 GM08239  
Ponce School of Medicine  
Subproject PI: Dr. Walter I. Silva  
**Subproject Title: Neuropeptide Processing Enzymes in Subcellular Transport Organelles.**  
July 1, 1998-May 31, 2001 (Transferred to UPR-MS).  
Total direct costs: \$454,494.

NIH-NIGMS: SCORE Program  
University of Puerto Rico, Medical Sciences Campus  
Subproject PI: Dr. Walter I. Silva  
**Subproject Title: Role of caveolae and caveolins in C6 glial cell differentiation.**  
August 1, 2001-July 31, 2004  
Total direct costs: ~\$450,000.

NIH: Research Center for Minority Institutions (RCMI). Grant # G-12-RR03035  
Principal Investigator: Dra. Nilda Candelario; Program Director: Dr. Eddy Ríos-Olivares  
Center for Cellular and Molecular Biology, Director, Dra. Priscilla Sanabria  
**Sub Project Title: Role of Caveolae in PC12 Cells Differentiation.**  
Subproject PI: Dr. Héctor Maldonado  
Subproject Co-PI: Dr. Walter I. Silva (10% effort).  
September 1, 2001-August 31, 2004  
Total direct costs: ~\$160,000.

NIH-NIGMS: SCORE Program  
University of Puerto Rico, Medical Sciences Campus  
Program Director (PI/PD): Dr. Walter I. Silva  
**Title: MBRS SCORE Program at the UPR-MS.**  
August 1, 1999 - July 31, 2004  
Total direct costs: ~\$15Million

NIH-NIGMS: SCORE Program  
University of Puerto Rico, Medical Sciences Campus  
Program Director (PI/PD): Dr. Walter I. Silva  
**Title: MBRS SCORE Program at the UPR-MS.**  
August 1, 2004 - July 31, 2009  
Total costs: ~\$15Million

NIH-NIGMS: SCORE Program  
University of Puerto Rico, Rio Piedras Campus  
MBRS SCORE Program at the UPR-RP.  
PI/PD: Dr. Rafael Arce  
Subproject PI: Dr. Fernando Gonzalez  
Co-PI: Dr. Walter I. Silva (15% T/E)  
**Title: P2Y<sub>2</sub> Receptor Signaling and Membrane Microdomains in 1321N1 Astrocytoma Cells.**  
August 1, 2004 - June 30, 2008  
Total direct costs: ~\$600,000

NIH-NCRR: INBRE Program  
University of Puerto Rico, Rio Piedras Campus  
PI: Dr. Fernando Gonzalez  
**Mentoring Program Participant**  
August 1, 2004 - June 30, 2005

NIH-NINDS: Specialized Neurosciences Research Program (SNRP)  
University of Puerto Rico, Medical Sciences Campus  
PI/PD: Dr. Edmundo Kraiselburd  
**Title: Nicotinic Receptor in NeuroAIDS**  
PI – Dr. Jose A. Lasalde  
Co-PI: - Dr. Walter I. Silva (5%)  
September 1, 2006 - July 31, 2011  
Total direct costs: Approved

NIH-NCRR: INBRE Program (P20)  
University of Puerto Rico, Rio Piedras Campus  
PI: Dr. Sandra Peña  
**Advancing Competitive Biomedical Research in Puerto Rico**  
**Mentoring Initiative Coordinator: Dr. Walter I. Silva (5%)**  
August 1, 2009 - July 31, 2014  
Total direct costs: ~\$12.5Million

**Personal References**

AVAILABLE UPON REQUEST