

CURRICULUM VITAE
José A. Lasalde Dominicci, Ph.D.

ADDRESS Departments of Biology & Chemistry
Julio García Díaz 111, 114, 115
University of Puerto Rico
PO Box 23360
San Juan, Puerto Rico 00931-3360
JGD Laboratory: 787-764-0000 ext 88125, 88126, 88127, 88128
Molecular Science Research Center
Lab: 223-224
Phone 787-523-5325
<http://www.upr.edu/CiCiM>
e-mail: jasalde@gmail.com / jose.lasalde@upr.edu
<http://www.nachr.org/>
<http://www.cifupr.org/>

EDUCATION

1983-1988	Ph.D. Biochemistry (mentors-Dr. Gladys Escalona and Dr. José del Castillo)	Department of Chemistry University of Puerto Rico Río Piedras Campus
1977-1982	B.S. Chemistry & Biology	Department of Chemistry University of Puerto Rico Río Piedras Campus

POSTDOCTORAL TRAINING

11/91-1993	Research Associate Ion-Channel Structure (Dr. Mark McNamee)	Department of Biochemistry & Biophysics UC Davis, Davis CA
1988-1991	Research Associate Electrophysiology Patch-Clamp Techniques (Mentors: Dr. José del Castillo and Dr. Conchita Zuazaga)	Institute of Neurobiology University of Puerto Rico Medical Sciences Campus
6/26/ al 9/25/1990	Summer Training Molecular Biology (Dr. William Gilly)	Stanford University Hopkins Marine Station of Stanford University

OTHER TRAINING

5/1996-9/1996	Summer Sabbatical (Dr. Stuart Forman's laboratory)	Harvard Medical School Department of Anesthesiology Boston, MA
2002	Summer Research (Dr. Raymond Steven's Laboratory)	Scripps Clinics, San Diego, California

ACADEMIC APPOINTMENTS

1/3/2017-01/31/2018	Executive director MSRC	University of Puerto Rico
9/16/2013-1/31-2017	Vice President for Research and Technology (<i>in kind</i>)	University of Puerto Rico
5/2013-9/15/2013	Interim President- UPR	
11/22/2010-5/2013	Vice President for Research and Technology (<i>in kind</i>)	University of Puerto Rico
12/2011-present	Adjunct Professor	Institute of Neurobiology University of Puerto Rico Medical School
6/2006-present	Adjunct Professor	Department of Comparative Medicine University of Puerto Rico Medical School
6/2003-present	Professor	Department of Biology University of Puerto Rico San Juan, Puerto Rico
7/1998-present	Associate Professor	Department of Biology University of Puerto Rico San Juan, Puerto Rico
9/6/1998-6/31/1998	Assistant Professor	Department of Biology University of Puerto Rico San Juan, Puerto Rico
8/1994-8/1997	Associate Biochemist	Molecular & Cellular Biology Division of Biological Sciences UC Davis, Davis CA 95616

OTHER PROFESSIONAL APPOINTMENTS AND MAJOR VISITING APPOINTMENTS

12/2013-present	Puerto Rico Science and Technology Trust	Board of Directors
10/2012- 01/ 2017	Material Characterization Center	Board of Directors-President
11/2011-01/ 2017	UPR-Molecular Science Building	Board of Directors-Vice President
10/2010- 01/ 2017	INDUNIV (PRIDCO)	Board of Directors-Vice President

Summer 1997	Visiting Scientist	Department of Anesthesiology Harvard Medical School
-------------	--------------------	--

AWARDS AND HONORS

1981-1983	National Institutes of Health -MBRS undergraduate Student fellowship
1984-1998	National Institutes of Health -MBRS Graduate Student fellowship
1989-1992	National Institutes of Health -MARC Post-Doctoral Fellowship award
1992-1996	National Institutes of Health -NIGMS –Post-doctoral Research Award
5/1999	National Science Foundation Productivity Award
7/1999	Glaxo-Wellcome Research Award
6/2000	Academia de Artes y Ciencias de Puerto Rico.
6/2008-present	Member Editorial Board of Cellular and Molecular Neurobiology (Springer)
8/2008-present	Member of the IUPAC DIVISION-III BIOMOLECULAR SUBCOMMITTEE

MAJOR COMMITTEE ASSIGNMENT

1992-1996:	Laboratory Security	Molecular & Cellular Biology Division of Biological Sciences UC Davis, Davis CA 95616
1996-1998	Library Committee	Department of Biology University of Puerto Rico Río Piedras Campus
1998-present	MBRS Advisory committee	Faculty of Natural Sciences University of Puerto Rico Río Piedras Campus
1998-present	MARC Advisory committee	Faculty of Natural Sciences University of Puerto Rico Río Piedras Campus
1998-2003	RCMI Advisory committee	Universidad Central del Caribe School of Medicine (UCC)
6/2000-present	Director Confocal Imaging Facility	Department of Biology

	www.cifupr.org	University of Puerto Rico Río Piedras Campus
8/2000-2002	Graduate School committee	Department of Biology University of Puerto Rico Río Piedras Campus.
8/2002-2004	Personnel committee	Department of Biology University of Puerto Rico Río Piedras Campus.
8/2001-8/2003	National Science Foundation, Neuronal & Glial Mechanisms Panel member	
5/2004-5/2005	MD Anderson-UPR Steering Committee	
7/2003-5/2004	Chair UPRRP Biomolecular Building Committee	
6/2003-6/2005	National Institute of Health, National Research Service Award (NRSA) panel member, Structural Biology.	
6/2005-5/2007	Reviewer for the Philip Morris External Research Program	
6/-2000-11/2005	Mentor for the “successful grant writing” NIGMS initiative at the University of Kentucky.	
04/2005-3/2011:	Appointed as Scientific Director for the SNRP program at UPR-RCM campus (http://snrp.rcm.upr.edu/investig.html).	
01/07/2013-present	Director of the COBRE Neuroimaging and Electrophysiological Facility (NIEF)	
6/2016-present	National Institute of Health, National Research Service panel member; at NIH/NIGMS, pa NeuroAids SEP ZRG1 AARR M 02: “AIDS and AIDS related research” for 2018/07/26/2018, council round, "HIV/AIDS Special Emphasis Panels (ZRG1 F17-M 20) 03/01/2018 and NIH/NIGMS Centers of Biomedical Research Excellence (COBRE) Phase III Translational Center panel, 11/02/2017.	

THESIS COMMITTEE:

Orestes Quesada (1991-1995)	Ph.D. Dissertation	Department of Chemistry, UPR
Alberto Rivera (1991-1995)	Ph.D. Dissertation	Institute of Neurobiology, UPR
María Lázaro (1997-2001)	Ph.D. Dissertation	Department of Biology, UPR
Magda Díaz (1997-2000)	M.S. Dissertation	Department of Biology, UPR

Nilka Tomasini (1998-2001)	Ph.D. Dissertation	Department of Biology, UPR
Pedro Santiago (1998-2001)	Ph.D. Dissertation	Department of Biology, UPR
José Vidal (1997-present)	Ph.D. Dissertation	Department of Biology, UPR
José Cardé (1997-present)	Ph.D. Dissertation	Department of Biology, UPR
Keqin Ren (1999-2004)	Ph.D. Dissertation	Department of Biology, UPR
Wilson Ríos (1999-2004)	Ph.D. Dissertation	Department of Microbiology, UPR
Yolanda Robles (1999-2004)	Ph.D. Dissertation	Department of Biology, UPR
Juan Crespo (1999-2005)	Ph.D. Dissertation	Department of Biology, UPR
Ileana Rodríguez (6/2000-2006)	Ph.D. Dissertation	Department of Chemistry, UPR
Roberto Zayas (6/2001-2004)	Ph.D. Dissertation	Department of Neurology University of Minnesota
Iván Cajigas (2004-2008)	Ph.D. Dissertation	Department of Biology, UPR
Gadiel Galarza (6/2005-2011)	Ph.D. Dissertation	Institute of Neurobiology
Juan Pablo Palavicini (6/2006-2011)	Ph.D. Dissertation	Institute of Neurobiology
Sandra Garrett (6/2006-2011)	Ph.D. Dissertation	Institute of Neurobiology
Edgardo Castro (2007-present)	Ph.D. Dissertation	Department of Biology, UPR
Edgardo Colón (8/2011-present)	Ph.D. Dissertation	Department of Biology, UPR
Dina Paola Bracho (8/2011-present)	Ph.D. Dissertation	Department of Biology, UPR
Cindy Figueroa (2011-present)	Ph.D. Dissertation	Department of Chemistry, UPR
Thesis Supervisor (1998-present)		
John Santiago (1998-2002)	Ph.D. Dissertation	Department of Biology, UPR
Gisela Guzmán (1998-2003)	Ph.D. Dissertation	Department of Biology, UPR
Gretchen López (1998-2004)	Ph.D. Dissertation	Department of Biology, UPR

José L. Mercado (1998-2001)	M.S. Dissertation	Department of Biology, UPR
José Lizardi (7/2001-2008)	Ph.D. Dissertation	Department of Chemistry, UPR
Arsemia del Valle (7/1999-2001)	M.S. Dissertation	Department of Biology, UPR
Manuel Navedo (1998-2004)	Ph.D. Dissertation	Department of Biology, UPR
Madeline Nieves (1/1999-2004)	Ph.D.. Dissertation	Department of Biology, UPR
Guillermo Asmar (7/1999-2001)	M.S. Dissertation	Department of Chemistry, UPR
Guillermo Asmar (8/2001-6/2007)	Ph.D. Dissertation	Department of Chemistry, UPR
José David Otero (8/2001-2008)	Ph.D. Dissertation	Department of Chemistry, UPR
Carlos Báez (8/2001-2008)	Ph.D. Dissertation	Department of Chemistry, UPR
Nila Biagi (8/2003-5/2010)	Ph.D. Dissertation	Department of Biology, UPR
Rosdelma Díaz (8/2004-present)	Ph.D. Dissertation	Department of Biology, UPR
Daniel Caballero (8/2002-6/2010)	Ph.D. Dissertation	Department of Chemistry, UPR
Jessica Oyola (8/2005-present)	Ph.D. Dissertation	Department of Chemistry, UPR
Daisy Espinosa (8/2005-2008)	M.S. Dissertation	Department of Chemistry, UPR
Luis Felipe Padilla (8/2007-present)	Ph.D. Dissertation	Department of Chemistry, UPR
Coral Capo (8/2008--2015)	Ph.D. Dissertation	Department of Chemistry, UPR
Viviannete Alicea (8/2015-present)	M.S. Dissertation	Department of Biology, UPR
Didiana Cruz (8/2014-present)	Ph.D. Dissertation	Department of Biology, UPR
Madhavi Sarma (8/2014-present)	Ph.D. Dissertation	Department of Biology, UPR
Rafael Maldonado (8/2015-present)	Ph.D. Dissertation	Department of Biology, UPR
Josué Rodríguez (7/2016-present)	Ph.D. Dissertation	Department of Biology, UPR
Juan Villalobos (7/2017-present)	Ph.D. Dissertation	Department of Biology, UPR
Mike Soto (8/2018-present)	M.S. Dissertation	Department of Biology, UPR

STUDENTS TRAINED SINCE 1997 (partial list, 232 students, see a detailed list at: <http://nachrs.org/studenttraining.html>)

Name	Degree	Status
Asmar, Guillermo	Ph.D. UPR	San Diego Receptors, Inc.
Báez, Carlos (postdoc)	Ph.D. UPR	Post Doc, U. of Puerto Rico
Ballester, Leomar (postdoc)	MD/Ph.D	NIH, Anatomic Pathology Residency
Biaggi Labiosa, Nilza	Ph.D. UPR	Post Doc, MD Anderson, Dr. Gabriel Lopez-Berestein
Caballero Rivera, Daniel	Ph.D. UPR	Senior Scientist Amgen
Cruz Martin, Alberto	Ph.D. UCLA	Post Doc, U. of California, Dr. Carlos Portera-Cailliau
De La Torre Ubieta, Luis	Ph.D. Harvard	Post Doc, UCLA
Del Valle Piñero, A. Yesenia	Ph.D. U of Florida	Post Doc, NIH
Giusti Rodríguez, Paola	Ph.D. Harvard	Post Doc, The National Academies, DC
Guzmán Colón, Gisila	Ph.D. UPR	Senior Scientist Amgen
Lizardi, José	Ph.D. UPR	Post Doc, Columbia University, Dr. David Sulzer
López, Gretchen	Ph.D. UPR	Post Doc, Stony Brook, Dr. Lorna Role
Mercado Muñoz, José L.	Ph.D. U. of Wisconsin	Post Doc, U. of Washington in St. Louis
Merced Álvarez, Gadiel E.	Ph.D. UPR	Post Doc
Navedo Morales, Manuel F	Ph.D. UPR	Assistant Professor, U. of California, Davis
Nieves Cintrón, Madeline	Ph.D. UPR	Research Scientist, U. of California, Davis
Ortiz Acevedo, Alejandro (postdoc)	Ph.D. UC Davis	U. of Puerto Rico, Mayagüez
Osorio, Karen	Ph.D. Cornell	Industry
Otero, José	Ph.D. UPR	Post Doc, U. of Washington, Dr. John D. Scott
Rivera Rentas, Alberto (postdoc)	Ph.D. UPR	Director at NIH's National Center for Complementary and
Marti Arbona, Ricardo	Ph.D.	Bells Lab, Research Associate
Rosa Bauzá, Yazmín	Ph.D. Berkeley	Chair, Mathematics and Science, The National Hispanic U.
Sánchez Padilla, Javier	Ph.D. Baylor	Post Doc, Northwestern University, Dr. James Surmeier
Santiago, John	Ph.D. UPR	Senior Scientist Amgen
Santiago, Laura (postdoc)	Ph.D. UPR	Assistant Professor, U. of Puerto Rico, Cayey
Torres, Alexis	Ph.D. Cornell	Post Doc
De La Cruz Rivera, Pamela	MD/Ph.D.	MD/Ph.D. Candidate, UT Southwestern
García, Wilfredo	MD/Ph.D.	MD/Ph.D. Candidate Harvard
Grajales, Gary	MD/Ph.D.	MD/Ph.D. Candidate Washington U. at St. Louis
Grajales, José	MD/Ph.D	MD/Ph.D. Candidate, Washington U. at St. Louis
Mercado, José	MD/Ph.D	MD/Ph.D. Candidate UMass
Rivera, Elvia	MD/Ph.D.	MD/Ph.D. Candidate, UPR / MD Anderson
Capllonch Maldonado, Ruth	Ph.D.	Ph.D. Candidate, Ponce School of Medicine
Capo, Coral	Ph.D.	Ph.D. Candidate, U. of Puerto Rico
Casiano, Anette	Ph.D.	Ph.D. Candidate, U. of Michigan
Del Hoyo Rivera, Natalie	Ph.D.	Ph.D. Candidate, U. of Puerto Rico
Delgado, Manuel	Ph.D.	Ph.D. Candidate, U. of Puerto Rico
Díaz, Rosedelma	Ph.D.	Ph.D. Candidate, U. of Puerto Rico
Garía González, Aurian	Ph.D.	Ph.D. Candidate, MIT
Gómez, José	Ph.D.	Ph.D. Candidate, U. of Minesota
González Pérez, Caled	Ph.D.	Ph.D. Candidate, Baylor College
González, Omayra	Ph.D.	Ph.D. Candidate, Rutgers
Joaquín, Freisa	Ph.D.	Ph.D. Candidate, U. of Puerto Rico
Jones Molina, John	Ph.D.	Ph.D. Candidate, Columbia
Martínez, Angélica M.	Ph.D.	Ph.D. Candidate, U. of Chicago
Marty, Leilani	Ph.D.	Ph.D. Candidate, UT Southwestern
Meléndez, Mariel	Ph.D.	Ph.D. Candidate
Montalvo, Krisia, N.	Ph.D.	PREP U. of Rochester
Morales Pérez, Claudio	Ph.D.	Ph.D. Candidate, UT Southwestern

Nogueras, Carlos	Ph.D.	Ph.D. Candidate, U. of Puerto Rico
Oyola, Jessica	Ph.D.	Ph.D. Candidate, U. of Puerto Rico
Padilla, Luis F.	Ph.D.	Ph.D. Candidate, U. of Puerto Rico
Quintana, Ruth	Ph.D.	Ph.D. Candidate, Ponce School of medicine
Ríos, Ramón Y.	Ph.D.	Ph.D. Candidate, MIT
Rosa Hernández, Lisette	Ph.D.	Ph.D. Candidate, U. of Florida
Tiburcio, Janice	Ph.D.	Ph.D. Candidate
Torruellas Arzuaga, Karla A.	Ph.D.	Ph.D. Candidate, U. of Florida
Vázquez, Edwin	Ph.D.	Ph.D. Candidate, U. of Puerto Rico
Velásquez Rivera, Eric	Ph.D.	Ph.D. Candidate, U. of California, Irvine
Álvarez Díaz, Gerson	MD	MD
Castillo, Joanne	MD	MD
Colón Rodríguez, Modesto J.	MD	MD
Cuello, Kilsy	MD	MD
Galloza Otero, Juan C.	MD	MD
Martínez, Yaiza	MD	MD
Ortiz Díaz, Enrique	MD	MD
Reyes Torres, José	MD	MD
Ricardo, Ariamsi	MD	MD
Shehadeh, Mohammad	MD	MD
Tardy, Frances	MD	MD
Vásquez, Raúl	MD	MD
Zeno Guzmán, David	MD	MD
Arroyo, Christian	MD	MD Candidate
Candelario, Madeline	MD	MD Candidate
Caraballo, Iván	MD	MD Candidate
Carrasquillo, Onelys	MD	MD Candidate
Cuascut, Fernando	MD	MD Candidate
Díaz, Gil	MD	MD Candidate
Dorna, Luisamari	MD	MD Candidate
González Viera, Glorisel	MD	MD Candidate
Olazagasti, Jeannette	MD	MD Candidate
Plaud , Auda	MD	MD Candidate
Reyes, Edgardo	MD	MD Candidate
Ríos, Raymond	MD	MD Candidate
Valle Avilés, Félix	MD	MD Candidate
Vicente, Jessica	MD	MD Candidate
Vives, Carlos	MD	MD Candidate
Rodríguez Bonilla, Carla D	DMD	Odontology
Gil Falero, Olga A.	DMD	Odontology
Frontera, Eva	DMD	DMD Candidate U. of Puerto Rico
Ortiz, Cristina	DMD	DMD Candidate U. of Puerto Rico
Ortiz, Patricia	DMD	DMD Candidate U. of Puerto Rico
Arvelo Lugo, Wences	BS	Peace Court
Asseo, Aloysha	MS	Lab Technician
Báez Bonilla, Rafael	BS	Bio Bay
Cabrera, Nicolás	BS	Biotech
Calo Pérez, William	MS	MS Candidate, U of Puerto Rico
Cruz Nieves, Omar A.	BS	Amgen
Emmanuelli, Lilliana	BS	Graduate School, FL
Espinoza, Daisy	MS	Mexico
Frontanés, Mary Ann	BS	Education
García, Jomarie	BS	Law Student Candidate
Heredia Pérez, Cristine M	MS	Education
Lebrón Figueroa, Dora A.	MS	Public Heath

Madera, Bismark	BS	MS Candidate, U. Interamericana
Rivera Dueño, María Teresa	BS	Speech Therapy
Rivera Martínez, María De Los A.	MS	Pharmacology
Salamán, José C.	BS	Real State
Sierra Torres, Héctor R.	BS	Abbot
Torres Meléndez, Johanna	MS	Public Heath
Aponte, Juan C.	BS	
Ávila, Jacqueline	BS	
Capo Ramos, David E.	BS	
Céspedes, Katty	BS	
Collazo Santiago, Joanne	BS	
Dávila, Irmaydín	BS	
De Jesús, María	BS	
Delgado Martínez, Frances Y.	BS	
Delgado Martínez, Frances Y.	BS	
Delgado, Sara	BS	
Donate Narváez, Gisela N.	BS	
Fernández, José Luis	BS	
González, Alex	BS	
Hernández Rivera, Helder	BS	
Hyzinski, María	BS	
Iguina González, Enerlyn	BS	
López Acevedo, Nadiuska	BS	
López Quintero, María	BS	
Lozada Santiago, Enerlyn	BS	
Mercado Sepúlveda, Raquel	BS	
Pastrana Chiclana, Raquel	BS	
Pérez, Ariane	BS	
Resto Colón, Mónica	BS	
Rodríguez, Desiree	BS	
Rodríguez, Ileana	BS	
Rodríguez, Laura	BS	
Rosario, Noelia	BS	
Santana Negrón, Olga	BS	
Serrano Viruet, Dimaris	BS	
Torres, Heidi	BS	
Valentín, Juan	BS	
Vázquez, Yareliz	BS	

Present Undergraduate Students

Name	Degree	Status
Acevedo, Lauren	BS	Undergraduate Student
Andino, Omar	BS	Undergraduate Student
Aponte Santiago, Nicole Ann	BS	Undergraduate Student
Aponte, Alexandra	BS	Undergraduate Student
Avilés Cuadrado, Valerie	BS	Undergraduate Student
Avilés Pagán, Emir	BS	Undergraduate Student
Blundell, Andrew	BS	Undergraduate Student
Burgos, Neikelyn	BS	Undergraduate Student
Carrasquillo, Billy	BS	Undergraduate Student
Colón Bernal, Isabel	BS	Undergraduate Student
Colón, Alfredo	BS	Undergraduate Student
Colón, Vilmarie	BS	Undergraduate Student
Conklin, Steven	BS	Undergraduate Student
Cruz, Lilibeth	BS	Undergraduate Student

Cruz, Nelimar	BS	Undergraduate Student
De Jesús, Adriana	BS	Undergraduate Student
Emmanuelli, Adriana	BS	Undergraduate Student
Fernández, Emily	BS	Undergraduate Student
Fernández, Ricardo	BS	Undergraduate Student
García, Dora E.	BS	Undergraduate Student
Guerrero, Beatriz	BS	Undergraduate Student
Hernández, Arnaldo J.	BS	Undergraduate Student
Holder, Mileyshmi	BS	Undergraduate Student

MEMBERSHIPS, OFFICES, AND COMMITTEE ASSIGNMENTS IN PROFESSIONAL SOCIETY:

Society for Neuroscience
Biophysical Society
American Association for the Advance of Science
Sociedad de Biofísica Latinoamericana
Academia de Artes y Ciencias de Puerto Rico

MAJOR RESEARCH INTEREST (see <http://nachrs.org/projects.html>):

Acetylcholine receptor structure and function, lipid-protein interactions in biological membranes, neuronal acetylcholine receptor and nicotine addiction, electrophysiological analysis of slow-channel congenital myasthenic syndromes (SCCMS) associated with point mutations in the genes encoding acetylcholine receptor subunits. Molecular basis for neuronal nicotinic receptor upregulation: potential implications in HIV associated dementia.

RESEARCH FUNDING INFORMATION

Past

1988-1991: National Institute of Health MARC Postdoctoral fellowship, "*Membrane cholesterol affects acetylcholine receptor-channel function.*" (\$90,000)

1992-1996: National Institute of Health NIGMS Postdoctoral fellowship, "*Mutagenesis of nicotinic acetylcholine receptor-channel function.*" (\$200,000).

7/97-7/99 National Science Foundation-EPSCOR- 7/97 to 7/99, P.I., "*Molecular basis of Neuronal Acetylcholine receptor desensitization*" (\$146,000) (Principal Investigator).

1/99-12/2001, National Institute of Health "*Postdoctoral Research Supplement*" 5/1/997- 4/30/2002 (\$223,000) (Principal Investigator José A. Lasalde Dominicci, Co-PI Mark McNamee UC Davis).

6/2000-8/2004, "*General anesthetic interaction with lipid-exposed domains of the acetylcholine receptor*". period: 6/2000-8/2004 National Institute of Health-NIGMS-SCORE. Principal Investigator: José A. Lasalde Dominicci, Type: Institutional Minority Training Grant SCORE program NIGMS NIH MBRS S06 GM08102, cost \$595,482. The goal of this project is to define the allosteric sites of the M4 transmembrane segment of the *Torpedo* AChR. This project focus on the interaction of general anesthetics with lipid exposed mutations on the M4 domain an also the analysis of 3 lipid exposed allosteric positions. Principal Investigator: José A. Lasalde

Dominicci, Ph.D. Type: Institutional Minority Training Grant SCORE program NIGMS (NIH MBRS S06 GM08102) .

01/01/1999-7/31/2004, "Acetylcholine receptor genes in slow-channel syndrome" (\$1,400,000) Consortium Agreement Period: January 1, 1999 to July 31, 2004, Type: National Institute of Health-(2RO1-N33202) C0-P.I (Principal Investigator- Christopher Gómez, J.A. Lasalde-Dominicci Co-Principal Investigator). The goal of this project is to understand the pathophysiology and molecular mechanisms involved in the impairment of neuromuscular transmission in the slow channel congenital myasthenic syndrome (SCCMS). Consortium agreement with University of Minnesota.

6/2000-7/2002. "Development of pathogenic Neuronal Nicotinic Acetylcholine receptor models" Postdoctoral Research training Supplement NIH, American Psychiatry Association (\$80,000) (Principal Investigator Maria Reyes, M.D., Co-Investigator: José A. Lasalde Dominicci. The long-term goal of this project is to develop transgenic mice models for pathogenic cholinergic pathways in the CNS. The proposed research will focus on the construction and electrophysiological characterization of two pathogenic mutations recently found in the muscle type AChR ($\beta 1V229F$ and $\alpha 1V249F$) at homologous positions in the $\alpha 4$ neuronal subunit. These two mutations have been found in two myasthenic patients with the slow-channel (SCCMS).

7/2000-8/2003, "Molecular Basis of neuronal nicotinic receptor up-regulation and nicotine addiction" (\$30,000). The goal of this research proposal is to combine electrophysiological, biochemical, molecular biological techniques and confocal imaging in order to define the structural and functional basis for the relationship between up-regulation and desensitization of the $\alpha 4\beta 2$ nAChR induced by nicotine. The mechanism by which the $\alpha 4\beta 2$ nAChR number is increased in the cell surface following nicotine exposure is thought to involve reduced turnover of receptors, it has been suggested that a conformational change of the receptor prevent it from being removed from the cell surface. The long-range goal of the proposed experiments is to gain insight into a mechanism of upregulation of the $\alpha 4\beta 2$ nAChR up-regulation that has been associated to nicotine tolerance and dependence. Principal Investigator: José A. Lasalde Dominicci, Ph.D. Type: Institutional Funds (FIPI) (Years 2000-2003) Period: July 1, 2000 to December 31, 2003.

10/1998-12/2000, "Instrumentation for Confocal microscope" Principal Investigator: José A. Lasalde Dominicci, Ph.D. Type: Competitive Instrumentation NIH-NCRR (1S10RR 13705-01). This project provided Confocal Laser Scanning microscope. This system includes Krypton/Argon mixed gas laser with lines 488, 568 and 647nm; scanning imaging head; fiberoptics laser delivery; three detector channels; multichannel data acquisition; Pentium based scan control and image acquisition system. Funds awarded \$236, 433.

10/1999-8/2000, "Confocal Imaging Facility Upgrade" Principal Investigator: José A. Lasalde Dominicci, Ph.D. Type: Instrumentation, National Science Foundation EPSCoR. This proposal up-grades the confocal imaging facility with an additional inverted microscope (coupled to the Zeiss 510 NLO confocal microscope) and computers programs and printers to support image analysis. Funds awarded \$226,000.

10/1998-10/1999, "Automated DNA sequencing instrumentation Facility" NSF-EPSCoR Shared Instrumentation grant, Awarded (3/15/1999) Principal Investigator: Owen McMillan, Ph.D. Co- Investigator: José A. Lasalde Dominicci, Ph.D. Funds awarded \$165,000.

5/1999-8/2000, **“A twophoton laser application for confocal imaging”** NSF EPSCoR co-funding Principal Investigator: Fernando Santana, Ph.D., Co-Principal Investigator: José A. Lasalde Dominicci, Ph.D. Funds awarded \$232,000

09/1997-04/31/2009 Type: 2R01GM56371-12, Funds awarded \$2,497,000. **“Cholesterol and lipid protein interactions affect acetylcholine channel function” (Investigates the effects of cholesterol and lipid exposed mutation on the Torpedo and muscle-type AChR channel function)**. Principal Investigator: José A. Lasalde Dominicci, Agency National Institute of General Medical Sciences (NIGMS). The conformational transitions of the Nicotinic Acetylcholine receptor (AChR). We decoded a network of hydrophobic allosteric sites located at lipid exposed of the M3 transmembrane segment. The main hypothesis is that an exclusive group of lipid-exposed positions might play a critical role in the channel function through physical interactions with membrane lipids that remain to be defined. This research explore specific, novel aspects of the interaction of these allosteric sites with the membrane bilayer using two approaches: lipid replacements in the intact oocyte, site specific mutagenesis of the M3 transmembrane domain of the *Torpedo* and muscle-type AChR and the use of nonsense suppressor methods to deliver unnatural amino acids to novel allosteric positions in transmembrane segments.

6/2004-8/2008, **“Mutagenesis of nicotinic acetylcholine receptors”**. period: 6/2004-8/2008 (\$740,000) National Institute of Health-NIGMS-SCORE. Principal Investigator: José A. Lasalde Dominicci, Type: Institutional Minority Training Grant SCORE program NIGMS NIH MBRS S06 GM08102, cost \$595,482. The goal of this project is to define the allosteric sites of the M4 trasmembrane segment of the *Torpedo* AChR. This project focus on the interaction of general anesthetics with lipid exposed mutations on the M4 domain an also the analysis of 3 lipid exposed allosteric positions. Principal Investigator: José A. Lasalde Dominicci, Ph.D. Type: Institutional Minority Training Grant SCORE program NIGMS (NIH MBRS S06 GM08102).

9/2009-11/2012 Principal Investigator: José A. Lasalde Dominicci, Ph.D. (NSF), Type: MRI Instrumentation Grant, **“Emission-Fingerprinting upgrade-Confocal and Two photon Facility–Multi Campus Initiative-UPR”** Submitted January 28, 2009. The main goal of this proposal is to upgrade the applications of an existing Confocal and Two-Photon Microscopy Facility of the University of Puerto Rico (UPR), Río Piedras Campus (www.cifupr.org), to perform fluorescence emission fingerprinting - Budget allocation: \$322,000.

1/2010-7/2015 Type 2RO1-N33202 **“Acetylcholine receptor genes in slow-channel syndrome”** (\$1,400,000.013) Consortium Agreement: National Institute of Health (Principal Investigator- Christopher Gómez, J.A. Lasalde-Dominicci Co-Principal Investigator). The goal of this project is to understand the pathophysiology and molecular mechanisms involved in the impairment of neuromuscular transmission in the slow channel congenital myasthenic syndrome (SCCMS). Consortium agreement with University of Chicago.

10/2006-8/31/2013 - No Cost Extension - SNRP: **“Specialized Neurosciences Research Program in NeuroAIDS”**, (\$1,500,000 per year) Principal Investigator: Edmundo Kraiselburd, Scientific Director, José A. Lasalde Dominicci (time effort 25%, Scientific Director). National Institute of Neurological Disorder and Stroke (U54NS0430311), National Institutes of Health. The present NeuroAIDS Program of the UPR-MSC SNRP funded by NINDS provides the ideal instrument to upgrade the level of research in HIV and neuroscience's building on these existing clinical and basic research infrastructures and the collaboration with NIH funded scientists with skills and expertise otherwise not available in Puerto Rico. (for further information see <http://snrp.rcm.upr.edu/investig.html>).

10/2006-8/31/2013- *No Cost Extension*, - SNRP, NIH- U54NS0430311-NCE; Title: “**Molecular basis for neuronal nicotinic receptor upregulation: potential implications in HAD**” NCE P.I. José A. Lasalde-Dominicci, Direct Cost \$350,000 per year (5 years) 11/2006-10/2013. In the project, we will use voltage-clamp whole-cell current electrophysiological recording to assess nAChR function, radioligand binding assays to ascertain numbers of $\alpha 4\beta 2$ -nAChR in total cell membranes and on the cell surface, site-directed mutagenesis approaches, and confocal microscopy to study the upregulation of the $\alpha 4\beta 2$ and $\alpha 7$ nAChRs. The aims are to: (1) define the structural and functional basis for the up-regulation of the $\alpha 4\beta 2$ nAChR induced by chronic nicotine exposure, (2) develop methods to incorporate fluorescent amino acids into the nAChR subunits using nonsense suppressor techniques that will allow the study nAChRs trafficking in vivo, (3) gain insight into the molecular basis for the upregulation of the $\alpha 7$ nAChR induce by a combined treatment with HIV-1 gp120, nicotine and galantamine in vitro, (4) examine the functional state of the $\alpha 7$ nAChR after chronic exposure to gp120 in macrophages from HIV infected patients and (5) express and purify the $\alpha 7$ nAChR extracellular domain for crystallization trials.

Grant Number P20 RR-016470 from the National Center for Research Resources (NCRR), Period: 05/01-2009-04/31-2014. P.I. Vibha Bansal, Ph.D. “**Screening of different sources of plasminogen activators, their inhibitors and development of new techniques for isolation of plasminogen activators**”, José A. Lasalde Dominicci, Ph.D. (in kind as Collaborator/Mentor).

Grant Number P20 RR-016470 from the National Center for Research Resources (NCRR), Period: 05/01-2009-04/31-2014. Margarita Ortiz, Ph.D., PI Project, José A. Lasalde Dominicci, Ph.D. (in kind Collaborator/Mentor) - “**Novel synthesis of nicotinic agonists for Alzheimer’s therapy**”\

NIH Clinical Grant Award \$50K, PI Dr. Carlos Báez. Mentor, Dr. José Lasalde Dominicci “**Bupropion as adjunctive therapy to improve immune profile in HIV seropositive smokers**”, Awarded 02/11/2011 (in kind Mentor)

Clinical Bioreagent Center in PR. HIV Vaccine pilot project CRD OISE-14-60-828-01, 06/15/2015-01/15/2016 (José A. Lasalde Dominicci, Ph.D. PI 5% in kind)

Present Funding

NIH-NIAID- “**Optimization of HIV glycoproteins as vaccines candidates**”— Principal Investigator (R01AI122935) José A. Lasalde Dominicci, Ph.D. (in kind). More than thirty years after its discovery, the human immunodeficiency virus (HIV) continues to be a major global concern. Despite a reduction in the number of new infections worldwide (2.1 million new infections in 2013 vs. 5 million in 2005), the HIV pandemic is far from over. In the United States alone, there are nearly 45,000 new HIV diagnoses each year, with some ethnic groups being disproportionately affected. Thus, the search for a prophylactic vaccine against HIV is of paramount importance. In this project, a consortium that combines a research university, a startup biotech company and the advisory input from the local biopharmaceutical manufacturing sector, aim to optimize the pipeline for the production of HIV vaccines for clinical trials by addressing some of the hurdles that have hindered progress in this field over the years. Period: 07/01/2016 – 06/30/20

NIH-NIGMS- **A lipid-based approach towards the nAChR high resolution structure**. Principal Investigator:

José A. Lasalde Dominicci, Ph.D. (NIH) **R01GM098343**, Period: 2/01/2013-05/31/2019. We propose to develop a comprehensive lipid-based approach to assess the function and stability of detergent-solubilized nAChR. The main goal of this application is to define the manner in which detergents affects the lipid composition, ion channel function, agonist binding, state of aggregation of the solubilized-nAChR and ultimately the ability to form membrane protein crystals. The objective of this application is to develop a comprehensive lipid-based approach for the selection of detergents for membrane protein crystallization.

NIH/NINDS- "***The COBRE Center for Neuroplasticity at the University of Puerto Rico***". Principal Investigator: José A. Lasalde Dominicci, Ph.D., Mark Miller Co-Investigator, Director of Confocal imaging facility, José A. Lasalde Dominicci, Ph.D. (NCRR), Type: U54 COBRE- Budget allocation: \$11,613,710. The goal of the COBRE Center proposed in this application is to significantly enhance the quality and biomedical relevance of research by scientists at the Institute of Neurobiology, the University of Puerto Rico Medical Sciences Campus (UPR-MS) and the UPR Río Piedras Campus (UPR-RP). Period: 01/2018-12/31/2023. Awarded on November 2012.

PENDING GRANTS

- 1- The COBRE Phase 2 Center for Neuroplasticity at the University of Puerto Rico (Lasalde-Dominicci, J. P.I. and Miller, M Co-PI). 2P20 GM103642-6 Period: 07/01/2018-06/30/2023), Direct Cost \$1,500,000 per year (5 years).
- 2- 1R01DA044912-01 "Disruption of $\alpha 7$ -mediated cholinergic anti-inflammatory response in HIV infection" (Lasalde-Dominicci, J. P.I., Wojna Valerie Co-PI).
- 3- 1S10OD025143-01, "Establishment of a multi-user high-performance MALDI ToF/ToF mass spectrometer in the University of Puerto Rico". NIH, NIGMS

TEACHING

Molecular Biology, Biochemistry, Biophysics courses and lectures at undergraduate and graduate levels.

Invited Lectures (Partial List):

October 1989: The Pan American Congress, San Juan, Puerto Rico. "*The use of the patch-clamp technique to study lipid effects on ion channel function.*"

May 15, 1992: The 25th Jerusalem Symposium: on protein, structures and models. The Israeli Academy of Science, The Hebrew University, Jerusalem, Israel. "*A combined study of fluorescence polarization and patch clamp to study lipid alterations on the acetylcholine channel function.*"

December 1992: Department of Physiology, UC Davis School of Medicine, Davis CA. "*Mutations at the protein lipid interface of the acetylcholine receptor dramatically alter channel function.*"

January 1995: Biophysical Meeting San Francisco California: "*Amino acid substitutions at the protein-lipid interface of the Torpedo californica AChR play a key role in channel gating.*"

June 1995: International Symposium of Drug Addiction Buenos Aires Argentina. Plenary lecture: "*Neuronal Acetylcholine receptors; a key to a mechanism for nicotine addiction*": Buenos Aires, Argentina.

July 1999: "A *nobel β subunit Acetylcholine receptor mutation in the Slow-Channel Congenital Myasthenic Syndrome (SCCMS) display altered kinetics and spontaneous channel activity.*" Glaxo-Wellcome, meeting Hotel Westing-Río Mar, Río Grande , P.R.

July 6, 2000: "*El Genoma humano y sus implicaciones*" Academia de Artes y Ciencias Ateneo de Puerto Rico.

October 14, 2000: *Structure-function relationship in the Acetylcholine Receptor*. Simposio Internacional de Biofísica, Alicante España.

January 25, 2002: "*Structure function studies on the lipid-exposed domains of the nicotinic Acetylcholine receptor*"; University of Minnesota, Department of Neuroscience.

July 8 2003: "*Structural Studies on nicotinic Receptors*", Scripps Clinics, San Diego CA.

December 12, 2004: "*Nicotinic receptors from Structure to disease*" Invited speaker at the 9th Annual RCMI meeting in Baltimore.

September 24, 2005: "*Stories of success in science*", Speaker for the NSF-EPSCOR National meeting.

October, 15, 2005: "*Structure function studies on nicotinic receptors*", Plenary speaker in the AAAS meeting Interamerican University, San Juan P.R., 10/15, 2005.

University of Madison, Wisconsin, October 26, 2006: The Neuroscience Program: "*Neuronal Nicotinic receptor upregulation: a paradox.*"

University of Florida at Gainesville December 15, 2007. "*Nicotinic receptors and disease*"

Plenary speaker- American Chemical Society meeting, "*Approaches for the Study of Ion Channels: Nicotinic Acetylcholine Receptors from Structure to Disease*", San Juan, PR. -July 27, 2008.

Conferencia Magistral- 50 años de Biomédica, October 30, 2010 "*Nicotinic Receptors; From Basic to Translational Research*" Hotel Caribe Hilton, SJ, PR.

July 19, 2012: Massachusetts Institute of Technology, Special Seminar HHMI Institute, Department of Brain and Cognitive Sciences, "*Nicotinic Receptors; from structure to disease*"

March 1, 2016 University of South California, Department of Structural Biology "*Nicotinic Acetylcholine Receptors, from structure to disease*"

PUBLICATIONS

1. Eterovic, V.A., Escalona de Motta, G., Hann, R.M., Lasalde, J.A., Prieto, J.A., and Ferchmin, P.A. Positive modulators of muscle acetylcholine receptor. *J. Receptor Res.* 9:107-125, (1989).
2. Eterovic, V.A., Hann, R.M., Ferchmin, P.A., Escalona de Motta, G., Del Castillo, J., Prieto, J.A. and Lasalde, J.A. Positive modulators of acetylcholine receptors: differences between skeletal muscle and electric organ. In: *Molecular Biology of Neuroreceptors and Ion Channels*, NATO-ASI Series, A. Maelicke, (ed.) Vol. H 32: 565-584, (1989).
3. Rojas, L., Lasalde, J.A. and Zuazaga, C. El receptor nicotínico para la acetilcolina, importancia de enlaces disulfuro en la actividad unitaria. En: *Investigaciones recientes sobre mecanismos de transporte de iones en membranas biológicas*, A. Bendimyl Proeblo, (ed.) Monte Ávila, 33-40, (1992).
4. Lasalde, J.A. (Book Chapter) A correlation between patch clamp and fluorescence anisotropy experiments to study alterations on the acetylcholine channel induced by cholesterol enrichment in chick myocytes. In: *Membrane proteins: structures, interactions and models*, Kluwer Academic Publishers, A. Pullman et al. (eds.) 199-212, (1992).
5. Escalona de Motta, G., Mercado, J.A., Tosteson, T.R., González, I. and Lasalde, J.A. Modulation of acetylcholine channel by a polar component isolated from toxic *Ostreopsis lenticularis* extracts. *Bull. Soc. Path. Ex.* 85: 489-493, (1993).
6. Lee, Y., Li, L., Lasalde, J. A., Rojas, L., Pappone, P., Ortiz, S., and McNamee, M. Mutations in the M4 domain of the Torpedo californica AChR: dramatically alter ion channel function. *Biophysical Journal* 66:646-653, (1994).
7. Lasalde, J.A., Colom, A., Resto, E., and Zuazaga C. Heterogeneous distribution of acetylcholine channel induced by cholesterol enrichment. *Biophysical & Biochemical Acta* 1235:427-438, (1995).
8. Vibat, C.R.T., Lasalde, J.A., McNamee, M.G., and Ochoa, E.L.M. Differential desensitization properties of rat $\alpha 4\beta 2$ neuronal nicotinic acetylcholine receptor subunit combinations expressed in *Xenopus laevis* oocytes. *Cellular and Molecular Neurobiology* 15:411-425, (1995).
9. Gómez, C.M., Masselli, R., Gammack, B.S., Lasalde, J. A., Tamamizu, S., Comblath, D.R., Lehar, M., McNamee, M., and Knucl, R.W. A β subunit mutation in the Acetylcholine receptor channel gate causes a severe slow-channel myasthenic syndrome. *Annals of Neurology*: 39:712-721 (1996).
10. Gómez, C.M., Tamamizu, S., Lasalde, J.A. et al., nd Knucl, R.W. In vivo and in vitro properties of an Acetylcholine receptor mutation in the slow-channel myasthenic syndrome. *Neurology*: 46 (2) 310-11 (1996).
11. Tamamizu, S., Butler, D., Lasalde, J. A., and McNamee, M.G. Monoclonal antibodies probe structural transitions of the nicotinic acetylcholine receptor. *Biochemistry* Vol 35, No. 36 11773-11781 (1996).

12. Lasalde, J.A., Tamamizu, S., Butler, D.H., Vibat, C.R.T., and McNamee, M.G. Tryptophan substitutions at the lipid exposed transmembrane segment M4 of the *Torpedo californica* acetylcholine receptor are critical for channel gating. *Biochemistry* Vol. 35, No. 45 14139-14138 (1996).
13. Butler, D.H., Lasalde, J.A., Butler, J., Zimmerman, G., and McNamee, M.G. Mouse-Torpedo chimeric subunits used to probe open time determinants on the nAChR primary sequence. *Cellular and Molecular Neurobiology* Vol. 17 No.1 13-33 (1997).
14. Gómez, C.M., Masselli, R., Gammack, B.S., Lasalde, J.A., Tamamizu, S., Comblath, D.R., Lehar, M., McNamee, M., and Robert L. Wolimann. Slow-Channel Transgenic mice: a model of postsynaptic organellar degeneration at the neuromuscular junction. *Journal of Neuroscience*, June 1, 17 (11): 4170-4179 (1997).
15. Ortiz, S., Lasalde, J. A., Pappone, P., and McNamee, M. A kinetic analysis of the C418W mutant of the *Torpedo Californica* Acetylcholine receptor. *Journal of Membrane Biology* Vol. 158 17-30. (1997).
16. Tamamizu, S., Lee Y-H., M.G. McNamee and Lasalde-Dominicci, J.A., Mutations at the lipid protein interface of the mouse Acetylcholine receptor alter channel gating. *Journal of Membrane Biology* Vol. 170 July 157-164 (1999).
17. Tamamizu, S., Guzmán, G., Santiago, J., Rojas, L.V., McNamee, M. G. and Lasalde-Dominicci, J. A., Functional effects of periodic tryptophan substitutions in the alpha M4 transmembrane domain of the *Torpedo californica* nicotinic acetylcholine receptor. *Biochemistry* Vol 39, Number 016, 4666-4673 (2000).
18. Cruz, A., Mercado, J. L., Rojas, L. V. and Lasalde-Dominicci, J. A. Mutations on the gamma M3 domain of *Torpedo Californica* alter allosteric transitions of the *Torpedo Californica* Acetylcholine Receptor. *Journal of Membrane Biology* Vol. 183 (1): 61-70 (2001).
19. Santiago, J., Guzmán G. R., Rojas, L., Marti, R., Asmar-Rovira, G., Santana, F. and Lasalde-Dominicci, J.A., Probing the effects of membrane cholesterol in the *Torpedo California* Acetylcholine Receptor and the novel lipid-exposed mutation α C418W in *Xenopus* oocytes. *Journal of Biological Chemistry* Vol. 226, Issue 49, 46523-46532 (2001).
20. Gómez, C.M., Maselli, R, Vohra, B.P.S., Navedo, M., Stiles, J, Charnet, P. Schott, K, Rojas, L., Keeseey, J., Verity, A., Wollmann, R.W., Lasalde-Dominicci, J. A. A Novel Delta Subunit Mutation in Slow-Channel Syndrome Causes Severe Weakness by Delayed AChR Opening and Widening Synaptic Cleft *Annals of Neurology*, Vol. 51, 102-112 (2002).
21. Gisila R. Guzmán, Alejandro Ortiz-Acevedo, John Santiago Legier V. Rojas and José A. Lasalde-Dominicci (2002) Regulation of Acetylcholine Receptor function by Cholesterol, (invited Book Chapter in *Recent Research Developments in Membrane Biology*, (2002): ISBN: 81-7736-181-3, p127-146.

22. Rojas, L. V., Bonilla, L., Báez, S. and Lasalde-Dominicci, J. A. (2003) 3, 5, 3' triiodothyronine controls miniature end plate currents frequency of pre- and pro-metamorphic tadpoles: Implication in the apoptotic mechanism. *Journal of Neuroscience Research* Vol. 71: Issue 5, 670-678.
23. Guzmán, G., Santiago, J., Rojas, L., and Lasalde-Dominicci, J. A., (2003). Functional effects of tryptophan substitutions in the alpha M3 transmembrane domain of the *Torpedo californica* nicotinic acetylcholine receptor: Structural and Functional interpretation, *Biochemistry* Vol. 42, No. 42, October 28, p12243-12250.
24. Navedo, M., Nieves, M., Rojas L. V., M.G. McNamee and Lasalde-Dominicci, J.A., (2004) Mutations at the lipid protein interface M3 transmembrane segment of the muscle-type Acetylcholine receptor alter channel gating. *Biochemistry* 43, 78-84.
25. Guillermo A. Asmar, Michael A. Hanson, Andrew B Ward, José A Lasalde-Dominicci, Raymond C. Stevens, Clint Potter and Peter Kuhn, *Biological Sciences Symposia - 3D Electron Microscopy of Macromolecules: Unveiling Structural/Functional Relationships through Imaging Conformational Changes "Low Voltage Electron Microscopy (LVEM) as a Probe for Solubilized Membrane Protein Aggregation States" 2004 - Invited Paper*
26. Santiago, J., Guzmán G. R., Rojas, L.V. and Lasalde-Dominicci, J.A., (2004) Tryptophan scanning mutagenesis in the TM3 domain of the *Torpedo Californica* Acetylcholine Receptor beta subunit reveals an α -helical structure *Biochemistry* Aug 10:43(31):10064-70.
27. López, G., Sánchez-Padilla, J., Ortiz-Acevedo, A., Rojas, L.V., Lasalde-Dominicci, J. A. (2004) Up-regulation of the $\alpha 4\beta 2$ neuronal nicotinic receptor in *Xenopus* oocytes depends on subunit stoichiometry. *Journal of Biological Chemistry*, 279(36): 38007-15.
28. Ortiz-Acevedo A., Meléndez, M., Rojas, L., Biagi, N., Asseo, A. and Lasalde-Dominicci, J. A., (2004). Tryptophan scanning of the Acetylcholine receptor gamma M4 transmembrane domain from *Torpedo californica*; structural and functional interpretation *Journal of Biological Chemistry*, 279(40):42250-7.
29. Navedo, M., Lasalde-Dominicci, J. A., Masselli, R., Rojas, L. V., and Gómez, C. M. (2006) Kinetic and permeation effects of adjacent mutations in acetylcholine receptor M1 domain in slow-channel syndrome indicate key role in binding-gating process, *Molecular and Cellular Neuroscience*, 32(1-2): 82-90.
30. Roberto Zayas, José A. Lasalde-Dominicci and Christopher Gómez, *Macroscopic Properties of spontaneous Mutations in Slow-Channel Syndrome: Correlation by domain and disease severity*, (2006) *Synapse* 60: 441-449.
31. Nieves, M., Navedo, M., V., Caballero, D. and Lasalde-Dominicci, J.A. (2006) Contribution of valine 7' of TMD2 to gating of neuronal alpha3 receptor subtypes *J Neurosci Res.* (2006) Dec; 84(8): 1778-88.

32. Otero-Cruz, D., Báez-Pagán, C., Serrano-Viruet, I. and Lasalde-Dominicci, J. A. (2007). Tryptophan-scanning Mutagenesis in the alphaM3 Transmembrane Domain of the Muscle-type Acetylcholine Receptor: A SPRING MODEL REVEALED. *Journal of Biological Chemistry* Mar 23; 282(12): 9162-71.
33. Guzmán, G., Ricardo, A., Ortiz-Acevedo, A. and Lasalde-Dominicci, J. (2007) The polarity of lipid exposed residues contributes to the functional differences between Torpedo and muscle-type nicotinic acetylcholine receptors *J Membr Biol.* 2006 Nov; 214(3):131-8. Epub 2007 May 25.
34. Ochoa, E.L.M. and Lasalde-Dominicci, J. A., (2007) Cognitive deficits in schizophrenia: focus on neuronal nicotinic acetylcholine receptors. *Cell Mol Neurobiol.* 2007 Aug;27(5):609-39. PMID: 17554626
35. Valerie Wojna, Lizbeth Robles, Richard L. Skolasky, Raúl Mayo,4, Ola Selnes, Tania de la Torre, Elizabeth Maldonado, Avindra Nath, Loyda M. Meléndez and José Lasalde-Dominicci, (2007) Cigarette Smoking and Cognitive Function in HIV-seropositive Women, *Journal of NeuroVirology*, 2007 Dec;13(6):561-8. PMID: 18097887
36. José David Otero-Cruz, David Abner Torres-Núñez , Carlos Alberto Báez-Pagán , and José Antonio Lasalde-Dominicci, Fourier transform coupled to tryptophan-scanning mutagenesis: Lessons from its application to the prediction of secondary structure in the acetylcholine receptor lipid-exposed transmembrane domains, *BBA Proteins and Proteomics*, Feb 20; 1784 (2008), p-1200-1207. PMID: 18346473
37. Guillermo A. Asmar-Rovira, Aloysha M. Asseo-García, Orestes Quesada, Michael A. Hanson, Carlos Nogueras, Raymond C. Stevens and José A. Lasalde-Dominicci, Biophysical and ion channel functional characterization of the Torpedo nicotinic acetylcholine receptor in varying detergent-lipid environments, *Journal of Membrane Biology* (2008) May;223(1):13-26. PMID: 18581036
38. Báez-Pagán, C., Martínez, Y., Otero-Cruz, D., Silva, W., Quesada, O. and Lasalde-Dominicci, J. (2008). Potential role of caveolin-1-positive domains in the regulation of the acetylcholine receptor's activable pool: Implications in the pathogenesis of a novel congenital myasthenic syndrome *Channels (Austin)* May-Jun;2(3):180-90, Epub 2008 May 18. PMID: 18836288
39. Nieves, M., Navedo, M., V., Caballero, D. and Lasalde-Dominicci, J.A. (2008) Functional Contribution of position L218 to neuronal nicotinic alpha3 receptor subtypes *Journal of Neuroscience Research* 2008 Oct;86(13):2884-94. PMID: 18615639
40. José E. Lizardi-Ortiz, María C. Hyzinski-García, José L. Fernández-Gerena, Karen M. Osorio-Martínez, Eric Velásquez-Rivera, Félix L. Valle-Avilés and José A. Lasalde-Dominicci, Ph.D. Aromaticity at the Water-Hydrocarbon Core Interface of the Membrane: Consequences on the Nicotinic Acetylcholine Receptor", *Channels (Austin)* Vol 2, Issue 3, 2008, p.191-201. PMID: 18836298.

41. López-Hernández, G., Biaggi-Labiosa, N., Torres, A., J., Ortiz-Acevedo, A., and Lasalde-Dominicci, J. A. Contribution of Position alpha4S336 on Functional Expression and Up-regulation of alpha4beta2 Neuronal Nicotinic Receptors, *Cellular & Molecular Neurobiology* (2008) Feb;29(1):41-53. Epub 2008 Sep 26. PMID: 18818999.
42. Rosedelma Díaz-De León, José D. Otero-Cruz, David A. Torres-Nunez, Anette Casiano and José A. Lasalde-Dominicci, Tryptophan scanning of the acetylcholine receptor's β M4 transmembrane domain: Decoding allosteric linkage at the lipid-protein interface with ion-channel gating, *Channels* (Austin) Vol. 2, Issue 6, November, 2008 Print ISSN 1933-6950; Online ISSN 1933-6969.
43. Mogil, Venza Rivera, A.; Lasalde-Dominicci, J.A, Burggren, W. and Rojas, L.V. Triiodothyronine (T3) Action on Aquatic Locomotor Behavior During Metamorphosis of the Bullfrog *Rana catesbeiana* The International Journal of Developmental Biology. *Int J Dev Biol.* 2009; 53(1):101-8. PMID: 19123131
44. José David Otero-Cruz, Carlos Alberto Báez-Pagán, Luisamari Dorna-Pérez, Gary Emanuel Grajales-Reyes, Rosaura Ramírez-Ordoñez, Carlos Alberto Luciano-Román, Christopher Manuel Gómez and José Antonio Lasalde-Dominicci, Decoding Pathogenesis of Slow-Channel Congenital Myasthenic Syndromes Using Recombinant Expression and Mice Models *P.R. Health Sci J.* 2010 Mar;29(1):4-17. PMID: 20222328
45. Padilla-Morales LF, Morales-Pérez CL, De La Cruz-Rivera PC, Asmar-Rovira G, Báez-Pagán CA, Quesada O, Lasalde-Dominicci JA. Effects of lipid-analog detergent solubilization on the functionality and lipidic cubic phase mobility of the *Torpedo californica* nicotinic acetylcholine receptor. *J Member Biol.* 2011 Oct;243(1-3):47-58. Epub 2011 Sep 16. PMID: 2192229
46. Salgado, I.K., Serrano, M. García, J., Martínez, N., Maldonado, H., Báez-Pagán, C, Lasalde-Dominicci, J.A., and Walter I. Silva, SorLA/LR11 in glia: relation to membrane raft protein caveolin-1, *Cell Mol Neurobiol.* 2012, Apr;32(3):409-21. doi: 10.1007/s10571-011-9771-5. Epub 2011 Nov 30. PMID: 22127416
47. Caballero-Rivera D, Cruz-Nieves OA, Oyola-Cintrón J, Torres-Núñez DA, Otero-Cruz JD, Lasalde-Dominicci JA. Fourier transform coupled tryptophan scanning mutagenesis identifies a bending point on the lipid-exposed δ M3 transmembrane domain of the *Torpedo californica* nicotinic acetylcholine receptor. *Channels* (Austin). 2011 Jul-Aug; 5(4):345-56. Epub 2011 Jul 1. PMID: 21785268.
48. Ballester LY, Capo-Vélez CM, García-Beltrán WF, Ramos FM, Vázquez-Rosa E, Ríos, Mercado JR, Meléndez RI, Lasalde-Dominicci JA. Up-regulation of the neuronal nicotinic receptor α 7 by HIV-GP120: potential implications for HIV associated neurocognitive disorder. *Journal of Biological Chemistry* 2012 Jan 27; 287(5): 3079-86. Epub 2011 Nov 14. PMID: 22084248
49. Caballero-Rivera D, Cruz-Nieves OA, Oyola-Cintrón J, Torres-Núñez DA, Otero-Cruz JD, Lasalde-Dominicci JA. Tryptophan scanning mutagenesis identifies a bending point on the lipid-exposed

- deltaM4 transmembrane domain of the *Torpedo californica* nicotinic acetylcholine receptor. *Channels (Austin)*. Mar 1; 6(2):111-23. PMID: 22622285
50. Gary Grajales, Carlos Báez-Pagán, Manuel Delgado, Orestes Quesada, Christopher Gómez, Rosaura Ramírez, Carlos Luciano Román, and José A. Lasalde-Dominicci, Transgenic mouse model reveals an unsuspected role of the acetylcholine receptor in statin-induced neuromuscular adverse drug reactions. *Pharmacogenomics J*. 2012 Jun 12. doi: 10.1038/tpj.2012.21. PMID: 22688219.
 51. Zhu H, Grajales-Reyes GE, Alicea-Vázquez V, Grajales-Reyes JG, Robinson K, Pytel P, Báez-Pagán CA, Lasalde-Dominicci JA, Gomez CM, Fluoxetine is neuroprotective in slow-channel congenital myasthenic syndrome. *Experimental Neurology* 2014 Oct 23. pii: S0014-4886(14)00344-6. doi: 10.1016/j.expneurol.2014.10.008. [Epub ahead of print], PMID: 25448156.
 52. Báez-Pagán CA, Delgado-Vélez M, Lasalde-Dominicci JA. Activation of the Macrophage γ 7 Nicotinic Acetylcholine Receptor and Control of Inflammation. *J Neuroimmune Pharmacol*. 2015 Sep;10(3):468-76. doi: 10.1007/s11481-015-9601-5. Epub 2015 Apr 14. PMID: 25870122
 53. Oyola-Cintrón J, Caballero-Rivera D, Ballester L, Baéz-Pagán CA, Martínez HL, Vélez-Arroyo KP, Quesada O, Lasalde-Dominicci JA. Lateral Diffusion, Function and Expression of the Slow Channel Congenital Myasthenia Syndrome γ C418W Nicotinic Receptor Mutation with Changes in Lipid Raft Components. *Journal of Biological Chemistry*. 2015 Sep 9. pii: jbc.M115.678573. [Epub ahead of print] PMID: 26354438
 54. Biaggi-Labiosa NM, Avilés-Pagán E, Caballero-Rivera D, Báez-Pagán CA, Lasalde-Dominicci JA. Engineering γ 4 γ 2 nAChRs with reduced or increased nicotine sensitivity via selective disruption of consensus sites in the M3-M4 cytoplasmic loop of the γ 4 subunit. *Neuropharmacology*. 2015 May 6;99:273-284. doi:10.1016/j.neuropharm.2015.04.022. PMID: 25957813
 55. Delgado-Vélez, M., Báez-Pagán, C.A., Gerena-López, Y., Quesada, O., Santiago-Pérez, L., Capó-Vélez, C., Wojna, V., Meléndez, L, Leon, R., Silva, W., and Lasalde-Dominicci, J.A., (2015) The γ 7 nicotinic receptor is up-regulated in macrophages from HIV-seropositive women: Consequences to the cholinergic anti-inflammatory response. *Clinical and Translational Immunology (Nature Publishing Group)*, 2015 Dec 11;4(12):e53. doi: 10.1038/cti.2015.31. eCollection 2015 Dec. PMID: 26719799, (<http://www.nature.com/cti/journal/v4/n12/full/cti201531a.html>.)
 56. Padilla-Morales LF, Colón-Sáez JO, González-Nieves JE, Quesada-González O, Lasalde-Dominicci JA. Assessment of the functionality and stability of detergent purified nAChR from *Torpedo* using lipidic matrixes and macroscopic electrophysiology. *Biochim Biophys Acta*. 2015 Oct 7. pii: S0005-2736(15)00330-2. doi:10.1016/j.bbamem.2015.10.002. PMID: 26454038
 57. Ramos, F.M., Delgado-Vélez, M., Ortíz, A.L., Báez-Pagán, C.A., Quesada, O., and Lasalde-Dominicci, J.A., Expression of *CHRFAM7A* and *CHRNA7* in neuronal cells and post-mortem brain

- of HIV-infected patients: Considerations for HIV-Associated Neurocognitive Disorder, *Journal of NeuroVirology*, 2015 Nov 13. oDOI: 10.1007/s13365-015-0401-8, PMID: 26567012
58. Melendez R., Roman C., Capo-Velez, C.M., Lasalde-Dominicci, J.A., (2015), Decreased glial and synaptic glutamate uptake in the striatum of HIV-1 gp120 transgenic mice, *Journal of NeuroVirology* 2015 Nov 13., DOI: 10.1007/s13365-015-0403-6. PMID: 26567011
59. Padilla-Morales, L.F., Colón-Sáez, J.O., González-Nieves, J.E., Quesada-González, O., Lasalde-Dominicci, J.A. . Effects of changing the lipid analogue detergent headgroup on the Functionality and Stability of Detergent Purified nAChR from Torpedo using Lipidic Matrixes and Macroscopic Electrophysiology, *Data Brief*. 2015 Dec 25;6:433-7. doi: 10.1016/j.dib.2015.12.010. eCollection 2016 Mar.
60. Carlos A. Báez-Pagán, Natalie del Hoyo-Rivera, José D. Otero-Cruz, Orestes Quesada, and José A. Lasalde-Dominicci, "Heterogeneous inhibition in macroscopic current responses of four nicotinic acetylcholine receptor subtypes by cholesterol enrichment" *J Membr Biol*. 2016 Aug;249(4):539-49. doi: 10.1007/s00232-016-9896-z. Epub 2016 Apr 26. PMID: 27116687.
61. Grajales-Reyes JG, García-González A, María-Ríos JC, Grajales-Reyes GE, Delgado-Vélez M, Báez-Pagán CA, Quesada O, Gómez CM, Lasalde-Dominicci JA. A Panel of Slow-Channel Syndrome Mice Reveals a Unique Locomotor Behavioral Signature *J Neuromuscul Dis*. 2017;4(4):341-347. PMID: 29036836
62. Coral M. Capó-Vélez, Bryan Morales-Vargas, Aurian García-González, José G. Grajales-Reyes, Manuel Delgado-Vélez, Bismark Madera, Carlos A. Báez-Pagán, Orestes Quesada & José A. Lasalde-Dominicci, The alpha7-nicotinic receptor contributes to gp120-induced neurotoxicity: implications in HIV-associated neurocognitive disorders *Nature Sci Rep*. 2018 Jan 29;8(1):1829. PMID: 29379089
63. Manuel Delgado-Vélez & José A. Lasalde-Dominicci, The Cholinergic Anti-Inflammatory Response and the Role of Macrophages in HIV-Induced Inflammation, *International Journal of Molecular Sciences*, 2018 May 16;19(5). pii: E1473. doi: 10.3390/ijms19051473. Review. PMID: 29772664
64. Coral M. Capó-Vélez, Carlos A. Báez-Pagán and José A. Lasalde-Dominicci, "Nicotinic acetylcholine receptors in HIV: possible roles during HAND and inflammation", *Cellular and Molecular Neurobiology*, Jul 14. doi: 10.1007/s10571-018-0603-8. [Epub ahead of print] Review. PMID: 30008143
65. Manuel Delgado-Vélez and José A. Lasalde-Dominicci "HIV-infected subjects and tobacco smoking: a focus on nicotine effects in the brain and immune system." Book Chapter, *The Neuroscience Of Nicotine: Mechanisms And Treatment*, 2018
66. Garton DR, Ross SG, Maldonado-Hernández R, Quick M, Lasalde-Dominicci JA, Lizardi-Ortiz JE. Amphetamine enantiomers inhibit homomeric $\alpha 7$ nicotinic receptor through a competitive mechanism

and within the intoxication levels in humans. *Neuropharmacology*. 2019 Jan;144:172-183. doi: 10.1016/j.neuropharm.2018.10.032. Epub 2018 Oct 23.

Manuscript in revision:

1. Cotto-Ríos S., Quiroz-Figueroa K., Hernández-Camacho P., Quesada O., Colón J. O., Lasalde-Dominicci J. A., Effects of HIV-1 gp120 JRFL protein in the expression and functionality of the alpha 7 nAChR's in human monocytes derived macrophage (Submitted 06/04/2018) *Journal of Biological Chemistry*.

SELECTED ABSTRACTS PUBLICATIONS & PRESENTATIONS

1. Eterovic, V.A., Escalona de Motta, G., Lasalde, J.A., Prieto, J.A., Hann, R.M., and Ferchmin, P.A. “*A new family of potentiators of acetylcholine action on muscle*”. Second World Congress of Neuroscience, Budapest, Hungary, August 1987.
2. Lasalde, J.A., Prieto, J.A., Escalona de Motta, G., Cotto Aponte, J.R., Ferchmin, P.A., and Eterovic V.A. Succinyl-TES: “*A positive modulator of acetylcholine receptor*”. AAAS Annual Meeting, Frontiers of Neuroscience Seminar, Chicago IL, February, 1987.
3. Eterovic, V.A., Hann, R.M., Ferchmín, P.A., Escalona de Motta, G., Lasalde, J.A., and Prieto, J.A. “*Regulation of acetylcholine receptor: differences between skeletal muscle and electric organ*”. NATO Workshop on Molecular Biology of Neuroreceptors and Ion Channels, Thera, Greece, October, 1988.
4. Lasalde, J.A. and Zuazaga, C. “*Cholesterol enrichment decreases the conductance of nicotinic acetylcholine receptor channel in cultured chick myocytes*”. Biophysical Soc. Meeting, San Francisco, CA., February, 1991.
5. Escalona De Motta, G., Lasalde, J.A., Hann, R.M., Ferchmin, P.A. and Eterovic, V.A. “*A non-agonist activator of the nicotinic acetylcholine receptor*”. Soc. for Neurosci. Abstr. Vol. 12 part 1, p.95, Toronto, Canada, November, 1988.
6. Lasalde, J.A., Colom, A., Resto, E., and Zuazaga, C. “*Evidence of cholesterol domain formation in cultured chick myocytes: a patch clamp study*”. Second Pan American Congress, San Juan, P.R., July, 1991.
7. Lasalde, J.A. and Zuazaga, C. “*Modulation of acetylcholine receptor channels conductance and open time kinetics by cholesterol enrichment*”. MARC Symposium, Washington D.C., October, 1991.

8. Lasalde, J.A. “*Correlation between patch clamp and fluorescence polarization to study lipid effect on the AChR channel*”. 25th Jerusalem Symposium: on protein, structure and models, Jerusalem, Israel, May, 1992.
9. Ortiz-Miranda, S., Lasalde, J.A., McNamee, M.G., and Pappone, P.A. “*Amino acid substitution at the lipid-protein interface of the acetylcholine receptor (AChR) alter ion channel kinetics*”. Biophysical Society, Washington, D.C., 1993.
10. Lasalde, J.A., Butler, D., and McNamee, M.G. “*Mutations at the protein lipid interface of the Torpedo californica AChR: a kinetic analysis*”. Society for Neuroscience, Miami, November, 1994.
11. Vibat, C.R.M., Lasalde, J.A., McNamee, M., and Ochoa, E.L.M. “*Nicotine induced desensitization of rat neuronal nicotinic acetylcholine receptor subunit combination expressed in Xenopus laevis oocytes*”. Society for Neuroscience, Miami, November, 1994.
12. Tamamizu, S., Butler, D., Lasalde, J.A., and McNamee, M. “*Monoclonal antibodies interactions with the nicotinic acetylcholine receptor*”. Society for Neuroscience, Miami, November, 1994.
13. Lasalde, J.A., Ortiz-Miranda, S., Tamamizu, S., Butler, D., and McNamee, M.G. “*Amino acid substitutions at the protein-lipid interface of the Torpedo californica AChR play a key role in channel gating*”. Biophysical Society, San Francisco, CA, February, 1995.
14. Gómez, C.M., Tamamizu, S., Lasalde, J.A., Gundeck, J.E., Gammack, B.S. Masselli, S., Comblath, D.R., Lehar, M., McNamee, M., and Knucl, R.W. “*In vitro and in vivo properties of an Acetylcholine receptor mutation in a family with the slow-channel syndrome (SCS)*”. American Academy of Neurology San Francisco, CA 1996.
15. Lasalde, J.A., Tamamizu, S., and McNamee, M.G. “*Searching for a kinetic mechanisms to explain the dramatic effect of M4 mutations on the Torpedo and mouse Acetylcholine receptor*”. (Neuroscience Society, 1996), Washington, DC.
16. Rojas, L., Navedo M., Gómez, C. and Lasalde-Dominicci, J.A. “*Single channel characterization of the human nicotine receptor β V229F mutation responsible for a low-channel congenital myasthenic syndrome*”. Neuroscience Society for Puerto Rico (1998).
17. Rojas, L., Navedo M., Gómez, C. and Lasalde-Dominicci, J.A. “*A novel β subunit Acetylcholine receptor mutation in the Slow-Channel Congenital Myasthenic Syndrome (SCCMS) display altered kinetics and spontaneous activity* FASEB Meeting San Francisco, CA (1999).
18. Guzmán, G., Santiago, J., Rojas, L., McNamee, M. G. and Lasalde-Dominicci, J.A., “*Functional effects of periodic tryptophan substitutions in the M4 domain of the acetylcholine receptor*” Neuroscience Miami FL October 27, (1999).

19. Alberto Cruz-Martin, José L. Mercado, Legier V. Rojas, Mark G. McNamee and José A. Lasalde-Dominicci “*Tryptophan Substitutions in lipid exposed positions of the gamma M3 Transmembrane Domain of the Torpedo californica Nicotinic Acetylcholine Receptor Alter Ion Channel Kinetics*”. MBRS meeting Phoenix Arizona, November 12, (1999).
20. Javier Sánchez, Gretchen López, Legier V. Rojas, and José A. Lasalde-Dominicci. “*Tryptophan Structural and functional studies on neuronal Nicotinic Acetylcholine Receptors*”. MBRS meeting Phoenix Arizona, November 13, (1999).
21. Navedo, M., Rojas, L., Nieves, M., Gómez, C., and Lasalde-Dominicci, J. A. “*Differential AChR channel kinetics in four Acetylcholine receptor mutations of the Slow channel Congenital Myasthenic Syndromes*”. Neuroscience Society for Puerto Rico, December 4, (1999).
22. Guzmán, G., Santiago, J., Rojas, L., McNamee, M. G. and Lasalde-Dominicci, J.A., “*Functional effects of periodic tryptophan substitutions in the M4 domain of the acetylcholine receptor suggest an alpha helical structure*”. Neuroscience Society for Puerto Rico, December 4, (1999).
23. Alberto Cruz-Martin, José L. Mercado, Legier V. Rojas, Mark G. McNamee and José A. Lasalde-Dominicci “*Hydrophobic Substitutions in lipid exposed positions of the gamma M3 and M4 transmembrane Domains of the Torpedo californica Nicotinic Acetylcholine Receptor Alter Ion Channel Kinetics*” Neuroscience Society for Puerto Rico, December 4, (1999).
24. Javier Santiago, Gretchen López, Legier V. Rojas, and José A. Lasalde-Dominicci. “*Desensitization of the $\alpha 4\beta 2$ neuronal neuronal Nicotinic Acetylcholine Receptor by nicotine produce a inactivation of ion channel function*”. Neuroscience Society for Puerto Rico, December 4, (1999).
25. Cruz-Martin, A, Rojas, L., Mercado, JL., McNamee, M. and Lasalde-Dominicci, J.A. “*Tryptophan substitution in lipid exposed positions of the M3 transmembrane domain of the Torpedo californica nicotinic acetylcholine receptor alter ion channel kinetics*” (2000) Biophysical Congress Abs 2114, Feb. 15, New Orleans.
26. Mercado, J.L., Cruz-Martin, A, Rojas, L.V., McNamee, M. and Lasalde-Dominicci, J. A. “*Hydrophobic amino acid replacements at lipid exposed positions of Torpedo californica nicotinic acetylcholine reduce inhibition by propanol*”, FASEB Meeting Abs. 2114, April, 18, New Orleans (2000).
27. Guzmán, G., Santiago, J., R. Marti, Rojas, L., García-Arrarás, J. E. and Lasalde-Dominicci J. A. “*Effect of tryptophan substitutions in the alpha M3 transmembrane domain of the Torpedo californica nicotinic acetylcholine receptor*”. Society for Neuroscience Abstract (2000).
28. Navedo, M. Rojas, L., Nieves, M., Rosa-Molinar, E. and Lasalde-Dominicci J. A. “*Tryptophan substitutions in the M3 domain of the mouse nicotinic receptor alter ion channel function*”. Society for Neuroscience Abstract (2000).

29. Rojas, L. and Lasalde-Dominicci, J.A. “*Accute effects of thyroid hormone in the neuromuscular junction of vertebrate*”, NIH-RCMI International Symposium on Health Disparities, San Juan, P. R. 11/13/2000.
30. Santiago, J., Guzmán, G., Rojas, L., Marti, R., Asmar, G. and Lasalde-Dominicci, J.A. “*Effect of cholesterol on Torpedo nicotinic Acetylcholine receptor*” NIH-RCMI International Symposium on Health Disparities, San Juan, P. R. 11/13/2000.
31. Guzmán, G., Santiago, J., Rojas, and Lasalde-Dominicci, J. A. “*Tryptophan substitutions on the alpha and beta M3 domain of the Torpedo californica nicotinic acetylcholine receptor alter ion channel function*” NIH-RCMI International Symposium on Health Disparities, San Juan, P. R. 11/13/2000.
32. Sánchez, J., López, G., Lasalde-Dominicci, J. A. “*Functional analysis of the desensitization state of the neuronal nicotinic acetylcholine receptor*”, The 2000 National Minority research Symposium, Washington, D.C. Nov 8-11, 2000.
33. Nieves, M., Navedo, M., Rojas, L., and Lasalde-Dominicci, J. A. “*Site directed mutagenesis study of the ion channel pore of the neuronal nicotinic acetylcholine receptor $\alpha 3$ subunit*. Neuroscience Society for Puerto Rico Abstracts, UPR-Río Piedras, December 2, (2000).
34. Asmar-Rovira, G.A., Santiago, J., Rodríguez, A., Edwards, S. Rojas, L.V. and Lasalde-Dominicci, J. A. “*Developing Torpedo nicotinic acetylcholine receptor crystals for high-resolution X-ray studies*” Neuroscience Society for Puerto Rico Abstracts, UPR-Río Piedras, December 2, (2000).
35. Navedo, M., Rojas, L., Gómez, C., and Lasalde-Dominicci, J.A. “*A novel δ -subunit mutation in the Slow-Channel Congenital Myasthenic Syndrome display delayed AChR opening*”, Navedo, M., Neuroscience Society for Puerto Rico Abstracts, UPR-Río Piedras, December 2, (2000).
36. Mercado, J., Cruz, A., Rojas, L. and Lasalde-Dominicci, J. A. “*Hydrophobic amino acid replacements at the M4 transmembrane segment of the Torpedo californica Acetylcholine Receptor dramatically reduce the inhibition by 1-propanol*”. Biophysical Society Meeting (Boston, MA, February, 2001).
37. Navedo, M. Rojas, L., Nieves, M., Rosa-Molinar, E. and Lasalde-Dominicci J. A. “*Tryptophan substitutions in the alpha M3 domain of the muscle-type nicotinic acetylcholine receptor alter ion-channel function*”. Biophysical Society Meeting (Boston, MA, February, 2001).
38. Nieves, M., Navedo M., and Lasalde-Dominicci, J. A. *Structure-function studies on the ion channel pore of the neuronal nicotinic receptor alpha3 subunit*. Nieves, M., Navedo M., and Lasalde-Dominicci, J. A. (RISE-MBRS meeting, Orlando FL October 30, 2001).
39. Navedo, M., Rojas, L., Gómez, C., and Lasalde-Dominicci, J. A. “*A novel delta subunit mutation in slow-channel syndrome causes severe weakness by delay closing at low ACh, delay opening at high ACh, and apparent channel block*” (RISE-MBRS meeting, Orlando, FL, October 30, 2001).

40. Guzmán, G.R., Santiago, J., Marti, R., Asmar, G., Ricardo, A., Rojas, L., Ortiz-Acevedo, A., Santana, L.F., McNamee, M.G. and Lasalde-Dominicci, J.A. “*Functional effects of membrane cholesterol on Torpedo californica nicotinic acetylcholine receptor*” (RISE-MBRS meeting, Orlando, FL, October 30, 2001).
41. Lizardi-Ortiz, J.E., Figueroa, G.E., and Lasalde-Dominicci, J.A. “*Structural Studies of the Amino Terminal Domains of the $\alpha 4$, $\alpha 7$ and $\beta 2$ Subunits of the Neuronal Acetylcholine Receptor*” (RISE-MBRS meeting, Orlando, FL, October 30, 2001).
42. Mercado, J.L., Cruz, A., Rojas L.V., McNamee, M.G. and Lasalde-Dominicci, J.A. “*Tryptophan Substitutions in the gamma M3 Transmembrane Domain alter allosteric transitions of the Torpedo californica Nicotinic Acetylcholine Receptor*”. (RISE-MBRS meeting, Orlando, FL, October 30, 2001).
43. Asmar-Rovira, G., Santiago, J., Rodríguez, A., Edwards, S. and Lasalde-Dominicci, J. A. “*Developing Torpedo nicotinic acetylcholine receptor crystals for high-resolution X-rays studies*”. (RISE-MBRS meeting, Orlando, FL, October 30, 2001).
44. López, G., Sánchez-Padilla, J., Ortiz-Acevedo, A., Rojas, L.V., Rosa-Molinar, E. and Lasalde-Dominicci, J.A. “*Up-regulation of the $\alpha 4\beta 2$ neuronal nicotinic receptor in Xenopus oocytes depends on subunit stoichiometry*” (RISE-MBRS meeting, Orlando, FL, October 30, 2001).
45. Guzmán, G.R., Santiago, J., Marti, R., Asmar, G., Ricardo, A., Rojas, L., Ortiz-Acevedo, A., Santana, L.F., McNamee, M.G. and Lasalde-Dominicci, J.A., “*Effects of membrane cholesterol on Torpedo californica nicotinic acetylcholine receptor*” (Neuroscience Society meeting, San Diego, CA, November 13, 2001).
46. Mercado, J., Cruz, A., Rojas, L. and Lasalde-Dominicci, J. A. “*Hydrophobic amino acid replacements at the M4 transmembrane segment of the Torpedo californica Acetylcholine Receptor dramatically reduce the inhibition by 1-propanol*”. Biophysical Society Congress Abstr. 1965, p. 253, Boston, MA, February 17-21, 2001.
47. Navedo, M. Rojas, L., Nieves, M., Rosa-Molinar, E. and Lasalde-Dominicci J. A. “*Tryptophan substitutions in the alpha M3 domain of the muscle-type nicotinic acetylcholine receptor alter ion-channel function*”. Biophysical Society Congress Abstr. 1964, p. 253, Boston, MA, February 17-21, 2001.
48. Nieves, M., Navedo M., and Lasalde-Dominicci, J. A. “*Structure-function studies on the ion channel pore of the neuronal nicotinic receptor alpha3 subunit*”. RISE-MBRS meeting Abstr. 494, p. 210, Orlando, FL, October 30 - November, 2001.
49. Navedo, M., Rojas, L., Gómez, C., and Lasalde-Dominicci, J. A. “*A novel delta subunit mutation in slow-channel syndrome causes severe weakness by delay closing at low ACh, delay opening at high ACh, and apparent channel block*”. RISE-MBRS meeting Abstr. 496, p. 211, Orlando, FL, October 30 – November 3, 2001.

50. Navedo, M., Nieves, M., Rojas, L., Lasalde-Dominicci, J.A. “*Mutations in lipid-exposed position in the M3 domain of the alpha subunit affect gating of mouse nicotinic acetylcholine receptor*”. RISE-MBRS meeting Abstr. 495, p. 211, Orlando, FL, October 30 – November 3, 2001.
51. Guzmán, G.R., Santiago, J., Marti, R., Asmar, G., Ricardo, A., Rojas, L., Ortiz-Acevedo, A., Santana, L.F., McNamee, M.G. and Lasalde-Dominicci, J.A., “*Functional effects of membrane cholesterol on Torpedo californica nicotinic acetylcholine receptor*”. RISE-MBRS meeting Abstr. 488, p. 209, Orlando, FL, October 30 – November 3, 2001.
52. Mercado, J.L., Cruz, A., Rojas L.V., McNamee, M.G. and Lasalde-Dominicci, J.A. “*Tryptophan Substitutions in the gamma M3 Transmembrane Domain alter allosteric transitions of the Torpedo californica Nicotinic Acetylcholine Receptor*”. RISE-MBRS meeting Abstr. 493, p. 210, Orlando, FL, October 30 – November 3, 2001.
53. López, G., Sánchez-Padilla, J., Ortiz-Acevedo, A., Rojas, L.V., Rosa-Molinar, E. and Lasalde-Dominicci, J.A. “*Up-regulation of the $\alpha 4\beta 2$ neuronal nicotinic receptor in Xenopus oocytes depends on subunit stoichiometry*”. RISE-MBRS meeting Abstr. 489, p. 209, Orlando, FL, October 30 – November 3, 2001.
54. Guzmán, G.R., Santiago, J., Marti, R., Asmar, G., Ricardo, A., Rojas, L., Ortiz-Acevedo, A., Santana, L.F., McNamee, M.G. and Lasalde-Dominicci, J.A. “*Effects of membrane cholesterol on Torpedo californica nicotinic acetylcholine receptor*”. Neuroscience Society meeting, San Diego CA, November 9-13, 2001.
55. Manuel F. Navedo, M. Nieves, L. Rojas, C. Gómez, and J. Lasalde-Dominicci. “*Slow-Channel Congenital Myasthenic Syndrome Cause by Delay Closing and Opening and Agonist Block Due a Mutation in the M2 Domain of the δ Subunit*” Biophysical Society 46th Annual Meeting. Abstr. 1041, San Francisco, CA, February 23-27, 2002.
56. G.Y. López-Hernández, J. Sánchez, A. Ortiz, L.Rojas, E. Rosa- Molinar, and J. Lasalde-Dominicci “*Nicotine Induced Up- regulation of the $\alpha 4\beta 2$ Neural Nicotinic receptor in Xenopus Oocytes Depends on Heteropentamer Stoichiometry.*” Abstr. 432.10. Society for Neuroscience Meeting, Orlando, FL, November 1-6, 2002.
57. M. Nieves, M.F. Navedo, D. Caballero, J. García-Arrarás, and J.A. Lasalde-Dominicci “*Contribution of the M1-8' Residue to the Ion Channel function of Neural $\alpha 3$ AchR Subtype.*” Abstr. 537.11. Society for Neuroscience, Orlando, FL, November 1-6, 2002.
58. Ariamsi A. Ricardo, Gisela Guzmán, John Santiago, Legier V. Rojas, and José A. Lasalde-Dominicci “*Effects of Tryptophan Substitutions in the M3 transmembrane Domain of the Alpha Subunit of the Torpedo Californica Nicotinic Acetylcholine Receptors.*” Abstr.573, p. 311, ABRCMS meeting, New Orleans, Louisiana, November 13-16, 2002.

59. Alexis Torres, Gretchen López, and José A. Lasalde-Dominicci “*Effects of Serine Substitution on $\alpha 4\beta 2$ nAChRs Function Express on Xenopus Oocytes*” abstr. 873, p.430 ABRCMS meeting, New Orleans, Louisiana, November 13-16, 2002.
60. Mariel Meléndez- Alicea, A. Ortiz, A. Asseo-García, L. Rojas, N. Biaggi-Labiosa, J.A. Lasalde-Dominicci. “*Tryptophan Scanning of the AChR’s $\gamma M4$ Domain from Torpedo californica*. Abst. D115, ABRCMS, San Diego, CA, October 15-18, 2003.
61. Gretchen Y, López-Hernández, A. Torres, L. Rojas, M. Navedo-Morales, J.A. Lasalde-Dominicci. “*Effect of Mutations at $\alpha S336$ on Desensitization and Up-Regulation of $\alpha 4\beta 2$ Neural Nicotinic Acetylcholine Receptors*”. Abst. 2817, Biophysical Society, Baltimore, MD, February 14-18, 2004
62. Madeline Nieves-Cintrón, M. Navedo-Morales, J.A. Lasalde-Dominicci. “*Position V248 of Neuronal $\alpha 3$ Subunit Contribute To Agonist Efficacy and Potency*”. Abst. 2818, Biophysical Society, Baltimore, MD, February 14-18, 2004.
63. Mariel Meléndez- Alicea, A. Ortiz, A. Asseo-García, L. Rojas, N. Biaggi-Labiosa, J.A. Lasalde-Dominicci. *Tryptophan Scanning of the AChR’s $\gamma M4$ Domain from Torpedo californica*. Abst. 2819, Biophysical Society, Baltimore, MD, February 14-18, 2004.
64. Carlos Báez Pagán and Lasalde-Dominicci. “*Effects of Membrane Cholesterol in the T. californica Nicotinic Acetylcholine Receptor and the novel lipid-exposed mutation $\alpha C418W$* ”. Biophysical Society Discussions Meeting, Asilomar, California, October 28-31, 2004.
65. Fernández-Mongil, M., Segarra, J., Venza, C.J., Nieves, A., Rivera-Anaya, CV., Céspedes, K., Rivera, Y., Valentín, I., Rivera, D., DiGiorgi, B., Vázquez, R., Ortiz-Acevedo, A., Ramírez, R., Lasalde-Dominicci, J.A. and Rojas, LV. “*The behavior and physiology of Rana catesbeiana tadpoles are modified by 3, 3’, 5-triiodo-L-thyronine*”. Symposium of Health Disparities. RCMI. Baltimore, Maryland, December 8-11. (2004).
66. Céspedes Katty., Segarra J., Fernández-Mongil M., Venza C.J., Nieves A., Rivera Y., Vázquez R., Tardy F., Ortiz-Acevedo A., Ramírez R., Gómez C., Lasalde-Dominicci J.A. and Rojas LV. Slow-Channel Congenital Myasthenic Syndrome: A transgenic mice model for the novel $\alpha C418W$ mutation. Symposium of Health Disparities. RCMI. Baltimore, Maryland, December 8-11. (2004).
67. Amneris, N., Fernández-Mongil, M., Segarra, J., Venza, C., Céspedes, K., Rivera, Y., Lasalde-Dominicci J.A. and Rojas, LV. “*Behavioral Testing Facility a service available to the international scientific community. Symposium: Frontiers in Biomedical Sciences: Current Innovations and Future Trends in Alleviating Health Disparities*”. RCMI. Baltimore, Maryland, December 8-11, (2004).
68. López-Hernández, Gretchen Y., Sánchez, J., Ortiz, A., Rojas, L.V., Rosa-Molinar, and Lasalde-Dominicci, J. A. “*Nicotine induced up-regulation of $\alpha 4\beta 2$ neuronal nicotinic receptor in Xenopus oocytes*

- depends on heteropentamer stoichiometry*". APA Society Annual Meeting. San Juan, Puerto Rico. Poster C-129.
69. Otero-Cruz, D. and Lasalde-Dominicci, J.A. "*Tryptophan scanning approach into alpha-M3 transmembrane domain of the muscle-type nicotinic acetylcholine receptor*". Society for Neuroscience 34th Annual Meeting, Los Angeles, CA, October 2004, Poster 275.6.
70. Otero-Cruz, José David; Caraballo-González, Iván Manuel; Cuascut-Lassús, Fernando Xavier; Lasalde-Dominicci, J. A.; "*Electrophysiological characterization of a single tryptophan substitution at the lipid-exposed transmembrane domain, alpha-M3, of the nicotinic acetylcholine receptor*". Biophysical Society 49th Annual Meeting. February 12-16, 2005. Long Beach, CA. 3057-Poster. Board #B337.
71. Daniel Caballero, Madeline Nieves-Cintrón, Manuel Navedo, and José A. Lasalde-Dominicci *Functional Contribution of Position L218 to Neuronal Nicotinic Alpha Three Receptors Subtypes* Pos-L106 Biophysical meeting Long Beach CA, February 2005.
72. Manuel F. Navedo , Carlos Báez-Pagán, Luzed Díaz, Legier Rojas, Ricardo A. Maselli, J. Staub, Kelly Schott, Roberto Zayas, Christopher M. Gómez and José A. Lasalde-Dominicci. *Acetylcholine receptor mutations in slow-channel syndrome identify an M1 domain allosteric hinge*. 40th ACS Junior Technical Meeting 25th Puerto Rico Interdisciplinary Scientific Meeting (PRISM) UPR Mayagüez, March 12, 2005 and the Island Wide Conference Mayagüez, March 13, 2005.
73. Manuel F. Navedo, Carlos Báez-Pagán, Luzed Díaz, Legier Rojas, Ricardo A. Maselli, J. Staub, Kelly Schott, Roberto Zayas, Christopher M. Gómez and José A. Lasalde-Dominicci. "*Functional Contribution of Position L218 to Neuronal Nicotinic Alpha Three Receptor Subtypes*". 25th Puerto Rico Interdisciplinary Scientific Meeting (PRISM) and 40th American Chemist Association (ACS) Junior Technical Meeting. University of Puerto Rico, Mayagüez Campus, March 12, 2005.
74. Díaz-De León, R., Casiano, A. and Lasalde-Dominicci, J.A. "*Tryptophan scanning of the nAChR's β M4 transmembrane domain form *Torpedo californica**". AGEP 3rd poster meeting. July 14, 2005. University of Puerto Rico, Río Piedras Campus.
75. Biaggi-Labiosa, N., and Lasalde-Dominicci, J. "*Contribution of residues S364 and S469 to the α 4 β 2 neuronal nAChR function*". AGEP 3rd poster meeting. July 14, 2005. University of Puerto Rico, Río Piedras Campus.
76. Báez, C., Martínez, Y., Ortiz, A., Silva, W., and Lasalde-Dominicci, J.A *Probing the Effects of Membrane Cholesterol in the *Torpedo Californica* Acetylcholine Receptor and the Novel Lipid-Exposed Mutation α C418W in *Xenopus* Oocytes*. AGEP 3rd poster meeting. July 14, 2005. University of Puerto Rico, Río Piedras Campus.
77. Otero-Cruz, J., Caraballo-González, I., Cuascut-Lassús, F., Rosario-Santiago, N., Rodríguez-Moserrate, P., and Lasalde-Dominicci, J.A. "*Mobility of α M3 Domain Between nAChR Species: Muscle-Type vs Electric Ray*". AGEP 3rd poster meeting. July 14, 2005. University of Puerto Rico, Río Piedras Campus.

78. Asmar-Rovira, G., Hanson, H.M., Lasalde-Dominicci, J.A. and Stevens, R.C. “*Structural Studies of the Nicotinic Acetylcholine Receptors (nAChR) and Associated Proteins*”. AGEP 3rd poster meeting. July 14, 2005. University of Puerto Rico, Río Piedras Campus.
79. Hyzinski-García, M.C., Lizardi-Oriz, J.E., Valle-Avilés, F.L., Velásquez-Rivera, E., Osorio-Martínez, K.M. and Lasalde-Dominicci, J.A. *Electrophysiological Characterization of Position Phenylalanine 426 Located at the Lipid-Protein interface of the Nicotinic Acetylcholine Receptor $\alpha\beta 2$ Domain*. XIV Puerto Rico Neuroscience Conference, December 3, 2005. Ponce, PR.
80. Otero-Cruz, J., Caraballo-González, I., Cuascut-Lassús, F., Rosario-Santiago, N., Rodríguez-Moserrate, P., and Lasalde-Dominicci, J.A. *Spring Model: Mobility of M3 Transmembrane Domain of the Nicotinic Acetylcholine Receptor*. XIV Puerto Rico Neuroscience Conference, December 3, 2005. Ponce, P.R.
81. Biaggi-Labiosa, N., and Lasalde-Dominicci, J. “*Contribution of residues T417 and S469 to the $\alpha\beta 2$ neuronal nAChR function*”. Biophysical Society 50th Annual Meeting. February 18-22, 2006. Salt Lake City, Utah.
82. Báez, C., Martínez, Y., Ortiz, A., Silva, W., and Lasalde-Dominicci, J.A. “*Cholesterol Mediated Alterations in Function and Aggregation of Torpedo californica Nicotinic Acetylcholine Receptor Expressed in Xenopus laevis Oocytes*”. February 18-22, 2006. Salt Lake City, Utah.
83. López, G., Degarra, G., Lasalde-Dominicci, J.A. and Rojas L.V. “*Cholesterol depletion alters the pre and post –synaptic events in the neuromuscular junction*”, Biophysical Society 50th Annual Meeting. February 18-22, 2006. Salt Lake City, Utah. Poster # 1233 pag 59.
84. Santiago-Pérez, L.I., Azoulay, H., García, V., Meléndez, L., Lasalde-Dominicci, J.A. “*Effects of nicotine, galantamine and human immunodeficiency virus (HIV-1) envelope protein, gp120, on the regulation of alpha7 nAChR in human macrophages*”. American Society for Neurochemistry. Abst. 364, March 11-15, 2006.
85. Otero-Cruz, J., Caraballo-González, I., Cuascut-Lassús, F., Rosario-Santiago, N., Rodríguez-Moserrate, P. and Lasalde-Dominicci, J.A. “*Acetylcholine Receptor Alpha M3 domains reveals a Spring-tilted motion during channel activation: Structural and Functional differences between Torpedo and Muscle-type receptor*”. FASEB Meeting, March 31 to April 5, San Francisco, CA.
86. Asmar-Rovira, G.A., Quesada, O., Asseo, A., Hanson, M.A., Lasalde-Dominicci, J.A., and Stevens, R.C. “*Detergent Solubilization of the Torpedo californica Nicotinic Acetylcholine Receptor (nAChR) Alters its Endogenous Lipid Composition: An Essential Factor in Ion Channel Activity*”. 10th International RCMI Symposium, December 13-16, 2006, San Juan, P.R.
87. Biaggi-Labiosa, N. and Lasalde-Dominicci, J.A. “*Contribution of Residues S364, T417 and S469 to the $\alpha\beta 2$ Neuronal nAChR Function*”. 10th International RCMI Symposium, December 13-16, 2006, San Juan, P.R.

88. Caballero-Rivera, Daniel, Nieves-Cintrón, Madeline, Navedo, Manuel F. and Lasalde-Dominicci, José A. “*Contribution of Valine 7’ of TMD2 to Gating of Neuronal Alpha Three Receptors Subtypes*”. 10th International RCMI Symposium, December 13-16, 2006, San Juan, P.R.
89. Del Hoyo-Rivera, Natalie, Caballero-Rivera, Daniel; Báez-Pagán, Carlos A., Santiago-Pérez, Laura I., Lasalde-Dominicci, José A. “*Modulation of the $\alpha 7$ Neuronal Nicotinic Acetylcholine Receptor by Cholesterol*”, 10th International RCMI Symposium, December 13-16, 2006, S.J, P.R.
90. García-Matos, Jomarie, Caballero-Rivera, Daniel, Cruz-Nieves, Omar, Oyola-Cintrón, Jessica, Santiago-Pérez, Laura I., Lasalde-Dominicci, José A. “*Incorporation of Unnatural Amino Acids into $\alpha 4\beta 2$ Neuronal Nicotinic Acetylcholine Receptors (nAChRs) in HEK 293 Cells*”. 10th International RCMI Symposium, December 13-16, 2006, San Juan, P.R.
91. José David Otero-Cruz and José Antonio Lasalde-Dominicci. “*Acetylcholine Receptor Lipid-Exposed Transmembrane Domain Reveals a Tilted-Spring Motion during Channel Activation*”. 10th International RCMI Symposium, December 13-16, 2006, San Juan, P.R.
92. Leilani Marty-Santos, Rosaura Ramírez-Ordoñez, Daisy Espinoza-Contreras, Kilsy Cuello-Pichardo, Luis Sepúlveda-Maldonado, Christopher M. Gómez, and José A. Lasalde-Domenicci. “*Description of the Neuromuscular Degeneration in Transgenic Mice ($\alpha V249F$) Expressing the Slow Channel Syndrome*”. 10th International RCMI Symposium, December 13-16, 2006, San Juan, P.R.
93. Lizardi-Ortiz, J.E., Fernández-Gerena, J.L., Reyes-Aponte, E.J., Osorio-Martínez, K.M., and Lasalde-Dominicci, J.A. “*Structural Study of the Amino Terminal Domain of the $\beta 2$ Subunit of the Neuronal Acetylcholine Receptor*”. 10th International RCMI Symposium, December 13-16, 2006, San Juan, P.R.
94. Lizardi-Ortiz, J.E., Hyzinski-García, M.C., Fernández-Genera, J.L., Valle-Avilés, F.L., Velásquez-Rivera, E., Osorio-Martínez, K.M., Lasalde-Dominicci, J.A. “*The Absence of Aromatic Characteristics at Position Phenylalanine 426 in the Lipid-Protein Interface of Alpha-M4 Domain Reduces the Macroscopic Response of the Nicotinic Acetylcholine Receptor*”. 10th International RCMI Symposium, December 13-16, 2006, San Juan, P.R.
95. Rosedelma Díaz-De León, Anette Casiano and José A. Lasalde-Dominicci. “*Tryptophan Scanning of the Acetylcholine Receptor’s $\beta M4$ Transmembrane Domain from *Torpedo californica**”. 10th International RCMI Symposium, December 13-16, 2006, San Juan, P.R.
96. Ruth E. Quintana, Juan C. Galloza, Ileana Rodríguez, Alejandro Ortiz-Acevedo, and J. A. Lasalde-Dominicci. “*Lateral Diffusion of the *Torpedo californica* Acetylcholine Receptor in Oocyte Membranes*”. 10th International RCMI Symposium, December 13-16, 2006, S.J, P.R.
97. Kilsy A. Cuello, Rossura Ramírez and Jose Lasalde-Dominicci, “*Description of the neuromuscular Degeneration in Transgenic Mice ($\alpha V249V$) expressing the slow channel Syndrome*”. ABRCMS Meeting, Anaheim CA, November 9, 2006, Poster c99, page 233.

98. C.A. Báez-Pagán, Y. Martínez, J.D. Otero-Cruz, I.K. Salgado-Villanueva, G. Velázquez, A. Ortiz-Acevedo, O. Quesada, W.I. Silva and Lasalde-Dominicci J.A (2007) "*Regulation of the acetylcholine receptor functional pool via caaveolin-1-positive domains*". Abstract #629.4. Experimental Biology, Washington, DC., April 28-May 2, 2007.
99. R. Díaz-de León, A. Casiano and J.A. Lasalde-Dominicci J.A (2007) "*Tryptophan scanning of the acetylcholine receptor's Betta M4 transmembrane domain from Torpedo californica*". Abstract #604.27. Experimental Biology, Washington, D.C., April 28-May 2, 2007.
100. José David Otero-Cruz, David Abner Torres-Núñez, José Antonio Lasalde-Dominicci J.A. (2007) "*Secondary structure of the lipid-exposed transmembrane domains revealed through Fourier transform analysis of tryptophan-scanning mutagenesis data*". Abstract #LB117. Experimental Biology, Washington, DC., April 28-May 2, 2007.
101. Santiago-Pérez, L.I., Azoulay, H., García, V., Meléndez, L., Lasalde-Dominicci J.A. "*Effects of nicotine, galantamine and human immunodeficiency virus (HIV-1) envelope protein, gp120, on the regulation of alpha7nAChR in human macrophages*". SNRP meeting, FB, Alaska, June, 11-15, 2006.
102. Ileana Rodríguez, Alejandro Ortiz-Acevedo and Lasalde-Dominicci J.A, "*Lateral diffusion of the Torpedo and Muscle Type Acetylcholine Receptors on oocytes membranes of the Xenopus laevis*" Undergraduate Research Poster Sessions at the 233rd ACS national meeting, in Chicago, IL, March 25, 2007.
103. Santiago-Pérez, L.I., Ballester L.Y., González Pagán, O, Rodríguez Román, L., Azoulay, H., García, V., Meléndez, L., Lasalde-Dominicci J.A, "*Upregulation of the alpha7 nAChR in human macrophages is induced by chronic treatment with HIV-1 envelope protein, gp120*", 37th Annual Meeting, Society for Neuroscience, Neuroscience 2007, November 3-7, 2007, San Diego, California, USA.
104. Santiago-Pérez, L.I., Serrano, M., Ballester L.Y., Silva, W. I., Lasalde-Dominicci J.A, "*Upregulation of alpha7nAChR is induced by chronic treatment with HIV-1 envelope protein, gp120 in 1321NI astrocytoma cells*", 30th Society for Neurochemistry Annual Meeting, March 1-6, 2008, San Antonio, Texas, USA.
105. Lázaro, M.I., Santiago-Pérez, L.I., Ballester L.Y., Lasalde-Dominicci J.A and González, C.I. "*Up-regulation of the alpha7 nAChR in human macrophages is induced by chronic treatment with HIV-1 envelope protein, gp120*". Experimental Biology 2008, April 5-9, 2008, San Diego, California, USA.
106. Céspedes Katty, Espinoza Daisy, Madera Bismark, Ramírez Rosaura, Gómez Christopher and Lasalde-Dominicci J.A, University of Puerto Rico, Río Piedras Campus and University of Chicago, Department of Neurology, Chicago, IL, USA. "*Alcohol can remarkably enhance synaptic impairment in the Slow Channel Congenital Myasthenic Syndrome*". Biophysical Society Meeting 2008, February 2-6, 2008, Long Beach, California, USA.

107. Nilza M. Biaggi-Labiosa and Lasalde-Dominicci J.A. “*Contribution of residues S364, T417, S438 and S469 to the $\alpha 4\beta 2$ neuronal nAChR function*”. 36th Annual Society for Neuroscience Meeting, San Diego, CA November 2007.
108. Caballero-Rivera, Daniel; Cruz-Nieves, Omar A.; Santiago-Pérez, Laura I., Rosa, Yazmín; García-Matos, Jomarie; Oyola-Cintrón, Jessica; Torres, Alexis; Prieto, José A.; Resto, Edgar; and Lasalde-Dominicci J.A. “*Incorporation of Fluorescent Unnatural Amino Acids into *Torpedo californica* and Neuronal Nicotinic Acetylcholine Receptors*”. (41st IUPAC Congress, Torino, Italy; August 4-12, 2007).
109. Del Hoyo-Rivera, Natalie; Báez-Pagán, Carlos A.; Martínez-Ortiz, Yaiza; Caballero-Rivera, Daniel; Santiago-Pérez, Laura I.; Lasalde-Dominicci J.A. “*Modulation of the $\alpha 7$ neuronal nicotinic acetylcholine receptor by cholesterol*”. (ABRCMS, Austin, TX; November 7-10th, 2007).
110. Oyola-Cintrón J, Caballero-Rivera D, Ballester L, Martínez L, Nogueras-Ortiz C, Ríos-Morales RY, Quesada O, Lasalde-Dominicci J.A. 2009. “*Potential implications of cholesterol and phosphatidylinositol 4, 5-bisphosphate (PI[4,5]P2) interactions with the cholesterol-sensitive $\alpha C418W$ AChR mutation at lipid rafts*”. 54th Biophysical Society Meeting. February 20-24, 2010.
111. Caballero-Rivera D, Cruz-Nieves O, Oyola-Cintrón J, Otero-Cruz JD, Torres-Núñez DA, Lasalde-Dominicci JA. 2009. “*Fourier Transform Coupled Tryptophan Scanning Mutagenesis of the Lipid Exposed $\delta M3$ and $\delta M4$ Transmembrane Domains of the *Torpedo californica* Acetylcholine Receptor*”. 54th Biophysical Society Meeting. February 20-24, 2010.
112. Biaggi, N.M., and Lasalde-Dominicci, J.A. “*Contribution of phosphorylation residues in the $\alpha 4$ subunit to the $\alpha 4\beta 2$ neural nAChR function and expression*”. 54th Biophysical Society Meeting. February 20-24, 2010.
113. Padilla-Morales L. F., Morales-Pérez, C. L., De La Cruz-Rivera, P., López-Cruz, L. M., Asmar-Rovira, G.A., Stevens, R.C., Quesada, O. and Lasalde-Dominicci, J. A. “*Efficient Isolation and Characterization of Nicotinic Acetylcholine Receptor from *Torpedo californica* Using Lipid Analog Detergents*”. 54th Biophysical Society Meeting. February 20-24, 2010.
114. Grajales-Reyes Gary E , Haipeng Zhu, Báez-Pagán Carlos A., Quesada Orestes, Grajales-Reyes José G., Delgado Manuel, Ramírez Rosaura, Gómez Christopher and Lasalde-Dominicci José A., “*Degeneration of the neuromuscular junction of a congenital myasthenic syndrome via cholesterol-reducing treatment; a transgenic mice study of the $\alpha C418W$ novel mutation*”. ABRCMS, Arizona, November 4-7, 2009. (this presentation won first prize in the area of Biochemistry and Biophysics in the ABRCMS student competition).***
115. Grajales G., Báez, C., Delgado, M., Ramírez, R., Gómez, C., and Lasalde-Dominicci, J. “*Lipid-protein interactions studies in the $\alpha C418W$ slow channel congenital myasthenic syndrome*”. Society for Neuroscience Meeting, Chicago, IL, October 2009.

116. Wilfredo F. García-Beltrán, Leomar Y. Ballester, Laura I. Santiago-Pérez, Raymond Ríos, José R. Mercadon and José A. Lasalde-Dominicci. “*The Up-regulation of the $\alpha 7$ -Nicotinic Acetylcholine Receptor by HIV-1 gp120: “A Novel Mechanism in the Pathogenesis of HIV-Associated Dementia”*”. ABRCMS, Arizona, November 4-7, 2009.
117. José Gabriel Grajales, Gary Grajales, Carlos Báez, Haipeng Zhu, Orestes Quesada, Christopher Gómez, and José Lasalde. “*Lipid-protein interactions studies in the $\alpha C418W$ mutant suffering from slow channel congenital myasthenic syndrome*”. Experimental Biology Meeting. April 24, 2010.
118. José Gabriel Grajales, Gary Grajales, Carlos Báez, Haipeng Zhu, Oreste Quesada, Christopher Gómez, and José Lasalde. “*Characterization of Fluoxetine as an Open Channel Blocker on $\delta S268F$, a SCCMS Mouse Model*”. ABRCMS, Arizona, November 4, 2009.
119. Ramos, F.M., Ballester, L.Y. and Lasalde-Dominicci, J.A. “*The Role of gp120-Induced Up-Regulation of alpha7 Nicotinic Acetylcholine Receptor in HIV-Associated Dementia*”. FASEB Experimental Biology 2010. April 24, 2010.
120. Capó, C., and Lasalde-Dominicci, J. “ *$\alpha 7$ -nicotinic acetylcholine receptors are up-regulated after exposure to HIV-1 gp120: Potential implication in the pathogenesis of HIV-1 associated dementia*”. Society for Neuroscience Meeting, Chicago, IL, October 2009.
121. Delgado-Vélez, M, Carrasquillo, L., Emanuelli, G., Grajales, G., Madera, B., Gómez, C., Lasalde-Dominicci, J. “*Alcohol promotes kinetic alterations on acetylcholine receptors in a model of slow-channel congenital myasthenic syndrome*”. Society for Neuroscience Meeting, Chicago, IL, October 2009.
122. C. Báez-Pagán, N. del Hoyo-Rivera, O. Quesada, and J. A. Lasalde-Dominicci, “*Inhibition in the Function of Different Nicotinic Acetylcholine Receptor Subtypes by Cholesterol*”, Specialized Neuroscience Meeting. San Juan, P.R., July 20-24, 2010.
123. J. Oyola-Cintrón, D. Caballero-Rivera, L. Ballester, L. Martínez, C.J. Noguerras-Ortiz, C.A. Baéz-Pagán, O. Quesada, J.A. Lasalde-Dominicci. “*Elucidating the role of the lipid-protein interface in regulating the functional pool of AChRs in a novel SCCMS*”. Specialized Neuroscience Meeting. San Juan, P.R., July 20-24, 2010.
124. D. Caballero-Rivera, O.A. Cruz-Nieves, J. Oyola-Cintrón¹, J.D. Otero-Cruz, D.A. Torres-Núñez and J.A. Lasalde-Dominicci, “*Decoding secondary structure and conformational rearrangements on the lipid exposed domains of the AChR*”. Specialized Neuroscience Meeting, San Juan, P.R. July 20-24, 2010.
125. Padilla-Morales L. F., Morales-Pérez, C. L., De La Cruz-Rivera, P., López-Cruz, L. M., Asmar-Rovira, G.A., Stevens, R.C., Quesada, O. and Lasalde-Dominicci, J.A. “*Characterization of Nicotinic Acetylcholine Receptor from *Torpedo californica* Using Lipid Analog Detergents*”. Specialized Neuroscience Meeting. San Juan, P.R. July 20-24, 2010.

126. Capó, C., Meléndez, R. and Lasalde-Dominicci, *$\alpha 7$ -nicotinic acetylcholine receptors are up-regulated after exposure to HIV-1 gp120: potential implications in the pathogenesis of HIV-1 associated dementia* Specialized Neuroscience Meeting, San Juan, P.R., July 20-24, 2010.
127. Gary E. Grajales-Reyes, Carlos Báez-Pagán, José G. Grajales-Reyes, Haipeng Zhu, Manuel Delgado, Oreste Quesada, Christopher Gómez, Rosaura Ramírez and José Lasalde-Dominicci, “*Uncovering the molecular basis for collateral effects of statins in the NMJ: in vivo studies of the $\alpha C418W$ cholesterol-sensitive acetylcholine receptor*”, Specialized Neuroscience Meeting, San Juan, P.R., July 20-24, 2010.
128. LY Ballester, W García-Beltrán, FM Ramos, E Vázquez, C Capó, R Ríos, JR Mercado, L Acevedo, KN Montalvo, JA Lasalde-Dominicci, “*HIV-gp120 Induces Up-regulation of the $\alpha 7$ -nAChR; Implications for HIV Associated Dementia*” Specialized Neuroscience Meeting, San Juan, P.R, July 20-24, 2010. (This abstract presentation won first prize in SNRP poster competition).***
129. M. Delgado-Vélez, L.Y. Ballester, C. Báez, L. I. Santiago-Pérez, C. Capó, L. Meléndez, V. Wojna, M. Serrano, V. García, Y. Gerena-López, F.Y. Delgado, W. Silva & J. A. Lasalde-Dominicci, “*HIV-1 gp120 Signaling Via $\alpha 7$ Nicotinic Receptor, Implications in the Pathogenesis of HIV Infection*”, Specialized Neuroscience Meeting, San Juan, P.R, July 20-24, 2010.
130. Delgado-Vélez, M., Báez-Pagan, C., Santiago-Perez, L.I., Ballester, L.Y., Quesada, O., Vazquez, E., Serrano, M., García, V., Gerena-Lopez, Y., Wojna, V., Delgado, F.Y., Capó-Vélez, C., Santana, O. Lasalde-Dominicci, J. HIV-1 gp120 up-regulates $\alpha 7$ nicotinic acetylcholine receptor in monocyte-derived macrophages. 10th International Symposium on NeuroVirology, Milan, Italy, October 12-16, 2010.
131. Capó-Vélez, C., Santiago-Montes, E., Delgado-Vélez, M., Melendez, R.I., Lasalde-Dominicci, J.A., The alpha7 acetylcholine receptor is up-regulated in a transgenic mouse model that expresses the HIV-1 coat protein gp120: potential implications in the pathogenesis of HIV-1 associated dementia. 10th International Symposium on NeuroVirology, Milan, Italy, October 12-16, 2010.
132. Ramos, F.M., Ballester, L.Y., Garcia, W., Vázquez, E., Capó-Vélez, C.M., Acevedo, L., Ríos, R., Mercado, J. and Lasalde-Dominicci, J.A. “*The Role of gp-120-Induced Up-Regulation of the $\alpha 7$ Nicotinic Acetylcholine Receptor in HIV-Associated Dementia*”. 10th Anual Biomedical Research Conference for Minority Students, Charlotte, NC, USA, November 2010.
133. Natalie del Hoyo-Rivera, Carlos A. Báez Pagán, Orestes Quesada and José A. Lasalde-Dominicci. “*Modulation of the Nicotinic Acetylcholine Receptor Function by Cholesterol*”. 55th Biophysical Society Annual Meeting, Baltimore, Maryland, March 2011.
134. Natalie del Hoyo-Rivera, Carlos A. Báez Pagán, Orestes Quesada and José A. Lasalde-Dominicci. “*Modulation of the Nicotinic Acetylcholine Receptor Function by Cholesterol*”. JTM/PRISM, Bayamón, Puerto Rico, March 2011.

135. Nogueras-Ortiz, C., Ríos-Morales, Y., Díaz, N., Lasalde-Dominicci, J.A., Quesada, O. “*Mechanism elucidation of the Lys49 A2 phospholipase induced myotoxicity in C2C12 differentiated myoblasts*”. 30th Puerto Rico Interdisciplinary Scientific Meeting (PRISM) 2011.
136. De La Cruz-Rivera, Padilla-Morales L. F., Morales-Pérez, C. L., P., López-Cruz, L. M., Báez-Pagán, C.A., Asmar-Rovira, G.A., Stevens, R.C., Quesada, O. and Lasalde-Dominicci, J. A. “*Effect of Lipid-Analog Detergent Solubilization on the Nicotinic Acetylcholine Receptor from *Torpedo californica*: Functionality and Lipidic Cubic Phase Stability*”. 54th Annual Biophysical Society Meeting, Baltimore, MD, March 2011.
137. P. de la Cruz-Rivera, L. F. Padilla-Morales, C. L. Morales-Pérez, G. A. Asmar-Rivera, R. C. Stevens, O. Quesada, J. Lasalde-Dominicci. “*Characterization of Nicotinic Acetylcholine Receptor from *Torpedo californica* Using Lipid Analog Detergents*”. 10th Annual Biomedical Research Conference for Minority Students, Charlotte, NC, September 2010.
138. Padilla-Morales L. F., Morales-Pérez, C. L., De La Cruz-Rivera, P., López-Cruz, L. M., Báez-Pagán, C.A., Asmar-Rovira, G.A., Stevens, R.C., Quesada, O. and Lasalde-Dominicci, J. A. “*Effect of Lipid-Analog Detergent Solubilization on the Nicotinic Acetylcholine Receptor from *Torpedo californica*: Functionality and Lipidic Cubic Phase Stability*”. Junior Technical Meeting, Bayamon, PR, March 2011.
139. Capó-Vélez, Coral; Delgado, Manuel; Meléndez, Roberto; and Lasalde-Dominicci, J.; “*α7-nicotinic acetylcholine receptors are upregulated in a transgenic mouse model that expresses the HIV-1 coat protein gp120*”, Society for Neuroscience Annual Meeting, November 12-17, 2011, Washington, D.C.
140. De La Cruz-Rivera, P.C., Padilla-Morales L. F., Morales-Pérez, C. L., L. M., Báez-Pagán, C.A., Asmar-Rovira, G.A., Stevens, R.C., Quesada, O. and Lasalde-Dominicci, J. A. “*Effect of Lipid-Analog Detergent Solubilization on the Nicotinic Acetylcholine Receptor from *Torpedo californica*: Functionality and Lipidic Cubic Phase Stability*”. 11th Annual Biomedical Research Conference for Minority Students, Charlotte, NC, November 2011.
141. Padilla-Morales LF, Morales-Pérez CL, De La Cruz-Rivera PC, Asmar-Rovira G, Báez-Pagán CA, Quesada O, and Lasalde-Dominicci JA. “*Characterization of nicotinic acetylcholine receptor from *torpedo californica* using lipid analog detergents*”. ABRCMS Annual Biomedical Research Conference for Minority Students, St. Louis, Missouri November 2011.
142. Delgado-Vélez, Manuel., Báez-Pagán, CA., Gerena-López, Y., Quesada, O., Santiago-Pérez, L., Wojna V., Melendez L., Silva W., and Lasalde-Dominicci, J. “*The anti-inflammatory α7 nicotinic acetylcholine receptor is upregulated in immune cells from HIV-infected subjects: Potential implications to the treatment of HIV-relates chronic inflammation*”. 18th Annual Scientific Conference, Honolulu, HI, April 25, 2012
143. Padilla-Morales L. F., De La Cruz-Rivera, P.C., Morales-Pérez, C. L., L. M., Báez-Pagán, C.A., Asmar-Rovira, G.A., Stevens, R.C., Quesada, O., and Lasalde-Dominicci, J. A. “*Effect of Lipid-Analog Detergent*

- Solubilization on the Nicotinic Acetylcholine Receptor from Torpedo californica: Functionality and Lipidic Cubic Phase Stability*". 56th Annual Biophysical Society Meeting, San Diego, CA, February 2012.
144. Padilla-Morales L. F., De La Cruz-Rivera P.C., Morales-Pérez, C. L., Báez-Pagán, C.A., Asmar-Rovira, G.A., Stevens, R.C., Quesada, O., and Lasalde-Dominicci, J. A. "Characterization of Nicotinic Acetylcholine Receptor from *Torpedo californica* Using Lipid-Analog Detergents". 55th Annual Biophysical Society Meeting, San Diego, California, February 2012.
 145. Mellanie Pullen, Quesada, O., Lasalde-Dominicci, J.A., 1- "Potential implications of cholesterol, caveolin-1 and phosphatidylinositol 4,5-bisphosphate (pip2) on the novel alpha c418w mutant nachr at lipid rafts", Session Number: 329 Session Title: Nicotinic Receptors: Regulation, Function, and Trafficking, Date and Time: Monday Oct 15, 2012 8:00 AM - 12:00 PM, Location: Ernest N. Morial Convention Center: Hall F-J, Control Number: 17274
 146. Ramos, F.M., Quesada, O., Lasalde-Dominicci, J.A., "Engineering nicotine insensitive and hypersensitive $\alpha 4\beta 2$ nAChRs via selective disruption of consensus sites in the M3-M4 cytoplasmic loop of the $\alpha 4$ subunit", Emir Aviles, Nilsa Biagi, Carlos Báez O., Lasalde-Dominicci, J.A. Date and Time: Monday Oct 1, 2012 8:00 AM - 12:00 PM Presentation Time: 8:00am - 9:00am, Control Number: 17955
 147. Nilsa Biagi, Carlos Báez O., Lasalde-Dominicci, J.A., "Chronic varenicline treatment down-regulates function and expression of $\alpha 4\beta 2$ nAChRs expressed on *Xenopus oocytes*", Nicole Aponte, Session Title: Nicotinic Receptors: Physiology and Function I, Date and Time: Monday Oct 15, 2012, Location: Ernest N. Memorial Convention Center: Hall F-J, Control Number: 18035
 148. Ramos, F.M., Quesada, O., Lasalde-Dominicci, J.A., "Upregulation of *chrfam7a* in basal ganglia of HIV-infected individuals: Implications in HIV-associated neurocognitive disorders" Session Title: Movement Disorders, Date and Time: Wednesday Oct 16, 2012 8:00 AM - 12:00 PM, Location: Ernest N. Memorial Convention Center: Hall F-J, Control Number: 17472.
 149. Padilla-Morales L. F., Stevens, R.C., Quesada, O., and Lasalde-Dominicci, "Effect of Lipid-Analog Detergent Solubilization on the Nicotinic Acetylcholine Receptor from *Torpedo californica*: Functionality and Lipidic Cubic Phase Stability", 4th Membrane Protein Technologies Meeting", November 29, 2012, page 76, San Francisco, CA.
 150. Gonzalez Joel, Padilla-Morales, L.F., Colon J.O., Acevedo J.A., Rosado I. Quesada, O. and Lasalde-Dominicci, J.A., Assesment of the functionality and stability of detergent purified nAChR from *Torpedo californica*. Biophysical Society 59th Annual Meeting Late abstract L3377-pos page 12. February 7, 2015, Baltimore MD
 151. De Jesus, L.M., Aponte, L., Holder-Viera, M., Colon J.O., Lasalde-Dominicci and Baez-Pagan, C. Electrophysiological Characterization of alpha7 acetylcholine receptors genetic variants and their interactions with partial duplication Dupalpha7 Biophysical Society 59th Annual Meeting Late abstract L3559-pos page 12. February 7, 2015, Baltimore MD

152. González-Nieves, J.E., Quesada-González, O., Lasalde-Dominicci, J.A. . Effects of Positive Allosteric Modulators (PAMs) on the Functionality of the α 7 Nicotinic Acetylcholine Receptor (nAChR) February 27, 2016 ,Biophysical Society 60 th Annual Meeting LA CA
153. Valdes, B., and Lasalde-Dominicci, Assessment of Nicotinic Acetylcholine Receptor Detergent Complexes Purity and Stability for structural studies February 28, 2016, Biophysical Society 60 th Annual Meeting LA CA
154. Quesada, O., and Lasalde-Dominicci, Uncovering the Lipidic Basis for the preparation of functional Nicotinic Acetylcholine Receptor Detergent Complexes for structural studies, February 28, 2016, Biophysical Society 60 th Annual Meeting, LA CA.

COLLABORATIVE RESEARCH PROJECTS

- 1997-present: Christopher Gómez, M.D., Ph.D., University of Chicago, Department of Neurology: "*Electrophysiological characterization of acetylcholine receptor genes in slow-channel congenital myasthenic syndrome*"
- 2001-present: Raymond Sevens Ph.D., Scripps Institute, San Diego, CA: "*Crystallization of nicotinic acetylcholine receptor*"
- 2003-present: Enrique Ochoa, M.D., Ph.D., Department of Neurology, UC Davis Medical School, University of California at Davis. "*Molecular basis of neuronal nicotinic acetylcholine receptor desensitization*".

US Patents:

- 1- Title: "High Throughput screening device for membrane proteins using a sub physiological resting membrane potential across a lipid matrix of variable composition", was assigned and became public on December 2018. US patent 10,155,221
- 2- Another patent (related to the US patent 10.155,221), US patent 15997728 assigned on April 04, 2019.

Patent Applications (pending)

1. Title: A Method for Predicting Increased Risk of Suffering Statin-induced Adverse Drug Reactions. Application number: 13/540,598
2. Title: α 4 β 2 nicotinic acetylcholine receptors with reduced or increased nicotine sensitivity. Application number: 62/153,660