

1. Date: November 10th, 2014

PERSONAL

2. Name and title: **Antoni Barrientos, Ph.D.**
3. Work Fax: (305)243-7404
4. Work Phone: (305) 243-8683
5. Work Address: 1600 NW 10th Ave, RMSB # 2067, Miami, FL 33136
6. Current Academic Rank: Professor (Tenured)
7. Primary Department: Neurology
8. Secondary Appointment: Department of Biochemistry and Molecular Biology.
Member of the Neuroscience Graduate Program
9. Citizenship: AMERICAN and SPANISH
10. VISA type:

HIGHER EDUCATION

11. Institutional:

Ph.D

Department of Molecular Genetics
Cancer Research Institute (IRO), Barcelona, Spain and School of
Medicine, University of Barcelona, Barcelona, Spain; November/1996

BS

Biological Sciences
School of Biology. University of Barcelona. Barcelona, Spain; June/1992

BS

Biological Sciences Education
Teachers School. University of Barcelona. Barcelona, Spain; **BS**; June/1984

12. Non-institutional: None

13. Certification, licensure: None

EXPERIENCE

14. Academic

Biological Research Programs

Mitochondrial Biogenesis in Health and Disease

Department of Neurology – University of Miami School of Medicine
Tenure earning –track Assistant Professor. May/2003 – May/2007
Tenure earning –track Associate Professor. June/2007 – June 2009

Tenured Associate Professor. June/2009 – May/2013
Tenured Professor, June/2013-Present

Yeast Mitochondrial Biogenesis as a model of higher organisms

Department of Biological Sciences – Columbia University, New York

Postdoctoral Research Scientist; Supervisor: Alexander Tzagoloff, Ph.D. May/1999 – May/2000

Associate Research Scientist; Supervisor: Alexander Tzagoloff, Ph.D. May/2000 – May/2003

The Role of Mitochondrial Dysfunction in Human Pathologies

Department of Neurology - University of Miami School of Medicine

Postdoctoral fellow; Supervisor: Carlos T. Moraes, Ph.D., February/1997 - May/1999

Biochemical and molecular implication of mitochondria in degenerative diseases and in the aging process

Department of Molecular Genetics - Cancer Research Institute (IRO), Barcelona, Spain. and School of Medicine - University of Barcelona, Barcelona, Spain

Ph.D. candidate; Supervisors: Virginia Nunes, Ph.D; Francesc Cardellach, M.D./Ph.D. February/1993 - November/1996

15. Hospital appointments: None

16. Non-Academic: None

17. Military: None

PUBLICATIONS

18. Books and monographs published:

- 1- Fontanesi F and Barrientos A. **Mitochondrial Cytochrome c Oxidase Assembly in Health and in Human Diseases.** In "*Mitochondrial disorders caused by nuclear genes*". Part 3. Wong, LJ Ed. Springer Science. pp: 239-259 (2013)
- 2- Horn D., Fontanesi F., and Barrientos A. **Cofactor insertion into mitochondrial cytochrome c oxidase and human disease: Insight from yeast models.** In "*Yeast as a Model for Human Disease*". Chapter 3. Pg: 41-61. Witt S.N. ed. Transworld Research Network. Trivandrum. India (2009).
- 3- Barrientos A., Fontanesi F. and Díaz F. **Evaluation of the Mitochondrial Respiratory Chain and Oxidative Phosphorylation System using Polarography and Spectrophotometric Enzyme Assays.** *Curr Protoc Hum Genet.* Chapter 19: Unit 19.3 (2009)
- 4- Fontanesi F., Diaz F. and Barrientos A. **Evaluation of the Mitochondrial Respiratory Chain and Oxidative Phosphorylation System Using Yeast Models of OXPHOS Deficiencies.** *Curr Protoc Hum Genet.* Chapter 19: Unit 19.5 (2009)
- 5- Díaz F., Barrientos A. and Fontanesi F. **Evaluation of the Mitochondrial Respiratory Chain and Oxidative Phosphorylation System Using Blue Native Gel Electrophoresis.** *Curr Protoc Hum Genet.* Chapter 19: Unit 19.4 (2009)
- 6- Horn D., Fontanesi F., and Barrientos A. **Exploring protein-protein interactions involving newly synthesized mitochondrial DNA encoded proteins.** *Methods in Molecular Biology: Membrane Trafficking.* Vol. 457. Chapter 9. Pg. 125-139. Ales Vancura, ed. Humana Press (2008)
- 7- Gouget K., Verde F. and Barrientos A. **In Vivo Labeling and Analysis of Mitochondrial Translation Products in Budding and in Fission yeasts.** *Methods in Molecular Biology: Membrane Trafficking.* Vol. 457. Chapter 8. Pg. 113-124. Ales Vancura, ed. Humana Press (2008)
- 8- Barrientos A., Casademont J, Rustin P, and Cardellach F. **Biochemical aspects of Ageing of skeletal muscle** In: Preedy VR and Peters TJ, editors. *Skeletal Muscle: Pathology and management of disease.* Greenwich Medical Media Limited. London. pp 85-95. (2002)
- 9- Moraes C, Dey R., and Barrientos A. **Transmitochondrial technology in animal cells** In: Schon E and Pon L, editors. *Methods Cell Biol.* **65:** 397-412. (2001)
- 10- Barrientos A. and Moraes, C.T. **Transmitochondrial microhybrids: a new system for the identification of nuclear genes controlling mitochondrial DNA maintenance and gene expression** In *Miami Nature Biotechnology Vol. 9: Advances in Gene Technology: Molecular Biology in the Conquest of Disease.* Ahmad, F. et al. Eds. Oxford Univ. Press (Miami, FL), pp. 65-66. (1998)
- 11- Cardellach F., Barrientos A., Miró O., and Casademont J. **Mitochondrial pathology and disease. Part 2 HTA-Internal Medicine** (in Spanish) **13:** 501-545 (1996)
- 12- Barrientos A., Casademont J., and Nunes V. **Rearrangements of the mitochondrial DNA in Kearns-Sayre syndrome. Is it necessary to differentiate deletions from duplications or multimerizations?** *Neurología* (in Spanish) **11:** 257-260 (1996)

19. Juried or refereed journal articles:

- 1- Hess KC, Liu J, Manfredi G, Mühlshlegel FA, Buck J, Levin LR, Barrientos A. **A mitochondrial CO₂-adenylyl cyclase-cAMP signalosome controls yeast normoxic cytochrome c oxidase activity.** *FASEB J.* 2014 Jul 1. pii: fj.14-252890. [Epub ahead of print]
- 2- Bourens M, Boulet A, Leary SC, Barrientos A. **Human COX20 cooperates with SCO1 and SCO2 to mature COX2 and promote the assembly of cytochrome c oxidase.** *Hum. Mol. Genet.* 23(11): 2901-13 (2014)
- 3- De Silva D, Fontanesi F and Barrientos A. **The DEAD-Box protein Mrh4 functions in the assembly of the mitochondrial large ribosomal subunit.** *Cell Metab.* 18: 712-25 (2013)
- 4- Patel N, Barrientos A, Landgraf R. **The Growth Factor Receptor ERBB2 regulates Mitochondrial Activity on a Signaling Timescale.** *J. Biol. Chem.* 288: 35253-65 (2013)
- 5- Samuli Kursu VA, Pietikäinen LP, Fontanesi F, Aaltonen MJ, Suomi F, Raghavan Nair R, Schonauer MS, Dieckmann CL, Barrientos A, Hiltunen JK, Kastaniotis AJ. **Defects in mitochondrial fatty acid synthesis result in failure of multiple aspects of mitochondrial biogenesis in *Saccharomyces cerevisiae*.** *Mol. Microbiol.* 90: 824-40 (2013)
- 6- Lu G, Matsuura SE, Barrientos A, Scott WA. **HIV-1 Infection Is Blocked at an Early Stage in Cells Devoid of Mitochondrial DNA.** *PLoS One.* 2013 8(10):e78035 (2013)
- 7- Barrientos A and Ugalde C. **I function, therefore I am: overcoming doubt about mitochondrial supercomplexes.** *Cell Metab.* July 18(2):147-9 (2013)
- 8- Ocampo A, Liu JJ and Barrientos A. **NAD⁺ salvage pathway proteins suppress proteotoxicity in yeast models of neurodegeneration.** *Hum. Mol. Genet.* 22(9):1699-708 (2013)
- 9- Clemente P, Peralta S, Cruz-Bermudez A, Echevarria L, Fontanesi F, Barrientos A, Fernandez-Moreno MA, Garesse R. **hCOA3 stabilizes COX1 and promotes cytochrome c oxidase assembly in human mitochondria.** *J. Biol. Chem.* 288(12):8321-31 (2013)
- 10- Bourens M, Fontanesi F, Soto IC, Liu J, and Barrientos A. **Reactive Oxygen Species and Redox Regulation of Mitochondrial Cytochrome c Oxidase Biogenesis.** *Antioxid. Redox Signal.* 19(16):1940-52 (2013)
- 11- Liu J and Barrientos A. **Transcriptional regulation of yeast OXPHOS hypoxic genes by oxidative stress.** *Antiox. Redox Signal.* 19(16):1916-27 (2013)
- 12- Soto IC, Fontanesi F, Myers RS, Hamel P and Barrientos A. **A Heme-Sensing Mechanism in the Translational Regulation of Mitochondrial Cytochrome c Oxidase Biogenesis.** *Cell Metab.* 16 (6): 801-813 (2012)
- 13- Barrientos A. **Complementary roles of mitochondrial respiration and ROS signaling on cellular aging and longevity.** *Aging* 4(9): 1-2 (2012)
- 14- Bourens M, Dabir DV, Tienson HL, Sorokina, I, Koehler CM and Barrientos A. **Role of twin-CysX₉Cys motif cysteines in mitochondrial import of the cytochrome c oxidase biogenesis factor Cmc1.** *J Biol Chem* 287(37):31258-69 (2012)
- 15- Ocampo A, Liu JJ, Schroeder EA, Shadel GS and Barrientos A. **Mitochondrial respiratory thresholds regulate yeast chronological life span and its extension by caloric restriction.** *Cell Metab.* 16(1):55-67 (2012)
- 16- Moreno-Lastres D, Fontanesi F, García-Consuegra I, Martín MA, Arenas J, Barrientos A, Ugalde C. **Mitochondrial Complex I plays an Essential Role in Human Respirasome Assembly.** *Cell Metab.* 15(3):324-35 (2012)

- 17-Soto IC, Fontanesi F, Liu J, Barrientos A. **Biogenesis and assembly of eukaryotic cytochrome *c* oxidase catalytic core.** *Biochim. Biophys. Acta.* 1817(6):883-97 (2012)
- 18-Ocampo A and Barrientos A. **Developing yeast models of human neurodegenerative disorders.** *Methods Mol. Biol.* 793: 113-127 (2011)
- 19-Yong Pan Y, Schroeder EA, Ocampo A, Barrientos A and Shadel GS. **Regulation of yeast chronological life span by TORC1 via adaptive mitochondrial ROS signaling.** *Cell Metab.* 13(6): 668-678 (2011)
- 20-Ocampo A and Barrientos A. **Quick and reliable assessment of chronological life span in yeast cell populations by flow cytometry.** *Mech. Ageing. Dev.* 132: 315-323 (2011)
- 21-Fontanesi F, Clemente P, Barrientos A. **Cox25 teams up with Mss51, Ssc1 and Cox14 to regulate mitochondrial cytochrome *c* oxidase subunit 1 expression and assembly in *Saccharomyces cerevisiae*.** *J. Biol. Chem.* 286(1):255-266 (2011)
- 22-Horn D, Zhou W, Trevisson E, Al-Ali H, Harris TK, Salviati L, and Barrientos A. **The conserved mitochondrial twin CX₉C protein Cmc2 is a Cmc1 homologue essential for cytochrome *c* oxidase biogenesis.** *J. Biol. Chem.* 285(20):15088-99 (2010)
- 23-Fontanesi F., Soto I.C., Horn D., Barrientos A. **Mss51 and Ssc1 facilitate translational regulation of cytochrome *c* oxidase biogenesis.** *Mol Cell Biol.* 30: 245-259 (2010)
- 24-Ocampo A, Zambrano A. and Barrientos A. **Suppression of polyglutamine-induced cytotoxicity in *Saccharomyces cerevisiae* by enhancement of mitochondrial biogenesis.** *FASEB J.* 24(5):1431-41 (2010)
- 25-Soto IC, Fontanesi F, Valledor M, Horn D, Singh R. and Barrientos A. **Synthesis of cytochrome *c* oxidase subunit 1 is translationally down-regulated in the absence of functional F₁F₀-ATP synthase.** *Biochim. Biophys. Acta (Mol. Cell. Res.)* 1793:1776-86 (2009)
- 26-Barrientos A, Gouget K, Horn D, Soto IC and Fontanesi F. **Suppression mechanisms of COX assembly defects in yeast and human: Insights into the COX assembly process.** *Biochim. Biophys. Acta. (Mol. Cell. Res.)* 1793:97-107 (2009)
- 27-Perales-Clemente E, Bayona-Bafaluy P, Pérez-Martos A, Barrientos A., Fernández-Silva P, and Enríquez JA. **Restoration of electron transport without proton pumping in mammalian mitochondria.** *P.N.A.S* 105: 18735-18739 (2008)
- 28-Ocampo A and Barrientos A. **From the bakery to the brain business: developing inducible yeast models of human neurodegenerative disorders.** *Biotechniques* 45(4):Pvii-xiv (2008)
- 29-Horn D, Al-Ali H, and Barrientos A. **Cmc1p is a conserved mitochondrial twin Cx₉C protein Involved in cytochrome *c* oxidase biogenesis.** *Mol. Cell. Biol.* 28:4354-64 (2008)
- 30-Horn D and Barrientos A. **Mitochondrial copper metabolism and delivery to cytochrome *c* oxidase.** *IUBMB Life.* 60:421-9 (2008)
- 31-Fontanesi F, Soto IC and Barrientos A. **Cytochrome *c* oxidase biogenesis: new levels of regulation.** *IUBMB Life.* 60:557-68 (2008)
- 32-Fontanesi F., Jin C., Tzagoloff A., and Barrientos A. **Transcriptional Activators HAP/NF-Y Rescue a Cytochrome *c* Oxidase Defect in Yeast and Human Cells.** *Hum Mol Genet.* 17:775-88 (2008)
- 33-Dave K.R., DeFazio R.A., Raval AP, Torraco A, Saul I, Barrientos A and Perez-Pinzon M.A. **Ischemic preconditioning targets the respiration of synaptic mitochondria via protein kinase *c* Epsilon.** *J. Neurosc.* 28: 4172-4182 (2008)
- 34-Wiley DJ, Catanuto P, Fontanesi F, Rios C, Sanchez N, Barrientos A., and Verde F. **Bot1p is required for mitochondrial translation, respiratory function and normal cell**

- morphology in the fission yeast *Schizosaccharomyces pombe*. *Eukaryotic Cell*, 7: 619-29 (2008)**
- 35- Jin C, Barrientos A, Epstein CB, Butow RA, and Tzagoloff A. ***SIT4* regulation of Mig1p-mediated catabolite repression in *Saccharomyces cerevisiae*. *FEBS Lett.* 581:5658-63 (2007)**
 - 36- Zambrano A, Fontanesi F., Solans A., de Oliveira RL, Fox TD, Tzagoloff A, Barrientos A. **Aberrant translation of cytochrome *c* oxidase subunit 1 mRNA species in the absence of Mss51p in the yeast *Saccharomyces cerevisiae*. *Mol. Biol. Cell.* 18:523-35. (2007)**
 - 37- Vempati UD, Diaz F, Barrientos A, Narisawa S, Mian AM, Millan JL, Boise LH, Moraes C.T. **Role of cytochrome *c* in apoptosis: increased sensitivity to tumor necrosis factor alpha is associated with respiratory defects but not with lack of cytochrome *c* release. *Mol. Cell Biol.* 27(5):1771-83. (2007)**
 - 38- Solans A., Zambrano A., Rodriguez M., and Barrientos A. **Cytotoxicity of a mutant huntingtin fragment in yeast involves early alterations in mitochondrial OXPHOS complex II and III. *Hum. Mol. Genet.*, 15(20):3063-81. (2006)**
 - 39- Fontanesi F, Soto IC, Horn D, and Barrientos A. **Assembly of mitochondrial cytochrome *c* oxidase, a complicated and highly regulated cellular process. *Am. J. Physiol. – Cell Physiol.*, 291(6):C1129-47. (2006)**
 - 40- Moraes CT, Diaz F, and Barrientos A. **Defects in the biosynthesis of mitochondrial heme *c* and heme *a* in yeast and mammals *Biochim. Biophys. Acta - Bioenergetics*, 1659: 153-159. (2005)**
 - 41- Barrientos A, Zambrano A., and Tzagoloff A. **Mss51p and Cox14p jointly regulate mitochondrial Cox1p expression in *Saccharomyces cerevisiae*. *EMBO J.* 23(17):3472-82. (2004)**
 - 42- Solans A, Zambrano A, and Barrientos A. **Cytochrome *c* oxidase deficiency: from yeast to human *Preclinica.* 2(5):336-348 (2004)**
 - 43- Tzagoloff A, Barrientos A, Neupert W, Herrmann JM. **Atp10p assists assembly of Atp6p into the F₀ unit of the yeast mitochondrial ATPase *J. Biol. Chem.* 279: 19775-80 (2004)**
 - 44- Barrientos A. **Yeast models of human mitochondrial diseases *IUBMB Life.* 55:83-95. (2003)**
 - 45- Barrientos A, Korr D, Barwell KJ, Christian Sjulsen C, Gajewski CD, Manfredi G, Sharon Ackerman S, and Tzagoloff A. ***MTG1* codes for a conserved protein required for mitochondrial translation *Mol. Biol. Cell* 14:2292-302. (2003)**
 - 46- Jin C, Barrientos A, and Tzagoloff A. **Yeast dihydroxybutanone phosphate synthase, an enzyme of the riboflavin biosynthetic pathway has a second unrelated function in expression of mitochondrial respiration *J. Biol. Chem.* 278:14698-703. (2003)**
 - 47- Barrientos A, Pierre D, Lee J, and Tzagoloff A. **Cytochrome oxidase assembly does not require catalytically active cytochrome *c*. *J. Biol. Chem.* 278:8881-7. (2003)**
 - 48- Carlson C.G., Barrientos A, Tzagoloff A., and Glerum D.M. ***COX16* encodes a novel protein required for the assembly of cytochrome oxidase in *Saccharomyces cerevisiae* *J. Biol. Chem.* 278: 3770-5. (2002)**
 - 49- Ludovico P, Rodrigues F, Almeida A, Silva MT, Barrientos A, and Côte-Real, M. **Cytochrome *c* release and mitochondria involvement in programmed cell death induced by acetic acid in *Saccharomyces cerevisiae* *Mol. Biol. Cell* 13:2598-606. (2002)**

- 50- Barrientos A. ***In vivo and in organello* assessment of OXPHOS activities** *Methods. A companion of Methods Enzymol.* 26: 307-16. (2002)
- 51- Barrientos A., Barros M, Valnot I, Rotig A, Rustin P, and Tzagoloff A. **Cytochrome oxidase in health and disease** *Gene.* 286(1): 53-63. (2002)
- 52- Barrientos A., Korr D, and Tzagoloff A. **Mitochondrial cytochrome c oxidase assembly: *Shy1p* is necessary for full expression of subunit 1 in the yeast model of Leigh's syndrome** *EMBO J.* 21(1-2): 43-52. (2002)
- 53- D'Aurelio M, Pallotti F, Barrientos A., Gajewski CD, Kwong JQ, Bruno C, Beal MF, Manfredi G. **In vivo regulation of oxidative phosphorylation in cells harboring a stop-codon mutation in mitochondrial DNA-encoded cytochrome c oxidase subunit I** *J. Biol. Chem.* 276(50): 46925-32. (2001)
- 54- de Lonlay P, Valnot I, Barrientos A., Gorbatyuk M., Tzagoloff A, Benayoun E, Chrétien D, Kadhom N, Lombès A, Ogier de Baulny H, Niaudet P, Rustin P, Munnich A and Rötig A **Mutations in *BCSI*, a mitochondrial respiratory chain assembly gene, are responsible for the complex III deficiency of patients with fatal tubulopathy and liver failure** *Nat. Genet.* 29: 57-60. (2001)
- 55- Barrientos A., Dey R, Müller S, Wienberg J, and Moraes CT **Cytochrome c oxidase assembly in primates is extremely sensitive to evolutionary variations in amino acid sequence** *Mol. Biol. Evol.* 17: 1508-1519. (2000)
- 56- Paul MF, Barrientos A., Tzagoloff A. **A single amino acid change in subunit 6 of the yeast mitochondrial ATPase suppresses a null mutation in *ATP10*** *J. Biol. Chem.* 275: 29238-43. (2000)
- 57- Dey R., Barrientos A. and Moraes C.T. **Functional Constraints of Nuclear - Mitochondrial DNA Interactions in Xenomitochondrial Rodent Cell Lines** *J. Biol. Chem.* 275:31520-31527. (2000)
- 58- Valnot I., Kleist-Retzow J.-C., Barrientos A., Gorbatyuk M., Rustin P., Tzagoloff A., Munnich A., and Rötig A. **Mutation in the haem A:Farnesyl transferase (*COX10*) gene in cytochrome c oxidase deficiency** *Hum. Mol. Genet.* 9:1245-9. (2000)
- 59- Jarreta D., Orus J., Barrientos A., Miró O, Roig E., Heras M., Moraes, C.T., Cardellach F. and Casademont J. **Mitochondrial function in heart muscle from patients with idiopathic dilated cardiomyopathy** *Cardiovasc. Res.* 45:860-5. (2000)
- 60- Barrientos A. and Moraes C.T. **Titrating the effects of mitochondrial complex I impairment in the cell physiology** *J. Biol. Chem.* 274:16188-97. (1999)
- 61- Miró O., Barrientos A., Alonso J.R., Casademont J., Jarreta, D. Urbano-Márquez, A., and Cardellach F. **Effects of general anaesthetic procedures on mitochondrial function of human skeletal muscle** *Eur. J. Clin. Pharmacol.* 55(1):35-41. (1999)
- 62- Biarnes J., Barrientos A., Ricart W., Nunes V., Fernandez-Castaner M., and Soler J. **[Diabetes mellitus associated with the A3243G mutation of mitochondrial DNA. Apropos a case]** *Med. Clin. (Barc)* 112(3):99-101. (1999)
- 63- Gomez Zaera M., Barrientos A., Arias L., Rojas I., Arruga J., Estivill X., Casademont, J., Nunes, V. **[An analysis of 6 Leber mutations in 31 individuals with optic atrophy. A study of its transmission in 5 families]** *Med. Clin. (Barc)* 112:326-329. (1999)
- 64- Miró O., Jarreta D., Casademont J., Barrientos A., Rodríguez B., Gomez M., Nunes V., Urbano-Márquez A. and Cardellach F. **Absence of mitochondrial dysfunction in polymyalgia rheumatica. Evidence based on a simultaneous molecular and biochemical approach** *Scand. J. Rheumatol.* 28(5):319-23 (1999)
- 65- Barrientos A. and Moraes C.T. **Simultaneous transfer of mitochondrial DNA and single chromosomes in somatic cells: a novel approach for the study of defects in nuclear-mitochondrial communication** *Hum. Mol. Genet.* 7: 1801-1808 (1998)

- 66- Barrientos A., Kenyon L. and Moraes C.T. **Human xenomitochondrial cybrids: cellular models of mitochondrial complex I deficiency** *J. Biol. Chem.* 273: 14210-14217. (1998)
- 67- Masanés F., Barrientos A., Cebrian M., Pedrol E., Miró O., Casademont J., and Grau J.M. **Clinical, histological and molecular reversibility of zidovudine myopathy** *J. Neurol. Sci.* 159: 226-228. (1998)
- 68- Barrientos A., Marín C., Miró O., Casademont J., Gómez M., Nunes V., Tolosa E., Urbano-Márquez A., and Cardellach F. **Biochemical and molecular effects of chronic haloperidol administration on brain and muscle mitochondria of rats** *J. Neurosci. Res.* 53: 475-481. (1988)
- 69- Miró O., Casademont J., Barrientos A., Urbano-Márquez A., and Cardellach F. **Mitochondrial cytochrome c oxidase inhibition during acute carbon monoxide poisoning** *Pharmacol. Toxicol.* 82: 199-202. (1998)
- 70- Miró O., Cardellach F., Barrientos A., Casademont, J., Rötig A., and Rustin P. **Cytochrome c oxidase assay in minute amount of human skeletal muscle mitochondria using simple wavelength spectrophotometers** *J Neurosci Methods.* 80: 107-111. (1998)
- 71- Chretien D., Gallego J., Barrientos A., Casademont J., Cardellach F., Rötig A., Munnich A. and Rustin, P. **Biochemical parameters for the diagnosis of respiratory chain deficiency in humans and their lack of age-related changes** *Biochem. J.* 329: 249-254 (1998)
- 72- Barrientos A., Casademont J., Cardellach F., Estivill X, Urbano-Márquez A., and Nunes V. **Reduced steady-state levels of mitochondrial RNA and increased mitochondrial DNA amount in human brain with ageing** *Mol. Brain Res.* 52: 284-289(1997)
- 73- Barrientos A., Casademont J., Cardellach F., Ardite E., Estivill E., Urbano-Márquez A., Fernández-Checa J.C. and Nunes V. **Qualitative and quantitative changes in skeletal muscle mtDNA and expression of mitochondrial-encoded genes in the human aging process** *Biochem. Mol. Med.* 62, 165-171 (1997)
- 74- Barrientos A., Casademont J., Genís D., Cardellach F., Fernández-Real J. M., Grau J.M., Urbano-Márquez A., Estivill X. and Nunes V. **Sporadic heteroplasmic single 5.5 Kb mitochondrial DNA deletion associated with cerebellar ataxia, hypogonadotropic hypogonadism, choroidal dystrophy, and mitochondrial respiratory chain complex I deficiency** *Hum. Mut.* 10: 212-216 (1997)
- 75- Conget I., Barrientos A., Manzanares J.M., Casademont J., Viñas O., Barceló J., Nunes V., Gomis R. and Cardellach, F. **Respiratory chain activity and mitochondrial DNA content of non-purified and purified pancreatic islet cells** *Metabolism* 46: 984-987(1997)
- 76- Barrientos A., Casademont J., Rötig A., Miro O., Urbano-Marquez A., Rustin P., and Cardellach F. **Absence of relationship between the level of electron transport chain activities and ageing in human skeletal muscle** *Biochem. Biophys. Res. Commun.* 229: 536-539 (1996)
- 77- Barrientos A., Casademont J., Saiz A., Cardellach F., Volpini V., Solans A., Tolosa E., Urbano-Márquez A., Estivill X., and Nunes V. **Autosomal recessive Wolfram syndrome associated with a 8.5-kb mtDNA single deletion** *Am. J. Hum. Genet.* 58: 963-970 (1996)
- 78- Barrientos A., Volpini V., Casademont J., Genis D., Manzanares J.M., Ferrer I., Corral J., Cardellach F., Urbano-Márquez A., Estivill X., and Nunes V. **A nuclear defect in the 4p16 region predisposes to multiple mitochondrial DNA deletions in families with Wolfram syndrome** *J. Clin. Invest.* 97: 1570-1576 (1996)

- 79- Casademont J., Barrientos A., Grau J.M., Pedrol E., Estivill X., Urbano-Márquez A. and Nunes V. **The effect of zidovudine on skeletal muscle mtDNA in HIV-1 infected patients with mild or no muscle dysfunction** *Brain* 119: 1357- 1364 (1996)
- 80- Conget I., Manzanares J.M., Barrientos A., Cardellach F. and Gomis R. **Coenzyme Q and insuline secretion *in vitro*** *Diabetes Res. Clin. Pract.* 33: 135-136 (1996)
- 81- Barrientos A., Casademont J., Grau J.M., Cardellach F., Montoya J., Estivill X., Urbano-Márquez A. and Nunes V. **Progressive external opthalmoplegia and Kearns-Sayre syndrome: a clinical and molecular study of 6 cases** *Med. Clin. (Barcelona)* 105: 180-184 (1995)
- 82- Barrientos A., Casademont J., Solans A., Moral P., Cardellach F., Urbano-Márquez A., Estivill X., and Nunes V. **The 9-bp deletion in region V of mitochondrial DNA: evidence of mutation recurrence** *Hum. Genet.* 96: 225-228 (1995)
- 83- Casademont I., Barrientos A., Cardellach F., Rötig A., Grau J.M., Montoya J., Beltrán B., Cervantes F., Rozman C., Estivill X., Urbano-Márquez A. and Nunes V. **Multiple deletions in mtDNA in two brothers with sideroblastic anemia and mitochondrial myopathy and in their asymptomatic mother** *Hum. Mol. Genet.* 3: 1945-1949 (1994)

20. Other work submitted for publication:

- 1- Tu Y, Barrientos A. **The Human Mitochondrial DEAD-Box Protein DDX28 Resides in RNA Granules and Functions in Mitoribosome Assembly.** *Under revision in Cell Reports*

PROFESSIONAL

21. Funded research:

Current

PI- Barrientos, Antoni

Cytochrome c Oxidase assembly in health and disease

NIH – 2 RO1 Research grant GM071775-06 (2012 –2016)

The National Institutes of Health (NIH/NIGM)

Direct costs: \$190,000/Year (four years grant; total \$760,000)

PI- Barrientos, Antoni

Cytochrome c oxidase in health and disease: Macromolecular interactions in cells

Supplement to 2R01GM071775-06A1 (PI: Barrientos)

NIH/NIGMS

FOA # RFA-GM-13-003. 11/1/20012 – 10/31/2015

Direct costs: \$ 80,000/Year (three years grant; total \$240,000)

PI- Barrientos, Antoni

The Biosynthetic Pathway of Mitochondrial Respirasomes

RO1 NIH

NIH/NIGMS. 4/1/2014–3/30/2019

Direct costs: \$ 250,000/Year (five years grant; total \$1,250,000)

*Pending**Past*

PI- Barrientos, Antoni

Role of New Evolutionary Conserved Cytochrome *c* Oxidase Assembly Chaperones
Muscular Dystrophy Association (MDA) –Research grant (2011 –2014)
Direct costs: \$95,000/Year (three years grant; total \$285,000)

PI- Barrientos, Antoni

Cytochrome *c* Oxidase assembly in health and disease
NIH – RO1 Research grant GM071775 (February/2006 – December/2011)
The National Institutes of Health (NIH/NIGM)
Direct costs: \$150,000/Year (five years grant; total \$750,000)

PI- Barrientos, Antoni

PI- Moraes, Carlos T.
Slowing degenerative processes by bolstering cellular bioenergetics
Research Challenge grant (2010 –2012)
Florida Department of Health / James & Esther King Biomedical Research Program.
Direct costs: \$300,000/Year (two years grant; total \$600,000)

PI- Barrientos, Antoni

Cytochrome *c* oxidase assembly in Health and disease – ARRA Competitive Supplement
NIH – RO1 Research grant (2009 –December 2011)
The National Institutes of Health
Direct costs: \$100,000/Year (two years grant; total \$200,000)

PI- Barrientos, Antoni

FASEB Summer Research Conference in “Mitochondrial Assembly and Dynamics in Health,
Disease and Aging”. July17-22, 2011
NIH – R13 Conference grant (2011)
The National Institutes of Health
Direct costs: \$6,000/Conference

PI- Barrientos, Antoni

Understanding the molecular basis of Leigh’s syndrome associated to cytochrome *c* oxidase
deficiency
Muscular Dystrophy Association (MDA) –Research grant (2007 –2010)
Direct costs: \$90,000/Year (three years grant; total \$270,000)

PI- Barrientos, Antoni

Searching for suppressors of polyglutamine-induced mitochondrial and cellular toxicities in
yeast
Stanley Glaser Foundation. June/1/ 2008 – May/31/2009
Direct costs: \$26,000/Year (one year grant; total \$26,000)

PI- Barrientos, Antoni

Cytochrome *c* Oxidase assembly in health and disease
Research Supplement to Promote Diversity in Health-Related Research
Supplement to NIH – RO1 Research grant GM071775 (June/2006 – May/2008)
The National Institutes of Health (NIH/NIGM)
Direct costs: \$ 24,000/Year (two years grant; total \$48,000)

PI- Perez-Pinzon, Miguel
Co-PI- Barrientos, Antoni
Mitochondria and Cerebral Ischemia: intracellular signaling
NIH – RO1 Research grant NS054147 (July/1/2006-June/30/2010)
The National Institutes of Health (NIH/NIGDS)
Direct costs: \$250,000 (4 years grant; total \$1,000,000)

PI- Barrientos, Antoni
Role of evolutionary conserved Cytochrome *c* Oxidase assembly factors
The Muscular Dystrophy Association. July/1/2004 - June/30/2007
Direct costs: \$75,000/Year (three year grant; total \$225,000)

PI- Barrientos, Antoni
Cytochrome *c* oxidase in health and disease
SAC –Grant for bridge funding (September/2005)
Scientific Awards Committee –University of Miami Miller School of Medicine
Direct costs: \$17,226

PI- Barrientos Antoni
Mitochondrial Physiology in a Yeast Model of Huntington’s Disease
Research Grant
Stanley Glaser Foundation. June/1/ 2004 – May/31/2005
Direct costs: \$30,000/Year (one year grant; total \$30,000)
Effort: 10%

PI- Barrientos, Antoni.
Obtaining a Biolistic PDS-1000/He unit for mitochondrial transformation
SAC – New equipment award (May/2006)
Scientific Awards Committee –University of Miami Miller School of Medicine
Direct costs: \$10,000

PI- Barrientos, Antoni
Cytochrome *c* Oxidase in health and disease
The Muscular Dystrophy Association. April/1/2003 - March/30/2004
Direct costs: \$65,000/Year (one year grant; total \$65,000)

PI- Barrientos, Antoni
Studying the function of Shy1p, the yeast homolog of human Surf1p, responsible for Leigh syndrome
Development Grant (Mentor: Alexander Tzagoloff)
The Muscular Dystrophy Association. June/1/2000 - May/30/2003

Direct costs: \$35,000/Year (three years grant; total \$105,000)

Pending

PI- Barrientos, Antoni

Biogenesis of the Mitochondrial Translation Machinery

RO1 NIH

NIH/NIGMS. 1/1/2015–12/31/2019

Direct costs: \$ 250,000/Year (five years grant; total \$1,250,000)

PI- Barrientos, Antoni / Zhai, Grace (multiple PI application)

Protection Against Proteinopathies by NAD+ Biosynthesis Enzymes

RO1 NIH

NIH/NIGMS. 1/1/2015–12/31/2019

Direct costs: \$ 250,000/Year (five years grant; total \$1,250,000)

22. Editorial Responsibilities:

- Scientific Editor of *Microbial Cell* (2013-present)
- Ad hoc reviewer for: *Cell Metabolism, Cell Reports, Nature Genetics, Journal of Cell Biology, Journal of Biological Chemistry, Human Molecular Genetics, Molecular Biology of the Cell, Journal of Molecular Biology, Mitochondrion, Aging: clinical and experimental Research, Antioxidants and Redox Signaling, Biochemical Journal, Biochimica Biophysica Acta, PLoS Genetics, PLoS One, FEBS Letters, Genetics in Medicine, Annals of Neurology and Neurology.*

Advisory panels

Federal Agencies

- Stage 1 reviewer for The Fellowships ZRG1 **F05-Cell Biology and Development** study section (NIH) (since 2010)
- Stage 1 reviewer for Recovery Act RC1 (2009) and RC4 (2010) applications (NIH)
- *Adhoc* reviewer for the **Membrane Biology and Protein Processing** (MBPP) study section (NIH) (since 2011)
- *Adhoc* reviewer for the **Cellular Mechanisms in Aging and Development** (CMAD) study section (NIH) (since 2012)
- *Adhoc* reviewer for DOD-ARO grants (since 2012)
- *Adhoc* reviewer for the **Macromolecular Structure and Function A** (MSFA) study section (NIH) (since 2013)
- Regular member of the **Membrane Biology and Protein Processing** (MBPP) Study Section (since July 2014)

Reviewer of research grants from:

- Muscular Dystrophy Association (MDA) (*ad hoc* reviewer since 2008)
- Italian Telethon (*ad hoc* reviewer since 2009)

- The British Medical Research Council (MRC) (*ad hoc* reviewer since 2009)
- The Spanish National Evaluation and Foresight Agency (ANEP) from the Spanish Government Ministry of Education and Science -Secretary for Universities and Research (permanent reviewer since 2004).
- The Catalan Agency for Management of University and Research Grants (AGAUR) (permanent reviewer since 2004).

23. Professional organizations:

Member of The American Society for the Advancement of Science, The American Society for Biochemistry and Molecular Biology, The American Society for Microbiology, The Society for Neurosciences and The Spanish Society of Human Genetics.

24. Awards and Honors

- 1- Selected as the candidate of the University of Miami to apply for the Pew Scholarship in Biomedical Sciences (2003)
- 2- Stanley Glaser Award for University of Miami Miller School of Medicine's Rising Stars (2004)
- 3- Selected as the candidate of the University of Miami to apply for the Ellison Medical Foundation 2005 Aging Award.
- 4- Stanley Glaser Award for University of Miami Miller School of Medicine's Rising Stars (2008)
- 5- ICREA Senior Professor Position with Tenure (University of Barcelona, Spain). 2010 (renounced).
- 6- Chair and organizer of the 3rd FASEB Summer Research Conference in "Mitochondrial Assembly and Dynamics in Health, Disease and Aging". July 17-22, 2011

25. Post-doctoral fellowships:

- 1- Post-Doctoral Scholarship from the Spanish Government: Program for Research Professors Abroad (1997-1999)
- 2- Pre-Doctoral Scholarship from the Spanish Government: Education of University' Professors (1993-1996)

26. Invited Lectures

- 1- **Physiological regulation of mitochondrial cytochrome c oxidase function**
Invited speaker at the Physiology and Biophysics Seminar Series.
University of Miami Miller School of Medicine
Miami. November 2014
- 2- **Biogenesis of mitochondrial translation machinery**
Invited speaker at the Molecular and Cellular Pharmacology Seminar Series.
University of Miami Miller School of Medicine

Miami. October 2014

3- **Role of RNA helicases in the biogenesis of mitochondrial ribosomes**

Invited speaker at the Physiology Seminar Series.

Johns Hopkins University

Baltimore. October 2014

4- **Biogenesis of mitochondrial ribosomes**

Invited speaker at the Biochemistry Seminar Series.

University of Texas-San Antonio

San Antonio. September 2014

5- **Role of RNA helicases in mitochondrial ribosome assembly**

Gordon Conference in Mitochondria and Chloroplasts

Il Ciocco, Italy, July 2014

6- **Biogenesis of the mitochondrial translation machinery**

Invited speaker at the Dynamo Symposium in “Evolution, biogenesis and dynamics of energy transducing membranes”.

Oceanographic Institute Foundation Albert 1er, Prince of Monaco.

Paris, France. April 2014

7- **Biogenesis of mitochondrial ribosomes**

Invited speaker at the Biochemistry & Redox Biology Seminar.

University of Nebraska-Lincoln

Lincoln. February 2014

8- **Biogenesis of the mitochondrial protein synthesis apparatus in health and disease**

Invited speaker at the Center for Molecular Biology and Biotechnology

Florida Atlantic University

Boca Raton (FL). January 2014

9- **Biogenesis of the mitochondrial translation machinery and the OXPHOS complexes**

Invited speaker at The Center for Molecular Medicine and Genetics (CMMG) seminar series.

Wayne State University School of Medicine

Detroit. December 2013

10- **Mitochondrial protein synthesis and biogenesis of the OXPHOS system.**

Invited speaker at the Department of Biochemistry and Biophysics

Texas A&M University Grand Rounds Series

College Station (TX) October 2013

11- **Mitochondria-independent mechanisms of NMNAT-mediated neuroprotection**

Neurological Disorder Research Group (NDRG) meeting

University of Miami, March 2013

12- **Mitochondrial mechanisms of aging and neurodegeneration**

Invited speaker at the University of Miami Neurology Grand Rounds Series

Miami (FL) December 2012

13- **Regulation of yeast chronological aging by mitochondrial respiration and ROS production.**

Invited speaker at the University of Miami Pharmacology Departmental Seminar Series

Miami (FL) December 2012

14- **Mitochondrial respiration, ROS and aging.**

Invited speaker at the Mitochondrial Club at the Max Planck Institute and University of Cologne

Cologne (Germany) June, 2012

- 15- **Mitochondrial function and aging.** McKnight Center University of Miami.
Miami (FL) November 2011
- 16- **Role of RNA helicases on mitochondrial translation.** University of Miami RNA-Club.
Miami (FL) October 2011
- 17- Chair and organizer of the 3rd FASEB Summer Research Conference in “Mitochondrial Assembly and Dynamics in Health, Disease and Aging”.
Steamboat Spring (CO) July, 2011
- 18- **Translational regulation of mitochondrial cytochrome *c* oxidase biogenesis**
Invited speaker at the CNRS (Centre National de la Recherche Scientifique) at Gif-sur-Yvette Paris (France) December, 2010
- 19- **Assembly of the mitochondrial respiratory chain.**
Invited speaker at the Department of Internal Medicine
University of Barcelona (SPAIN). December, 2010
- 20- **Mitochondrial biogenesis in health and disease**
Invited speaker as recipient of the ICREA award
University of Barcelona (SPAIN). March, 2009
- 21- **Regulation of mitochondrial cytochrome *c* oxidase catalytic core assembly**
Gordon Conference on Mitochondria and Chloroplasts
New England University. (USA) August 10-15, 2008.
- 22- **Under construction: Coordinate assembly of cytochrome *c* oxidase**
FASEB Summer Research Conference on Assembly of the Mitochondrial Respiratory Chain
Tucson, AZ (USA) August 5-10, 2007.
- 23- **Yeast models of Huntington’s disease and other neurodegenerative disorders**
Mastering the mitochondrial maze. Organized by the *United Mitochondrial Disease Foundation*
Atlanta, GA (USA) June, 2006.
- 24- **Yeast as a model for studying cytochrome *c* deficiencies: Insights into the biogenesis of subunit 1.**
First International Colloquium on Leigh’s syndrome French Canadian type
Montreal (Canada) March, 2006.
- 25- **New insights into the COX assembly process in *S. cerevisiae***
Gordon Conference on Molecular and Cellular Bioenergetics
New England University. (USA) 2005.
- 26- **Yeast models of Human mitochondrial diseases**
Mitochondrial Biology. International course from the University of Zaragoza.
Zaragoza (SPAIN) 2005.
- 27- **Mss51p and Cox14p jointly regulate mitochondrial Cox1p expression**
EUROMIT-6. The European meeting on mitochondrial pathology.
Nijmegen (The Netherlands). June, 2004.
- 28- **Regulation of mitochondrial cytochrome *c* oxidase assembly in the yeast *S. cerevisiae*.**
Gordon Conference on Cellular and Molecular Bioenergetics.
Proctor Academy. Boston, MA (USA). June, 2004.
- 29- **Cytochrome *c* role in cytochrome oxidase assembly**
Gordon Conference on Cellular and Molecular Bioenergetics.
Kimbal Union Academy. Boston, MA (USA). June, 2003.
- 30- **Mitochondrial cytochrome oxidase assembly in health and disease: insights from yeast models**
Invited speaker of the Department of Cell Biology.

University of Miami. Miami, FL (USA). May, 2002.

31- Yeast models of human mitochondrial diseases

Invited speaker of the Department of Pediatrics. Medical Genetics Seminar. Emory University. Atlanta, GA (USA). May, 2002.

32- Yeast models of human mitochondrial disorders

III Meeting on Mitochondrial Biogenesis and Pathology.

University of Barcelona. Barcelona (SPAIN). June, 2001.

33- Simultaneous transfer of mitochondrial DNA and single chromosomes in somatic cells: a novel approach for the study of defects in nuclear-mitochondrial communication

Invited speaker of the Department of Neurology (Columbia University)

Columbia University, New York, NY (USA). May, 2000.

34- Yeast as cellular models of human neurodegenerative mitochondrial disorders

As invited professor in the FEBS Advanced Course on "Expression and Regulation of Mitochondrial Oxidative Phosphorylation and Disorders in Human Pathology

Bari (ITALY). March, 2000.

35- Physiological consequences of Partial Mitochondrial Complex I deficiency. Genetic and Pharmacological Models

II Meeting on Mitochondrial Biogenesis and Pathology.

University of Barcelona. Barcelona (SPAIN). June, 1999.

36- Human Xenomitochondrial Cybrids: Cellular models of Mitochondrial Complex I deficiency"

Invited Lecturer to the Department of Neurology (Columbia University.)

New York (USA). 1998.

37- Towards the Understanding of the Mitochondrial Involvement in the Aging Process in Human Skeletal Muscle

The American Society of Human Genetics Meeting.

S. Francisco, CA (USA). October, 1996.

TEACHING

27. Teaching awards received:

- 1- Best mentor of the graduate Biochemistry and Molecular Biology program. University of Miami, 2007.

28. Teaching Specialization (classes taught):

- 1- *Model organisms for mitochondrial research (2h lecture)* on the course “Mitochondrial Function and Dysfunction in Neurological Diseases” coordinated by Dr. Flavia Fontanesi and Dr. Carlos Moraes. *Since 2014*
- 2- Lectures on Protein complexes, Genetics and advance literature reading for the *Graduated Program in Biomedical Sciences (PIBS) (4x2h lectures)*. *Since 2012*
- 3- *Mitochondrial Genetics (1 h lecture)* on the course of “*Molecular Genetics*” for graduate students, coordinated by Prof. Walter Scott. *Since 2003*.
- 4- *Yeast Genetics (1 h lecture)* on the course of “*Molecular Genetics*” for graduate students, coordinated by Prof. Walter Scott. *Since 2005*
- 5- Advance literature discussion class (1.5 h) on “Mitochondrial biogenesis” for graduate students, coordinated by Prof. Kenneth Rudd. *Since 2005*
- 6- Coordinator of a mini-course (30 h) on “*Mitochondrial biogenesis and physiology*” for the Biochemistry and Molecular Biology graduate program. *Fall-2007*.
- 7- *Mitochondrial Genetics (1 h lecture)* on the course “*Molecular and Clinical Genetics*” for undergraduate students, coordinated by Professor R. Werner. *2004-2006*.
- 8- *Mitochondrial Medicine (1 h lecture)* on the series “*Medical Genetics. Neurology Resident/Fellow Conference.*” *2004-2008*.
- 9- *Model organisms for biological research (1h lecture)* on the IBS course. *2005-2009*.
- 10- Member and regular participant in the *RNA Club* seminars organized by the Department of Biochemistry at the University of Miami. *2003-2008*.
- 11- Member and regular participant in the multi-departmental *Yeast Group* seminars organized by Dr. Sandra Lemmon from the Department of Pharmacology at the University of Miami (2003-2006) and myself (2006-2008). *2003-20010*.
- 12- *Yeast models of human mitochondrial disorders (1 h lecture)* at the FEBS Advanced Course on “*Expression and Regulation of Mitochondrial Oxidative Phosphorylation and Disorders in Human Pathology*”. Bari (ITALY). *2000*.
- 13- *Biological Sciences* in secondary schools. Barcelona (SPAIN). *1985-1992*

29. Thesis advising:

- 1- Mentor of the following Ph.D. students:

Past:

- 1.1- *Darryl Horn*, a Ph.D. student from the Department of Biochemistry, working on “*Role of Cmc1p, a new COX assembly factor*”. *2006-2010*. In 2008 he obtained

a 2-years pre-doctoral fellowship from the American Heart Association (AHA).
Graduated with a Ph.D. in Biochemistry in May 2010.

- 1.2- *Alejandro Ocampo*, a Ph.D. student from the Department of Biochemistry, working on "*Mitochondrial function in yeast models of Huntington's disease*". Since 2006.

Graduated with a Ph.D. in Biochemistry in December 2011.

- 1.3- *Ileana C. Soto*, a Ph.D. student from the Department of Biochemistry, working on "*Biogenesis of subunit 1 of mitochondrial cytochrome c oxidase: studies on translational regulation and assembly*". Since 2005. In 2008 she obtained a 4-years pre-doctoral fellowship from NIH.

Graduated with a Ph.D. in Biochemistry in December 2011.

- 1.4- *Jingjing Liu*, a Ph.D. student from the Department of Biochemistry, working on "*Discovery of new conserved genes involved in mitochondrial cytochrome c oxidase assembly*". Since 2007. In 2008 she obtained a 2-years pre-doctoral fellowship from the American Heart Association (AHA).

Graduated with a Ph.D. in Biochemistry in October 2012.

Current:

- 1.1- *Dasmanthie De Silva*, a Ph.D. student from the Department of Biochemistry, working on "*Role of RNA helicases in mitochondrial translation*". Since 2011.

- 1.2- *Ya-Ting Tu*, a Ph.D. student from the Department of Biochemistry, working on the "*Role of the human DEAD-Box protein DDX28*". Since 2011.

- 1.3- *Rui Zeng*, a Ph.D. student from the Department of Biochemistry, working on the "*The assembly pathway of the yeast mitoribosome*". Since 2013.

- 1.4- *Andrea Lynema*, a Ph.D. student from the Neuroscience Program, working on the "*Suppression of proteotoxicities by NAD⁺ biosynthetic enzymes*". Since 2014.

- 1.5- *Hyun-Jung Kim*, a Ph.D. student from the Department of Biochemistry, working on the "*Role of GTPases on the assembly of human mitochondrial ribosomes*". Since 2014.

2- Member of the dissertation committee of:

- 2.1- *Corneliu Luca*, a Ph.D. student from the Department of Cell Biology, working on "*Functional characterization of mitochondrial transcription termination factor (mTERF)*" under the direction of Dr. Carlos Moraes. 2004-2008.

- 2.2- *Pavanapuresan Vaidyanathan*, a Ph.D. student from the Department of Biochemistry, working on "*Towards a better understanding of the substrate specificity of E. coli RluA family pseudouridine synthases with multi-site specificity*" under the direction of Dr. Arun Malhotra. 2005-2009.

- 2.3- *Brian Dahlgren*, a Ph.D. student from the Department of Biochemistry, working on "*Identification and Characterization of Regulators of mRNA Decay*" under the direction of Dr. Chaitanya Jain. 2006-2007.

- 2.4- *Ling Yin*, a Ph.D. student from the Department of Pharmacology, working on "*Activation of a DNA replication initiation checkpoint in fission yeast*" under the direction of Dr. Gennaro d'Urso. 2006-2009.

- 2.5- *Sivapriya Ramamoorthy* a Ph.D. student from the Department of Biochemistry, working on "*Characterization of E6-Associated protein, E6-AP as a cell growth regulator in mammary tumorigenesis*" under the direction of Dr. Zafar Nawaz. 2006-2009.
 - 2.6- *Christie Taylor* a Ph.D. student from the Department of Biochemistry, working on "*Establishing minimum requirements for in vitro Mitochondrial Translation*" under the direction of Dr. Murray Deutscher. 2007-2008.
 - 2.7- *Adriana Rebelo*, a Ph.D. student from the Department of Cell Biology, working on "*Probing mitochondrial DNA structure and heteroplasmy with mitochondrial-targeted DNA methyltransferases*" under the direction of Dr. Carlos Moraes. 2006-2010.
 - 2.8- *Lana Jones*, a Ph.D. student from the Neuroscience Program working on "*Aging and General Anesthesia*" under the direction of Dr. Helen M. Bramlett. 2008-2011.
 - 2.9- *Brad Schmier*, a Ph.D. student from the Biochemistry Program working on "*The structural characterization of RNase R*" under the direction of Dr. Arun Malhotra. 2008-2012.
 - 2.10- *Kristy Lyn Jones*, a Ph.D. student from the Biochemistry Program working on "*Investigation of GGR lesion detection using Saccharomyces cerevisiae as the model system*" under the direction of Dr. Feng Gong. 2008-2012.
 - 2.11- *Di Ding*, a Ph.D. student from the Biochemistry Program working on "*Role of deamination for protein synthesis in neuronal cells*" under the direction of Dr. Sanjoy Bhattacharya. 2009-2012.
 - 2.12- *Brandon M. Kitay*, an M.D./Ph.D. student from the Neuroscience Program working on "*Role of NMNAT in neuroprotection*" under the direction of Dr. Grace Zhai. 2009-2012.
 - 2.13- *Alicia M. Pickrell*, a Ph.D. student from the Neuroscience program working on "*Susceptibility of different neuronal populations to oxidative phosphorylation deficiencies*" under the direction of Dr. Carlos Moraes. 2009-2012.
 - 2.14- *Donald S. McCorquodale*, an M.D./Ph.D. student from the Neuroscience program working on "*Examining the molecular roles of MFN2 within the ER-mitochondrial interfaces and its implication in the pathogenesis of Charcot-Marie-Tooth disease type 2A*" under the direction of Dr. Stephan Zuchner. 2009-2012.
 - 2.15- *Kahlilia Morris*, a Ph.D. student from the Neuroscience program working on "*Mechanisms of SIRT3 Activation and Mitochondrial Neuroprotection after Ischemic Preconditioning*" under the direction of Dr. Miguel Perez-Pinzon. Since 2010.
- 3- Chairman of the dissertation committee of:
- 3.1- *Sophia Vasou Kyriacou*, a Ph.D. student from the Department of Biochemistry, working on "*Unraveling the mystery for the co-existence of two forms of Arginyl-tRNA synthetase in cultured CHO cells*" under the direction of Dr. Murray Deutscher. 2006-2009.
 - 3.2- *Srinivasan Narayanan*, an MD/Ph.D. student from the Neuroscience program working on "*Role of Nuclear Factor Erythroid-2 Related Factor 2 (Nrf2) in*

Ischemic Preconditioning-Induced Neuroprotection” under the direction of Dr. Miguel Perez-Pinzon. *Since 2012.*

4- Mentor of Undergraduate Students (Honors thesis):

- 4.1- *Ansel Amaral*, Senior Honors thesis project: *Mitochondrial Physiology in a yeast model of Parkinson’s disease*. He obtained a Lois Pope Summer Research Scholarship to work in my laboratory beginning May 17, 2006. He graduated in 2007 with *Honors Summa cum laude*. Currently following a MD-PhD program at the University of Miami.
- 4.2- *Philip Chong*, Senior Honors thesis project: *Mitochondrial Physiology in yeast models of Huntington’s disease*. He graduated in 2010 with *Honors Summa cum laude*.
- 4.3- *Ryan Werner*, Senior Honors thesis project: *Investigations into the mitochondrial functions of nuclear-encoded translational factor Mss51*. He graduated in 2010 with *Honors Summa cum laude*.
- 4.4- *Shea Hughes*, Senior Honors thesis project: *The role of Cox24 in cytochrome c oxidase biogenesis*. He graduated in 2012 with *Honors Summa cum laude*.
- 4.5- *Enrique Garcia*. Project: Characterization of the human homologue of yeast Mss51. 2011-2013. Currently following a MD-PhD program at Columbia University (NY)
- 4.6- *Zoe Costner*. Project: “Assembly of mitochondrial supercomplexes in yeast”. 2014-present

30. Postdoctoral Training:

Current:

- 1- *Myriam Bourens*. She joined the lab to work on “*Biogenesis of mitochondrial metalloenzymes*”. She had a poster on the function of Cmc1/Cmc2 selected for oral presentation in the 3rd FASEB Summer Research Conference in “*Mitochondrial Assembly and Dynamics in Health, Disease and Aging*”. She published two papers on the topic. In 2013 she obtained a postdoctoral fellowship from the American Heart Association (AHA) to study the human homologues of these proteins. *2010-present*
- 2- *Dr. Ileana C. Soto*. She finished her Ph.D. in the lab in December-2011 and remained as a postdoctoral associate to finish her work on translational regulation of cytochrome *c* oxidase biogenesis and how it is further regulated by heme levels and oxidative stress. She obtained a postdoctoral fellowship from NIH. *2012-present*

Past:

- 1- *Dr. Asun Solans*. She developed a yeast model of Huntington’s disease. We collaborated on writing a review article and a research paper on the field. *2003-2005*. Current position: Research Scientist at the university of Barcelona, Spain.
- 2- *Dr. Andrea Zambrano*. She worked in the study of cytochrome *c* oxidase biogenesis in health and disease. We collaborated on writing a review article and two research papers on the field. *2003-2006*. Current position: Residency at the University of Chicago.

- 3- *Dr. Karine Gouget*. She worked on my NIH funded project “Cytochrome *c* oxidase in health and disease” characterizing the role of a conserved COX assembly factors. 2006-2008. Current position: Postdoctoral Associate at the University of Paris.
- 4- *Xiaoping Zhu*, She worked on “Role of Cox14 on yeast mitochondrial cytochrome *c* oxidase assembly” July 2009-January 2010 Current position: Postdoctoral Associate at The University of Texas.
- 5- *Darryl Horn*. He finished his Ph.D. in the lab and remained as a postdoctoral associate to finish his work on “Mitochondrial copper metabolism and delivery to cytochrome *c* oxidase”, 2010. From 2010-2012 he was a Postdoctoral Associate at the Scripps Institute (Florida). Current position: Assistant Professor, Edison State College, Fort Myers, FL
- 6- *Catherine Trivigno*. She worked on “Regulation of mitochondrial translation in health and neuromuscular disease”, 2010- 2011 Current position: Postdoctoral Associate at the Scripps Institute (Florida).
- 7- *Alejandro Ocampo*. He finished his Ph.D. in the lab and remained as a postdoctoral associate to finish his work on the *Role of mitochondrial respiration on yeast chronological life span*. 2011-2012. Current position: Postdoctoral Associate at The Salk Institute. San Diego (CA).
- 8- *Dr. Flavia Fontanesi*. She developed yeast models of mitochondrial disorders of childhood to study genetic factors that modify the expression of a mitochondrial oxidative phosphorylation defect in these models. She has presented her work as an invited lecturer in several national and international meetings. She obtained a prestigious Postdoctoral Fellowship from the Italian Telethon for a period of 24 months to develop the project *Role of Shy1p in the yeast model of Leigh’s syndrome*, from 2006 to 2008. In 2009 was promoted to Assistant Research Scientist. She subsequently obtained an MDA Development Grant to support her salary from 2009 to 2012, which helped her transitioning to a faculty position. 2005-2013. Current position: In June, 2013 she was appointed as Research Assistant Professor in the Department of Biochemistry at the University of Miami.

SERVICE

31. University of Miami Committee and Administration.

Current

- 1- Member of a Department of Neurology Appointment Promotion Tenure Subcommittee. *2009 to present.*
- 2- Organizer of the “*RNA-Club*” seminars (monthly). *Since October- 2011.*
- 3- Organizer of the “*Mito-Club*” seminars (monthly) and related activities (weekly selection and distribution of mitochondria – related papers). *February 2005 to present.*
- 4- Member of the *Medical Library Committee*. *2005-2008; 2010 to present*
- 5- Member of the Biochemistry and Molecular Biology Graduate Program Committee. *2012-to present*
- 6- Member of the Scientific Awards Committee (SAC). *August 2012-to present*
- 7- Member of the Mentorship committee. *August 2013-to present*
- 8- Member of the Biochemistry and Molecular Biology Executive Ph.D. *August 2012-to present.*
- 9- Member of the University of Miami’s Academic Personnel Board (APB) for 2014-15

Past

- 5- Organizer of the “*Miami Yeast-Group*” seminars (monthly) and related activities. *2006-2008.*
- 6- Member of the Miami Gene Team. *2003-2007.*
- 7- Coordinator of the *Basic Neuroscience segment of the Department of Neurology Grand Rounds program*. *2004-2009.*
- 8- Member of the search Committee for the Lichtenstein Chair for Dementia (Department of Neurology). *March 2010-January 2011*