

Curriculum Vitae
Leonardo F. Ferreira

Address:

Dept. of Applied Physiology and Kinesiology
College of Health and Human Performance
University of Florida
100 FLG, P.O. Box 118205
Gainesville, FL
32611
Phone: (352) 294-1724
e-mail: ferreira@hnp.ufl.edu

EDUCATION & TRAINING

- 2003 Physical Therapy
 Universidade Estadual de Londrina (UEL), Brazil.
- 2006 Ph.D. Physiology
 Advisors: Drs. Thomas J. Barstow and David C. Poole
 Department of Anatomy and Physiology
 College of Veterinary Medicine, Kansas State University
- 2010 Postdoctoral Fellow, Muscle Biology
 Advisor: Dr. Michael B. Reid
 Department of Physiology and Center for Muscle Biology
 College of Medicine University of Kentucky

ACADEMIC APPOINTMENTS

- 2011 – Assistant Professor (tenure-track)
 Department of Applied Physiology and Kinesiology
 College of Health and Human Performance, University of Florida
- 2010 – 2011 Research Assistant Professor
 Department of Applied Physiology and Kinesiology
 College of Health and Human Performance, University of Florida
- 2007 – 2011 Consultant
 Division of Pulmonary Medicine, Department of Medicine, Universidade Federal
 do Estado de Sao Paulo – Escola Paulista de Medicina.
- 10/2008 Visiting Scientist
 Division of Pulmonary Medicine, Department of Medicine, Universidade Federal
 do Estado de Sao Paulo – Escola Paulista de Medicina.
- 2006 Instructor.
 Department of Kinesiology, Kansas State University.
- 2005 – 2006 Research Assistant. Dept. Anatomy & Physiology, Kansas State University.

PROFESSIONAL ACTIVITIES

Memberships:

- 1) American Physiological Society
- 2) American Heart Association
- 3) Biophysical Society

Referee:

- 1) American Journal of Physiology: Heart and Circulatory Physiology
- 2) American Journal of Physiology: Regulatory, Integrative, and Comparative Physiology
- 3) American Journal of Physiology: Endocrine and Metabolism
- 4) American Journal of Physiology: Lung Cellular and Molecular Physiology
- 5) Acta Physiologica
- 6) Anesthesiology
- 7) Journal of Applied Physiology
- 8) Journal of Physiology
- 9) Experimental Physiology
- 10) Experimental Gerontology
- 11) Experimental Cell Research
- 12) American Journal of Respiratory & Critical Care Medicine
- 13) Muscle & Nerve
- 14) Frontiers in Physiology
- 15) Medicine & Science in Sports and Exercise
- 16) Respiratory Physiology & Neurobiology
- 17) European Journal of Applied Physiology
- 18) Antioxidants and Redox Signaling
- 19) American Journal of Respiratory Cell and Molecular Biology
- 20) Skeletal Muscle
- 21) European Journal of Heart Failure

Associate Editor:

Biomedical Research International - Physiology

Editorial Board:

- 1) American Journal of Physiology: Regulatory, Integrative, and Comparative Physiology;
- 2) Frontiers in Exercise Physiology
- 3) Frontiers in Striated Muscle Physiology

Conference and Symposium organization

- 1) Advances in Skeletal Muscle Biology in Health and Disease. Conference. Gainesville, FL. 2012, 2014, 2016
- 2) Molecular mechanisms of lipotoxicity in multiple organs. Symposium on American College of Sports Medicine. May-June 2013.

Grant Reviewer:

American Heart Association: Cardiac Biology, Basic and Translational Science Committee #2
Cycles: Spring 2012, Spring and Fall 2013, Spring 2014, Spring 2015

Belgium Research Foundation - (Fonds Wetenschappelijk Onderzoek - Vlaanderen, FWO)
Cycle: Spring 2012

Swiss National Science Foundation
Fall 2010

GRANTS & CONTRACTS

Active

NIA (5R03AG040400-02) Ferreira (PI) 03/2015 – 02/2016
Mechanisms of reduced regenerative potential in aging skeletal muscle
Role: PI

AHA/GIA (13GRNT17160000) Ferreira (PI)
“Diaphragm dysfunction in heart failure: role of neutral sphingomyelinase activation and mitochondrial oxidants”
Role: PI

UF-DSR (Opportunity Seed Fund) Hayward (PI) 05/2014 – 04/2016
“Developing a novel non-invasive non-contact method for cardiorespiratory monitoring in small rodents”
Role: Co-I; 5% effort

NIH/NCI (R21CA194118) Judge (PI) 05/2015 – 04/2017
Dysregulation of sarcomere stabilizing proteins cause muscle atrophy and weakness during cancer cachexia
Role: Co-I; 10% effort

Pending Research Support

NIH/NHLBI

R01HL130318-01 Ferreira (PI) 01/2016 – 12/2020
Reactive oxygen species and respiratory muscle dysfunction in heart failure
The goal of this study is to determine the role of diaphragm-specific NAD(P)H oxidase and sources of mitochondrial oxidants on diaphragm weakness in an animal model of heart failure.
Role: PI

NIH/NHLBI

1R01HL131638-01 Ferreira (PI) 07/2016 – 06/2021
Rehabilitation Strategies and Mechanisms of Diaphragm Weakness in Heart Failure Patients
The goal of this project will be to determine the efficacy and cellular and molecular responses of diaphragm from heart failure patients to inspiratory muscle training and antioxidant intervention.
Role: PI

Completed

NIH/NHLBI (4R00-HL098453-01) Ferreira (PI) 09/2011 – 07/2015
“Mechanisms of respiratory muscle dysfunction in heart failure”
Independent Phase (R00) of award
Role: PI

NIH/NHLBI (K99-HL098453-01). Ferreira (PI) 09/2010 – 08/2011
“Mechanisms of respiratory muscle dysfunction in heart failure”. NHLBI.
Mentored (K99) phase of award
Role: PI

Eli Lilly & Co. Martin (PI) 02/2013 – 01/2014
“Electrical stimulation of the diaphragm during mechanical ventilation in patients”

Role: Co-I; 7.5% effort

AHA - Great Rivers Affiliate (09POST2020082). Ferreira (PI) 07/2009 – 06/2010
“Mechanisms of diaphragm muscle weakness caused by sphingomyelinase activation”. AHA.
Postdoctoral Fellowship
Role: PI

AHA - Great Rivers Affiliate (0725334B) Ferreira (PI) 07/2007 – 06/2009
“Intracellular signaling of cytokine-stimulated protein degradation in skeletal muscle.”
Postdoctoral Fellowship

UK-GCRC (funded through NIH M01-RR02602). Ferreira (PI) 07/2007 – 10/2008
“N-acetylcysteine treatment to limit skeletal muscle dysfunction in patients with heart failure.”
Clinical Research Feasibility Funds for trainees

Japan Society for the Promotion of Science Ferreira & Koga (Co-PI) 07/2006
“Muscle blood flow and heterogeneity of microvascular oxygenation kinetics during severe-intensity exercise.”

CAPES/Ministry of Education Ferreira (PI) 08/2003 – 12/2006
“Dynamics of muscle blood flow, O₂ uptake and muscle microvascular oxygenation during exercise.”
Pre-doctoral Fellowship
Federal government of Brazil

Unfunded - Submitted as faculty at University of Florida

NIH/NIAMS – R21 Ferreira (PI)
“*Hsp70 and Nox4 in diaphragm dysfunction induced by heart failure*”
Role: PI; 20% effort
Submitted: 10/2013

Arthritis foundation Allen (PI)
“*Connecting nociception, muscle atrophy, and gait changes in a rat OA model*”
Role: Co-I; 5% effort
Submitted: 08/2013

NIH/NIAMS – R21 Judge & Ferreira (co-PI)
“*Skeletal muscle contractile function and myofibrillar protein acetylation*”
Role: Co-PI; 20% effort
Submitted: 06/2013

NIH/NHLBI – R21 Hayward (PI)
“*Impact of hypertension and aging on cardiorespiratory neuroplasticity*”
Role: Co-I; 10% effort
Submitted: 02/2013

NIH/NIAMS – DP5 Senf (PI)
“*Functional role of eHSP70 on skeletal muscle plasticity*”
Role: Co-I; 5% effort
Submitted: 01/2013

VA – CDA2 Beck (PI)
“*Testosterone replacement to improve cardiac function in a rat heart failure model*”

Role: Co-I (co-mentor); 5% effort
Submitted: 03/2013

UF-DSR (Opportunity Seed Fund) Ferreira (PI)
"Adiponectin-receptor type 1 signaling of skeletal muscle and autonomic nervous system dysfunction in heart failure"
Score/Percentile: N/A
Submitted: January 09, 2013

AHA/GIA Ferreira (PI)
"Oxidant and Calpain mediated diaphragm dysfunction in Pulmonary Hypertension"
Score/Percentile: 'streamlined'
Submitted: 01/2012

AHA – Innovative Research Grant Willenberg (PI)
"Intramyocardial Injection of a Bioactive, Microstructured Alginate Hydrogel to Improve Post-Infarct Healing"
Role: Co-I
Submitted: 01/2012

NIH/NIAMS - R21 Judge (PI)
"Heat shock protein 70 and skeletal muscle plasticity"
Score/Percentile: 28%
Role: Co-I
Submitted: 02/2012

NIH/NICHHD – R21 Martin (PI)
"Effects of surgery and mechanical ventilation on the diaphragm in children"
Role: Co-I
Score/Percentile: 54th
Submitted: 02/2012

NIH-NHLBI (R01HL119544-01) Ferreira (PI)
"Cellular mechanisms of skeletal muscle weakness in chronic heart failure "
Score/Percentile: 'not discussed'
Submitted: October 05, 2012

HONORS/AWARDS/FELLOWSHIPS:

- 2012 University of Florida Research Excellence Award for Assistant Professors
- 2008 Postdoctoral Poster Award. College of Medicine, University of Kentucky. \$500
- 2006 Clarenburg Fellow. College of Veterinary Medicine, Kansas State University. \$1,000
- 2005 Clarenburg Fellow. College of Veterinary Medicine, Kansas State University. \$1,000
- 2005 Doctoral Student Award. ACSM – Central States Chapter. \$500
- 2002 Undergraduate Research Training Fellowship. CNPq - Brazil. \$2,000
- 2001 Undergraduate Research Training Fellowship. CNPq - Brazil. \$2,000

Publications (Chronological order)

Original Research, Reviews, and Editorials - Peer reviewed (total 55)

- 1) **Ferreira L.F.**, Lutjemeier B.J., Townsend D.K., Barstow T.J. Dynamics of skeletal muscle

- oxygenation during sequential bouts of moderate exercise. *Exp. Physiol.* 2005, 90: 393-401.
- 2) **Ferreira L.F.**, Townsend D.K., Lutjemeier B.J., Barstow T.J. Muscle capillary blood flow kinetics estimated from pulmonary O₂ uptake and near-infrared spectroscopy. *J. Appl. Physiol.* 2005, 98:1820-1828.
 - 3) **Ferreira L.F.**, Poole D.C., Barstow T.J. Muscle blood flow - O₂ uptake interaction and their relation to on-exercise dynamic of O₂ exchange. *Respir. Physiol. Neurobiol.* 2005, 147: 91-103.
 - 4) **Ferreira L.F.**, Harper A.H., Townsend D.K., Lutjemeier B.J., Barstow T.J. Kinetics of estimated muscle capillary blood flow during recovery from exercise. *Exp. Physiol.* 2005, 90: 715-726.
 - 5) Behnke B.J., Padilla D.J., **Ferreira L.F.**, Delp M.D., Musch T.I., Poole D.C. Effects of hypovolemic hypotension on microvascular oxygen pressures in contracting skeletal muscles. *J. Appl. Physiol.* 2006; 100(3):1019-1026.
 - 6) **Ferreira L.F.**, Lutjemeier B.J., Townsend D.K., Barstow T.J. Effects of pedal frequency on estimated muscle microvascular O₂ extraction. *Eur. J. Appl. Physiol.* 2006; 96(5): 558-563.
 - 7) **Ferreira L.F.**, Harper A.H., Barstow T.J. Frequency-domain characteristics and filtering of blood flow following the onset of exercise: implications for kinetics analysis. *J. Appl. Physiol.* 2006; 100(3): 817-825.
 - 8) **Ferreira L.F.**, McDonough P., Behnke B.J., Musch T.I., Poole D.C. Blood flow and O₂ extraction as a function of O₂ uptake in rat muscles composed of different fiber type. *Respir. Physiol. Neurobiol.* 2006; 153(3):237-49.
 - 9) **Ferreira L.F.**, Padilla D.J., Williams J., Hageman K.S., Musch T.I., Poole D.C. Effects of altered nitric oxide availability on rat muscle microvascular oxygenation during contractions. *Acta Physiol.* 2006; 186(3): 223-232.
 - 10) Harper A.J., **Ferreira L.F.**, Lutjemeier B.J., Townsend D.K., Barstow T.J. Femoral artery and estimated muscle capillary blood flow kinetics following the onset of exercise. *Exp. Physiol* 2006; 91(4):661-671.
 - 11) **Ferreira L.F.**, Padilla D.J., Musch T.I., Poole D.C. Temporal profile of skeletal muscle capillary hemodynamics during recovery from contractions. *J. Physiol.* 2006; 573:787-797.
 - 12) **Ferreira L.F.**, Hageman K.S., Hahn S.A., Williams J., Padilla D.J., Poole D.C., Musch T.I. Muscle microvascular oxygenation in chronic heart failure: role of nitric oxide availability. *Acta Physiol.* 2006; 188:3-13.
 - 13) Hahn S.A., **Ferreira L.F.**, Williams J., Jansson K., Behnke B.J., Musch T.I., Poole D.C. Downhill treadmill running trains the rat spinotrapezius muscle *J. Appl. Physiol* 2007; 102:412-416.
 - 14) **Ferreira L.F.**, Hueber D.M., Barstow T.J. Effects of assuming constant optical scattering on measurements of muscle oxygenation by near-infrared spectroscopy during exercise. *J. Appl. Physiol.* 2007; 102:358-367.
 - 15) Poole D.C. & **Ferreira L.F.** Invited Review - Oxygen exchange in the young and old: muscle-vascular-pulmonary coupling. *Exp. Physiol* 2007; 92(2):341-346
 - 16) Poole D.C., **Ferreira L.F.**, Behnke B.J., Barstow T.J., Jones A.M. The final frontier: Oxygen flux into muscle at exercise onset. *Exerc. Sport. Sci. Rev.* 2007; 35(4):166-173
 - 17) **Ferreira L.F.**, Koga S., Barstow T.J. Dynamics of noninvasively estimated microvascular O₂ extraction during ramp exercise. *J. Appl. Physiol.* 2007; 103(6):1999-2004
 - 18) Koga S., Poole D.C., **Ferreira L.F.**, Whipp B.J., Kondo N., Saitoh T., Ohmae E., Barstow T.J. Spatial heterogeneity of muscle deoxygenation kinetics during cycle exercise. *J. Appl. Physiol.* 2007; 103(6):2049-2056.
 - 19) Lutjemeier B.J., **Ferreira L.F.**, Poole D.C., Townsend D.K., Barstow T.J. Muscle microvascular hemoglobin concentration and oxygenation within the contraction-relaxation cycle. *Resp. Physiol. Neurobiol.* 2008; 160(2):131-138.
 - 20) **Ferreira L.F.** & Reid M.B. Muscle-derived ROS and thiol modulation of fatigue. *J. Appl. Physiol.* 2008; 104(3):853-860.
 - 21) Chiappa GR, Borghi-Silva A, **Ferreira LF**, Carrascosa C, Oliveira CC, Maia J, Gimenes AC, Queiroga F Jr, Berton D, Ferreira EM, Nery LE, Neder JA. Kinetics of muscle deoxygenation are accelerated at the onset of heavy-intensity exercise in patients with COPD: relationship to central

- cardiovascular dynamics. *J Appl Physiol*. 2008;104(5):1341-50.
- 22) Harper A.J., **Ferreira L.F.**, Lutjemeier B.J., Townsend D.K., Barstow T.J. Matching of blood flow to metabolic rate during recovery from moderate exercise in humans. *Exp. Physiol* 2008;93(10):1118-1125.
 - 23) Herspring K.H., Copp S., **Ferreira L.F.**, Poole D.C., Musch T.I. Effects of antioxidants on contracting spinotrapezius muscle microvascular oxygenation and blood flow in aged rats. *J. Appl Physiol* 2008;105(6):1889-1896.
 - 24) Copp SW, **Ferreira LF**, Herspring KF, Musch TI, Poole DC. The effects of aging on capillary hemodynamics in contracting rat spinotrapezius muscle. *Microvasc Res*. 2009;77(2):113-9.
 - 25) Chiappa GR, Queiroga F Jr, Meda E, **Ferreira LF**, Diefenthaler F, Nunes M, Vaz MA, Machado MC, Nery LE, Neder JA. Heliox improves oxygen delivery and utilization during dynamic exercise in patients with chronic obstructive pulmonary disease. *Am J Respir Crit Care Med*. 2009;179(11):1004-10.
 - 26) **Ferreira LF**, Gilliam LA, Reid MB. L-2-oxothiazolidine-4-carboxylate reverses glutathione oxidation and delays fatigue of skeletal muscle in vitro. *J Appl Physiol*. 2009;107(1):211-216.
 - 27) Copp SW, **Ferreira LF**, Herspring KH, Hirai DM, Snyder BS, Poole DC, Musch TI. The effects of antioxidants on microvascular oxygenation and blood flow in skeletal muscle of young rats. *Exp. Physiol*. 2009; 94(9):961-971.
 - 28) Saitoh T, **Ferreira LF**, Barstow TJ, Poole DC, Ooue A, Kondo N, Koga S. Effects of prior heavy exercise on heterogeneity of muscle deoxygenation kinetics during subsequent heavy exercise. *Am J Physiol Regul Integr Comp Physiol*. 2009; 297(3):R615-R621
 - 29) Behnke BJ, **Ferreira LF**, McDonough PJ, Musch TI, Poole DC. Recovery dynamics of skeletal muscle oxygen uptake during the exercise off-transient. *Respir Physiol Neurobiol*. 2009;168(3):254-60. PMID: PMC2931816
 - 30) Gilliam LAA, **Ferreira LF**, Bruton JD, Moylan JS, Westerblad H, St. Clair DK, Reid MB. Doxorubicin acts through tumor necrosis factor subtype 1 (TNFR1) to cause dysfunction of murine skeletal muscle. *J. Appl. Physiol*. 2009; 107(6):1935-1942. PMID: 2793196
 - 31) Hirai DM, Copp SW, Herspring KF, **Ferreira LF**, Poole DC, Musch TI. Aging impacts microvascular oxygen pressure during recovery from contractions in rat skeletal muscle. *Respir. Physiol. Neurobiol*. 2009; 169(3):315-322.
 - 32) Barbosa P, Bravo DM, Neder JA, **Ferreira LF**. Kinetics analysis of muscle arterial-venous O₂ difference profile during exercise. *Resp Physiol Neurobiol*. 2010; 173:51-57
 - 33) Berton D, Barbosa, P, Takara L, Chiappa GR, Siqueira ACB, Bravo D, **Ferreira LF**, Neder JA. Bronchodilators accelerate the dynamics of muscle O₂ delivery and utilization during exercise in COPD. *Thorax*. 2010; 65(7):588-93.
 - 34) Hirai DM, Copp SW, **Ferreira LF**, Musch TI, Poole DC. Nitric oxide bioavailability modulates the dynamics of microvascular oxygen exchange during recovery from contractions. *Acta Physiol*. 2010 Oct;200(2):159-69. PMID: 20384595
 - 35) **Ferreira LF**, Moylan JS, Gilliam LA, Smith JD, Nikolova-Karakashian M, Reid MB. Sphingomyelinase stimulates oxidant signaling to weaken skeletal muscle and promote fatigue. *Am J Physiol* 2010; 299:C552-60. PMID: 20519448
 - 36) **Copp SW**, Hirai DM, Ferreira LF, Poole DC, Musch TI. Progressive chronic heart failure slows recovery of microvascular oxygen pressures following contractions in rat spinotrapezius muscle. *Am J Physiol Heart Circ Physiol*. 2010; 299(6):H1755-61. PMID: PMC3006296.
 - 37) **Ferreira LF**, Campbell KS, Reid MB. Effectiveness of Sulfur-Containing Antioxidants in Delaying Skeletal Muscle Fatigue. *Med Sci Sports Exerc*. 2011;43(6):1025-31
 - 38) **Ferreira LF**, Campbell KS, Reid MB. N-acetylcysteine during handgrip exercise in humans: Adverse reactions and plasma thiols. *Int. J. Sports Nutr Exerc Metab*. 2011;21(2):146-54.
 - 39) Gilliam LA, Moylan JS, **Ferreira LF**, Reid MB. TNF/TNFR1 signaling mediates doxorubicin-induced diaphragm weakness. *Am J Physiol Lung Cell Mol Physiol*. 2011;300(2):L225-31. PMID: PMC3043812.
 - 40) Hinkle RT, Lefever FR, Dolan ET, Reichart DL, Zwolshen JM, Oneill TP, Maloney KG, Mattson JP,

- Ferreira LF**, Musch TI, Poole DC, Isfort RJ. Treatment with a corticotrophin releasing factor 2 receptor agonist modulates skeletal muscle mass and force production in aged and chronically ill animals. *BMC Musculoskelet Disord*. 2011 Jan 14;12:15.
- 41) Koga S, Poole DC, Fukuoka Y, **Ferreira LF**, Kondo N, Ohmae E, Barstow TJ. Methodological validation of the dynamic heterogeneity of muscle deoxygenation within the quadriceps during cycle exercise. *Am J Physiol Regul Integr Comp Physiol*. 2011 Aug;301(2):R534-41.
- 42) Koga S, Kano Y, Barstow TJ, **Ferreira LF**, Ohmae E, Sudo M, Poole DC. Kinetics of muscle deoxygenation and microvascular PO₂ during contractions in rat: comparison of optical spectroscopy and phosphorescence-quenching techniques. *J Appl Physiol*. 2012 Jan;112(1):26-32
- 43) **Ferreira LF**, Moylan JS, Stasko S, Smith JD, Campbell KS, Reid MB. Sphingomyelinase depresses force and calcium sensitivity of the contractile apparatus in mouse diaphragm muscle fibers. *J Appl Physiol*. 2012 May;112(9):1538-45.
- 44) Della Rocca DG, Willenberg BJ, **Ferreira LF**, Wate PS, Petersen JW, Handberg EM, Zheng T, Steindler DA, Terada N, Batich CD, Byrne BJ, Pepine CJ. A degradable, bioactive, gelatinized alginate hydrogel to improve stem cell/growth factor delivery and facilitate healing after myocardial infarction. *Med Hypotheses*. 2012 Nov;79(5):673-7. PMID: 22939314.
- 45) Roberts BM, Ahn B, Smuder AJ, Al-Rajhi M, Gill LC, Beharry AW, Powers SK, Fuller DD, **Ferreira LF***, Judge AR*. Diaphragm and ventilatory dysfunction during cancer cachexia. *FASEB J*. 2013; 27(7):2600-10,** co-senior authors
- 46) Ahn B, Empinado HM, Al-Rajhi M, Judge AR, **Ferreira LF**. Diaphragm atrophy and contractile dysfunction in a murine model of pulmonary hypertension. *PLoS ONE* 2013; 8(4): e62702. doi:10.1371/journal.pone.0062702
- 47) Sieck GC, **Ferreira LF**, Reid MB, Mantilla CB. Mechanical properties of respiratory muscles. *Compr Physiol*. 2013 Oct;3(4):1553-67.
- 48) Senf SM, Howard TM, Ahn B, **Ferreira LF**, Judge AR. Loss of the Inducible Hsp70 Delays the Inflammatory Response to Skeletal Muscle Injury and Severely Impairs Muscle Regeneration. *PLoS ONE* 2013; 8(4): e62687. doi:10.1371/journal.pone.0062687
- 49) Roberts BM, Frye GS, Ahn B, **Ferreira LF***, Judge AR*. Cancer cachexia decreases specific force and accelerates fatigue in limb muscle. *Biochem Biophys Res Commun*. 2013; 435(3):488-92. *co-senior authors
- 50) Empinado HM, Deevska GM, Nikolova-Karakashian M, Yoo JK, Christou DD, **Ferreira LF**. Diaphragm dysfunction in heart failure is accompanied by increases in neutral sphingomyelinase activity and ceramide content. *Eur J Heart Fail*. 2014 16(5):519-25.
- 51) Beharry AW, Sandesara PB, Roberts BM, **Ferreira LF**, Senf SM, Judge AR. HDAC1 activates FoxO and is both sufficient and required for skeletal muscle atrophy. *J Cell Sci*. 2014; 127:1441-53
- 52) Ahn B, Beaver T, Martin T, Hess P, Brumback B, Ahmed S., Smith BK, Leeuwenburgh C, Martin AD, **Ferreira LF**. Phrenic nerve stimulation increases human diaphragm fiber force after cardiothoracic surgery. *Am J Respir Crit Care Med*. 2014;190(7):837-9
- 53) Bost ER, Frye GS, Ahn B, **Ferreira LF**. Diaphragm dysfunction caused by sphingomyelinase requires the p47phox subunit of NADPH oxidase. *Respir Physiol Neurobiol*. 2015; 205:47-52. PMID: PMC4259017
- 54) Judge SM, Wu CL, Beharry AW, Roberts BM, **Ferreira LF**, Kandarian SC, Judge AR. Genome-wide identification of FoxO-dependent gene networks in skeletal muscle during C26 cancer cachexia. *BMC Cancer*. 2014;14(1):997.
- 55) Hayward LF, Hampton EE, **Ferreira LF**, Christou DD, Yoo JK, Hernandez ME, Martin EJ. Chronic heart failure alters orexin and melanin concentrating hormone but not corticotrophin releasing hormone-related gene expression in the brain of male Lewis rats. *Neuropeptides* 2015. doi: 10.1016/j.npep.2015.06.001.
- 56) Ahn BS, Beharry AW, Frye GS, Judge AR, Ferreira LF. NAD(P)H oxidase subunit p47phox is elevated and p47phox knockout prevents diaphragm contractile dysfunction in heart failure. *Am J Physiol Lung Cell Mol Physiol*. 2015 Jul 24:ajplung.00176.2015. doi: 10.1152/ajplung.00176.2015. [Epub ahead of print] PMID: 26209274.

Letters-to-the editor

- 1) Barstow T.J., Lutjemeier B.J., **Ferreira L.F.** Kinetics of restoration of arteriolar tone after exercise. *J. Appl. Physiol.* 2005, 99: 775.
- 2) **Ferreira L.F.**, Barstow T.J. Kinetics of muscle oxygen use, oxygen content and blood flow during exercise: Reply. *J. Appl. Physiol.* 2005, 99: 2463-2469.
- 3) **Ferreira L.F.** Capillary recruitment during exercise: how much? Journal of Applied Physiology Point-Counterpoint. *J. Appl. Physiol* 2008.
- 4) Jones AM, Davies RC, **Ferreira LF**, Barstow TJ, Koga S, Poole DC. Reply to Quaresima and Ferrari. *J Appl Physiol.* 2009 1;107(1):372-3
- 5) **Ferreira LF** and Behnke BJ. Invited Editorial: A toast to health and performance! Beetroot juice lowers blood pressure and the O₂ cost of exercise. *J Appl Physiol.* 2011;110(3):585-6

TEACHING

University of Florida

Department of Applied Physiology and Kinesiology

APK3110 Introduction to Exercise Physiology (Fall 2013, Summer 2015)

APK4050 Research Methods (Spring 2014)

APK4112 Advanced Exercise Physiology (Fall 2014, Spring 2015)

Universidade Estadual de Londrina, Brazil

Department of Cardiothoracic Surgery, College of Medicine

Cardiopulmonary Exercise Testing & Interpretation (Lecture and Laboratory). Graduate course.

Universidade do Norte do Parana, Brazil

School of Physical Therapy.

Exercise Physiology - Thermoregulation and Environmental Influences on Exercise

Performance. Lecture and Laboratory. Graduate course.

Kansas State University.

Department of Kinesiology

KIN635 Nutrition & Exercise (Exercise Section)

KIN335 Exercise Physiology (Respiratory Section)

TRAINEES

Doctoral students

Ongoing

Philip Coblentz Role: Major Professor (Chair)

Adam Beharry Role: External Committee Member

Brandon Roberts Role: External Committee Member

Completed

Kurt Sollanek, PhD Role: Committee Member (Chair: Scott K. Powers)

Bumsoo Ahn, PhD Role: Major Professor (Chair)

Master Students (non-thesis)

Ongoing

Metkel Beiene Role: Major Professor (Chair)
 Katherine Crider Role: Major Professor (Chair)
 Ian Stowe Role: Major Professor (Chair)
 Jared Brody Role: Major Professor (Chair)
 Charles Hill Role: Major Professor (Chair)

Completed

Farid Medleg, MS Role: Major Professor
 Alyssa Hernandez, MS Role: Major Professor (Chair)

Undergraduate Research Students*Current*

Ravi Patel, Jamie Luskin

Past

| Name | Years | Degree | Current Position |
|----------------|-----------------------|---------------------------|-------------------------------------|
| Gregory Frye | 02/2011 to 04/2014 | BS Exercise Physiology | UF School of Physical Therapy |
| Elaina Bost | 02/2011 to 04/2013 | BS Exercise Physiology | UF School of Physical Therapy |
| Antonio Arroyo | 02/2011 to 04/2012 | BS Exercise Physiology | UF School of Physical Therapy |
| Abraham Arroyo | 02/2011 to 04/2012 | BS Exercise Physiology | UF School of Physical Therapy |
| Nikhil Patel | 01/2014 to 04/2015 | BS Exercise Physiology | U. Miami School of Physical Therapy |

Trainee Honors & Awards

| Name | Status | Awards |
|-----------------|-----------------------|---|
| Bumsoo Ahn | Doctoral student | - Grinter pre-doctoral Fellowship (UF-HHP) - Stanley lecture poster award – 2 nd place (UF-HHP) - Howard Hughes Undergraduate Research Mentor (2014) |
| Elaina Bost | Undergraduate student | - David S. Bruce Outstanding Abstract Award for undergraduate students (American Physiological Society – EB 2012) - Dr. Norma Leavitt Scholarship 2013 (UF-HHP) |
| Gregory S. Frye | Undergraduate student | - David S. Bruce Outstanding Abstract Award for undergraduate students (American Physiological Society – EB 2013) - Lee McCachren Endowed Scholarship 2012 (UF-HHP) - University Scholars Program Scholarship 2013 (UF) |
| Jamie Luskin | Undergraduate student | - University Scholars Program Scholarship 2015 (UF) |

RESEARCH LECTURES

- 07/2006 *Near-Infrared light scattering in contracting skeletal muscle.* Hamamatsu Photonics Inc., Hamamatsu, Japan.
- 07/2006 *Skeletal muscle oxygenation during exercise: measurement and interpretation.* Faculty of Human Development, Kobe University, Japan.
- 01/2007 *Methods of kinetics analysis of cardiovascular and metabolic responses to exercise.* School of Medicine, Pulmonary Division, Universidade Federal do Estado de Sao Paulo (UNIFESP). Sao Paulo, Brazil.
- 01/2007 *Kinetics of O₂ delivery, uptake, and muscle oxygenation: mechanisms, interpretation, and relevance to chronic diseases.* School of Medicine, Pulmonary Division, Universidade Federal do Estado de Sao Paulo (UNIFESP). Sao Paulo, Brazil
- 09/2007 *Skeletal muscle dysfunction in heart failure: mechanisms and treatment.* Clinical and Translational Science Fall Conference, Muscle Biology session, Lexington, KY.
- 03/2008 *Skeletal muscle dysfunction in heart failure.* Presented on the Heart Failure group meeting. University of Kentucky – Gill Heart Institute, Lexington, KY.
- 05/2008 *N-acetylcysteine delays fatigue of the diaphragm, but not EDL or soleus muscle in vitro.* American College of Sports Medicine, 2008 Annual Conference. Muscle oral session. Indianapolis, IN.
- 10/2008 *Antioxidants in diaphragm muscle fatigue: magic bullet or Trojan horse?* School of Medicine, Pulmonary Division, Universidade Federal do Estado de Sao Paulo (UNIFESP). Sao Paulo, Brazil.
- 01/2009 *Dose-dependent effects of n-acetylcysteine on plasma glutathione/cysteine variables and adverse reactions in healthy humans.* 11th Biennial Advanced Skeletal Muscle Biology Meeting, University of Florida, Gainesville, Florida.
- 03/2009 *Dynamics of muscle oxygenation during exercise: clinical insights from computer simulations.* Center for Muscle Biology, University of Kentucky, Lexington, KY.
- 11/2009 *Muscle weakness and fatigue in chronic diseases: mechanisms and novel treatments.* Department of Kinesiology, Kansas State University, Manhattan, KS.
- 12/2009 *Sphingolipid signaling of skeletal muscle contractile dysfunction.* Dept. of Kinesiology and Health Education, University of Texas, Austin, TX.
- 01/2010 *Sphingolipid signaling of diaphragm muscle weakness and fatigue.* Dept. of Applied Physiology and Kinesiology, University of Florida, Gainesville, FL.
- 01/2010 *Sphingomyelinase activates oxidant signaling to promote weakness and fatigue in skeletal muscle – relevance for respiratory muscle dysfunction in heart failure.* Dept of Human Physiology, University of Oregon, Eugene, OR.
- 06/2010 *Thiol-based antioxidants have contrasting effects on skeletal muscle fatigue in vitro.* American College of Sports Medicine, 2010 Annual Conference. Session: Oxidative Stress and Skeletal Muscle. Baltimore, MD.
- 01/2011 *Sphingolipid Signaling Promotes Weakness and Fatigue: A Novel Mechanism for Skeletal Muscle Dysfunction in Chronic Inflammatory Diseases.* Rehabilitation Research Seminar Series. Department of Physical Therapy, College of Public Health and Health Professions, University of Florida. Gainesville, FL.
- 02/2012 *Sphingolipids, NADPH oxidase, and diaphragm contractile dysfunction in heart failure.* Advances in Skeletal Muscle Biology in Health and Disease. University of Florida, Gainesville, FL.
- 12/2013 *'NADPH oxidase and oxidant-mediated diaphragm weakness in heart failure'* Department of Physiology and Functional Genomics, University of Florida. Gainesville, FL
- 05/2014 *Sphingolipid signaling of skeletal muscle weakness and fatigue.* ACSM Annual Meeting, Orlando, FL.
- 06/2015 *Mechanisms of diaphragm weakness in heart failure and chronic inflammatory conditions.* University of Londrina (Brazil). LFIP Conference on Pulmonary Physical Therapy.

