

## CURRICULUM VITAE

Bruno T. Roseguini

### Address:

Department of Health and Kinesiology  
College of Health and Human Sciences  
Purdue University  
800 W. Stadium Avenue  
West Lafayette, IN - 47907  
Phone: (765) 496-2612  
Email: [brosegui@purdue.edu](mailto:brosegui@purdue.edu)

### EDUCATION AND TRAINING:

Degree	Major Area of Study	Date	Institution
Post- Doctoral	Integrative Physiology: Peripheral Arterial Insufficiency	2012-2014	Molecular and Cell Therapy Center Federal University of Sao Paulo, Sao Paulo, SP, Brazil
	<u>Project Focus:</u> Effects of antioxidant supplementation in peripheral arterial disease: pre-clinical and clinical studies		
Ph.D	Biomedical Sciences	2007 - 2011	University of Missouri Columbia, MO, USA
	<u>Dissertation:</u> Acute and Chronic Adaptations to Intermittent Pneumatic Leg Compressions, Advisor: M. H. Laughlin		
M.S.	Cardiology and Cardiovascular Sciences	2005 - 2006	Department of Cardiology, Federal University of Rio Grande do Sul – Porto Alegre, RS, Brazil
	<u>Thesis:</u> Attenuated Muscle Metaboreflex in Patients with Chronic Obstructive Pulmonary Disease, Advisor: Jorge Pinto Ribeiro, MD		
PT	Physical Therapy	2001 - 2004	Londrina State University, Londrina – PR, Brazil
	<u>Scientific initiation project:</u> Heart rate variability in obese and non-obese adolescents: rest and exercise, Advisor: Antonio Fernando Brunetto		

### ACADEMIC APPOINTMENTS

2020-present  
Associate Professor  
Department of Health and Kinesiology  
Purdue University

2014-2020

Assistant Professor  
Department of Health and Kinesiology  
Purdue University

## **HONORS/AWARDS/FELLOWSHIPS**

- 2016** Outstanding Graduate Faculty Member of the Year – Department of Health and Kinesiology, Purdue University
- 2014** Oded Bar-Or International Scholar Award – American College of Sports Medicine
- 2013** Steven M. Horvath Professional Opportunity Award - American Physiological Society
- 2013** International Early Career Physiologist Travel Award - American Physiological Society
- 2011** Gamma Alpha Gamma Dissertation Completion Fellowship – University of Missouri
- 2011** Phi Zeta Research Day Award – Advanced graduate students category - The Society of Phi Zeta
- 2010** Charles M. Tipton National Student Research Award – American College of Sports Medicine
- 2010** Caroline tum Suden Professional Opportunity Award – American Physiological Society
- 2010** Graduate Professional Council Travel Award, University of Missouri
- 2009** Doctoral Student Award – American College of Sports Medicine Central States Chapter
- 2009** The Zweifach Student Travel Award, Microcirculatory Society

## **PROFESSIONAL ACTIVITIES**

### **Memberships:**

- 1) American Physiological Society
- 2) American College of Sports Medicine
- 3) American Heart Association

### **Referee:**

- 1) Journal of Applied Physiology
- 2) American Journal of Physiology – Heart and Circulatory Physiology
- 3) Arteriosclerosis, Thrombosis, and Vascular Biology
- 4) Medicine and Science in Sports and Exercise
- 5) BioMed Research International
- 6) BMC Cardiovascular Disorders
- 7) Frontiers in Physiology

**Grant reviewer:**

- 1) American Heart Association: Clinical Outcomes Committee (Spring 2016)
- 2) NIH Research Enhancement Award (AREA and REAP) (R15), ZRG1 - The Cardiovascular and Respiratory Sciences (CVRS) (Spring 2020)

**GRANTS & CONTRACTS**

**Active Grant Support**

**Agency/Mechanism:** NIA - NIH

**Title of Grant:** Heat therapy for Intermittent Claudication

**Duration of funding:** 07/01/2018 – 05/31/2021

**Total Amount of Award:** \$431,859

**Role:** Pi

**Agency/Mechanism:** Gatorade Sports Science Institute/Pepsico

**Title of Grant:** Accelerating postexercise muscle glycogen resynthesis in humans: impact of intermittent pneumatic compression and heat therapy

**Duration of funding:** 05/21/2018 – 12/31/2020

**Total Amount of Award:** \$125,353

**Role:** Pi

**Agency/Mechanism:** Indiana CTSI

**Title of Grant:** Heat therapy to improve skeletal muscle function in a model of Duchenne muscular Dystrophy

**Duration of funding:** 04/13/2020 – 3/31/2022

**Total Amount of Award:** \$12,000

**Role:** Pi

**Completed grant support:**

**Agency/Mechanism:** American Heart Association, Scientist Development Grant

**Title of Grant:** Thermotherapy for intermittent claudication

**Duration of funding:** 1/1/2016-12/31/2019

**Total Amount of Award:** \$308,000

**Role:** PI

**Agency/Mechanism:** Indiana Clinical and Translational Science Institute, Collaboration in Translational Research (CTR)

**Title of Grant:** Heat therapy to reduce leg pain and improve walking tolerance in patients with symptomatic peripheral artery disease

**Duration of funding:** 9/1/2017 - 8/31/2019

**Total Amount of Award:** \$75,000

**Role:** PI

**Agency/Mechanism:** Showalter Trust, 2017 Showalter Trust Research Award

**Title of Grant:** Effects of heat treatment on collateral growth, skeletal muscle capillarization and fatigue resistance in a preclinical model of peripheral arterial disease

**Duration of funding:** 7/1/2017-6/30/2019

**Total Amount of Award:** \$75,000

**Role:** PI

**Agency/Mechanism:** American College of Sports Medicine Foundation, Research Endowment

**Title of Grant:** Heat stress and skeletal muscle angiogenesis

**Duration of funding:** 7/1/2016-6/30/2018

**Total Amount of Award:** \$10,000

**Role:** PI

**Agency/Mechanism:** Indiana Clinical and Translational Science Institute Purdue Project Development Team

**Title of Grant:** Effects of thermotherapy on skeletal muscle structure and function in a preclinical model of peripheral arterial disease

**Duration of funding:** 10/2016-10/2017

**Total Amount of Award:** \$10,000

**Role:** PI

**Agency/Mechanism:** Indiana Institute for Biomedical Imaging Sciences (IIBIS) Research Development Initiative

**Title of Grant:** Effect of leg thermotherapy application on calf muscle blood flow in patients with intermittent claudication.

**Duration of funding:** 5/2015-5/2016

**Total Amount of Award:** \$12,462

**Role:** PI

**Agency/Mechanism:** Indiana Clinical and Translational Science Institute Purdue Project Development Team

**Title of Grant:** Acute effects of leg heating on circulating inflammatory and angiogenic factors and proangiogenic cells in patients with intermittent claudication

**Duration of funding:** 9/2014-9/2016

**Total Amount of Award:** \$11,000

**Role:** PI

**Agency/Mechanism:** College of Health and Human Sciences Funding for Facility Usage for Development of Preliminary Results – Purdue University

**Title of Grant:** Local and systemic angiogenic response to acute application of thermal therapy in humans

**Duration of funding:** 9/2014-9/2015

**Total Amount of Award:** \$2,541

**Role:** PI

**Agency/Mechanism:** Sao Paulo Research Foundation - Regular Research Awards

**Title of Grant:** Effects of oral N-acetylcysteine supplementation on walking capacity, vasodilatory capacity and oxidative stress markers in patients with peripheral arterial disease

**Duration of funding:** 07/2013-07/2015

**Total Amount of Award:** US\$87,000

**Role:** Co-PI – Project coordinator; Pi: Nelson Wolosker

**Agency/Mechanism:** Sao Paulo Research Foundation Post-Doctoral Fellowship

**Title of Grant:** Exercise as a tool to enhance the efficacy of mesenchymal cell therapy in a model of peripheral arterial disease

**Duration of funding:** 02/2012-02/2014

**Total Amount of Award:** \$42,704

**Role:** Fellow/PI

**Agency/Mechanism:** University of Missouri Institute for Clinical and Translational Science - Pilot Grant Awards. Doctoral student category

**Title of Grant:** Intermittent pneumatic compression and skeletal muscle gene expression profiling in claudicants

**Duration of funding:** 06/2010-06/2011

**Total Amount of Award:** \$10,000

**Role:** PI

**Agency/Mechanism:** The Society of Phi Zeta Research Award – Pi Chapter University of Missouri

**Title of Grant:** Vascular adaptations to chronic intermittent pneumatic compressions in a pre-clinical model of peripheral artery insufficiency

**Duration of funding:** 10/2010-10/2011

**Total Amount of Award:** \$750

**Role:** PI

**Agency/Mechanism:** American College of Sports Medicine Foundation Research Endowment

**Title of Grant:** Impact of External Mechanical Compressions on Skeletal Muscle

**Duration of funding:** 06/2009-06/2010

**Total Amount of Award:** \$10,000

**Role:** Co-PI (PI: Sean Newcomer)

**Agency/Mechanism:** American College of Sports Medicine Foundation Graduate Student Research Grant

**Title of Grant:** Vasodilatory Kinetics in Skeletal Muscle Arterioles

**Duration of funding:** 06/2008-06/2009

**Total Amount of Award:** \$5,000

**Role:** PI

**Agency/Mechanism:** Pre-doctoral Fellowship, Fulbright/CAPES

**Duration of funding:** 06/2007-12/2011

**Role:** PI

**Unfunded – Submitted as faculty at Purdue University**

**Agency/Mechanism:** CTSI Young Investigator Award in Clinical -Translational Research

**Title of Grant:** Leg thermotherapy to improve vascular function and exercise tolerance in elderly patients with intermittent claudication

**Role:** Pi

**Agency/Mechanism:** Collaboration in Translational Research (CTR) Pilot Grant Program

**Title of Grant:** Thermotherapy to promote vascular growth and restore skeletal muscle function in peripheral arterial insufficiency

**Total Amount of Award:** \$75,000

**Role:** Pi

**Agency/Mechanism:** Ralph W. and Grace M. Showalter Research Trust

**Title of Grant:** Heat Stress and Skeletal Muscle Regeneration: The Role of Vascular Endothelial Growth Factor

**Total Amount of Award:** \$75,000

**Role:** Pi

**Agency/Mechanism:** NIA - NIH

**Title of Grant:** Thermotherapy for intermittent claudication

**Total Amount of Award:** \$431,859

**Role:** Pi

**Agency/Mechanism:** Indiana CTSI Pilot Funding for Research Use of Core Facilities – Spring 2015

**Title of Grant:** Impact of thermotherapy application on systemic inflammation in patients with intermittent claudication

**Total Amount of Award:** \$4,950

**Role:** Pi

**Agency/Mechanism:** Indiana CTSI Pilot Funding for Research Use of Core Facilities – Fall 2014

**Title of Grant:** Acute angiogenic response to thermal therapy in patients with symptomatic peripheral artery disease

**Total Amount of Award:** \$7,500

**Role:** Pi

**PUBLICATIONS:**

**Research Papers, peer reviewed**

1. Kim K, Monroe JC, Gavin TP, **Roseguini BT**. Local Heat Therapy to Accelerate Recovery Following Exercise-Induced Muscle Damage. *Exerc Sport Sci Rev*. 2020 Jul 8.
2. Kim K, Monroe JC, Gavin TP, **Roseguini BT**. Skeletal muscle adaptations to heat therapy. *J Appl Physiol* (1985). 2020 Jun 1;128(6):1635-1642.

3. Kim K, Reid BA, Casey CA, Bender BE, Ro B, Song Q, Trewin AJ, Petersen AC, Kuang S, Gavin TP, **Roseguini BT**. Effects of repeated local heat therapy on skeletal muscle structure and function in humans. *J Appl Physiol* (1985). 2020 Mar 1;128(3):483-492.
4. Kim K, Reid BA, Ro B, Casey CA, Song Q, Kuang S, **Roseguini BT**. Heat therapy improves soleus muscle force in a model of ischemia-induced muscle damage. *J Appl Physiol*(1985). 2019 Jul 1;127(1):215-228.
5. Kim K, Kuang S, Song Q, Gavin TP, **Roseguini BT**. Impact of heat therapy on recovery after eccentric exercise in humans. *J Appl Physiol*(1985). 2019 Apr 1;126(4):965-976.
6. Harvey JC, **Roseguini BT**, Goerger BM, Fallon EA, Wong BJ. Acute Thermotherapy Prevents Impairments in Cutaneous Microvascular Function Induced by a High Fat Meal. *J Diabetes Res*. 2016;2016:1902325.
7. Kuhlenhoelter AM, Kim K, Neff D, Nie Y, Blaize AN, Wong BJ, Kuang S, Stout J, Song Q, Gavin TP, **Roseguini BT**. Heat therapy promotes the expression of angiogenic regulators in human skeletal muscle. *Am J Physiol Regul Integr Comp Physiol*. 2016 Aug 1;311(2):R377-91.
8. Neff D, Kuhlenhoelter AM, Lin C, Wong BJ, Motaganahalli RL, **Roseguini BT**. Thermotherapy reduces blood pressure and circulating endothelin-1 and enhances leg blood flow in patients with symptomatic peripheral artery disease. *Am J Physiol Regul Integr Comp Physiol*. 2016 Aug 1;311(2):R392-400.
9. da Silva ND Jr, **Roseguini BT**, Chehuen M, Fernandes T, Mota GF, Martin PK, Han SW, Forjaz CL, Wolosker N, de Oliveira EM. Effects of oral N-acetylcysteine on walking capacity, leg reactive hyperemia, and inflammatory and angiogenic mediators in patients with intermittent claudication. *Am J Physiol Heart Circ Physiol*. 2015 Sep;309(5):H897-905.
10. **Roseguini BT**., Silva LM, Polotow TG, Barros M.P., Souccar C., Han, S.W. Effects of N-acetylcysteine on skeletal muscle structure and function in a mice model of peripheral arterial insufficiency. *J Vasc Surg*. 2015 Mar;61(3):777-86.
11. **Roseguini BT**, Hirai DM, Alencar MC, Ramos RP, Silva BM, Wolosker N, Neder JA, Nery LE. Sildenafil improves skeletal muscle oxygenation during exercise in men with intermittent claudication. *Am J Physiol Regul Integr Physiol*. 2014 Aug 15;307(4):R396-404.
12. Sheldon R, **Roseguini BT**, Laughlin M, Newcomer SC. New Insights into the Physiologic Basis for Intermittent Pneumatic Limb Compression as a Therapeutic Strategy for Peripheral Artery Disease. *J Vasc Surg* 2013 Dec;58(6):1688-96.
13. Mikus CR, **Roseguini BT**, Uptergrove GM, Matthew Morris E, Scott Rector R, Libla JL, Oberlin DJ, Borengasser SJ, Taylor AM, Ibdah JA, Harold Laughlin M, Thyfault JP. Voluntary wheel running selectively augments insulin-stimulated vasodilation in arterioles from white skeletal muscle of insulin resistant rats. *Microcirculation*. 2012 Nov; 19(8):729-38

14. Sheldon RD, **Roseguini BT**, Thyfault JP, Crist BD, Laughlin MH, Newcomer SC. Acute impact of intermittent pneumatic leg compression frequency on limb hemodynamics, vascular function, and skeletal muscle gene expression in humans. *J Appl Physiol*. 2012 Jun;112(12):2099-109.
15. **Roseguini BT**, Arce-Esquivel AA, Newcomer SC, Yanh HT, Terjung RL, Laughlin MH. Intermittent pneumatic leg compressions enhance muscle performance and blood flow in a model of peripheral arterial insufficiency. *J Appl Physiol* 112(9):1556-63, 2012
16. **Roseguini BT**, Arce-Esquivel AA, Newcomer SC, Laughlin MH. Impact of a single session of intermittent pneumatic leg compressions on skeletal muscle and isolated artery gene expression in rats. *Am J Physiol Regul Integr Comp Physiol*. 2011 301(6):R1658-68.
17. **Roseguini BT**, Sheldon R, Stroup A, Bell JW, Maurer D, Crist BD, Laughlin MH, Newcomer SC. Impact of chronic intermittent external compressions on forearm blood flow capacity in humans. *Eur J Appl Physiol*. 2011 Mar;111(3):509-19.
18. Hirai DM, **Roseguini BT**, Diefenthaler F, Carpes FP, Vaz MA, Ferlin EL, Ribeiro JP, Nakamura FY. Effects of Altering Pedal Frequency on the Slow Component of Pulmonary VO<sub>2</sub> Kinetics and EMG Activity. *Int J Sports Med*. 2010 Aug;31(8):529-536.
19. **Roseguini BT**, Mehmet Soylu S, Whyte JJ, Yang HT, Newcomer S, Laughlin MH. Intermittent pneumatic leg compressions acutely upregulate VEGF and MCP-1 expression in skeletal muscle. *Am J Physiol Heart Circ Physiol*. 2010 Jun;298(6):H1991-2000.
20. **Roseguini BT**, Davis MJ, Harold Laughlin M. Rapid vasodilation in isolated skeletal muscle arterioles: impact of branch order. *Microcirculation*. 2010 Feb;17(2):83-93.
21. Laughlin MH, **Roseguini B**. Mechanisms for exercise training-induced increases in skeletal muscle blood flow capacity: differences with interval sprint training versus aerobic endurance training. *J Physiol Pharmacol*. 2008 Dec;59 Suppl 7:71-88.
22. Chiappa GR, **Roseguini BT**, Vieira PJ, Alves CN, Tavares A, Winkelmann ER, Ferlin EL, Stein R, Ribeiro JP. Inspiratory muscle training improves blood flow to resting and exercising limbs in patients with chronic heart failure. *J Am Coll Cardiol*. 2008 Apr 29;51(17):1663-71.
23. **Roseguini BT**, Alves CN, Chiappa GR, Stein R, Knorst MM, Ribeiro JP. Attenuation of muscle metaboreflex in chronic obstructive pulmonary disease. *Med Sci Sports Exerc*. 2008 Jan;40(1):9-14.
24. Chiappa GR, **Roseguini BT**, Alves CN, Ferlin EL, Neder JA, Ribeiro JP. Blood lactate during recovery from intense exercise: impact of inspiratory loading. *Med Sci Sports Exerc*. 2008 Jan;40(1):111-6.
25. **Roseguini BT**, Alves CN, Chiappa GR, Stein R, Ribeiro JP. Muscle metaboreflex contribution to resting limb haemodynamic control is preserved in older subjects.

26. **Roseguini B.T.**, Narro F., Oliveira A.R., Ribeiro J.P. Non-invasive estimation of the lactate threshold from heart rate response to submaximal exercise: the pulse deficit. *Int J Sports Med.* 2007 Jun;28(6):463-9.
27. Brunetto A.F, **Roseguini B.T.**, Silva B.M., Hirai D.M., Guedes D.P. Effects of gender and aerobic fitness on cardiac autonomic responses to head-up tilt in healthy adolescents. *Pediatr Cardiol* 2005, 26(4):418-24.
28. Brunetto A.F, **Roseguini B.T.**, Silva B.M., Hirai D.M., Guedes D.P. Cardiac autonomic responses to head-up tilt in obese adolescents. *Rev Assoc Med Bras.* 2005 51(5):256-60.

### **Letters-to-the editor**

1. Buerk DG, Hirai DM, **Roseguini BT**, Silva BM, Vagula MC, Roy TK, Secomb TW. Commentaries on viewpoint: A paradigm shift for local blood flow regulation. *J Appl Physiol* (1985). 2014 Mar 15;116(6):706-7.

### **ABSTRACTS/POSTER PRESENTATIONS**

1. Monroe, J.C., Lin, C., Perkins, S., Han, Y., Motaganahalli, R., **Roseguini, B.T.** Heat therapy reduces blood pressure and circulating endothelin-1 levels, but does not improve walking performance or vascular function in patients with symptomatic peripheral artery disease. IN: *FASEB J*, Volume 34, Issue S1, April 2020.
2. Kim, K., Ro, B., Damen, F., Gramling, D., Lehr, T., Song, Q., Goergen, C., **Roseguini, B.T.** Impact of heat therapy on exercise performance, collateral artery growth and skeletal muscle capillarization in a peripheral artery disease model. *FASEB J*, Volume 34, Issue S1, April 2020.
3. Kim, K., Reid, B., Ro, B., Hester, B.C., Casey, C.A., Song, Q., **Roseguini, B.T.** Impact of heat therapy on skeletal muscle structure and function in a mouse model of peripheral arterial disease. IN: *FASEB J*, April 2018 32:853.12.
4. Kim, K., Nie, Y., Boersma, D., Song, Q., Kuang, S., Gavin, T.P., **Roseguini, B.T.** Heat therapy alters the expression of myogenic and angiogenic factors and accelerates functional recovery following exercise-induced muscle damage in humans. IN: *FASEB J*, April 2017 31:1086.4.
5. **Roseguini, B.T.**, Kuhlenhoelter, A.M., Neff, D., Nie, Wong, B., Gavin, T.P. Thermo-therapy Application Increases The mRNA Expression of Angiogenic Factors in Human Skeletal Muscle. IN: *FASEB J* April 2016 30:1290.9.
6. **Roseguini, B.T.**, Kuhlenhoelter, A.M., Neff, D., Wong, B., Motaganahalli, R. Thermo-therapy Reduces Blood Pressure and Increases Leg Blood Flow in Patients With Symptomatic Peripheral Artery Disease. In: *FASEB J* April 2016 30:1290.10

7. **Roseguini, BT**, Silva Jr, N., Chehuen, M., Costa, L., Matsumoto, P, Han, S., Forjaz, C., Wolosker, N. Effect of N-acetylcysteine on walking tolerance, vascular reactivity and inflammation in patients with intermittent claudication. In: *Med Sci Sports Exerc. Suppl*, 46:164, 2014.
8. **Roseguini, BT**, Souccar, C., Han, S. W. N-acetylcysteine improves skeletal muscle fatigue resistance in a model of peripheral arterial insufficiency. In: *Experimental Biology*, 2013, Boston. *The FASEB Journal*, 2013. v. 27. p. 940.24.
9. Sheldon, R., **Roseguini, B. T.**, Laughlin, M. H., Newcomer, S. C. Acute effects of intermittent pneumatic compression induced hemodynamics on vascular function in humans. In: *Experimental Biology*, 2012, San Diego. *The FASEB Journal*, 2012. v. 26. p. 865.16.
10. Mikus, C., **Roseguini, Bruno T.**, Uptergrove, G. M., Morris, M., Rector, S., Ibdah, J. A., Thyfault, J. P., Laughlin, M. H. Chronic wheel running selectively augments insulin-stimulated vasodilation in arterioles from the white gastrocnemius. In: *Experimental Biology*, 2011, Washington DC. *The FASEB Journal*, 2011. v. 25. p. 1108.17.
11. **Roseguini, B. T.**, Arce-Esquivel, A. A., Newcomer, S. C., Laughlin, M. H. Impact of a single session of intermittent pneumatic leg compressions on skeletal muscle and isolated collateral artery gene expression in rats. In: *Experimental Biology*, 2011, Washington DC. *The FASEB Journal*, 2011. v. 25. p. 1092.23.
12. **Roseguini, B. T.**, Sheldon, R., Crist, B. D., Thyfault, J., Laughlin, M. H. Acute Effects Of Intermittent Pneumatic Compressions On Skeletal Muscle Gene Expression In Humans. In: *Annual Meeting of the American College of Sports Medicine*, 2011, Denver. *Medicine and Science in Sports and Exercise*, 2011. v. 43. p. 466.
13. **Roseguini, B. T.**, Sheldon, R., Stroup, A., Bell, J., Skarbek, I., Maurer, D., Laughlin, M. H., Newcomer, S. C. Impact of chronic intermittent forearm compressions on blood flow capacity in humans. In: *Experimental Biology*, 2010, Anaheim. *The FASEB Journal*, 2010. v. 24. p. 618.13.
14. **Roseguini, B. T.**, Soylu, M., Whyte, J., Yang, H., Newcomer, S. C., Terjung, R., Laughlin, M. H. Acute Effects Of Cyclic Limb Compressions on mRNA Expression Of Angiogenic Factors In Skeletal Muscle. In: *Annual Meeting of the American College of Sports Medicine*, 2010, Baltimore. *Medicine and Science in Sports and Exercise*, 2010. v. 42. p. 127.
15. Bell, J., **Roseguini, B. T.**, Sheldon, R., Stroup, A., Skarbek, I., Maurer, D., Laughlin, M. H., Newcomer, S. C. Four Weeks Of Cyclic Mechanical Forearm Compressions Do Not Alter Resting Brachial Artery Hemodynamics. In: *Annual Meeting of the American College of Sports Medicine*, 2010, Baltimore. *Medicine and Science in Sports and Exercise*, 2010. v. 42. p. 245.

16. **Roseguini, B. T.**, Davis, W., Laughlin, M. H. Regional Differences In Gene Expression Profile In 2A Arterioles Isolated From Different Types Of Skeletal Muscle. In: American Physiological Society-ACSM Integrated Physiology of Exercise, 2010, Miami. *Medicine and Science in Sports and Exercise*, 2010. v. 42. p. 4.
17. **Roseguini, B. T.**, Davis, M. J., Thorne, P., Laughlin, M. H. Fast dilatory responses to potassium in arterioles of the rat gastrocnemius muscle (G): impact of branch order. In: Experimental Biology, 2009, New Orleans. *The FASEB Journal*, 2009. v. 23. p. 948.1.
18. Newcomer, S. C., Hsu, C., Caron, N., Ingram, D., **Roseguini, B. T.** Laughlin, M. H. No change in endothelium-dependent relaxation or morphology of peripheral arteries following 30 days of aortic coarctation. In: Experimental Biology, 2008, San Diego. *The FASEB Journal*, 2008. v. 22. p. 1119.8.
19. Newcomer, S. C., **Roseguini, B. T.**, Arce-Esquivel, A. A., Bender, S., Turk, J., Laughlin, M. H. Effects of endurance exercise training on endothelial function and atherosclerosis in the hereditary hypercholesterolemic swine model. In: Experimental Biology, 2008, San Diego. *The FASEB Journal*, 2008. v. 22. p. 1119.6.

## TEACHING

### Purdue University - Department of Health and Kinesiology

**Course title** HK468 – Advanced Exercise Physiology II

**Description** Advanced undergraduate course in the area of exercise and human performance

**Date taught** Fall 2016, Spring 2017, Spring 2019, Spring 2020

**Course title** HK-66800 - Seminar in Exercise Physiology

**Description** Training in critical interpretation of scientific research linked to the field of exercise physiology

**Date taught** Fall 2014, Fall 2015, Spring 2017

**Course title** HK590 – Cardiopulmonary Physiology

**Description** Advanced undergraduate course focused on the integration of cardiorespiratory control systems during exercise

**Date taught** Fall 2017, Fall 2019

**Course title** HK4496 - Independent Inquiry in Movement and Sport Science

**Description** Experiential learning activity for undergraduate students majoring in Movement and Sport Science

**Date taught** Spring 2016

### Federal University of Sao Paulo - Department of Biophysics

**Course title** Membrane Biophysics  
**Description** Introductory membrane biophysics  
**Date taught** Fall 2013

**TRAINEES**

**GRADUATE STUDENT THESIS INVOLVMENT**

<b>Student</b>	<b>Degree/Date</b>	<b>Specialization</b>	<b>Instructional Role</b>
<b>Doctoral Students</b>			
Kyoungrae Kim	Ph.D./12/2019	Exercise Physiology	Primary mentor Committee Chair
Jacob Monroe	in progress	Exercise Physiology	Primary mentor Committee Chair
Ron Garner	Ph.D./05/2018	Exercise Physiology	Committee member
Shivam H. Patel	Ph.D./05/2020	Exercise Physiology	Committee member
Robert E. Bergia	Ph.D./05/2020	Nutrition Science	Committee member
Michael S. Stone	Ph.D./12/2019	Nutrition Science	Committee member
Brian Sullivan	in progress	Exercise Physiology	Committee member
<b>Masters Students</b>			
Jessica Solfest	M.S./05/2015	Exercise Physiology	Committee member
Dustin Neff	M.S./05/2016	Exercise Physiology	Primary mentor Committee Chair
Alisha Kuhlenhoelter	M.S./05/2016	Exercise Physiology	Primary mentor Committee Chair
Jessica Weiss	M.S./05/2016	Exercise Physiology	Committee member
Sheelagh Evans	M.S./05/2017	Exercise Physiology	Committee member
Brian P. Sullivan	M.S./05/2017	Exercise Physiology	Committee member
Zachary R. Hettinger	M.S./05/2018	Exercise Physiology	Committee member
Christopher Kargl	M.S./05/2018	Exercise Physiology	Committee member
Bohuyn Ro	in progress	Exercise Physiology	Primary mentor Committee Chair

## **Undergraduate research students**

<b>Semester</b>	<b>Year</b>	<b>Students</b>	<b>Project Titles</b>
Fall	2015	Nicholas D'Amico Antonio Gaeta	Acute effects of heat stress on mTOR signaling in skeletal muscle
Spring	2015	Alex Henderson Jacob Gembara	Acute effects of leg heating on the levels of systemic angiogenic mediators in humans
Spring	2016	Megan Durochik Kathryn Steenberge Lauren Almon Megan Bender Alec Werry Michael Massaro	Acute effects of local heat stress on the mRNA expression of angiogenic mediators in human skeletal muscle
Fall	2016	Tyler Frizzi	Impact of repeated heat therapy on muscle regeneration following exercise-induced muscle damage
Spring	2017	Emma Werry Bryan Cole Hester	Heat therapy in a mouse model of peripheral artery insufficiency
Fall	2017	Caitlin Casey Brooke Bender	Impact of heat therapy on skeletal muscle function
Spring	2018	Blake Andrew Reid	Impact of heat therapy on skeletal muscle contractile function in a mouse model of peripheral artery insufficiency
Fall	2018	Trevor Lehr	Effects of heat treatment on skeletal muscle function in a model of diet-induced obesity and ischemia-induced muscle damage
Spring	2019	Nivedha Madhan	Accelerating postexercise muscle glycogen resynthesis in humans: impact of intermittent pneumatic compression and heat therapy

## **Trainee Honors & Awards**

**Kyoungrae Kim** Partnership for Clean Competition Predoctoral Research Award,  
Environmental & Exercise Physiology Section, American Physiological Society

## **INVITED RESEARCH LECTURES**

1. "Heat as a therapeutic tool for elderly patients with peripheral artery disease" – Department of Physical Therapy – The University of Texas Health Science Center at San Antonio, October 2018

2. "Heat as a therapeutic tool for peripheral artery disease" – Department of Kinesiology, East Carolina University, October 2018
3. "Heat as a therapeutic tool for elderly patients with peripheral artery disease" – Department of Cellular and Integrative Physiology - Indiana University School of Medicine, March 2017
4. "Thermotherapy for Older Adults with Peripheral Artery Disease". Center on Aging and the Life Course colloquium – Purdue University, February 2016
5. "Evolving therapeutic strategies for peripheral arterial insufficiency" - Weldon School of Biomedical Engineering Seminar Series – Purdue University, January 2015
6. "Evolving therapeutic strategies for peripheral arterial insufficiency" - Department of Surgery Seminar Series – Indiana University School of Medicine, January 2015