

CURRICULUM VITAE

Bruno T. Roseguini

Address:

Department of Health and Kinesiology
College of Health and Human Sciences
Purdue University
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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) Indiana Clinical and Translational Sciences Institute Core Pilot Grants (Spring 2019)
- 3) NIH Research Enhancement Award (AREA and REAP) (R15), ZRG1 - The Cardiovascular and Respiratory Sciences (CVRS) (Spring 2020)
- 4) Department of Veterans Affairs Office of Research and Development's Rehabilitation Research and Development Service (RR&D), Small Projects in Rehabilitation Research (Spring 2021)
- 5) NIH Research Enhancement Award (AREA and REAP) (R15), ZRG1 CVRS-Q - Cardiovascular and Respiratory Sciences (CVRS) (Spring 2022)

GRANTS & CONTRACTS

Active Grant Support

Agency/Mechanism: NIA - NIH

Title of Grant: Heat therapy for Intermittent Claudication

Duration of funding: 07/01/2018 – 05/31/2022

Total Amount of Award: \$431,859

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: 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 – 4/30/2021

Total Amount of Award: \$125,353

Role: Pi

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: U\$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, Kargl C, Ro B, Song Q, Stein K, Gavin TP, **Roseguini BT**. Neither Peristaltic Pulse Dynamic Compressions nor Heat Therapy Accelerate Glycogen Resynthesis following Intermittent Running. Med Sci Sports Exerc. 2021 Nov 1;53(11):2425-2435.
2. Monroe JC, Song Q, Emery MS, Hirai DM, Motaganahalli RL, **Roseguini BT**. Acute effects of leg heat therapy on walking performance and cardiovascular and inflammatory responses to exercise in patients with peripheral artery disease. Physiol Rep. 2021 Jan;8(24):e14650.
3. Kim K, Ro B, Damen FW, Gramling DP, Lehr TD, Song Q, Goergen CJ, **Roseguini BT**. Heat therapy improves body composition and muscle function, but does not affect capillary or collateral growth in a model of obesity and hindlimb ischemia. J Appl Physiol. 2021 Feb 1;130(2):355-368.
4. Yue F, Song C, Huang D, Narayanan N, Qiu J, Jia Z, Yuan Z, Opreescu SN, **Roseguini BT**, Deng M, Kuang S. PTEN Inhibition Ameliorates Muscle Degeneration and Improves Muscle Function in a Mouse Model of Duchenne Muscular Dystrophy. Mol Ther 2021 Jan 6;29(1):132-148.
5. Monroe JC, Lin C, Perkins SM, Han Y, Wong BJ, Motaganahalli RL, **Roseguini BT**. Leg heat therapy improves perceived physical function but does not enhance walking capacity or vascular function in patients with peripheral artery disease. J Appl Physiol (1985). 2020 Dec 1;129(6):1279-1289.
6. Bergia RE, Campbell WW, **Roseguini BT**, Kim JE. A high-protein meal does not improve blood pressure or vasoactive biomarker responses to acute exercise in humans. Nutr Res. 2020 Sep;81:97-107.
7. Kim K, Monroe JC, Gavin TP, **Roseguini BT**. Local Heat Therapy to Accelerate Recovery After Exercise-Induced Muscle Damage. Exerc Sport Sci Rev. 2020 Oct;48(4):163-169.
8. 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.
9. 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.
10. 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.
11. 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.

12. Harvey JC, **Roseguini BT**, Goerger BM, Fallon EA, Wong BJ. Acute Thermo-therapy Prevents Impairments in Cutaneous Microvascular Function Induced by a High Fat Meal. J Diabetes Res. 2016;2016:1902325.
13. 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.
14. Neff D, Kuhlenhoelter AM, Lin C, Wong BJ, Motaganahalli RL, **Roseguini BT**. Thermo-therapy 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.
15. 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.
16. **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.
17. **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.
18. 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.
19. 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
20. 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.
21. **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

22. **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.
23. **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.
24. 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 VO₂ Kinetics and EMG Activity. Int J Sports Med. 2010 Aug;31(8):529-536.
25. **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.
26. **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.
27. 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.
28. 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.
29. **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.
30. 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.
31. **Roseguini BT**, Alves CN, Chiappa GR, Stein R, Ribeiro JP. Muscle metaboreflex contribution to resting limb haemodynamic control is preserved in older subjects.
32. **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.
33. 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.

34. 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.** Effects Of Home-Based Leg Heat Therapy On Walking Performance In Symptomatic Peripheral Artery Disease: A Pilot Randomized Clinical Trial. American Heart Association President, Vascular Discovery Annual Conference. 21-A-299-AHA-VD, 2021.
2. 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.
3. 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.
4. 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.
5. 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.
6. **Roseguini, B.T.**, Kuhlenhoelter, A.M., Neff, D., Nie, Wong, B., Gavin, T.P. Thermotherapy Application Increases The mRNA Expression of Angiogenic Factors in Human Skeletal Muscle. IN: FASEB J April 2016 30:1290.9.
7. **Roseguini, B.T.**, Kuhlenhoelter, A.M., Neff, D., Wong, B., Motaganahalli, R. Thermotherapy Reduces Blood Pressure and Increases Leg Blood Flow in Patients With Symptomatic Peripheral Artery Disease. In: FASEB J April 2016 30:1290.10
8. **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.

9. **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.
10. 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.
11. 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.
12. **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.
13. **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.
14. **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.
15. **Roseguini, B. T.**, Soyly, 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.
16. 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.
17. **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.

18. **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.
19. 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.
20. 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, Spring 2021, Spring 2022

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, Spring 2021

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, Fall 2021

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

Course title HK 59000 - Res & Grant Development In HK

Description Advanced graduate course focused on grant writing.

Date taught Fall 2021

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

<u>Student</u>	<u>Degree/Date</u>	<u>Specialization</u>	<u>Instructional Role</u>
Doctoral Students			
Bohuyn Ro	Ph.D./	Exercise Physiology	Primary mentor Committee Chair
Kyoungrae Kim	Ph.D./12/2019	Exercise Physiology	Primary mentor Committee Chair
Jacob Monroe	Ph.D./7/2021	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	Ph.D./12/2021	Exercise Physiology	Committee member
Masters Students			
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	M.S./05/2021	Exercise Physiology	Primary mentor Committee Chair

Undergraduate research students

<u>Semester</u>	<u>Year</u>	<u>Students</u>	<u>Project Titles</u>
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
Fall	2020	Abigail Paige Deren	Effect of repeated whole-body heat therapy on muscle strength in a mouse model of Duchenne muscular dystrophy

Trainee Honors & Awards

Byung Joon Pae	2022 Barbara A. Horwitz and John M. Horowitz Undergraduate Awards, the APS Physiology Educators Committee
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