

Curriculum Vitae

Last Updated: 06/17/2022

PERSONAL DATA

Name: Ryan M. Broxterman, Ph.D.
Birth Place: Topeka, KS
Citizenship: United States

EDUCATION

<u>Years</u>	<u>Degree</u>	<u>Institution (Area of Study)</u>
2019 - 2020	Fellow	University of Utah School of Medicine (Geriatrics) Salt Lake City, UT
2016 - 2018	Fellow	Veterans Affairs Medical Center (Geriatrics) Salt Lake City, UT
2011 - 2015	Ph.D.	Kansas State University (Physiology) Manhattan, KS
2009 - 2011	M.S.	Kansas State University (Kinesiology) Manhattan, KS
2005 - 2009	B.A.	Washburn University (Physical Education) Topeka, KS

UNIVERSITY OF UTAH ACADEMIC HISTORY

Internal Medicine (Geriatrics), 08/16/2021 - Present

08/16/2021 Assistant Professor

PROFESSIONAL EXPERIENCE

Full-Time Positions

2021 - Present	Assistant Professor, Division of Geriatrics, Department of Internal Medicine, University of Utah School of Medicine, Salt Lake City, UT
2021 - Present	Research Health Scientist, U.S. Department of Veterans Affairs Geriatric, Research, Education, and Clinical Center, Salt Lake City, UT
2019 - 2021	Research Associate, Division of Geriatrics, Department of Internal Medicine, University of Utah School of Medicine, Salt Lake City, UT
2019 - 2021	Research Scientist of Geriatrics, U.S. Department of Veterans Affairs, Salt Lake City, UT
2019 - 2020	Postdoctoral Fellow, Division of Geriatrics, Department of Internal Medicine, University of Utah School of Medicine, Salt Lake City, UT
2016 - 2018	Postdoctoral Fellow, Geriatrics Research, Education, and Clinical Center, Veterans Affairs Medical Center, Salt Lake City, UT
2013 - 2015	Adjunct Instructor, Department of Kinesiology, Kansas State University, Manhattan, KS
2012 - 2013	Adjunct Instructor, Department of Kinesiology, Washburn University, Topeka, KS

- 2011 - 2015 Graduate Research Assistant, Department of Kinesiology, Kansas State University, Manhattan, KS
- 2010 - 2011 Adjunct Instructor, Department of Biological Science, Manhattan Area Technical College, Manhattan, KS
- 2010 - 2011 Instructor, Multicultural Academic Program Success (MAPS), Kansas State University, Manhattan, KS
- 2009 - 2011 Graduate Teaching Assistant, Department of Kinesiology, Kansas State University, Manhattan, KS

Editorial Experience

- 2022 - Present Editorial Board for *Medicine & Science in Sports & Exercise*
- 2018 - Present Editorial Board for *European Journal of Sports Science*

Reviewer Experience

- Reviewer for *Acta Physiologica*
- Reviewer for *American Journal of Physiology - Cell Physiology*
- Reviewer for *American Journal of Physiology - Lung, Cellular, and Molecular Physiology*
- Reviewer for *American Journal of Physiology - Regulatory, Integrative, and Comparative Physiology*
- Reviewer for *Applied Physiology, Nutrition, and Metabolism*
- Reviewer for *Atherosclerosis*
- Reviewer for *Bioscience Reports*
- Reviewer for *Chest*
- Reviewer for *Clinical Science*
- Reviewer for *Current Opinion in Physiology*
- Reviewer for *European Heart Journal*
- Reviewer for *European Journal of Applied Physiology*
- Reviewer for *European Journal of Sports Science*
- Reviewer for *Hypertension*
- Reviewer for *Research Quarterly for Exercise and Sport*
- Reviewer for *Journal of Applied Physiology*
- Reviewer for *Journal of Neurophysiology*
- Reviewer for *Journal of Science and Medicine in Sport*
- Reviewer for *Medicine and Science in Sports and Exercise*
- Reviewer for *Sport Sciences for Health*
- Reviewer for *Sports Medicine*
- Reviewer for *International Journal of Sports Medicine*

SCHOLASTIC HONORS

- 2022 Environmental & Exercise Physiology Section Early Career Research Award
- 2019 Ruth L. Kirschstein National Research Service Award National Heart, Lung, and Blood Institute, Division of Geriatrics, University of Utah School of Medicine, Salt Lake City, UT

- 2016 Advanced Fellowship in Geriatrics, U.S. Department of Veterans Affairs, Salt Lake City, UT
- 2015 Graduate Research Assistant of the Year, Golden Key International Honour Society, Kansas State University Chapter, Manhattan, KS
- 2015 Graduate Award for Outstanding Academics, Kansas State University, Alumni Association, Manhattan, KS
- 2015 Doctoral Scholar Award, American Kinesiology Association, Mahomet, IL
- 2014 Distinguished Doctoral Student, Department of Kinesiology, Kansas State University, Manhattan, KS
- 2014 Dr. Albert L. Burroughs Memorial Award, Kansas State University, College of Veterinary Medicine, Manhattan, KS
- 2013 Frank Blecha Award, Kansas State University, College of Veterinary Medicine, Manhattan, KS
- 2012 Frank Blecha Award, Kansas State University, College of Veterinary Medicine, Manhattan, KS
- 2012 Outstanding Graduate Student, Department of Kinesiology, Kansas State University, Manhattan, KS
- 2010 - 2014 Graduate Student Travel Award, Kansas State University, Manhattan, KS
- 2009 Transformational Experience Travel Award, Washburn University, Topeka, KS
- 2009 B.A. Major of the Year, Department of Health, Physical Education, and Exercise Science, Washburn University, Topeka, KS
- 2008 Helen Hocker Scholarship for Outstanding Physical Education Student, Washburn University, Topeka, KS

ADMINISTRATIVE EXPERIENCE

Grant Review Committee/Study Section

- 2021 Member, Space Radiation-Cardiology Study Section, National Aeronautics and Space Administration Human Exploration Research Opportunities (NASA HERO)

Symposium/Meeting Chair/Coordinator

- 2022 Chair, Control of Exercise Vascular Function in Health and Disease, American College of Sports Medicine Annual Meeting session, San Diego, CA

UNIVERSITY COMMUNITY ACTIVITIES

Department Level

- 2021 - Present Research Champion, Internal Medicine, Clinical Research Chalk Talk

Division Level

- 2019 - Present Member, Geriatrics, Vascular Research Laboratory (UVRL) Colloquium Series Planning Committee

SERVICE AT PREVIOUS INSTITUTIONS

2013 Member, Kansas State University, Department of Kinesiology, Department Head Search Committee

CURRENT MEMBERSHIPS IN PROFESSIONAL SOCIETIES

American College of Sports Medicine

American Heart Association

American Physiological Society

FUNDING

Active Grants

10/01/20 - Efficacy of exercise training in patients with HFpEF (Merit Review Award
09/30/24 I01RX003343)
Principal Investigator(s): Markus Amann
Direct Costs: \$1,200,000 Total Costs: \$1,200,000
Veterans Affairs Rehabilitation Research & Development
Role: Co-Investigator

06/01/20 - Passive leg movement: A tool to assess vascular health and guide rehabilitation (Merit
05/31/24 Review Award I01RX003207)
Principal Investigator(s): Russell S. Richardson
Direct Costs: \$1,200,000 Total Costs: \$1,200,000
Veterans Affairs Rehabilitation Research & Development
Role: Co-Investigator

Pending Grants

01/01/23 - COVID-19 and long-term vascular endothelial dysfunction: Using rehabilitation therapies
12/31/26 to speed convalescence (Merit Review Award I01RX003810)
Principal Investigator(s): Joel D. Trinity; Russell S. Richardson
Direct Costs: \$1,500,000 Total Costs: \$1,500,000
Veterans Affairs Rehabilitation Research & Development
Role: Co-Investigator

07/01/22 - Mechanisms of systemic dysfunction responsible for exercise intolerance induced by
06/30/27 breast cancer, cytotoxic chemotherapy, and endocrine therapy in Veterans (CDA2
IK2CX002114)
Principal Investigator(s): Ryan M. Broxterman
Direct Costs: \$1,060,334 Total Costs: \$1,060,334
Veterans Affairs Clinical Science Research and Development
Role: Principal Investigator

Past Grants

04/09/19 - Vascular dysfunction during physical inactivity: Role of oxidative stress (Pilot Grant
04/08/20 UL1TR002538)
Principal Investigator(s): Joel D. Trinity
Direct Costs: \$30,000 Total Costs: \$30,000
University of Utah Center for Clinical and Translational Science
Role: Co-Investigator

- 01/01/19 - 12/31/20 Cardioasomobility research training grant (1T32HL139451)
Principal Investigator(s): Ryan M. Broxterman
Direct Costs: \$110,000 Total Costs: \$110,000
National Heart, Lung, and Blood Institute
Role: Principal Investigator
- 01/01/16 - 12/31/18 Veterans Affairs Advanced Fellowship in Geriatrics
Principal Investigator(s): Ryan M. Broxterman
Direct Costs: \$150,000 Total Costs: \$150,000
Salt Lake City Veterans Affairs Medical Center
Role: Principal Investigator
- 06/01/14 - 05/31/15 Physiological responses during simulated partial-gravity ambulation
Principal Investigator(s): Ryan M. Broxterman
Direct Costs: \$5,000 Total Costs: \$5,000
American College of Sports Medicine Foundation/NASA
Role: Principal Investigator

TEACHING RESPONSIBILITIES/ASSIGNMENTS

Course and Curriculum Development

- 2014 - 2015 KIN 609: Environmental Physiology, Department of Kinesiology, Kansas State University, Undergraduate and Graduate students, 3 credit hours
- 2013 - 2015 KIN 603 Advanced Cardiovascular Physiology, Department of Kinesiology, Kansas State University, Undergraduate and Graduate students, 3 credit hours
- 2013 - 2015 KIN 815: Research Methods, Department of Kinesiology, Kansas State University, Graduate students, 3 credit hours
- 2012 - 2013 KN 320: Motor Learning, Department of Kinesiology, Washburn University, Undergraduate students, 3 credit hours
- 2011 - 2012 KIN 220: Biobehavioral Basis of Physical Activity (Lab), Department of Kinesiology, Kansas State University, Undergraduate students, 4 credit hours
- 2011 - 2012 KIN 330: Biomechanics (Lab), Department of Kinesiology, Kansas State University, Undergraduate students, 3 credit hours
- 2010 - 2011 BSC-125 Anatomy and Physiology, Department of Biological Science, Manhattan Area Technical College, Undergraduate students, 5 credit hours

Course Lectures

- 2014 - 2015 Primary Instructor, KIN 609: Environmental Physiology, 30 students, Kansas State University, Department of Kinesiology
- 2013 - 2015 Primary Instructor, KIN 603: Advanced Cardiovascular Physiology, 30 students, Kansas State University, Department of Kinesiology

- 2013 - 2015 Primary Instructor, KIN 815: Research Methods, 10 students, Kansas State University, Department of Kinesiology
- 2012 - 2013 Primary Instructor, KN 320: Motor Learning, 30 students, Washburn University, Department of Kinesiology
- 2010 - 2011 Primary Instructor, BSC-125: Anatomy and Physiology, 20 students, Manhattan Area Technical College, Department of Biological Science

Laboratory Teaching

- 2010 - 2012 Instructor, KIN 336: Exercise Physiology, Department of Kinesiology, Kansas State University, 1 credit hour, 20 Undergraduate students
- 2009 - 2012 Instructor, KIN 330: Biomechanics, Department of Kinesiology, Kansas State University, 3 credit hours, 20 Undergraduate students
- 2009 - 2012 Instructor, KIN 100: Adaptive Physical Activity, Department of Kinesiology, Kansas State University, 1 credit hour, 2 Undergraduate students
- 2009 - 2011 Instructor, KIN 220: Biobehavioral Bases of Physical Activity, Department of Kinesiology, Kansas State University, 4 credit hours, 20 Undergraduate students
- 2009 - 2010 Instructor, KIN 345: Public Health, Department of Kinesiology, Kansas State University, 4 credit hours, 20 Undergraduate students

Mentoring/Advising

Fellow

- 2019 - Present Mentor, Angela Bisconti, Division of Geriatrics, University of Utah School of Medicine
- 2018 - Present Mentor, Jesse Craig, Division of Geriatrics, University of Utah School of Medicine, National Institutes of Health Ruth L. Kirchstein National Research Service Award - 2T32HL007576

PhD/Doctorate

- 2022 - Present Advisor/Mentor, Marta Borrelli, Department of Translational Medicine, University of Milan
- 2019 - Present Mentor, Erin Suttman, Department of Physical Therapy and Athletic Training, University of Utah
- 2018 - Present Mentor, Soung Hun, Department of Nutrition and Integrative Physiology, University of Utah School of Medicine

Masters

- 2017 - 2019 Mentor, Soung Hun Park, Department of Nutrition and Integrative Physiology, University of Utah
- Trainee's Current Career Activities:* Doctoral Candidate, Department of Nutrition and Integrative Physiology, University of Utah

Medical Student

- 2013 - 2015 Mentor, Andrew Kithas, University of Utah School of Medicine
- Trainee's Current Career Activities:* Resident, University of Maryland Medical Center

Graduate Student Committees

2019 - Present Member, Erin Suttman, Department of Physical Therapy and Athletic Training, University of Utah

Internal Teaching Experience

- 2021 *Long-COVID and vascular dysfunction: A multi-level systemic issue*, Department of Internal Medicine Research Seminary Series, University of Utah.
- 2020 *Basics of exercise performance testing: Bioenergetics and gas exchange basis of exercise testing*, Sports Medicine Lecture Series, University of Utah.
- 2019 *Exercise physiology: The power-duration relation and exercise performance*, Sports Medicine Lecture Series, University of Utah.
- 2019 *Determinants of exercise capacity and exercise training-induced plasticity in patients with COPD: Looking beyond the lungs*, Pulmonary Division Research in Progress, University of Utah.
- 2014 *Determination of appropriate physiological measurements for determining EVA task-failure*, Department of Animal Sciences and Industry, Kansas State University

PEER-REVIEWED JOURNAL ARTICLES

1. Groot HJ, **Broxterman RM**, Gifford JR, Garten RS, Rossman MJ, Jarrett CL, Kwon OS, Hydren JR, Richardson RS (2022). Reliability of the passive leg movement assessment of vascular function in men. *Exp Physiol*, 107(5), 541-552.
2. Bisconti AV, Garten RS, **Broxterman RM**, Jarrett CL, Park SH, Shields KL, Clifton HL, Ratchford SM, Reese VR, Zhao J, Wray DW, Richardson RS (2022). No effect of acute tetrahydrobiopterin (BH4) supplementation on vascular dysfunction in the old. *J Appl Physiol* (1985), 132, 773-784.
3. Shields KL, **Broxterman RM**, Jarrett CL, Bisconti AV, Park SH, Richardson RS (2021). The passive leg movement technique for assessing vascular function: the impact of baseline blood flow. *Exp Physiol*, 106(10), 2133-2147.
4. Abdalla LHP, **Broxterman RM**, Barstow TJ, Greco CC, Denadai BS (2021). W' reconstitution rate at different intensities above critical torque: the role of muscle size and maximal strength. *Exp Physiol*, 106(9), 1909-1921.
5. **Broxterman RM**, Wagner PD, Richardson RS (2021). Exercise training in COPD: muscle O₂ transport plasticity. *Eur Respir J*, 58(2).
6. Craig JC, **Broxterman RM**, Cerbie JF, La Salle DT, Roundy CS, Jarrett CL, Richardson RS, Trinity JD (2021). The dynamic adjustment of mean arterial pressure during exercise: a potential tool for discerning cardiovascular health status. *J Appl Physiol* (1985), 130(5), 1544-1554.
7. Hydren JR, Gifford JR, Jarrett CL, Park SH, Shields KL, **Broxterman RM**, Kithas AC, Bisconti AV, Thurston TS, Ratchford SM, Wray DW, Stehlik J, Selzman CH, Drakos SG, Richardson RS (2021). Vascular function in continuous-flow left ventricular assist device recipients: effect of a single pulsatility treatment session. *Am J Physiol Regul Integr Comp Physiol*, 320(4), R425-R437.

8. Trinity JD, Kwon OS, **Broxterman RM**, Gifford JR, Kithas AC, Hydren JR, Jarrett CL, Shields KL, Bisconti AV, Park SH, Craig JC, Nelson AD, Morgan DE, Jessop JE, Bledsoe AD, Richardson RS (2021). The role of the endothelium in the hyperemic response to passive leg movement: looking beyond nitric oxide. *Am J Physiol Heart Circ Physiol*, 320(2), H668-H678.
9. Weavil JC, Thurston TS, Hureau TJ, Gifford JR, Kithas PA, **Broxterman RM**, Bledsoe AD, Nativi JN, Richardson RS, Amann M (2021). Heart failure with preserved ejection fraction diminishes peripheral hemodynamics and accelerates exercise-induced neuromuscular fatigue. *Am J Physiol Heart Circ Physiol*, 320(1), H338-H351.
10. Abdalla LHP, **Broxterman RM**, Greco CC, Denadai BS (2020). Creatine supplementation attenuates the rate of fatigue development during intermittent isometric exercise performed above end-test torque. *Exp Physiol*, 105(12), 2073-2085.
11. Ratchford SM, Clifton HL, La Salle DT, **Broxterman RM**, Lee JF, Ryan JJ, Hopkins PN, Wright JB, Trinity JD, Richardson RS, Wray DW (2020). Cardiovascular responses to rhythmic handgrip exercise in heart failure with preserved ejection fraction. *J Appl Physiol* (1985), 129(6), 1267-1276.
12. Kithas AC, **Broxterman RM**, Trinity JD, Gifford JR, Kwon OS, Hydren JR, Nelson AD, Jessop JE, Bledsoe AD, Morgan DE, Richardson RS (2020). Nitric oxide synthase inhibition with N(G)-monomethyl-L-arginine: Determining the window of effect in the human vasculature. *Nitric Oxide*, 104-105, 51-60.
13. Jarrett CL, Shields KL, **Broxterman RM**, Hydren JR, Park SH, Gifford JR, Richardson RS (2020). Imaging transcranial Doppler ultrasound to measure middle cerebral artery blood flow: the importance of measuring vessel diameter. *Am J Physiol Regul Integr Comp Physiol*, 319(1), R33-R42.
14. **Broxterman RM**, Hoff J, Wagner PD, Richardson RS (2020). Determinants of the diminished exercise capacity in patients with chronic obstructive pulmonary disease: looking beyond the lungs. *J Physiol*, 598(3), 599-610.
15. Craig JC, **Broxterman RM**, La Salle DT, Cerbie J, Ratchford SM, Gifford JR, Bunsawat K, Nelson AD, Bledsoe AD, Morgan DE, Wray DW, Richardson RS, Trinity JD (2020). The role of endothelin A receptors in peripheral vascular control at rest and during exercise in patients with hypertension. *J Physiol*, 598(1), 71-84.
16. Ratchford SM, **Broxterman RM**, La Salle DT, Kwon OS, Park SY, Hopkins PN, Richardson RS, Trinity JD (2019). Salt restriction lowers blood pressure at rest and during exercise without altering peripheral hemodynamics in hypertensive individuals. *Am J Physiol Heart Circ Physiol*, 317(6), H1194-H1202.
17. Shields KL, **Broxterman RM**, Jarrett CL, Bisconti AV, Park SH, Richardson RS (2019). The passive leg movement technique for assessing vascular function: defining the distribution of blood flow and the impact of occluding the lower leg. *Exp Physiol*, 104(10), 1575-1584.
18. **Broxterman RM**, La Salle DT, Zhao J, Reese VR, Richardson RS, Trinity JD (2019). Influence of dietary inorganic nitrate on blood pressure and vascular function in hypertension: prospective implications for adjunctive treatment. *J Appl Physiol* (1985), 127(4), 1085-1094.
19. **Broxterman RM**, Witman MA, Trinity JD, Groot HJ, Rossman MJ, Park SY, Malenfant S, Gifford JR, Kwon OS, Park SH, Jarrett CL, Shields KL, Hydren JR, Bisconti AV, Owan T, Abraham A, Tandar A, Lui CY, Smith BR, Richardson RS (2019). Strong Relationship Between Vascular Function in the Coronary and Brachial Arteries. *Hypertension*, 74(1), 208-215.

20. Hydren JR, **Broxterman RM**, Trinity JD, Gifford JR, Kwon OS, Kithas AC, Richardson RS (2019). Delineating the age-related attenuation of vascular function: Evidence supporting the efficacy of the single passive leg movement as a screening tool. *J Appl Physiol* (1985), 126(6), 1525-1532.
21. Alexander AM, Didier KD, Hammer SM, Dzewaltowski AC, Kriss KN, Lovoy GM, Hammer JL, Smith JR, Ade CJ, **Broxterman RM**, Barstow TJ (2019). Exercise tolerance through severe and extreme intensity domains. *Physiol Rep*, 7(5), e14014.
22. **Broxterman RM**, Craig JC, Richardson RS (2018). The Respiratory Compensation Point and the Deoxygenation Break Point Are Not Valid Surrogates for Critical Power and Maximum Lactate Steady State. *Med Sci Sports Exerc*, 50(11), 2379-2382.
23. Craig JC, **Broxterman RM**, Smith JR, Allen JD, Barstow TJ (2018). Effect of dietary nitrate supplementation on conduit artery blood flow, muscle oxygenation, and metabolic rate during handgrip exercise. *J Appl Physiol* (1985), 125(2), 254-262.
24. **Broxterman RM**, Hureau TJ, Layec G, Morgan DE, Bledsoe AD, Jessop JE, Amann M, Richardson RS (2018). Influence of group III/IV muscle afferents on small muscle mass exercise performance: a bioenergetics perspective. *J Physiol*, 596(12), 2301-2314.
25. Hureau TJ, Weavil JC, Thurston TS, **Broxterman RM**, Nelson AD, Bledsoe AD, Jessop JE, Richardson RS, Wray DW, Amann M (2018). Identifying the role of group III/IV muscle afferents in the carotid baroreflex control of mean arterial pressure and heart rate during exercise. *J Physiol*, 596(8), 1373-1384.
26. Craig JC, **Broxterman RM**, Wilcox SL, Chen C, Barstow TJ (2017). Effect of adipose tissue thickness, muscle site, and sex on near-infrared spectroscopy derived total-[hemoglobin + myoglobin]. *J Appl Physiol* (1985), 123(6), 1571-1578.
27. **Broxterman RM**, Layec G, Hureau TJ, Morgan DE, Bledsoe AD, Jessop JE, Amann M, Richardson RS (2017). Bioenergetics and ATP Synthesis during Exercise: Role of Group III/IV Muscle Afferents. *Med Sci Sports Exerc*, 49(12), 2404-2413.
28. **Broxterman RM**, Trinity JD, Gifford JR, Kwon OS, Kithas AC, Hydren JR, Nelson AD, Morgan DE, Jessop JE, Bledsoe AD, Richardson RS (2017). Single passive leg movement assessment of vascular function: contribution of nitric oxide. *J Appl Physiol* (1985), 123(6), 1468-1476.
29. Ade CJ, **Broxterman RM**, Charvat JM, Barstow TJ (2017). Incidence Rate of Cardiovascular Disease End Points in the National Aeronautics and Space Administration Astronaut Corps. *J Am Heart Assoc*, 6(8).
30. Layec G, Hart CR, Trinity JD, Kwon OS, Rossman MJ, **Broxterman RM**, Le Fur Y, Jeong EK, Richardson RS (2017). Oxygen delivery and the restoration of the muscle energetic balance following exercise: implications for delayed muscle recovery in patients with COPD. *Am J Physiol Endocrinol Metab*, 313(1), E94-E104.
31. **Broxterman RM**, Layec G, Hureau TJ, Amann M, Richardson RS (2017). Skeletal muscle bioenergetics during all-out exercise: mechanistic insight into the oxygen uptake slow component and neuromuscular fatigue. *J Appl Physiol* (1985), 122(5), 1208-1217.
32. Smith JR, Alexander AM, Hammer SM, Didier KD, Kurti SP, **Broxterman RM**, Barstow TJ, Harms CA (2017). Cardiovascular consequences of the inspiratory muscle metaboreflex: effects of age and sex. *Am J Physiol Heart Circ Physiol*, 312(5), H1013-H1020.
33. Ade CJ, **Broxterman RM**, Moore AD, Barstow TJ (2017). Decreases in maximal oxygen uptake following long-duration spaceflight: Role of convective and diffusive O₂ transport mechanisms. *J Appl Physiol* (1985), 122(4), 968-975.

34. Venturelli M, Layec G, Trinity J, Hart CR, **Broxterman RM**, Richardson RS (2017). Single passive leg movement-induced hyperemia: a simple vascular function assessment without a chronotropic response. *J Appl Physiol* (1985), 122(1), 28-37.
35. **Broxterman RM**, Skiba PF, Craig JC, Wilcox SL, Ade CJ, Barstow TJ (2016). W' expenditure and reconstitution during severe intensity constant power exercise: mechanistic insight into the determinants of W'. *Physiol Rep*, 4(19).
36. Smith JR, **Broxterman RM**, Hammer SM, Alexander AM, Didier KD, Kurti SP, Barstow TJ, Harms CA (2016). Sex differences in the cardiovascular consequences of the inspiratory muscle metaboreflex. *Am J Physiol Regul Integr Comp Physiol*, 311(3), R574-81.
37. Noel JA, **Broxterman RM**, McCoy GM, Craig JC, Phelps KJ, Burnett DD, Vaughn MA, Barstow TJ, O'Quinn TG, Woodworth JC, DeRouchey JM, Rozell TG, Gonzalez JM (2016). Use of electromyography to detect muscle exhaustion in finishing barrows fed ractopamine HCl. *J Anim Sci*, 94(6), 2344-56.
38. Smith JR, **Broxterman RM**, Ade CJ, Evans KK, Kurti SP, Hammer SM, Barstow TJ, Harms CA (2016). Acute supplementation of N-acetylcysteine does not affect muscle blood flow and oxygenation characteristics during handgrip exercise. *Physiol Rep*, 4(7).
39. Ade CJ, **Broxterman RM**, Craig JC, Schlup SJ, Wilcox SL, Warren S, Kuehl P, Gude D, Jia C, Barstow TJ (2016). Prediction of Lunar- and Martian-Based Intra- and Site-to-Site Task Performance. *Aerosp Med Hum Perform*, 87(4), 367-74.
40. Wilcox SL, **Broxterman RM**, Barstow TJ (2016). Constructing quasi-linear $\dot{V}O_2$ responses from nonlinear parameters. *J Appl Physiol* (1985), 120(2), 121-9.
41. Schlup SJ, Ade CJ, **Broxterman RM**, Barstow TJ (2015). Discrepancy between femoral and capillary blood flow kinetics during knee extension exercise. *Respir Physiol Neurobiol*, 219, 69-77.
42. Ade CJ, **Broxterman RM**, Craig JC, Schlup SJ, Wilcox SL, Barstow TJ (2015). Standardized Exercise Tests and Simulated Terrestrial Mission Task Performance. *Aerosp Med Hum Perform*, 86 (11), 982-9.
43. **Broxterman RM**, Craig JC, Ade CJ, Wilcox SL, Barstow TJ (2015). The effect of resting blood flow occlusion on exercise tolerance and W'. *Am J Physiol Regul Integr Comp Physiol*, 309(6), R684-91.
44. **Broxterman RM**, Craig JC, Smith JR, Wilcox SL, Jia C, Warren S, Barstow TJ (2015). Influence of blood flow occlusion on the development of peripheral and central fatigue during small muscle mass handgrip exercise. *J Physiol*, 593(17), 4043-54.
45. Ade CJ, **Broxterman RM**, Barstow TJ (2015). $\dot{V}O_{2\max}$ and Microgravity Exposure: Convective versus Diffusive O_2 Transport. *Med Sci Sports Exerc*, 47(7), 1351-61.
46. Ade CJ, **Broxterman RM**, Craig JC, Schlup SJ, Wilcox SL, Barstow TJ (2015). Upper Body Aerobic Exercise as a Possible Predictor of Lower Body Performance. *Aerosp Med Hum Perform*, 86(7), 599-605.
47. **Broxterman RM**, Ade CJ, Craig JC, Wilcox SL, Schlup SJ, Barstow TJ (2015). Influence of blood flow occlusion on muscle oxygenation characteristics and the parameters of the power-duration relationship. *J Appl Physiol* (1985), 118(7), 880-9.
48. **Broxterman RM**, Ade CJ, Barker T, Barstow TJ (2015). Influence of pedal cadence on the respiratory compensation point and its relation to critical power. *Respir Physiol Neurobiol*, 208, 1-7.

49. **Broxterman RM**, Ade CJ, Craig JC, Wilcox SL, Schlup SJ, Barstow TJ (2015). The relationship between critical speed and the respiratory compensation point: Coincidence or equivalence. *Eur J Sport Sci*, 15(7), 631-9.
50. Ade CJ, **Broxterman RM**, Craig JC, Schlup SJ, Wilcox SL, Barstow TJ (2014). Relationship between simulated extravehicular activity tasks and measurements of physical performance. *Respir Physiol Neurobiol*, 203, 19-27.
51. Smith JR, Ade CJ, **Broxterman RM**, Skutnik BC, Barstow TJ, Wong BJ, Harms CA (2014). Influence of exercise intensity on respiratory muscle fatigue and brachial artery blood flow during cycling exercise. *Eur J Appl Physiol*, 114(8), 1767-77.
52. **Broxterman RM**, Ade CJ, Wilcox SL, Schlup SJ, Craig JC, Barstow TJ (2014). Influence of duty cycle on the power-duration relationship: observations and potential mechanisms. *Respir Physiol Neurobiol*, 192, 102-11.
53. Ade CJ, **Broxterman RM**, Barstow TJ (2013). Effects of body posture and exercise training on cardiorespiratory responses to exercise. *Respir Physiol Neurobiol*, 188(1), 39-48.
54. **Broxterman RM**, Ade CJ, Poole DC, Harms CA, Barstow TJ (2013). A single test for the determination of parameters of the speed-time relationship for running. *Respir Physiol Neurobiol*, 185(2), 380-5.
55. Ade CJ, **Broxterman RM**, Wong BJ, Barstow TJ (2012). Anterograde and retrograde blood velocity profiles in the intact human cardiovascular system. *Exp Physiol*, 97(7), 849-60.

REVIEW ARTICLES

1. Trinity JD, **Broxterman RM**, Richardson RS (2016). Regulation of exercise blood flow: Role of free radicals. [Review]. *Free Radic Biol Med*, 98, 90-102.

CONFERENCE PROCEEDINGS

1. Kuehl P, Jia C, Gude D, **Broxterman RM**, Barstow TJ, Warren S (2014). Real-Time Processing of Electromyograms in an Automated Hand-Forearm Ergometer Data Collection and Analysis System. International Conference of the IEEE Engineering in Medicine and Biology Society.
2. Day D, Dong X, Kuhn W, Gruenbacher D, Natarajan B, Sobering T, Taj-Eldin M, Warren S, Barstow TJ, **Broxterman RM**, Stonstreet A (2014). Biomedical Sensing and Wireless Technologies for Long Duration EVAs and Precursor Scout Missions. International Conference of the IEEE Engineering in Medicine and Biology Society.
3. Song W, Ade CJ, **Broxterman RM**, Barstow TJ, Nelson T, Warren S (2012). Activity Recognition in Planetary Navigation Field Tests Using Classification Algorithms Applied to Accelerometer Data. International Conference of the IEEE Engineering in Medicine and Biology Society.
4. Gude D, **Broxterman RM**, Ade CJ, Barstow TJ, Nelson T, Song W, Warren S (2012). Automated Hand-Forearm Ergometer Data Collection System.

ADDITIONAL PUBLICATIONS

Letters

1. **Broxterman RM**, Craig JC, Kirby BS (2022). Critical Power: Over 95 years of evidence and evolution. [Letter to the editor]. *Scand J Med Sci Sports*, 32(5), 933-934.

2. **Broxterman RM**, Craig JC, Weavil JC, Hureau TJ (2020). The relationship between \dot{V}' and peripheral fatigue considered. [Letter to the editor]. *Exp Physiol*, 105(1), 211-212.
3. **Broxterman RM**, Layec G, Hureau TJ, Morgan DE, Bledsoe AD, Jessop JE, Amann M, Richardson RS (2018). Response. [Letter to the editor]. *Med Sci Sports Exerc*, 50(8), 1719.
4. Angius L, Crisafulli A, Hureau TJ, **Broxterman RM**, Amann M, Incognito AV, Burr JF, Millar PJ, Jones H, Thijssen DJ, Patterson SD, Jeffries O, Waldron M, Silva BM, Lopes TR, Vianna LC, Smith JR, Copp SW, Van Guilder GP, Zuo L, Chuang CC (2017). Commentaries on Viewpoint: Could small-diameter muscle afferents be responsible for the ergogenic effect of limb ischemic preconditioning? [Letter to the editor]. *J Appl Physiol* (1985), 122(3), 721-725.
5. Hureau TJ, **Broxterman RM**, Weavil JC (2016). The mechanistic basis of the power-time relationship: potential role of the group III/IV muscle afferents. [Letter to the editor]. *J Physiol*, 594 (24), 7165-7166.
6. **Broxterman RM**, Richardson RS, Amann M (2015). Less peripheral fatigue after prior exercise is not evidence against the regulation of the critical peripheral fatigue threshold. [Letter to the editor]. *J Appl Physiol* (1985), 119(12), 1520.
7. Craig JC, **Broxterman RM**, Barstow TJ (2015). Considerations for Identifying the Boundaries of Sustainable Performance. [Letter to the editor]. *Med Sci Sports Exerc*, 47(9), 1997.
8. Ade CJ, **Broxterman RM**, Barstow TJ (2011). Critical velocity and maximal lactate steady state: better determinants of 2-hour marathon. [Letter to the editor]. *J Appl Physiol* (1985), 110(1), 287-8; discussion 294.

POSTER PRESENTATIONS

- 2022 Craig JC, **Broxterman RM**, Barret-O'Keefe Z, Wray DW, Barstow TJ, Richardson RS, Trinity JD. A NIRS-derived noninvasive Fick oxygen consumption method accurately reflects the "gold standard" direct Fick oxygen consumption during single-leg knee extension exercise. Experimental Biology, Philadelphia, PA.
- 2022 **Broxterman RM**, Wagner PD, Richardson RS. Impact of O₂ availability on convective and diffusive O₂ transport and skeletal muscle intracellular PO₂ at VO₂ max. Experimental Biology, Philadelphia, PA.
- 2022 Alpenglow JK, Bunsawat K, Francisco MA, Weavil JC, **Broxterman RM**, Iacovelli JD, Ma CL, Harrison J, Morgan DE, Ryan JJ, Wray DW. Skeletal muscle oxygen delivery and utilization during exercise in Heart Failure with Preserved Ejection Fraction: Role of sympathetic (α -adrenergic) vasoconstriction. Experimental Biology, Philadelphia, PA.
- 2022 Bisconti AV, **Broxterman RM**, Ratchford S, Jarrett CL, Shields KL, Park SH, Thurston TS, Lewis MT, Wray DW, Richardson RS. Short-term L-Citrulline supplementation and macro- and micro-vascular function in old adults. Experimental Biology, Philadelphia, PA.
- 2022 Bunsawat K, **Broxterman RM**, Jarrett CL, Craig JC, Francisco MA, Alpenglow JK, Iacovelli JD, Ryan JJ, Wray DW. The impact of short-term tetrahydrobiopterin (BH₄) supplementation on peripheral vascular function in Heart Failure with Preserved Ejection Fraction (HFpEF). Experimental Biology, Philadelphia, PA.

- 2022 Lewis MT, Craig JC, Laginestra FG, Jarrett CL, Weavil JC, Bunsawat K, Amann MA, **Broxterman RM**, Richardson RS. Pre-fatiguing isometric quadriceps exercise impairs contralateral quadriceps W' during all-out and not target torque time to task failure exercise. Experimental Biology, Philadelphia, PA.
- 2021 Thurston TS, Weavil JC, Georgescu VP, **Broxterman RM**, Wan H, Birgenheier NM, Jessop JE, Morrissey CK, Richardson RS, & Amann M. Autonomic control of cardiovascular function: Group III/IV muscle afferents regulate the hemodynamic response to locomotor exercise. International Anesthesia Research Society Annual Meeting, Virtual.
- 2020 Craig JC, **Broxterman RM**, Cerbie JF, La Salle DT, Roundy CS, Richardson RS, Trinity JD. Kinetic analysis of mean arterial pressure following the onset of exercise: A tool to discern cardiovascular health. American Physiological Society Integrative Physiology, Virtual Conference
- 2020 Park SH, **Broxterman RM**, Craig JC, Richardson RS. Oxygen availability and mitochondrial respiration: Impact on permeabilized and isolated in vitro preparations. Experimental Biology, San Diego, CA
- 2020 Thurston TS, Weavil JC, Georgescu VP, **Broxterman RM**, Wan H, Birgenheier NM, Jessop JE, Morrissey CK, Richardson RS, Amann M. The role of group III/IV muscle afferents in regulating the hemodynamic response to whole body exercise. Experimental Biology, San Diego, CA
- 2020 La Salle DT, Cerbi JF, Alpenglow JK, Jarrett CL, Craig JC, **Broxterman RM**, Richardson RS, Trinity JD. Alpha adrenergic receptor regulation of blood flow during passive leg movement: The impact of age. Experimental Biology, San Diego, CA
- 2020 Hydren JR, Gifford JR, Jarrett CL, Park SH, Shields KL, **Broxterman RM**, Kithas AC, Bisconti AV, Thurston TS, Ratchford SM, Wray DW, Stehlik J, Selzman CH, Drakos SG, Richardson RS. Vascular function in continuous-flow left ventricular assist device recipients: Effect of a 6- week pulsatility treatment regimen. Experimental Biology, San Diego, CA
- 2020 Bisconti AV, **Broxterman RM**, Jarrett CL, Shields KL, Park SH, Garten R, Wray DW, Richardson RS. The effect of tetrahydrobiopterin on microvascular function with advancing age assessed by passive leg movement. Experimental Biology, San Diego, CA
- 2020 Shields KL, Jarrett CL, Bisconti AV, Park SH, Craig JC, **Broxterman RM**, Richardson RS. Distribution of passive leg movement-induced hyperemia in old and impact of occluding the lower leg. American College of Sports Medicine, San Francisco, CA
- 2020 **Broxterman RM**, Hoff J, Wagner PD, Richardson RS. Exercise training in Chronic Obstructive Pulmonary Disease: Examining the plasticity of oxygen transport limitations to $\dot{V}O_{2peak}$. American College of Sports Medicine, San Francisco, CA
- 2020 Jarrett CL, Shields KL, Bisconti AV, **Broxterman RM**, Craig JC, Park SH, Richardson RS. Peripheral and cerebral vascular function with advancing age. American College of Sports Medicine, San Francisco, CA
- 2019 Kwon O, Layec G, **Broxterman RM**, Gifford JR, Park S, Shields KL, Richardson RS. Vascular dysfunction in chronic obstructive pulmonary disease (COPD): The role of mitochondrial- derived oxidative stress. Experimental Biology, Orlando, FL

- 2019 Hydren JR, Gifford JR, Jarrett CL, Park SH, Shields KL, Ratchford SM, **Broxterman RM**, Kithas AC, Thurston TS, Drakos SG, Richardson RS. Vascular function in heart failure patients implanted with a continuous-flow left ventricular assist device: Impact of increasing peripheral vascular pulsatility. Experimental Biology, Orlando, FL
- 2019 La Salle DT, **Broxterman RM**, Ratchford SM, Richardson RS, Trinity JD. Impact of acute dietary nitrate supplementation on exercise blood flow in hypertension: Does medication status matter? Experimental Biology, Orlando, FL
- 2019 Bisconti AV, **Broxterman RM**, Jarrett CL, Shields KL, Park SH, Thurston TS, Richardson RS. The role of enzyme and substrate dependence in NO-mediated vascular dysfunction with aging. Experimental Biology, Orlando, FL
- 2019 **Broxterman RM**, Nelson AD, Lawrenson L, Poole JG, Hoff J, Wagner PD, Richardson RS. Determinants of peak oxygen uptake in patients with Chronic Obstructive Pulmonary Disease: Looking beyond the lungs. Experimental Biology, Orlando, FL
- 2019 Craig JC, **Broxterman RM**, La Salle DT, Cerbie JF, Ratchford SM, Gifford JR, Bunsawat K, Nelson AD, Bledsoe AD, Morgan DE, Wray DW, Richardson RS, Trinity JD. The exercise pressor response in patients with hypertension. Role of endothelin-1. Experimental Biology, Orlando, FL
- 2019 Ratchford SM, **Broxterman RM**, La Salle DT, Kwon O, Hopkins PN, Richardson RS, Trinity JD. Impact of salt restriction on central and peripheral hemodynamics during exercise in essential hypertension: A systematic investigation. Experimental Biology, Orlando, FL
- 2019 Jarrett CL, Shields KL, **Broxterman RM**, Park SH, Richardson RS. Imaging transcranial Doppler: a novel approach to assess cerebral blood flow. American College of Sports Medicine, Orlando, FL
- 2019 Gifford JR, Garten RS, Weavil JC, **Broxterman RM**, Trinity JD, Richardson RS. Looking beyond a-vO₂ difference: The role of peripheral adaptations in the endurance-training-associated increase in VO₂max. American College of Sports Medicine, Orlando, FL
- 2019 Shields KL, **Broxterman RM**, Jarrett CL, Bisconti AV, Park SH, Richardson RS. The passive leg movement technique for assessing vascular function: further defining the movement induced hyperemia and the distribution of blood flow. American College of Sports Medicine, Orlando, FL
- 2018 Bunsawat K, Ratchford SM, Clifton HL, Theisen JK, Barrett-O'Keefe Z, **Broxterman RM**, Gifford JR, Hydren JR, Rossman MJ, Ives SJ, Trinity JD, Witman MAH, Garten RS, Morgan DE, Nelson AD, Richardson RS, Wray DW. Sex differences in the sympathetic restraint of skeletal muscle blood flow in the human leg vasculature. Experimental Biology, San Diego, CA
- 2018 La Salle DT, **Broxterman RM**, Ratchford SM, Richardson RS, Trinity JD. Impact of acute reductions in blood pressure on vascular function in hypertensive individuals. Experimental Biology, San Diego, CA
- 2018 Hydren JR, **Broxterman RM**, Trinity JD, Gifford JR, Kwon O, Kithas AC, Richardson RS. Delineating the age-related attenuation of vascular function: evidence supporting the efficacy of single leg passive movement. Experimental Biology, San Diego, CA

- 2018 Theisen JK, Ratchford SM, Clifton HL, Barrett-O'Keefe Z, **Broxterman RM**, Gifford JR, Hydren JR, Rossman MJ, Ives SJ, Trinity JD, Wittman MAH, Garten RS, Morgan DE, Nelson AD, Richardson RS, Wray DW. Role of alpha-1 adrenergic vasoconstriction in regulating skeletal muscle blood flow during single leg knee extension exercise with advancing age. Experimental Biology, San Diego, CA
- 2018 Shields KL, **Broxterman RM**, Kwon O, Park SH, Jarrett CL, Smith KR, Wray DW, Richardson RS. Decline in conduit artery function across the healthy human adult lifespan: influence of successful aging. Experimental Biology, San Diego, CA
- 2018 Ratchford SM, Clifton HL, La Salle DT, **Broxterman RM**, Lee JF, Ryan JJ, Richardson RS, Trinity JD, Wray DW. Cardiovascular responses to dynamic handgrip exercise in heart failure with preserved ejection fraction. Experimental Biology, San Diego, CA
- 2018 **Broxterman RM**, Trinity JD, Gifford JR, Park SH, Shields KL, Drummond MJ, Richardson RS. Influence of altered physical activity on vascular function in older adults: A divergent impact on the conduit and microvascular systems. Experimental Biology, San Diego, CA.
- 2018 Trinity JD, **Broxterman RM**, Gifford JR, Kwon O, Hydren JR, Kithas AC, Nelson AD, Richardson RS. Mechanisms of age-related compensatory vasodilation, Insight from passive leg movement. Experimental Biology, San Diego, CA
- 2018 Gifford JR, Mangum TS, Weavil JC, Nelson AD, Lee JF, Groot HJ, **Broxterman RM**, Rossman MJ, Richardson RS. Effect of particulate matter air pollution on vascular function in older adults: a natural experiment. American College of Sports Medicine, Minneapolis, MN
- 2017 Ratchford SM, Clifton HL, Barret-O'Keefe, **Broxterman RM**, Gifford JR, Hydren JR, Rossman MJ, Ives SJ, Trinity JD, Witman MAH, Garten RS, Morgan DE, Nelson AD, Richardson RS, Wray DW. Role of alpha-adrenergic vasoconstriction in regulating skeletal muscle blood flow during single leg knee extension exercise with advancing age. Experimental Biology, Chicago, IL
- 2017 Hureau TJ, Weavil JC, Thurston TS, **Broxterman RM**, Nelson AD, Bledsoe AD, Jessop JE, Richardson RS, Wray DW, Amann M. Group III/IV muscle afferents contribute to carotid baroreflex resetting during evoked contractions in humans. Experimental Biology, Chicago, IL
- 2017 Kithas AC, **Broxterman RM**, Trinity JD, Gifford JR, Kwon O, Hydren JR, Nelson AD, Jessop JE, Bledsoe AD, Morgan DE, Richardson RS. Determining the window of effect in the human vasculature for the nitric oxide synthase inhibitor N(G)-monomethyl-L-arginine (L-NMMA). American College of Sports Medicine, Denver, CO
- 2017 Groot HJ, **Broxterman RM**, Gifford JR, Garten RS, Rossman MJ, Kwon O, Hydren JR, Richardson RS. Reliability of the passive leg movement assessment of vascular function. American College of Sports Medicine, Denver, CO
- 2017 Gifford JR, Nelson AD, Trinity JD, **Broxterman RM**, Layec G, Weavil JC, Richardson RS. Peripheral components of the oxygen cascade and the age-related decline in $\dot{V}O_{2\max}$. American College of Sports Medicine, Denver, CO

- 2017 **Broxterman RM**, Layec G, Hureau TJ, Morgan DE, Bledsoe AD, Jessop JE, Amann M, Richardson RS. Skeletal muscle force production and bioenergetics during all-out exercise: influence of group III/IV muscle afferents. American College of Sports Medicine, Denver, CO
- 2017 Smith JR, Alexander AM, Hammer SM, Didier KD, Kurti SP, **Broxterman RM**, Barstow TJ, Harms CA. Effect of aging on sex differences in the inspiratory muscle metaboreflex. American College of Sports Medicine, Denver, CO
- 2017 Stein JA, Smith JR, Ade CJ, **Broxterman RM**, Sanborn B, Barstow TJ, Heinrich KM. Metabolic demands of three varying duration high-intensity functional training sessions. American College of Sports Medicine, Denver, CO
- 2016 **Broxterman RM**, Groot HJ, Rossman MJ, Garten RS, Venturelli M, Kwon O, Hydren JR, Gifford JR, & Richardson RS (2016). Within-day test-retest reliability of the single leg movement technique: evidence of clinical utility. Experimental Biology, San Diego, CA
- 2016 Ade CJ, **Broxterman RM**, Moore AD, Barstow TJ. Convective and diffusive O₂ transport mechanisms mediate the decrease in peak oxygen uptake following long-duration spaceflight. Experimental Biology, San Diego, CA
- 2016 Smith JR, **Broxterman RM**, Hammer SM, Alexander AM, Didier KD, Barstow TJ, Kurti SP, Harms CA. Effect of age on the inspiratory muscle metaboreflex. Experimental Biology, San Diego, CA
- 2016 Ade CJ, **Broxterman RM**, Craig JC, Hammer SM, Schinstok D, Warren S, Wagner J, Wilcox SL, Barstow TJ. Metabolic responses and muscle activation to ambulation in simulated lunar and martian microgravity. NASA Human Research Program Workshop, Galveston, TX
- 2016 Smith JR, **Broxterman RM**, Hammer SM, Alexander AM, Didier KD, Barstow TJ, Kurti SP, Harms CA. Harms. Sex differences in the inspiratory muscle metaboreflex. American College of Sports Medicine, Boston, MA
- 2016 Hammer SM, Craig JC, **Broxterman RM**, Barstow TJ. Oxygen utilization during the contraction-relaxation cycle of intermittent forearm exercise. American College of Sports Medicine, Boston, MA
- 2015 Noel JA, McCoy GD, Phelps KJ, **Broxterman RM**, Barstow TJ, Gonzalez JM. Effect of ractopamine-HCl on muscle fiber types and finishing barrow fatigue. American Meat Science Association Reciprocal Meat Conference, Lincoln, NE
- 2015 **Broxterman RM**, Ade CJ, Wagner WJ, Wilcox SL, Craig JC, Warren S, Schinstock D, Barstow TJ. Development of an offload hoist system for the simulation of microgravity during activity. NASA Human Research Program Workshop, Galveston, TX
- 2015 Ade CJ, **Broxterman RM**, Barstow TJ. Standardized “pre-flight” exercise tests to predict performance during extravehicular activities in a lunar environment. NASA Human Research Program Workshop, Galveston, TX
- 2015 **Broxterman RM**, Ade CJ, Craig JC, Wilcox SL, Skiba PF, Barstow TJ. Modeling the utilization and reconstitution of W’ within the contraction-relaxation cycle for handgrip exercise. American College of Sports Medicine, San Diego, CA
- 2015 **Broxterman RM**, Wilcox SL, Craig JC, Jia C, Warren S, Barstow TJ. Influence of ischemia on peripheral and central fatigue during handgrip exercise. Experimental Biology, Boston, MA

- 2015 Smith JR, **Broxterman RM**, Ade CJ, Barstow TJ, Harms CA. The effect of N-acetylcysteine on peripheral hemodynamics and fatigue during exercise. Experimental Biology, Boston, MA
- 2015 Craig JC, **Broxterman RM**, Barstow TJ. Beetroot supplementation and small muscle mass handgrip exercise: Effect on central and peripheral fatigue. American College of Sports Medicine, San Diego, CA
- 2015 Craig JC, **Broxterman RM**, Barstow TJ. Effect of beetroot juice supplementation on conduit artery and microvascular hemodynamics during small muscle mass handgrip exercise. Experimental Biology, Boston, MA
- 2014 **Broxterman RM**, Ade CJ, Wilcox SL, Craig JC, Barstow TJ. Determination of appropriate physiological measurements for predicting EVA task-failure. NASA Human Research Program Workshop, Galveston, TX
- 2014 Jia C, Kuehl P, Gude D, **Broxterman RM**, Barstow TJ, Warren S. Improved algorithms for EMG burst identification and processing. NASA Human Research Program Workshop, Galveston, TX
- 2014 Kuehl P, Jia C, Gude D, **Broxterman RM**, Barstow TJ, Warren S. Real-time processing of electromyograms in an automated hand-forearm ergometer data collection and analysis system. NASA Human Research Program Workshop, Galveston, TX
- 2014 **Broxterman RM**, Ade CJ, Wilcox SL, Craig JC, Barstow TJ. Lunar and Mars simulated extravehicular activity (EVA) evoked physiological responses. Experimental Biology, San Diego, CA
- 2014 Craig JC, **Broxterman RM**, Barstow TJ. Influence of adipose tissue thickness (ATT) on NIRS-derived total [Hb+Mb] at four sites. American College of Sports Medicine, Orlando, FL
- 2014 Wilcox SL, **Broxterman RM**, Barstow TJ. Predicting “near linear” $\dot{V}O_2$ responses via integration with variable parameters. American College of Sports Medicine, Orlando, FL
- 2014 **Broxterman RM**, Ade CJ, Craig JC, Wilcox SL, Barstow TJ. Muscle oxygenation characteristics within the contraction-relaxation cycle for handgrip exercise. American College of Sports Medicine, Orlando, FL
- 2013 Smith JR, Ade CJ, **Broxterman RM**, Skutnik BC, Harms CA. The influence of respiratory muscle fatigue on inactive arm blood flow during cycling exercise. American College of Sports Medicine, Indianapolis, IN
- 2013 Ade CJ, **Broxterman RM**, Schlup SJ, Wilcox SL, Craig JC, Bernard J, Barstow TJ. Effects of retrograde shear on the kinetics of adjustment of blood flow and vascular conductance to hand grip exercise. American College of Sports Medicine, Indianapolis, IN
- 2013 Craig JC, Ade CJ, **Broxterman RM**, Wilcox SL, Schlup SJ, Barstow TJ. The relationship between critical speed and the respiratory compensation point. American College of Sports Medicine, Indianapolis, IN
- 2013 Wilcox SL, **Broxterman RM**, Ade CJ, Schlup SJ, Craig JC, Mendoza Y, Chavez L, Barstow TJ. The relationship between physiologic parameters in upper versus lower body exercise. American College of Sports Medicine, Indianapolis, IN

- 2013 Schlup SJ, Ade CJ, **Broxterman RM**, Wilcox SL, Craig JC, Barstow TJ. Kinetics of leg and capillary blood flow response to knee extension exercise. American College of Sports Medicine, Indianapolis, IN
- 2013 **Broxterman RM**, Ade CJ, Wilcox SL, Schlup SJ, Barstow TJ. Influence of oxygen delivery on the parameters of the power-duration relationship. American College of Sports Medicine, Indianapolis, IN
- 2013 Ade CJ, **Broxterman RM**, Wilcox SL, Barstow TJ. Determinants of maximal O₂ consumption: modeling the effects of 365 days aboard ISS. NASA Human Research Program Workshop, Galveston, TX
- 2013 Gude D, **Broxterman RM**, Ade CJ, Barstow TJ, Nelson T, Song W, Warren S. Automated hand-forearm ergometer data collection system. NASA Human Research Program Workshop, Galveston, TX
- 2013 Song W, Ade CJ, **Broxterman RM**, Nelson T, Gude D, Barstow TJ, Warren S. Classification algorithms applied to accelerometer data as a means to identify subject activities related to planetary navigation tasks. NASA Human Research Program Workshop, Galveston, TX
- 2013 **Broxterman RM**, Ade CJ, Wilcox SL, Schlup SJ, Barstow TJ. Gender differences in laboratory assessment and simulated EVA performance. NASA Human Research Program Workshop, Galveston, TX
- 2012 **Broxterman RM**, Ade CJ, Wilcox SL, Schlup SJ, Barstow TJ. Influence of altered duty cycle on critical power during hand grip exercise. American Physiological Society Intersociety Meeting: Integrative Biology of Exercise, Westminster, CO
- 2012 Ade CJ, **Broxterman RM**, Schlup SJ, Wilcox SL, Barstow TJ. Influence of duty cycle on muscle deoxy-[Hb+Mb] during ramp hand grip exercise. American Physiological Society Intersociety Meeting: Integrative Biology of Exercise, Westminster, CO
- 2012 **Broxterman RM**, Ade CJ, Gadbury GL, Schinstock D, Warren S, Barstow TJ. Predictors of 10 km performance. American College of Sports Medicine, San Francisco, CA
- 2012 Ade CJ, **Broxterman RM**, Gadbury GL, Schinstock D, Warren S, Barstow TJ. Physiological responses during simulated planetary field test. American College of Sports Medicine, San Francisco, CA
- 2012 **Broxterman RM**, Ade CJ, Gadbury GL, Schinstock D, Warren S, Barstow TJ. 10-km Walkback Performance Predicted From Standardized Exercise Tests. NASA Human Research Program Workshop, Houston, TX
- 2012 Ade CJ, **Broxterman RM**, Gadbury GL, Schinstock D, Warren S, Barstow TJ. Standardized exercise test to evaluate planetary mission readiness. NASA Human Research Program Workshop, Houston, TX
- 2011 Ade CJ, **Broxterman RM**, Warren S, Taylor RD, Barstow TJ. Development of standardized exercise tests for predicting planetary task performance. The International Academy of Astronautics Humans in Space Symposium, Houston, TX
- 2011 Ade CJ, **Broxterman RM**, Wong BJ, Barstow TJ. Brachial and femoral artery blood velocity profiles are quasi-parabolic during physiologic stress. Experimental Biology, Washington, DC

- 2011 Bopp CM, Wong BJ, Ade CJ, **Broxterman RM**, Wilcox SL, Barstow TJ. Ibuprofen alters hyperemic responses within skeletal muscle, but not cutaneous, microvasculature during post- occlusive reactive hyperemia. American College of Sports Medicine, Denver, CO
- 2011 **Broxterman RM**, Ade CJ, Barstow TJ. A single test for the determination of critical velocity. American College of Sports Medicine, Denver, CO
- 2010 **Broxterman RM**, Barker T, Barstow TJ. Respiratory compensation point – oxygen uptake relationship at different pedaling frequencies. American College of Sports Medicine, Baltimore, MD.
- 2009 **Broxterman RM**, Wagner PG, Bender PA. Comparison of RPE to blood lactate levels in cyclists based on mileage per year. American College of Sports Medicine, Seattle, WA

ORAL PRESENTATIONS

Meeting Presentations

National

- 2022 "Fatigue responses to isometric locomotor muscle constant-power and intermittent exercise", American College of Sports Medicine Annual Meeting Symposium, San Diego, CA
- 2014 "Determination of appropriate physiological measurements for predicting EVA task-failure", National Aeronautics and Space Administration (NASA) Human Research Program Symposium, Galveston, TX
- 2013 "Gender differences in laboratory assessment and simulated EVA performance", National Aeronautics and Space Administration (NASA) Human Research Program Symposium, Galveston, TX

Invited/Visiting Professor Presentations

Local/Regional

- 2022 "Mechanisms of systemic vascular dysfunction induced by cytotoxic and endocrine therapies for breast cancer", Huntsman Cancer Hospital Breast Multidisciplinary Treatment Planning Conference, Salt Lake City, UT
- 2022 "Endothelial dysfunction as a risk factor for cardiovascular disease: The impact of cytotoxic and endocrine therapies for breast cancer", Department of Veterans Affairs Research Week, Salt Lake City, UT
- 2021 "Long-COVID and Vascular Dysfunction: A Multi-level Systemic Issue", Department of Internal Medicine Research Seminar Series, University of Utah, Salt Lake City, UT

Grand Rounds Presentations

- 2021 "Endothelial Dysfunction Identified by FMD and PLM as a Novel Risk Factor for Cardiovascular Disease", Geriatrics Division/GRECC Translational Research Grand Rounds, University of Utah and Salt Lake City VA Medical Center

