

# Terence E. Ryan, Ph.D.

*Curriculum Vitae*

## PERSONAL INFORMATION

### Office Address:

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## CURRENT POSITION

Assistant Professor, Department of Applied Physiology and Kinesiology, College of Health and Human Performance, University of Florida

## EDUCATION

2017	Postdoc	East Carolina University	Mitochondrial Biology/Genetics
2013	Ph.D.	University of Georgia	Kinesiology
2010	M.S.	Florida Atlantic University	Exercise Physiology
2008	B.S.	Florida State University	Exercise Science

## PROFESSIONAL EXPERIENCE

2013-17	Postdoctoral Scholar, East Carolina Diabetes and Obesity Institute, Department of Physiology, Brody School of Medicine, East Carolina University
2010-12	Graduate Teaching Assistant, Department of Kinesiology, University of Georgia
2010-13	Graduate Research Assistant, Exercise Vascular Biology Lab, Department of Kinesiology, University of Georgia
2008-10	Clinical Exercise Specialist, Health First Regional Medical Center

## ADMINISTRATIVE EXPERIENCE

2015-17	President, Postdoctoral Association, East Carolina University
2013-14	Vice President, Postdoctoral Association, East Carolina University

## PROFESSIONAL SOCIETIES

2014-	American Heart Association
2011-	American Physiological Society
2008-	American College of Sports Medicine
2010-	Southeast Chapter of the American College of Sports Medicine
2007-13	National Strength and Conditioning Association





- KINS 4630 Advanced Exercise Physiology (Fall 2011)
- KINS 4690 Ion Channels and Electrophysiology (Fall 2011)
- KINS 4630 Health and Wellness after Spinal Cord Injury (Guest Lecture; Graduate course; Fall 2011)

#### East Carolina University – Brody School of Medicine

- PHLY6700\*\* (Medical Physiology) Bioenergetics and Metabolism (Fall 2016)
- PHLY6700\*\* (Medical Physiology) Skeletal muscle function and health (Fall 2016)
- PHLY7704\*\* (Physiological Proteogenomics) Muscle function and contraction (Spring 2017)
- PHLY7704\*\* (Physiological Proteogenomics) Mitochondria (Spring 2017)

\*\*Team taught course

### STUDENT ADVISEMENT

#### External Committee Member:

- **Adam Lucero**, 2013-Present, Ph.D. Student, Massey University (Wellington, New Zealand)

### PATENTS

T.E. Ryan & K.K. McCully. Systems and Methods for Accurately Measuring Mitochondrial Capacity (US Patent No. 9,706,959), Issue Date: July 18, 2017.

T.E. Ryan & J.M. McClung. Modulation of Ischemic Cell Bioenergetics (US Patent No. 62/428,175), Provisional Filing Date: February 13, 2017.

### BIBLIOGRAPHY

#### Refereed Journal Articles:

34. Chung S, Rosenberry R, Ryan TE, Munson M, Dombrowsky T, Park S, Nasirian A, Haykowsky MJ, Nelson MD. Near-infrared spectroscopy detects age-related differences in skeletal muscle oxidative function: Promising implications for geroscience. *Physiological Reports* (Accepted December 29, 2017).
33. Torres MJ, Kew KA, **Ryan TE**, Pennington ER, Lin CT, Buddo KA, Fix AM, Smith CA, Gilliam LA, Karvinen S, Lowe DA, Spangenburg EE, Zeczycki TN, Shaikh SR, Neuffer PD. 17 $\beta$ -estradiol directly lowers mitochondrial membrane microviscosity and improves bioenergetics function in skeletal muscle. *Cell Metabolism* 27(1):167-179, 2018.
32. Heden TD, **Ryan TE**, Ferrara PJ, Hickner RC, Brophy PM, Neuffer PD, McClung JM, Funai K. Greater oxidative capacity in primary myotubes from endurance trained women. *Medicine and Science in Sports and Exercise* 49(11): 2151-2157, 2017.
31. McClung JM, McCord TJ, **Ryan TE**, Schmidt CA, Green TD, Southerland KW, Reinardy JL, Mueller SB, Venkatrama T, Lascola CD, Marchuk DA, Spangenburg EE, Dokun A, Annex BH, Kontos CD. A BAG3 coding variant in mice determines susceptibility to ischemic limb muscle myopathy by directing autophagy. *Circulation* 136(3): 281-296, 2017.

30. Erickson ML, **Ryan TE**, Backus D, McCully KK. Endurance neuromuscular electrical stimulation training improves skeletal muscle oxidative capacity in individuals with motor complete spinal cord injury. *Muscle and Nerve* 55(5): 669-675, 2017.
  29. Schmidt CA, **Ryan TE**, Lin CT, Inigo MMR, Green TD, Brault JJ, Spangenburg EE, McClung JM. Diminished force production and mitochondrial respiration are strain-dependent myopathies of subacute limb ischemia. *Journal of Vascular Surgery* 65(5): 1504-1514, 2017.
  28. Fisher-Wellman KH, **Ryan TE**, Smith CD, Gilliam LAA, Lin CT, Reese LR, Torres MJ, Neuffer PD. A direct comparison of metabolic responses to high fat diet in C57BL/6J and C57BL/6NJ mice. *Diabetes* 65(11): 3249-3261, 2016.
  27. Gilliam LAA, Lark DS, Reese LR, Torres MJ, **Ryan TE**, Lin CT, Cathey BL, Neuffer PD. Targeted overexpression of mitochondrial catalase protects against cancer chemotherapy-induced skeletal muscle dysfunction. *American Journal of Physiology: Endocrinology and Metabolism* 311: E293-E301, 2016.
  26. Stone K, Fryer S, **Ryan TE**, Stoner L. The validity and reliability of continuous-wave near-infrared spectroscopy for the assessment of leg blood volume during an orthostatic challenge. *Atherosclerosis* 251: 234-239, 2016.
  25. Lark DS, Torres MJ, Lin CT, **Ryan TE**, Anderson EJ, Neuffer PD. Direct real-time quantification of mitochondrial oxidative phosphorylation efficiency in permeabilized skeletal muscle myofibers. *American Journal of Physiology: Cell Physiology*. 311(2):C239-245, 2016.
- \*\*Received Editorial Focus: Stary CM. A high-resolution method for assessing cellular oxidative phosphorylation efficiency: bringing mitochondrial bioenergetics into focus. *American Journal of Physiology: Cell Physiology* 311(2):C237-C238, 2016.
24. **Ryan TE**, Schmidt CA, Green TD, Spangenburg EE, Neuffer PD, McClung JM. Targeted expression of catalase to mitochondria protects against ischemic myopathy in high fat fed mice. *Diabetes* 65(9): 2553-2568, 2016.
  23. **Ryan TE**, Schmidt CA, Alleman RJ, Tsang AM, Green TD, Neuffer PD, Brown DA, McClung JM. Mitochondrial therapy improves limb perfusion and myopathy in hindlimb ischemia. *Journal of Molecular and Cellular Cardiology* 97: 191-196, 2016.
  22. Morad SA, **Ryan TE**, Neuffer PD, Zeczycki TN, Davis TS, MacDougall MR, Fox TE, Tan SF, Feith DJ, Loughran Jr TP, Kester M, Claxton DF, Barth BM, Deering TG, Cabot MC. Ceramide-tamoxifen regimen targets bioenergetic elements in acute myelogenous leukemia. *Journal of Lipid Research* 57(7): 1231-1242, 2016.
  21. Alleman RJ, Tsang A, **Ryan TE**, Patteson D, McClung JM, Spangenburg EE, Shaikh SR, Neuffer PD, Brown DA. Exercise-induced protection against reperfusion arrhythmia involves stabilization of mitochondrial energetics. *American Journal of Physiology: Heart and Circulatory Physiology* 310(10): H1360-H1370, 2016.
  20. McClung JM, Southerland K, McCord TJ, Schmidt CA, **Ryan TE**, Kontos CD. Subacute Limb Ischemia Induces Skeletal Muscle Injury in Genetically Susceptible Mice Independent of Vascular Density. *Journal of Vascular Surgery* 64(4): 1101-1111.e2, 2016.

19. **Ryan TE**, Schmidt CA, Green TD, Brown DA, Neufer PD, McClung JM. Mitochondrial regulation of the muscle microenvironment in critical limb ischemia. *Frontiers in Physiology* 6:336, 2015.
18. Lark DS, Reese LR, **Ryan TE**, Torres MJ, Smith CD, Lin CT, Neufer PD. Protein kinase A governs oxidative phosphorylation kinetics and oxidant emitting potential at complex I. *Frontiers in Physiology* 6:332, 2015.
17. Ferdaoussi M, Dai X, Jensen MV, Wang R, Peterson BS, Huang C, Ilkayeva O, Smith N, Miller N, Hajmrle C, Spigelman AF, Wright RC, Plummer G, Suzuki K, Mackay JP, van de Bunt M, Gloyn AL, **Ryan TE**, Norquay LD, Brosnan MJ, Trimmer JK, Rolph TP, Kibbey RG, Manning Fox JE, Colmers WF, Shirihai O, Neufer PD, Yeh ETH, Newgard CB, MacDonald PE. Isocitrate-to-SEN1 signaling amplifies insulin secretion and rescues dysfunctional b-cells. *Journal of Clinical Investigation* 125(10): 3847-3860, 2015.
16. Gist NH, Freese EC, **Ryan TE**, Cureton KJ. Effects of low-volume, high-intensity whole-body calisthenics on Army ROTC cadets. *Military Medicine* 180(5): 492-498, 2015.
15. McClung JM, Reinardy J, Mueller S, McCord TJ, Kontos CD, Brown DA, Hussain SNA, Schmidt CA, **Ryan TE**, Green TD. Muscle cell derived angiotensin-1 contributes to both myogenesis and angiogenesis in the ischemic environment. *Frontiers in Physiology* 6:161, 2015.
14. Southern WM, **Ryan TE**, Kepple K, Murrow JR, Nilsson KR, McCully KK. Reduced skeletal muscle oxidative capacity and impaired training adaptations in heart failure. *Physiological Reports* 3(4); pii: e12353, 2015.
13. Fisher-Wellman KH, Lin CT, **Ryan TE**, Reese LR, Gilliam LAA, Cathey BL, Lark DS, Smith CD, Muoio DM, Neufer PD. Pyruvate dehydrogenase complex and nicotinamide nucleotide transhydrogenase constitute an energy consuming redox circuit. *Biochemical Journal* 467: 271-280, 2015.
12. **Ryan TE**, Brophy P, Lin CT, Hickner RC, Neufer PD. Assessment of in vivo skeletal muscle mitochondrial respiratory capacity in humans by near infrared spectroscopy: a comparison with in situ measurements. *Journal of Physiology* 592.15: 3231-3241, 2014.
11. **Ryan TE**, Erickson ML, Verma A, Chavez J, Rivner MH, McCully KK. Skeletal muscle oxidative capacity in amyotrophic lateral sclerosis. *Muscle and Nerve* 50: 767-774, 2014.
10. Southern WM, **Ryan TE**, Reynolds MA, McCully KK. Reproducibility of near-infrared spectroscopy measurements of oxidative function and post-exercise recovery kinetics in the medial gastrocnemius muscle. *Applied Physiology, Nutrition, and Metabolism* 39(5): 521-529, 2014.
9. **Ryan TE**, Southern WM, Reynolds MA, McCully KK. A cross-validation of near infrared measurements of skeletal muscle oxidative capacity with phosphorus magnetic resonance spectroscopy. *Journal of Applied Physiology* 115: 1757-1766, 2013.
8. **Ryan TE**, Brizendine JT, Backus D, McCully KK. Electrically-induced resistance training in individuals with motor complete spinal injury. *Archives of Physical Medicine and Rehabilitation* 94: 2166-2173, 2013.

7. **Ryan TE**, Erickson ML, Young HJ, McCully KK. Case Report: Improved skeletal muscle metabolism after endurance electrical stimulation training in spinal cord injury. *Archives of Physical Medicine and Rehabilitation* 94: 2559-2561, 2013.
6. **Ryan TE**, Southern WM, Brizendine JT, McCully KK. Activity-induced changes in skeletal muscle metabolism measured with optical spectroscopy. *Medicine and Science in Sports and Exercise* 45(12): 2346-2352, 2013.
5. Erickson ML, **Ryan TE**, Young HJ, McCully KK. Near-infrared assessments of skeletal muscle oxidative capacity in persons with spinal cord injury. *European Journal of Applied Physiology* 113(9): 2275-2283, 2013.
4. Brizendine JT, **Ryan TE**, Larson RD, and McCully KK. Skeletal muscle metabolism in endurance athletes with near infrared spectroscopy. *Medicine and Science in Sports and Exercise* 45(5): 869-875, 2013.
3. **Ryan TE**, Brizendine JT, and McCully KK. A comparison of exercise type and intensity on the noninvasive assessment of skeletal muscle mitochondrial function using near infrared spectroscopy. *Journal of Applied Physiology* 114(2): 230-237, 2013.
2. **Ryan TE**, Erickson ML, Brizendine JT, Young HJ, and McCully KK. Noninvasive evaluation of skeletal muscle mitochondrial capacity with near-infrared spectroscopy: correcting for blood volume changes. *Journal of Applied Physiology* 113: 175-183, 2012.
1. McCully KK, Mulcahy TK, **Ryan TE**, and Zhao Q. Skeletal muscle metabolism in individuals with spinal cord injury. *Journal of Applied Physiology* 111: 143-148, 2011.

#### Manuscripts in Review:

1. Tarpey MD, Amorese AJ, Balestrieri NP, **Ryan TE**, Schmidt CA, McClung JM, Spangenburg EE. Characterization and utilization of the flexor digitorum brevis for assessing skeletal muscle function. *Skeletal Muscle Journal (in review)*

#### Abstracts:

40. Powers SA, **Ryan TE**, Pak E, McClung JM, Hannan JL. Chronic high fat diet increases diuresis and is associated with detrusor oxidative stress and impaired mitochondrial respiration. *American Urological Association Annual Meeting, May 12-16, 2017; Boston, Massachusetts.*
39. Powers SA, **Ryan TE**, Odom MR, McClung JM, Hannan JL. Mitochondrial mutations contribute to increased voiding frequency and impaired cholinergic contraction in a model of premature aging. *American Urological Association Annual Meeting, May 12-16, 2017; Boston, Massachusetts.*
38. Verkerke ARP, Ferrara PJ, Lin CT, Heden TD, **Ryan TE**, Wentzler EJ, Balotti AH, Neuffer PD, Funai K. Absence of phosphatidylethanolamine methylation increases skeletal muscle energy expenditure and prevents obesity. *APS Intersociety Meeting: The Integrative Biology of Exercise VII, November 2-4, 2016; Phoenix, Arizona.*
37. Verkerke ARP, Ferrara PJ, Lin CT, Heden TD, **Ryan TE**, Wentzler EJ, Balotti AH, Neuffer PD, Funai K. Muscle phospholipid methylation modulates SERCA energy efficiency and alters susceptibility for obesity. *Keystone Symposium: Diabetes/Obesity and Adipose Tissue Biology, January 22-26, 2017; Keystone, Colorado.*

36. Lin CT, Gilliam LA, **Ryan TE**, Torres MJ, Smith CD, Brophy PM, Clark AH, Hickner RC, Neuffer PD. Changes in energy state acutely alter redox state and insulin sensitivity in healthy humans. *APS Intersociety Meeting: The Integrative Biology of Exercise VII, November 2-4, 2016; Phoenix, Arizona.*
35. Morad SAF, **Ryan TE**, Barth BM, Claxton DF, Kester M, Loughran TP, Cabot MC. Ceramide-antiestrogen regimen targets bioenergetic elements in acute myelogenous leukemia. *Molecular Cancer Therapeutics 14(12 Supplement 2): B17-B17, November 2015.*
34. Verkerke A, Ferrara P, Lin CT, Heden T, **Ryan TE**, Wentzler E, Balotti A, Neuffer PD, Funai K. Absence of phosphatidylethanolamine methylation increases skeletal muscle energy expenditure and prevents obesity. *APS Intersociety Meeting: The Integrative Biology of Exercise VII, November 2-4, 2016; Phoenix, Arizona.*
33. Torres MJ, Reese LR, Smith C, Pennington E, **Ryan TE**, Shaikh SR, Neuffer PD. Estrogen Treatment Restores Muscle Mitochondrial Function and Redox Homeostasis, reversing the Pro-Diabetogenic State induced by Ovariectomy. *The FASEB Journal (30) 1, 1247.1-1247.1, 2016.*
32. Schmidt CA, **Ryan TE**, Lin CT, Inigo MMR, Green TD, Brault JJ, Spangenburg EE, McClung JM. Diminished force production and mitochondrial respiration are strain-dependent myopathies of subacute limb ischemia. *NHLBI/NIDDK Mitochondrial Biology Symposium, May 18-19, 2016; Bethesda, Maryland.*
31. **Ryan TE**, Schmidt CA, Green TD, Spangenburg EE, Neuffer PD, McClung JM. Targeted expression of catalase to mitochondria protects against ischemic myopathy in high fat fed mice. *NHLBI/NIDDK Mitochondrial Biology Symposium, May 18-19, 2016; Bethesda, Maryland.*
30. Reese LR, **Ryan TE**, Torres MJ, Neuffer PD. Acute reversal of high fat diet induced insulin resistance is accompanied by a restoration of redox status in skeletal muscle. *Experimental Biology, March 28-April 1, 2015; Boston, Massachusetts.*
29. Morad SAF, Kester M, Loughran TP, **Ryan TE**, Zecycki TN, Davis T, Cabot MC. Adjuvant tamoxifen improves effectiveness of ceramide-centric therapy in acute myelogenous leukemia. *International Ceramide Conference/Sphingolipid Club, May 8, 2015; Izmir, Turkey.*
28. Lark DS, **Ryan TE**, Torres MJ, Lin CT, Anderson EJ, Neuffer PD. Demand-driven enhancement of mitochondrial oxidative phosphorylation efficiency in permeabilized myofibers. *Diabetes Day at Vanderbilt University Medical Center, December 10, 2014; Nashville, Tennessee.*
27. **Ryan TE**, Reese LR, Torres MJ, Lin CT, Neuffer PD. Atrovastatin decreases skeletal muscle mitochondrial respiration and calcium retention in overweight adult humans. *Keystone Symposium: Diabetes and Metabolic Dysfunction, January 27-February 4, 2015; Santa Fe, New Mexico.*
26. Brown DA, **Ryan TE**, Schmidt CA, Alleman RJ, Tsang AM, Green TD, Neuffer PD, McClung JM. The Mitochondrial Targeted Peptide MTP-131 Restores Limb Perfusion and Reduces Pathology in Ischemic Limb Muscle of Genetically Susceptible Mice. *Keystone Symposium: Mitochondrial, Metabolism, and Heart Failure, January 27-February 4, 2015; Santa Fe, New Mexico.*



25. Morad SAF, Bridges LC, Gilliam LAA, **Ryan TE**, Cabot MC. Tamoxifen improves efficacy of ceramide-centric therapeutics in human melanoma by downregulating survival signaling and countering invasion. *The Workshop on Molecular Medicine of Sphingolipids, October 12-17, 2014; Kloster Banz, Germany.*
24. Young HJ, Brizendine JT, Erickson ML, **Ryan TE**, Li X, Murrow JR, McCully KK. The effect of peripheral arterial disease on arterial flow kinetics. *Annual Meeting of the American College of Sports Medicine; May 27-31, 2014; Orlando, Florida.*
23. Southern WM, **Ryan TE**, Kepple K, Nilsson KR, McCully KK. Skeletal muscle adaptations from endurance exercise training are blunted in patients with chronic heart failure. *Annual Meeting of the American College of Sports Medicine; May 27-31, 2014; Orlando, Florida.*
22. **Ryan TE**, Lin CT, Brophy PM, Hickner RC, McCully KK, Neuffer PD. In vivo measurements of mitochondrial respiratory capacity in skeletal muscle. *Advances in Skeletal Muscle Biology, University of Florida; March 5-7, 2014; Gainesville, Florida.*
21. Lin CT, Gilliam LA, Brophy PM, Clark AH, **Ryan TE**, Hickner RC, Neuffer PD. Changes in energy state acutely alter insulin sensitivity in healthy humans. *Metabolic Origins of Disease, Sanford-Burnham Institute; March 3-5, 2014; Orlando, Florida.*
20. **Ryan TE**, Lin CT, Brophy PM, Hickner RC, McCully KK, Neuffer PD. In vivo measurements of mitochondrial respiratory capacity in skeletal muscle. *Metabolic Origins of Disease, Sanford-Burnham Institute; March 3-5, 2014; Orlando, Florida.*
19. Gist NH, Freese EC, **Ryan TE**, Cureton KJ. Physiological and performance effects of low-volume, high-intensity whole-body calisthenics on Army ROTC cadets. *Annual Meeting of the American College of Sports Medicine; May 27-31, 2014; Orlando, Florida.*
18. Southern WM, **Ryan TE**, Kepple K, Hsu BC, Nilsson KR, McCully KK. Impaired skeletal muscle mitochondrial and vascular function in people with heart failure. *Southeast Regional Meeting of the American College of Sports Medicine; February 13-15, 2014; Greenville, South Carolina.*
17. Brizendine JT, **Ryan TE**, Larson RD, McCully KK. Oxidative capacity in trained cyclists with near infrared spectroscopy. *Annual Meeting of the American College of Sports Medicine; May 28 – June 1, 2013; Indianapolis, Indiana.*
16. Young HJ, Brizendine JT, Erickson ML, **Ryan TE**, Li X, Murrow JR, McCully KK. Dispersion of arterial blood flow and severity of peripheral arterial disease. *Annual Meeting of the American College of Sports Medicine; May 28 – June 1, 2013; Indianapolis, Indiana.*
15. Erickson ML, **Ryan TE**, Young HJ, McCully KK. Case Report: Mitochondrial responses after endurance electrical stimulation training in spinal cord injury. *Annual Meeting of the American College of Sports Medicine; May 28 – June 1, 2013; Indianapolis, Indiana.*
14. **Ryan TE**, Brizendine JT, McCully KK. A Comparison of exercise type and intensity on the noninvasive assessment of skeletal muscle mitochondrial function using near infrared spectroscopy. *Annual Meeting of the American College of Sports Medicine; May 28 – June 1, 2013; Indianapolis, Indiana.*

13. Talati KR, Dhillon PK, **Ryan TE**, McCully KK. Effects of electrical stimulation intensity on near-infrared spectroscopy measurements of oxygen consumption and mitochondrial capacity. *Southeast Regional Meeting of the American College of Sports Medicine; February 14-16, 2013; Greenville, South Carolina.*
12. **Ryan TE**, Erickson ML, Stoddard SN, Chavez J, Verma A, McCully KK. The reproducibility of 31P MRS and NIRS methods to evaluate skeletal muscle mitochondrial function. *Southeast Regional Meeting of the American College of Sports Medicine; February 14-16, 2012; Greenville, South Carolina.*
11. Erickson ML, **Ryan TE**, Young HJ, McCully KK. Case Report: Mitochondrial responses after endurance electrical stimulation training in spinal cord injury. *Southeast Regional Meeting of the American College of Sports Medicine; February 14-16, 2013; Greenville, South Carolina.*
10. Brizendine JT, **Ryan TE**, Erickson ML, Chavez J, Verma A, McCully KK. A non-invasive method to evaluate mitochondrial function in human skeletal muscle appropriate for clinical and research trials. *GABIO; October 3-4, 2012; Atlanta, Georgia.*
9. **Ryan TE**, Brizendine JT, Young HJ, Erickson ML, McCully KK. Skeletal muscle metabolism and glucose tolerance after spinal cord injury: influence of intramuscular fat and injury duration. *Annual Meeting of the American College of Sports Medicine; May 29 – June 2, 2012; San Francisco, California.*
8. Brizendine JT, **Ryan TE**, Erickson ML, McCully KK. Improvements in electrical stimulation resistance training in men and women with complete spinal cord injury. *Annual Meeting of the American College of Sports Medicine; May 29 – June 2, 2012; San Francisco, California.*
7. Erickson ML, **Ryan TE**, Brizendine JT, Young HJ, McCully KK. Measuring skeletal muscle metabolism with near-infrared spectroscopy. *Annual Meeting of the American College of Sports Medicine; May 29 – June 2, 2012; San Francisco, California.*
6. **Ryan TE**, Brizendine JT, Erickson ME, Young HJ, McCully KK. Skeletal muscle metabolism and glucose tolerance after spinal cord injury: Influence of intramuscular fat and injury duration. *Southeast Regional Meeting of the American College of Sports Medicine; February 10, 2012; Jacksonville, Florida.*
5. Young HJ, Brizendine JT, Erickson ML, **Ryan TE**, Murrow JR, McCully KK. The effect of peripheral arterial disease on variability of velocity and time course of reactive hyperemia. *Southeast Regional Meeting of the American College of Sports Medicine; February 10, 2012; Jacksonville, Florida.*
4. Young HJ, Brizendine JT, Erickson ML, **Ryan TE**, Murrow JR, McCully KK. Velocity profile of arterial blood flow and severity of peripheral arterial disease. *The 5th Asia-Pacific Conference on Exercise and Sports Science; Shanghai University of Sport; November 2-5, 2011; Shanghai, China.*
3. **Ryan TE**, McCully KK, Zhao Q. Effects of four months of electrical stimulation-induced resistance training on paralyzed muscle. *Southeast Regional Meeting of the American College of Sports Medicine; February 14, 2011; Greenville, South Carolina.*
2. **Ryan TE**, McCully KK, Zhao Q. The effects of electrical stimulation-induced resistance training on paralyzed muscle. *Annual Meeting of the American College of Sports Medicine; May 31 – June 4, 2011; Denver, Colorado.*

1. Brizendine JT, **Ryan TE**, Erickson ME, Young HJ, Backus D, Tansey K, et al. Home-based electrical stimulation training in persons with complete paraplegia. *Shepherd Center Research Day; November 10, 2011; Atlanta, Georgia.*

## INVITED PRESENTATIONS

11. Bioenergetic Mechanisms of Ischemic Pathology. Mary and Dick Holland Regenerative Medicine Program. University of Nebraska Medical Center, Omaha, NE, April 11, 2017.
10. Mitochondriopathy in Peripheral Arterial Disease. Department of Clinical and Translational Science. Creighton University School of Medicine, Omaha, NE, April 10, 2017.
9. Bioenergetics of PAD myopathy. Department of Applied Physiology and Kinesiology. University of Florida, Gainesville, FL, February 13, 2017.
8. Mitochondria and Ischemic Myopathy. ECU Joint Metabolism Meeting. East Carolina University, Greenville, NC, January 22, 2015.
7. Mitochondrial Bioenergetics and Redox Biology. SYMPOSIUM: Mitochondria function 2010 and Beyond. 61<sup>st</sup> Annual Meeting of the American College of Sports Medicine. Orlando, FL, May 28, 2014.
6. Assessing *In Vivo* Mitochondrial Respiratory Capacity Using Optical Spectroscopy. SEMINAR: Department of Health and Exercise Science, University of Oklahoma, February 17, 2014.
5. In Vivo Measurements of Skeletal Muscle Mitochondrial Function. SEMINAR: Department of Physiology, East Carolina University, Greenville, NC, January 17, 2013.
4. Peripheral Adaptations and Training Responses after Spinal Cord Injury. SYMPOSIUM: Exercise and Spinal Cord Injury. Annual Meeting of the Mid-Atlantic Region of the American College of Sports Medicine. November 7, 2012.
3. Electrically-Induced Resistance Exercise in Paralyzed Muscle of Individuals with Spinal Cord Injuries. SEMINAR: Graduate Student and Post Docs Association Annual Conference, University of Georgia, Athens, GA, May 20, 2011.
2. Skeletal Muscle Plasticity in People with Complete Spinal Cord Injuries. SEMINAR: WIPSCI Meeting, Shepherd Center, Atlanta, GA, March 24, 2011.
1. Assessing Oxygen Delivery and Mitochondrial Function. SYMPOSIUM: Annual Meeting of the Southeast Chapter of the American College of Sports Medicine, Greenville, SC, February 16, 2011.