

**Name:** Robert C. Noland, Ph.D.

**Academic Rank:** Assistant Professor

**Contact Info:**

Pennington Biomedical Research Center  
6400 Perkins Road, L-2022  
Baton Rouge, LA 70808-4124  
Work: (225) 763-2788  
Cell: (919) 323-0340  
Fax: (225) 763-3030  
E-mail: [robert.noland@pbrc.edu](mailto:robert.noland@pbrc.edu)

**Education:**

2011 Postdoctoral Fellow, Sarah W. Stedman Nutrition & Metabolism Center  
Duke University, Durham, NC  
Mentor: Deborah M. Muoio, Ph.D.

2005 Ph.D., Department of Physiology  
East Carolina University, Greenville, NC  
Co-Mentors: Ronald N. Cortright, Ph.D. and Robert M. Lust, Ph.D.

1999 M.A., Department of Exercise and Sport Science  
East Carolina University, Greenville, NC  
Mentor: Ronald N. Cortright, Ph.D.

1996 B.S., Department of Exercise and Sport Science  
Iowa State University, Ames, IA

**Professional Experience:**

2011-present Assistant Professor, Pennington Biomedical Research Center  
Department: Skeletal Muscle Metabolism  
Louisiana State University, Baton Rouge, LA

2005-2011 Postdoctoral Fellow, Sarah W. Stedman Nutrition & Metabolism Center,  
Duke University, Durham, NC

2000-2005 Graduate Student, Department of Physiology  
East Carolina University, Greenville, NC

1997-1999 Graduate Student, Department of Exercise and Sport Science  
Human Performance Laboratory, Cardiovascular Disease Risk Identification Program  
East Carolina University, Greenville, NC

1997-1999 Graduate Student, Department of Exercise and Sport Science  
Leroy T. Walker, International Human Performance Center  
East Carolina University, Greenville, NC

Fall 1996 Undergraduate Intern, LifeTime Center, Ocala, FL

## Professional Organization Memberships:

American Diabetes Association  
American Physiological Society

## Honors and Awards:

Golden Key International Honour Society  
Top 15% of undergraduate students, Iowa State University  
Virginia McCulley Memorial Endowment Fund  
Outstanding graduate student in Exercise Physiology, East Carolina University

## Grants and Contracts Support:

### Active Research Support

NIH RO1 12/01/2014 – 11/30/2019  
Title: Defining the role of skeletal muscle peroxisomes in glucose homeostasis  
Award ID#: R01DK103860  
PI: Noland, R.C.  
Role: PI (40% Effort)

NIH RO1 09/15/2013 – 09/14/2018  
Title: Inhibition of Carnitine Palmitoyltransferase-1b in muscle: effects on glucose homeostasis  
Award ID#: R01DK089641  
PI: Mynatt, R.L.  
Role: Co-Investigator (15% Effort)

Botanical Dietary Supplements Research Center Pilot Grant 01/01/2015 – 12/31/2016  
Title: Quercetin-enriched red onion extract modulation of peroxisomes in skeletal muscle.  
PI: Noland, R.C.  
Role: PI

### Pending Research Support

Nutrition and Obesity Research Center (NORC) Pilot Grant 04/01/2015 – 06/30/2016  
Title: Regulation of Pancreatic Islet  $\beta$ -cell Growth and Function by the IL-1R Receptor  
PI: Collier, J.J.  
Role: Co-Investigator  
\*\*\*Received recommendation for award, but awaiting activation of NORC renewal at PBRC.

### Completed Research Support

Mentoring Obesity and Diabetes Research in Louisiana 10/01/2011 – 11/30/2014  
Award ID: NIH-8 P20 GM103528  
Title: Exploration of the role of carnitine octanoyltransferase in preventing lipid-induced insulin resistance.  
PI: Gettys, T.W.

Role: Project 2 Principle Investigator

Multi-PI Pilot Grant

12/01/2013 – 11/30/2014

Title: Metabolic flexibility and lipid metabolism  
PI: Ravussin, E, Mynatt, R.L and Noland, R.C.  
Role: Co-PI

Nutrition and Obesity Research Center (NORC) Pilot Grant

07/01/2013 – 06/30/2014

Title: Defining the importance of skeletal muscle peroxisomal function in regulating insulin resistance  
PI: Noland, R.C.

Ruth L. Kirschstein National Research Service Award (NRSA)

10/01/07 - 10/01/09

Award ID: F32 DK080609

Title: Role of carnitine acetyltransferase in mitochondrial function and insulin action  
PI: Noland, R.C.

## Publications:

### Peer Reviewed Journal Articles

1. Vandanmagsar, B., Warfel, J.D., Wicks, S.E., Ghosh, S., Salbaum, J.M., Burk, D., Dubuisson, O.S., Mendoza, T.M., Zhang, J., **Noland, R.C.**, and Mynatt, R.L. Impaired mitochondrial fat oxidation induces FGF21 in muscle. *Cell Reports*, 2016 May 11.
2. Henagan, T.M., Laeger, T., Navard, A.M., Albarado, D., **Noland, R.C.**, Stadler, K., Elks, C.M., Burk, D., and Morrison, C.D. Hepatic autophagy contributes to the metabolic response to dietary protein restriction. *Metabolism*, 2016 Jun: 65(6). PMID: PMC4867053
3. Ghosh, S., Kruger, C., Wicks, S., Simon, J., Johnson, W.D., Mynatt, R.L., **Noland, R.C.**, and Richards, B.K. Short chain acyl-CoA dehydrogenase deficiency and short-term high-fat diet perturb mitochondrial energy metabolism and transcriptional control of lipid-handling in liver. *Nutr Metab*, 2016 Mar 1; 13:17. PMID: PMC4772307
4. Covington, J.D., Tam, C.S., Bajpeyi, S., Galgani, J.E., **Noland, R.C.**, Smith, S.R., Redman, L.M. and Ravussin, E.. Perilipin 3 Myokine expression in muscle and myotubes in response to exercise stimulation. *Med Sci Sports Exerc*, 2015 Oct 12.
5. Covington, J.D., **Noland, R.C.**, Hebert, R.C., Masinter, B.S., Smith, S.R., Rustan, A.C., Ravussin, E. and Bajpeyi, S. Perilipin 3 Differentially Regulates Skeletal Muscle Lipid Oxidation in Active, Sedentary and Type 2 Diabetic Males. *J Clin Endocrinol Metab*, 2015 Jul 14. PMID: PMC4596049
6. Wicks, S.E., Vandanmagsar, B., Haynie, K.R., Fuller, S.E., Warfel, J.D., Stephens, J.M., Wang, M., Han, X., Zhang, J., **Noland, R.C.** and Mynatt, R.L. Impaired mitochondrial fat oxidation induces adaptive remodeling of muscle metabolism. *Proc Natl Acad Sci USA*, 2015 Jun 23: 112(25): E3300-9. PMID: PMC4485116.
7. Burke, S.J., May, A.L., **Noland, R.C.**, Lu, D., Brissova, M., Powers, A.C., Sherrill, E.M., Karlstad, M.D., Campagna, S.R., Stephens, J.M. and Collier, J.J. Thiobenzothiazole-modified Hydrocortisones Display

Anti-inflammatory Activity with Reduced Impact on Islet  $\beta$ -Cell Function. *J Biol Chem*, 2015 May 22: 290(21): 13401-16. PMID: PMC4505588

8. Henagan, T.M., Cefalu, W.T., Ribnicky, D.M., **Noland, R.C.**, Dunville, K., Campbell, W.W., Stewart, L.K., Forney, L.A., Gettys, T.W., Chang, J.S. and Morrison, C.D. In vivo effects of quercetin and quercetin-rich red onion extract on skeletal muscle mitochondria, metabolism, and insulin sensitivity. *Genes Nutr*, 2015 Jan: 10(1). PMID: PMC4277553.
9. Laeger, T., Henagan, T.M., Albarado, D.C., Redman, L.M., Bray, G.A., **Noland, R.C.**, Munzberg, H., Hutson, S.M., Gettys, T.W., Schwartz, M.W. and Morrison, C.D. FGF21 is an endocrine signal of protein restriction. *J Clin Invest*, Sept: 124(9): 2913-22. PMID: PMC4153701.
10. Jun, H.J., Joshi, Y., Patil, Y., **Noland, R.C.** and Chang, J.S. NT-PGC-1 $\alpha$  activation attenuates high-fat diet-induced obesity by enhancing brown fat thermogenesis and adipose tissue oxidative metabolism. *Diabetes*, 2014 Sept: 63(11): 3615-25. PMID: PMC4207386
11. Ruggiero, C., Elks, C.M., Kruger, C., Cleland, E., Addison, K. **Noland, R.C.** and Stadler, K. Albumin-bound fatty acids but not albumin itself alter redox balance in tubular epithelial cells and induce a peroxide-mediated redox-sensitive apoptosis. *Am J Physiol Renal Physiol*, 2014 Feb 5. PMID: PMC3989633.
12. Seiler, S.E., Martin, O.J., **Noland, R.C.**, Slentz, D.H., DeBalsi, K.L., Ilkayeva, O.R., An, J., Newgard, C.B., Koves, T.R. and Muoio, D.M. Obesity and lipid stress inhibit carnitine acetyltransferase activity. *J Lipid Res*, 2014 Jan 6. PMID: PMC3966698.
13. Muoio, D.M.\*<sup>‡</sup>, **Noland, R.C.**<sup>‡</sup>, Kovalik, J.P., Seiler, S.E., Davies, M.N., DeBalsi, K.L., Ilkayeva, O.R., Stevens, R.D., Kheterpal, I., Zhang, J., Covington, J.D., Bajpeyi, S., Ravussin, E., Kraus, W., Koves, T.R., and Mynatt, R.L.\* Muscle-specific deletion of carnitine acetyltransferase compromises glucose tolerance and metabolic flexibility. *Cell Metabolism*, 2012 May 2: 15: 764-777. (<sup>‡</sup>equal contribution, \*co-corresponding authors). PMID: PMC3348515.
14. Arumugam, R., Horowitz, E., **Noland, R.C.**, Lu, D., Fleenor, D., and Freemark, M. Regulation of Islet  $\beta$ -Cell Pyruvate Metabolism Interactions of Prolactin, Glucose, and Dexamethasone. *Endocrinology*, 2010 May 19. PMID: PMC2903933.
15. Bikman, B.J., Woodlief, T.L., **Noland, R.C.**, Britton, S.L., Koch, L.G., Lust, R.M., Dohm, G.L., and Cortright, R.N. High-fat diet induces IKKB and reduces insulin sensitivity in rats with low running capacity. *Int J Sports Med*, 2009 June 30. PMID: PMC2841439.
16. **Noland, R.C.**, Koves, T.R., Seiler, S.E., Lum, H., Lust, R.M., Ilkayeva, O.R., Stevens, R., Hegardt, F.G., and Muoio, D.M. Carnitine insufficiency caused by aging and overnutrition compromises mitochondrial performance and metabolic control. *J Biol Chem*, 2009 June 24. PMID: PMC2755692.
17. Makowski, L., **Noland, R.C.**, Koves, T.R., Xing, W., Ilkayeva, O.R., Muehlbauer, M.J., Stevens, R., and Muoio, D.M. Metabolic profiling of PPAR<sup>-/-</sup> mice reveals defects in carnitine and amino acid homeostasis that are partially reversed by oral carnitine supplementation. *FASEB J*, 2009 Feb: 23(2): 586-604. PMID: PMC2630792.
18. Koves, T.R., Ussher, J.R., **Noland, R.C.**, Slentz, D., Mosedale, M., Ilkayeva, O., Bain, J., Stevens, R., Dyck, J.R., Newgard, C.B., Lopaschuk, G.D., and Muoio, D.M. Mitochondrial overload and incomplete

fatty acid oxidation contribute to skeletal muscle insulin resistance. *Cell Metabolism*, 2008 Jan: 7(1): 45-56. PMID: 18177724.

19. **Noland, R.C.**, Woodlief, T.L., Whitfield, B.R., Manning, S.M., Evans, J.R., Dudek, R.W., Lust, R.M., and Cortright, R.N. Peroxisomal-mitochondrial oxidation in a rodent model of obesity-associated insulin resistance. *Am J Physiol Endocrinology & Metabolism*, 2007 Oct: 293(4): E986-E1001. PMID: 17638705.
20. **Noland, R.C.**, Thyfault, J.P., Henes, S.T., Whitfield, B.R., Woodlief, T.L., Evans, J.R., Lust, J.A., Britton, S.L., Koch, L.G., Cortright, R.N., and Lust, R.M. Artificial selection for high capacity endurance running is protective against the development of high fat diet-induced insulin resistance. *Am J Physiol Endocrinology & Metabolism*, 2007 July: 293(1): E31-41. PMID: 17341547.
21. Gray, S.L., Dalla Nora, E., Backlund, E.C., Manieri, M., Virtue, S., **Noland, R.C.**, O'Rahilly, S., Cortright, R.C., Cinti, S., Cannon, B., and Vidal-Puig, A. Decreased brown adipocyte recruitment and thermogenic capacity in mice with impaired peroxisome proliferators-activate receptor (P465L PPARgamma) function. *Endocrinology*, 2006 Dec: 147(12): 5708-14. PMID: 16980437.
22. Koves, T.R., Noland, R.C., Bates, A.L., Henes, S.T., Muoio, D.M., and Cortright, R.N. Subsarcolemmal and intermyofibrillar mitochondria play distinct roles in regulating skeletal muscle fatty acid metabolism. *American Journal of Physiology: Cell Physiology*, 2005, May: 288(5): C1074-82. PMID: 15647392.
23. **Noland, R.C.**, Hickner, R.C., Jimenez-Linan, M., Vidal-Puig, A., Zheng, D., Dohm, G.L., and Cortright, R.N. Acute endurance exercise increases skeletal muscle UCP-3 gene expression in untrained but not trained humans. *Metabolism*, 2003 Feb: 52(2): 152-8. PMID: 12601624.
24. **Noland, R.C.**, Baker, J.T., Boudreau, S.R., Kobe, R.W., Tanner, C.J., Hickner, R.C., McCammon, M.R., and Houmard, J.A. Effect of intense training on plasma leptin in male and female swimmers. *Med Sci Sports Exerc.* 2001 Feb: 33(2): 227-31. PMID: 11224810.
25. Brunson, M.A., Lombard, S., Mahar, M.T., Baker, J.T., Keen, S.U., Miller, L.R., Moreland, M.R., **Noland, R.C.**, Williams, G., and McCammon, M.R. Cross-validation of five techniques to determine body composition. *Med Sci Sports Exerc.* 1998 May: 30(5) Supplement: 276.

## Reviews

1. Thyfault, J.P., Rector, R.S., and **Noland, R.C.** Metabolic inflexibility in skeletal muscle: a prelude to the cardiometabolic syndrome? *J CardioMetabolic Syndrome*, 2006 Summer: 1(3): 184-9. PMID: 17679820.

## Book Chapters

1. **Noland, R.C.** Exercise and regulation of lipid metabolism. In: Progress in Molecular Biology and Translation Science: Molecular and Cellular Regulation of Adaptation to Exercise (vol 135). Bouchard C. (Ed), Academic Press, 39-74; 2015, July 31.
2. Wicks, S.E., **Noland, R.C.**, and Mynatt, R.L. Carnitine and Insulin Resistance. In: Carnitine Metabolism and Human Nutrition. Wall, B.T. and Porter, C. (Eds.), CRC Press (Taylor & Francis Group), 97-126, 2014.

## Selected Abstracts

1. Fuller, S.E., Simon, J., Batdorf, H.M., Worsham, E.A., Brown, J.M., Baes, M., Burke, S.J., Collier, J.J. and **Noland, R.C.** Quercetin-enriched red onion extract modulation of peroxisomes in skeletal muscle. NIH Centers for Advancing Research on Botanicals and Other Natural Products (CARBON) Annual Meeting, 2016, Bethesda, MA.
2. **Noland, R.C.**, Worsham, E.A., Simon, J., Fuller, S.E., Baes, M., Ghosh, S. and Mynatt, R.L. Peroxisomes in skeletal muscle protect against lipid-induced insulin resistance. *Experimental Biology*, 2016, San Diego, CA.
3. Fuller, S.E., Worsham, E.A., Simon, J., Gettys, T.W., Mynatt, R.L. and **Noland, R.C.** Energy sensing pathways differentially regulate peroxisomes in skeletal muscle vs. liver. *Experimental Biology*, 2016, San Diego, CA.
4. Burke, S.J., Eder, A.E., Regal, K.M., Karlstad, M.D., Burk, D.H., **Noland, R.C.** and Collier, J.J. Oral corticosterone administration reduces insulinitis but promotes insulin resistance and hyperglycemia in male Non-obese diabetic mice. *Experimental Biology*, 2016, San Diego, CA.
5. Burke, S.J., May, A.L., Lu, D., Brissova, M., **Noland, R.C.**, Karlstad, M.D., Campagna, S.R. and Collier, J.J. Thiobenzothiazole-modified hydrocortisones display anti-inflammatory activity with retention of rodent islet beta-cell function. American Diabetes Association, 2014, San Francisco, CA.
6. Huang, T., Zheng, D., Muller-Borer, B., Collins, M., **Noland, R.C.**, Funai, K., Hickner, R.C. and Cortright, R.N. Peroxisomal biogenesis occurs in response to a high lipid environment and obesity in human skeletal muscle. *Experimental Biology*, 2014, San Diego, CA.
7. Henagan, T.M., Stewart, L.K., **Noland, R.C.**, Forney, L., Gettys, T.W. and Cefalu, W.T. Quercetin and red onion extract attenuate high fat diet-induced insulin resistance while increasing energy expenditure and skeletal muscle mitochondrial number despite a decrease in *Pgc1 $\alpha$* . *Experimental Biology*, 2014, San Diego, CA.
8. Worsham, E.A., Wicks, S.E., Vandanmagsar, B., Drewes, D.M., Woodlief, T.L., Cortright, R.N., Koves, T.R., Thyfault, J.P., Wanders, D., Gettys, T.W., Mynatt, R.L. and **Noland, R.C.** Defining the role of skeletal muscle peroxisomes in glucose homeostasis. *Metabolic Origins of Disease*, 2014, Orlando, FL.
9. Wicks, S.E., Vandanmagsar, B., Haynie, K.R., Zhang, J., **Noland, R.C.**, and Mynatt, R.L. Skeletal muscle-specific carnitine palmitoyltransferase-1 deficiency elevates lipotoxic intermediates, but preserves insulin sensitivity in muscle. *Keystone Symposia*, 2013, Keystone, CO.
10. Wicks, S.E., Haynie, K.R., Vandanmagsar, B., Zhang, J., **Noland, R.C.**, and Mynatt, R.L. Carnitine palmitoyltransferase-1 deficiency impairs skeletal muscle fatty acid oxidation, but preserves insulin sensitivity. *Society for Free Radical Biology and Medicine*, 2012, San Diego, CA.
11. **Noland, R.C.**, Seiler, S.E., Koves, T.R., DeBalsi, K.L., Zhang, J., Ding, D.P., Bond, S.P., Bermudez, E.M., Dolan, J.I., Raymond, R., Kheterpal, I., Stevens, R.D., Ilkayeva, O.R., Mynatt, R.L., and Muoio, D.M. Carnitine acetyltransferase regulates mitochondrial fuel selection by modulating pyruvate dehydrogenase activity. *Keystone Symposia 2011*, Keystone, CO.

12. Seiler, S.E., **Noland, R.C.**, Koves, T.R., DeBalsi, K.L., Slentz, D. and Muoio, D.M. Carnitine acetyltransferase is inhibited by long chain acyl-CoAs. Keystone Symposia 2011, Keystone, CO.
13. **Noland, R.C.**, Kovalik, J.P., Seiler, S.E., Slentz, D., Stevens, R., Ilkayeva, O.R., Koves, T.R., and Muoio, D.M. Exploring the physiological and pathophysiological relevance of acylcarnitine efflux. International Biochemistry of Exercise Conference 2009, Guelph, Canada.
14. **Noland, R.C.**, Koves, T.R., Lum, H., Stevens, R.D., Ilkayeva, O.R., and Muoio, D.M. Therapeutic effects of carnitine supplementation and acetylcarnitine efflux on mitochondrial fuel metabolism. NHLBI Mitochondrial Biology Symposium 2008, Bethesda, MD.
15. Cortright, R.N., **Noland, R.C.**, Woodlief, T.L., Kwak, H.B., Price, J.W., Britton, S.L., Koch, L.G., and Lust, R.M. Evidence for high fat diet-induced peroxisomal activity in skeletal muscle from low (LCR) and high (HCR) capacity endurance running rats. Integrative Biology of Exercise 2008, Hilton Head, SC.
16. Bikman, B., Woodlief, T.L., **Noland, R.C.**, Cortright, R.N., Lust, R.M., and Dohm, G.L. The effects of intrinsic aerobic capacity and diet on insulin signaling and IKK $\beta$  activity in rats. Integrative Biology of Exercise 2008, Hilton Head, SC.
17. Kovalik, J.P., **Noland, R.C.**, Ilkayeva, O.R., and Muoio, D.M. Metabolic crosstalk between human skeletal myocytes and co-cultured adipocytes. American Diabetes Association 2008, San Francisco, CA.
18. **Noland, R.C.**, Koves, T.R., Lum, H., Slentz, D.H., Ilkayeva, O.R., Newgard, C.B., and Muoio, D.M. Carnitine supplementation reverses lipid-induced metabolic inflexibility by promoting mitochondrial efflux of excess acyl-CoA. Keystone Symposia 2008, Breckenridge, CO.
19. Lum, H., **Noland, R.C.**, Koves, T.R., Slentz, D.H., Ilkayeva, O.R., Newgard, C.B., and Muoio, D.M. Age-related mitochondrial dysfunction and metabolic inflexibility. Gerontological Society of America, Annual Meeting 2007, San Francisco, CA.
20. Makowski, L., Koves, T.R., **Noland, R.C.**, Slentz, D.H., Ilkayeva, O.R., Muehlbauer, M.J., and Muoio, D.M. Comprehensive metabolomic profiling of PPAR $\alpha$  null mice during the fed to fasted transition. Kern Aspen Lipid Conference 2007, Aspen, CO.
21. Koves, T.R., **Noland, R.C.**, Slentz, D.H., Ilkayeva, O.R., Muehlbauer, M.J., and Muoio, D.M. Mitochondrial dysfunction and metabolic inflexibility in models of aging and diet-induced obesity. MiPsummer Meeting on Mitochondrial Respiratory Physiology 2007, Schrocken Austria.
22. Woodlief, T.L., Whitfield, B.R., **Noland, R.C.**, and Cortright, R.N. Peroxisomal enhancement of mitochondrial function. Experimental Biology 2006, San Francisco, CA.
23. **Noland, R.C.**, Thyfault, J.P., Henes, S.T., Whitfield, B.R., Woodlief, T.L., Evans, J.R., Lust, J.A., Britton, S.L., Koch, L.G., Cortright, R.N., and Lust, R.M. Effects of a high fat diet on mitochondrial and peroxisomal fatty acid oxidation in rats selectively bred for low and high capacity endurance running. Experimental Biology 2005, San Diego, CA.
24. Henes, S.T., **Noland, R.C.**, Woodlief, T.L., Lust, R.M., Britton, S.L., Koch, L.G., and Cortright, R.N. Differential response to a high fat diet in rates of fatty acid oxidation of skeletal muscle mitochondrial

subpopulations in low (LCR)- vs. high-capacity (HCR) exercise performing rats Experimental Biology 2005, San Diego, CA.

25. Wingard, C.J., Henes, S.T., **Noland, R.C.**, Lust, C.C., Koch, L.G. Britton, S.L., and Lust, R.M. Altered relaxation in vascular tissues due to high fat diet in strains of rats (LCR and HCR) selected for endurance running capacity. Experimental Biology 2005, San Diego, CA.
26. **Noland, R.C.**, Whitfield, B.R., Woodlief, T.L., Manning, S.M., Evans, J.R., Kinken, K., Warf, A., Lust, R.M., and Cortright, R.N. Peroxisomal-mitochondrial interactions in lean and fatty Zucker rats. NAASO 2004, Las Vegas, NV.
27. **Noland, R.C.**, Evans, J.R., Manning, S.M., Whitfield, B.R., Woodlief, T.L., Cortright, R.N., and Lust, R.M. Pathways of peroxisomal contribution to mitochondrial fatty acid oxidation vary between tissues. Experimental Biology 2004, Washington D.C.
28. Cortright, R.N., **Noland, R.C.**, Woodlief, T.L., and Dohm, G.L. Carnitine is necessary for MCFA oxidation in human skeletal muscle. Experimental Biology 2004, Washington D.C.
29. **Noland, R.C.**, Koves, T.R., Bennett, J.M., Cortright, R.N., and Lust, R.M. Mitochondrial fatty acid oxidative capacity is not significantly altered following exercise training in rat heart. Experimental Biology 2002, New Orleans, LA.
30. Cortright, R.N., Becker-Greenway, S., **Noland, R.C.**, Hickner, R.C., Vidal-Puig, A., and Gallagher, M.L. Energy-restriction increases skeletal muscle UCP-3 gene expression in males but not females. Experimental Biology 2002, New Orleans, LA.
31. **Noland, R.C.**, Koves, T.R., Muoio, D.M., Vidal-Puig, A.J., Grujic, B., Dohm, G.L., Lowell, B., and Cortright, R.N. Fuel metabolism in muscles from UCP-3 knock-out mice. The Institute of Nutrition 2001, Raleigh, NC.
32. **Noland, R.C.**, Fannon, W.R., Koves, T.R., Cortright, R.N., and Lust R.M. Myocardial palmitate oxidation in spontaneously hypertensive corpulent rats. Experimental Biology 2001, Orlando, FL.
33. Fannon, W.R., **Noland, R.C.**, Koves, T.R., Bennett, J.M., Hickner, R.C., and Cortright, R.N. Reduced insulin action and elevated fatty acid oxidation in obese-hypertensive rats. Experimental Biology 2001, Orlando, FL.
34. Cortright, R.N., Tanner, C.J., Koves, T.R., and **Noland, R.C.** An interactive game in skeletal muscle bioenergetics. 47th ACSM Annual Meeting 2000, Indianapolis, IN. MSSE#55.
35. **Noland, R.C.**, Justice, J.P., and Van Scott, M.R. GATA-3 expression in a murine model of allergen-induced airway inflammation. Doctoral Student Research Day 2000, Greenville, NC.

### Other/Miscellaneous

**Master's thesis:** Acute endurance exercise increases skeletal muscle uncoupling protein-3 gene expression in untrained but not trained humans. East Carolina University, Greenville, NC 27834, 1999.

**Doctoral dissertation:** Peroxisomal contributions to mitochondrial fatty acid oxidation in obesity-associated insulin-resistance. East Carolina University, Greenville, NC 27834, 2005.



## Invited Talks and Lectures:

1. **Noland, R.C.**, Worsham, E.A., Simon, J., Fuller, S.E., Baes, M., Ghosh, S. and Mynatt, R.L. Peroxisomes in skeletal muscle protect against lipid-induced insulin resistance. Oral Presentation at Experimental Biology, 2016, San Diego, CA.
2. **Noland, R.C.** Targeting peroxisomes in skeletal muscle to combat lipid-induced insulin resistance. Invited Seminar Speaker at the Kansas University Medical Center, Kansas City, KS. March 2016.
3. **Noland, R.C.** Targeting peroxisomes in skeletal muscle to combat lipid-induced insulin resistance. Invited Seminar Speaker at Purdue University, West Lafayette, IN. Oct 2015.
4. **Noland, R.C.** Targeting peroxisomes in skeletal muscle to combat lipid-induced insulin resistance. Invited Seminar Speaker at Brigham Young University, Provo, UT. Sept 2014.
5. **Noland, R.C.** Exploring the role of peroxisomal lipid metabolism in insulin resistance. Invited Oral Presentation at the 2012 SouthEast Lipid Research Conference, Stone Mountain, GA.
6. **Noland, R.C.**, Koves, T.R., Seiler, S.E., Ilkayeva, O.R., Stevens, R., Muoio, D.M., Kovalik, J.P., DeBalsi, K.L., Zhang, J, Kraus, W., and Mynatt, R.L. Carnitine supplementation improves mitochondrial metabolic control and while body glucose tolerance without changes in adiposity. Invited Oral Presentation at the 2012 FASEB Science Research Conference, Snowmass, CO.
7. **Noland, R.C.**, Evans, J.R., Manning, S.M., Whitfield, B.R., Woodlief, T.L., Cortright, R.N., and Lust, R.M. Pathways of peroxisomal contribution to mitochondrial fatty acid oxidation vary between tissues. Invited Oral Presentation at the Carnitine Conference. Experimental Biology 2004, Washington D.C.
8. **Noland, R.C.**, Hickner, R.C., Vidal-Puig, A.J., Zheng, D., Lowell, B.B., and Cortright, R.N. Human skeletal muscle uncoupling protein-3 mRNA levels are elevated in response to acute exercise. Free communication/slide at the 47<sup>th</sup> Annual ACSM Meeting 2000, Indianapolis, IN. MSSE # 757.

## Service:

### Ad Hoc Manuscript Reviewer

American Journal of Physiology: Endocrinology and Metabolism  
American Journal of Physiology: Regulatory, Integrative and Comparative Physiology  
Biochimie  
British Journal of Nutrition  
Diabetology and Metabolic Syndrome  
Diabetes  
FASEB Journal  
International Journal of Obesity  
Journal of Applied Physiology  
Journal of Biological Chemistry  
Journal of Lipid Research  
Lipids  
Medicine and Science in Sports and Exercise  
Neurodegenerative Diseases

Nutrients  
Obesity  
Pediatric Obesity  
Pharmacology  
PLoS ONE  
PPAR Research  
Psychoneuroendocrinology  
Scientific Reports

### Grant Reviewing

- PBRC Nutrition Obesity Research Center Pilot and Feasibility Program – March 2012
- Botanicals Research Center Pilot Grants – August 2013, September 2014.  
Diabetes-UK – March 2014, Feb 2015

### Committees

- Pennington Biomedical Research Center
  - Emergency Leave Committee, 2014-present
  - Holiday Planning Committee, 2014
  - Faculty Advisory Council, 2015-present
  - Radiation Safety Committee, 2016-present

### Conferences

- Experimental Biology, 2016, San Diego, CA. – Co-organized session with Dr. Ronald Cortright entitled 'Skeletal muscle peroxisomal-mitochondrial interactions in health and disease.'

## Teaching and Mentoring:

### East Carolina University:

PHLY 6700	Medical Physiology Tutor		2001-2002
PHLY 6330	Physiology Tutor/Teaching Assistant		2001
PHLY 4330	Human Physiology Exercise Physiology Guest Lecturer		2001
EXSS 3805	Exercise Physiology Muscle Physiology Guest Lecturer Substrate Metabolism Guest Lecturer		2002 2001
EXSS 3805	Exercise Physiology Laboratory Teaching Assistant		1997-1999

### High School, Undergraduate and Graduate Students Trained:

John M. Brown	LSU Chancellor's Future Leaders in Research student	LSU	present
Callie Waskom	Undergraduate Research Internship	LSU	2015
Roger DeSanti Jr.	Undergraduate Research Internship	LSU	2014
William A. Shockey	Undergraduate Research Internship	LSU	2013
Dustin M. Drewes	Undergraduate Research Internship	LSU	2012
Sarah E. Seiler	Graduate Student	Duke	2007-2011

Jasper R. Evans	Undergraduate Research Internship	ECU	2003-2004
Jennifer A. Lust	Undergraduate Research Assistant, Texas Tech University		2004
Brian R. Whitfield	Undergraduate Research Internship	ECU	2003-2004
Amanda Warf	Undergraduate Research Internship	ECU	2004
Katherine A. Kinken	Undergraduate Research Internship	ECU	2004
Amanda R. Privette	Medical Science Research Volunteer	ECU	2003
Kristen Hoyle	Undergraduate Research Internship	ECU	2003
Andrew L. Bates	Undergraduate Research Internship	ECU	2002
Lisa Graeber	Honors Medicine Student North Pitt High School, Greenville, NC		2001
Steven M. Manning	Undergraduate Research Internship	ECU	2001