

Rosalind A. Coleman
Department of Nutrition
School of Public Health, CB# 7461
2301 Michael Hooker Research Building
Dauer Drive
University of North Carolina
Chapel Hill, NC 27599-7461

Phone: (919) 966-7213
FAX: (919) 843-8555
email: rcoleman@unc.edu

Education:

Radcliffe College, Harvard University, Cambridge, MA. B.A. *cum laude*, 1964
Case Western Reserve School of Medicine, Cleveland, OH, M.D., 1969
University of North Carolina School of Public Health, Chapel Hill, NC: Courses in maternal-child nutrition, 1974-75

Professional Experience:

1969-71 Intern and Resident in Pediatrics, New York Hospital - Cornell Medical Center, New York, NY
1972-73 Resident in Pediatrics, Duke University Medical Center, Durham, NC
1974-75 Fellow, Pediatric Metabolism and Endocrinology with Drs. J.B. Sidbury, Jr. and S. Handwerger, Duke U. Medical Center, Durham, NC
1975-78 Research Associate with Dr. R.M. Bell, Dept. of Biochemistry, Duke U. Medical Center, Durham, NC
1978-84 Assistant Professor of Pediatrics, Genetics and Metabolism, Duke U. Medical Center, Durham, NC
1984-90 Associate Professor of Pediatrics, Genetics and Metabolism, Duke U. Medical Center, Durham, NC
1985-90 Assistant Professor of Biochemistry, Duke U. Medical Center, Durham, NC
1989 Visiting Professor, Department of Pediatrics, University of Colorado, Denver, CO
1989 Visiting Professor, Department of Biology, Stanford University, Stanford, CA
1991 Professor of Nutrition, University of North Carolina, Chapel Hill, NC
1991-05 Director of Nutritional Biochemistry, Department of Nutrition, University of North Carolina, Chapel Hill, NC
1991 Professor of Pediatrics, University of North Carolina, Chapel Hill, NC
2000 Associate Director, UNC Nutrition Obesity Research Center
2005-09 Program Area Leader (Metabolic Disease), UNC Interdisciplinary Obesity Center
2007-09 Associate Chair, Dept. of Nutrition, University of North Carolina, Chapel Hill, NC
2009 Visiting Professor, Stedman Center, Duke U. Medical Center, Durham, NC
2010-15 Director of Nutritional Biochemistry, Department of Nutrition, University of North Carolina, Chapel Hill, NC

Scholarships, Fellowships, Honors:

Harvard University, B.A. *cum laude*,
Samuel T. Haas Scholarship, 1967-69
NIH Training grant Traineeship, 1976-78
Basil O'Connor Scholarship, March of Dimes, 1978-82
Huesped de Honor, University of La Plata, La Plata, Argentina, 2000
Osborne and Mendel Award, American Society for Nutritional Science, 2003
Sonia Wolf Wilson Lectureship, University of Texas-Austin, 2005
Working on Women in Science Scholar, UNC School of Medicine, 2008-10
Dr. Albert G. Hogan Memorial Lecturer for 2008, University of Missouri
Delta Omega Faculty Award, 2008
Women in Science & Engineering Lectureship, University of Wisconsin, 2008
Distinguished Scientist Seminar, University of South Alabama College of Medicine, 2009
Diabetes and Endocrine Research Distinguished Lecturer, University of Massachusetts, 2009
Kenan Research Leave, UNC-Chapel Hill, 2010
Keynote Lecture, FASEB Summer Conference on Lipid Droplets: Metabolic Consequences of Stored Neutral Lipids, 2010
Five of my students have won the Young Investigator Award (or equivalent) from the American Society for Clinical Nutrition or the American Society for Nutrition: DM Muoio (1999), LH Hammond (2004), LO Li (2006), JM Ellis (2009) or have been a finalist for this award: CA Nagle (2007).
Journal of Lipid Research Lectureship Award: Acyl-CoA synthesis, Metabolism and Signaling, 2013

Keynote Lecture, Fatty Acids and Cell Signaling (FACS-12) From Genes to Human Physiology, Toronto, Canada, Oct 2015
Goldberg Lecture, University of Minnesota, 2017
Keynote Lecture, 2017 Gordon Research Conference on Molecular and Cellular Biology of Lipids: The Dynamic Lipidome

Consultant Appointments

Invited Speaker, NIH Workshop on Bile Acid Metabolism 1978
Department of Pediatrics Representative, Duke University, Sigma Xi, 1981-1991
NIH Site-Visit Committees: 1984, 1986
Grant reviewer, National Science Foundation; N.C. Heart Association, 1985-1987
Professional Advisory Board, Association for Glycogen Storage Disease, 1984-1989
N.C. Heart Association Research Committee, 1987-1988
NIH Biochemistry 2 Study Section, 1988-1989
Editorial Board, *Biochimica et Biophysica Acta*, 1989-1995
NIH Reviewers Reserve, 1990-1994
NIH Study Section for Child Health Research Centers, 1990
Chair, North Carolina Pediatric Society Committee on Nutrition and WIC, 1992-1998
Editorial Board, *Journal of Nutritional Biochemistry*, 1992-2002
Co-Chair, South Eastern Regional Medical-Nutrition Education Network, 1992-1994
Advisory Board, Medical Nutrition Education Initiative, 1992-1999
Board of Scientific Advisors, The NC Institute of Nutrition, 1993-1997
Vice President, Association for Women in Science, Triangle Chapter, 1993-1994
President, Association for Women in Science, Triangle Chapter, 1994-1995
Guest Editor, *Journal of Lipid Research*, 1993
Scientific Advisory Board, Association for Glycogen Storage Disease, 1994-1999
Chair, NIH Special Emphasis Panel SBIR/STTR, 1995
NIH ad hoc NRSA review panel, 1995
Editorial Board, *Journal of Nutrition*, 1996-2002
NIH Physiological Chemistry Study Section, 1996
National Board of Medical Examiners; USMLE Committee for Biochemistry, 1996-1999
Editorial Board, *Archives of Biochemistry and Biophysics*, 1998-2001
NIH, NIDDK-C Review Committee, 2000
American Heart Association review panel, Cell transport and metabolism section, 2000
External Dissertation Examiner: Biochemistry, University of Dalhousie, Canada 2001
NIH, NIDDK Diabetes, Endocrinology and Metabolism B Subcommittee, 2000-2004
Editorial Board, *Journal of Biological Chemistry*, 2003-2008
Nominating Committee, Osborne and Mendel Award, ASNS, 2004-2007
External Dissertation Examiner: Biochemistry, Thomas Jefferson, Philadelphia, 2016
Chair, NIH, NIDDK ZDK1 GRB1 M2 (CNRU) Review Committee, 2005
Editorial Advisory Panel, *Future Lipidology*, 2005-2009
NIH, IPOD Review Committee, 2006
Metabolic Disorders Keystone Symposia Study Group, 2006
Nutritional Sciences Council (NSC), American Society for Nutrition
Editor, Lipid Highlights, ASBMB,
<http://www.asbmb.org/lipidcorner/ResearchHighlights/tabid/57/Default.aspx>, 2009-2011
Award Committee for Walter A. Shaw Young Investigator Award in Lipid Research, 2012
Deuel Conference Advisory Board, 2012-2015
NIH, NIDDK Review Committee, DEM (Diabetes, Endocrinology, and Metabolism) Fellowships 2010-2018
American Heart Association review committee 2010-2015
NIH Review panel ZDK1 GRB-J M2 R24, 2013
European Research Council LS1 panel for Advanced Grants, Brussels, Belgium 2013-2015
Consultant, NIDDK New Investigator Workshop, 2013, 2015
Special Emphasis Panel ZRG1 EMNR-V (55) R, *Nutrigenetics and Nutrigenomics Approaches to Nutrition Research*, 2015
External Dissertation Examiner: Biochemistry, University of Odense, Denmark, 2016
Editorial Board, *Journal of Biological Chemistry*, 2016-2021

Guest Editor, *Biochim. Biophys. Acta*, Special Issue: Recent advances in Lipid Droplet Biology, 2017

Organizational activities

Chair, Minisymposia, Lipid and Lipoprotein Metabolism and Transport, Experimental Biology, 2001
Chair, Minisymposia, Lipid and Lipoprotein Metabolism and Transport, Experimental Biology, 2002
Co-Chair (elected), FASEB Summer Conference: Molecular Biology of Intestinal Lipid Transport & Metabolism, 2003
Organizing Committee, American Diabetes Association Symposium on the Integrative role of fatty acids in metabolic regulation: Implications for obesity and diabetes, Newport, RI, 2004
Co-Founder and Co-Chair (with Dawn Brasaemle), FASEB Summer Conference, Lipid Droplets: Metabolic consequences of stored neutral lipids, 2007
Organizational Steering Committee for the Lipid Society, 2008-2013
Co-Chair, Keystone Symposium: Type 2 Diabetes, Insulin Resistance and Metabolic Dysfunction, 2011
Planning Committee, Track 1 of The Obesity Society, 2010-2012
Vice-Chair (elected), Gordon Conference: Molecular and Cellular Biology of Lipids, 2011
Chair (elected), Gordon Conference: Molecular and Cellular Biology of Lipids, 2013
Steering Committee, NLSD/TGCV International Registry 2014-

Research Activities

Triacylglycerol metabolism and enzymology
Lipid channeling in cells
Fatty acid and acyl-CoA signaling and metabolism
Lipid intermediates and insulin resistance

Professional and Honorary Societies

Society for Pediatric Research
American Society for Biochemistry and Molecular Biology
Sigma Xi
North Carolina Pediatrics Society
Association for Glycogen Storage Disease
American Academy of Pediatrics
American Society for Nutrition
Association for Women in Science, Triangle Chapter

Recent Manuscript Reviews

American Journal of Physiology: Endocrinology and Metabolism, American Journal of Physiology: Gastrointestinal and Liver Physiology, Biochemistry, Biochimica et Biophysica Acta, Cell Metabolism, Diabetologia, Diabetes, FASEB Journal, Future Lipidology, Hepatology, Journal of Biological Chemistry, Journal of Clinical Investigation, Journal of Lipid Research, Metabolism, Nature Medicine, Pediatric Research, Plos One, Proceedings of the National Academy of Sciences, Trends in Endocrinology and Metabolism

Publications: Peer Reviewed

1. Klett EL, Chen S, Yechoor A, and Coleman RA. Long-chain acyl-CoA synthetase isoforms differ in preferences for eicosanoid species and long-chain fatty acids (2017) *J Lipid Res*, in press.
2. Alves-Bezerra, M, Ramos, IB, De Paula, IF, Maya-Monteiro, C, Klett, EL, Coleman, RA, and Gondim, KC. Deficiency of glycerol-3-phosphate acyltransferase 1 decreases triacylglycerol storage and induces fatty acid oxidation in insect fat body (2016); *Biochim. Biophys. Acta: Cell Mol. Biol. Lipids*, 2016 Dec 9. pii: S1388-1981(16)30333-XPmid:27956137. DOI:10.1016/j.bbalip.2016.12.004
3. Alves-Bezerra, M, Klett, EL, De Paula, IF, Ramos, IB, Coleman, RA, and Gondim, KC. Long-chain acyl-CoA synthetase 2 knockdown leads to decreased fatty acid oxidation in fat body and reduced reproductive capacity in the insect *Rhodnius prolixus* (2016) *Biochim. Biophys. Acta* Apr 16;1861:650-662. PMID:27091636; [PubMed - in process]
4. Pagac, M, Cooper, DE, Lukmantara, I, Mak, HY, Lei, M, Du, X, Qi, Y, Kotevski, D, Sadowski, P, Chen, W, Harris, TE, Liu, G, Coleman, RA, and Yang, H. (2016) SEIPIN is an evolutionarily conserved

- regulator of glycerol-3-phosphate acyltransferase (GPAT), *Cell Reports* 17:1546-1559. doi: 10.1016/j.celrep.2016.10.037.
5. Garcia-Fabiani MB, Montanaro MA, Lacunza E†, Cattaneo, ER, Coleman RA, Pellon-Maison M, and Gonzalez-Baro MR. Methylation of the *Gpat2* promoter regulates transient expression during mouse spermatogenesis. (2015) *Biochem. J.* 471(2):211-20. PMID: 26268560; PMCID: PMC4613502
 6. Grevengoed, TJ, Ellis, JM, Cooper, DE, Young, PA, and Coleman, RA. Loss of ACSL1 impairs cardiac autophagy and mitochondrial structure through mTOR activation (2015) *FASEB J.* 29:4641-4653. PMID:26220174; PMCID:PMC4608904
 7. Grevengoed, TJ, Martin, SM, Katunga, L, Cooper, DE, Anderson, EJ, Murphy, RC, and Coleman. RA. Acyl-CoA synthetase 1 deficiency alters cardiolipin species and impairs mitochondrial function (2015) *J. Lipid Res.* 56(8):1572-82. PMID:26136511; PMCID:PMC4513998
 8. Cooper, DE, Grevengoed, TJ, Klett EL, and Coleman, RA. Glycerol-3-phosphate acyltransferase isoform 4 (GPAT4) limits oxidation of exogenous fatty acids in brown adipocytes (2015) *J. Biol. Chem.* 290:15112-20. PMID:25918168; PMCID:PMC4463454
 9. Schisler, JC, Grevengoed, TJ, Ellis, JE, Paul, DS, Pascual, F, Willis, MS, Patterson, C, Jia, W and Coleman, RA. Cardiac energy dependence on glucose increases metabolites related to glutathione and activates metabolic genes controlled by mTOR (2015) *J. Am. Heart Assn.* Feb 24;4(2). pii: e001136. doi: 10.1161/JAHA.114.001136; PMID:25713290; PMCID:PMC4345858; selected for Author Profile
 10. Zhang, C, Hwang, G, Cooper DE, Grevengoed, TJ, Eaton, JM, Natarajan, V, Harris, TE, and Coleman, RA. Inhibited insulin signaling in mouse hepatocytes is associated with increased phosphatidic acid but not diacylglycerol (2015) *J. Biol. Chem.* 290(6):3519-28; PMID:25512376; PMCID:PMC4319019
 11. Liu, Y, He, Y, Jin, A, Tikunov, AP, Zhou, L, Tollini, LA, Leslie, P, Kim, TH, Li, LO, Coleman, RA, Gu, Z, Chen, YQ, Macdonald, JM, Graves, LM, and Zhang, Y. Ribosomal protein-Mdm2-p53 pathway coordinates nutrient stress with lipid metabolism by regulating MCD and promoting fatty acid oxidation (2014) *Proc. Natl. Acad. Sci. USA* 111(23):E2414-22; PMID:24872453; PMCID:PMC4060669
 12. Li, LO, Grevengoed, TJ, Paul, DS, Pascual, F, Ilkayeva, O, Newgard, CB, Muoio, DM, and Coleman, RA. Compartmentalized acyl-CoA metabolism in skeletal muscle compromises systemic glucose homeostasis (2015) *Diabetes* 64(1):23-35; PMID:25071025; PMCID:PMC4274800
 13. Zhang, C, Cooper, DE, Grevengoed, TJ, Klett, EL, Eaton, JM, Harris, TE, and Coleman, RA. Glycerol-3-phosphate acyltransferase-4-deficient mice are protected from diet-induced insulin resistance by the enhanced association of mTOR and rictor. (2014) *Am. J. Physiol.: Endocrinol. Metab.* 307(3):E305-15; PMID:24939733; PMCID: PMC4121579
 14. Pellon-Maison, M, Montanaro, MA, Lacunza, E, Garcia-Fabiani, MB, Soler-Gerino, MC, Cattaneo, ER, Quiroga, IY, Abba, MC, Coleman, RA, and Gonzalez-Baro, MR. Glycerol-3-phosphate acyltransferase-2 behaves as a cancer testis gene and promotes growth and tumorigenicity of the breast cancer MDA-MB-231 cell line. (2014) *PLOS ONE* 9(6):e100896; PMID:24967918; PMCID:PMC4072688
 15. Paul, DS, Grevengoed, TJ, Pascual, F, Willis, MS, and Coleman, RA. Deficiency of cardiac Acyl-CoA synthetase-1 induces diastolic dysfunction, but pathologic hypertrophy is reversed by rapamycin (2014) *Biochim. Biophys. Acta.* 1841(6):880-887. PMID:24631848; PMCID: PMC4047709
 16. Wendel, AA, Cooper, DE, Ilkayeva, OR, Muoio, DM, and Coleman, RA. Glycerol-3-phosphate acyltransferase (GPAT)-1, but not GPAT4, incorporates newly synthesized fatty acids into triacylglycerol and diminishes fatty acid oxidation. *J. Biol. Chem.* 288(38):27299-306, 2013. PMID:23908354; PMCID: PMC3779725

17. Klett, EL, Chen, S, Edin, ML, Li, LO, Ilkayeva, O, Zeldin, DC, Newgard, CB, and Coleman, RA. Diminished acyl-CoA synthetase isoform 4 (Acsl4) activity in INS 832/13 cells reduces cellular epoxyeicosatrienoic acid levels and results in impaired glucose-stimulated insulin secretion (2013) *J. Biol. Chem.* 288(30):21618-29. PMID:23766516; PMCID: PMC3724621
18. Wilfling, F, Wang, H, Haas, JT, Kraemer, N, Gould, T, Uchida, A, Cheng, J-X, Graham, M, Christiano, R, Fröhlich, F, Liu, X, Buhman, KK, Coleman, RA, Bewersdorf, J, Farese, RV Jr., and Walther, TC. Triacylglycerol synthesis enzymes mediate lipid droplet growth by relocalizing from the ER to lipid droplets (2013) *Dev. Cell* 24: 384-99. PMID: 23415954; PMCID:PMC3727400
19. Modi, HR, Basselin, M, Taha, AY, Li, LO, Coleman, RA, Bialer, M, and Rapoport, SI. Propylisopropylacetic acid (PIA), a constitutional isomer of valproic acid, uncompetitively inhibits arachidonic acid acylation by rat acyl-CoA synthetase 4: a potential drug for bipolar disorder (2013) *Biochim. Biophys. Acta -Molecular and Cell Biology of Lipids*, 1831(4):880-6. PMID: 23354024; PMCID:PMC3593989
20. Li, X, Gonzalez, O, Shen, X, Barnhart, S, Kramer, F, Kanter, JE, Vivekanandan-Giri, A, Tsuchiya, K, Handa, P, Pennathur, S, Kim, F, Coleman, RA, Schaffer, JE, and Bornfeldt, KE. Endothelial acyl-CoA synthetase 1 is not required for inflammatory and apoptotic effects of a saturated fatty acid-rich environment (2012) *Arterio. Thromb. Vasc. Biol.* 33(2):232-40. PMID: 23241406;PMCID: PMC3553857
21. Tavian, D, Missaglia, S, Redaelli, C, Pennisi, EM, Invernici, G, Wessalowski, R, Maiwald, R, Arca, M, and Coleman, RA. Contribution of novel ATGL missense mutations to the clinical phenotype of NLSDM: a strikingly low dosage of lipase activity may preserve patients from cardiac dysfunction. (2012) *Hum. Molec. Genet.*, 21:5318-28. PMID: 22990388; PMCID: PMC3510752
22. Cattaneo, ER, Pellon-Maison, M, Rabassa, ME, Lacunza, E, Coleman, RA, and Gonzalez-Baro, MR. Glycerol-3-phosphate acyltransferase-2 is expressed in spermatid germ cells and incorporates arachidonic acid into triacylglycerols (2012) *PLoS One* 7(8):e42986. PMID: 22905194; PMCID: PMC3414494
23. Teng, Y-W, Ellis, JM, Coleman, RA, and Zeisel, SH. Mouse betaine-homocysteine S-methyltransferase deficiency reduces body fat via increasing energy expenditure and impairing fuel usage and storage (2012), *J. Biol. Chem.* 287(20):16187-98. PMID: 22362777; PMCID: PMC3351280
24. Zhang, C, Wendel, AA, Keogh, MR, Harris, TE, Chen, J, and Coleman, RA. Glycerolipid signals alter mTORC2 to diminish insulin signaling (2012), *Proc. Natl. Acad. Sci. USA.* 109(5):1667-72. PMID: 22307628; PMCID: PMC3277174
25. Kanter, JE, Kramer F, Barnhart S, Averill MM, Vivekanandan-Giri A, Vickery T, Li LO, Becker L, Yuan W, Chait A, Braun KR, Potter-Perigo S, Sanda S, Wight TN, Pennathur S, Serhan CN, Heinecke JW, Coleman RA, and Bornfeldt KE. Diabetes promotes an inflammatory macrophage phenotype and atherosclerosis through acyl-CoA synthetase 1. (2012) *Proc. Natl. Acad. Sci. USA*, 109(12):E715-24. [Highlighted in *Nature* 481:412, 2012] PMID:22308341; PMCID: PMC3311324
26. Ellis, JM, Paul, DS, DePetrillo, MA, Singh, BP, Malarkey, DE, and Coleman, RA. Mice deficient in glycerol-3-phosphate acyltransferase-1 have a reduced susceptibility to liver cancer (2012), *Toxicol. Pathol.*, 40(3): 513-521; PMID:22215515; NIHMSID 456158; PMCID:PMC3640291
27. Frahm, JL, Li, LO, Grevengoed, TJ, and Coleman, RA. Phosphorylation and acetylation of acyl-CoA synthetase-1 (2011) *J. Proteomics Bioinform.* 4(7):129-137. NIHMSID 456161; PMCID: PMC3772793; PMID:24039348
28. Ellis, JM, Mentock, SB, DePetrillo, MA, Koves, TR, Sen, S, Watkins, SM, Muoio, DM, Cline, GW, Taegtmeier, H, Shulman, GI, Willis, MS, and Coleman, RA. Mouse cardiac acyl-CoA synthetase-1

- deficiency impairs fatty acid oxidation and induces cardiac hypertrophy (2011) *Mol. Cell. Biol.* 31(6):1252-62. PMID: 21245374; PMCID: PMC3067914 [Cover Article]
29. Stapleton, CM, Mashek, DG, Wang, S, Nagle, CA, Cline, GW, Thuillier, P, Leesnitzer, LM, Li, LO, Stimmel, JB, Shulman, GI, and Coleman, RA. Endogenous lysophosphatidic acid activates peroxisome proliferator activated receptor- γ in Chinese hamster ovary cells (2011) *PLoS ONE* 6(4): e18932. doi:10.1371/journal.pone.0018932. PMID: 21533082; PMCID: PMC3080373
 30. Wang, H, Bell, M, Hu, H, Dalen, K, Londos, C, Yamaguchi, T, Rizzo, MA, Coleman, RA, Gong, D, Brasaemle, D, and Sztalryd, C. Unique regulation of adipose triglyceride lipase (ATGL) by perilipin 5, a lipid droplet-associated protein (2011) *J. Biol. Chem.* 286(18):15707-15. PMID: 21393244; PMCID: PMC3091179
 31. Redaelli, C, Coleman, RA, Moro, L, Sertedaki, A, Kakourou, T, Elsayed, SM, Prati, D, Colli, A, Mela, D, Colombo, R, and Tavian, D. Clinical and genetic characterization of Chanarin-Dorfman syndrome patients: first report of large deletions in the ABHD5 gene. (2010) *Orphanet J Rare Dis.* 5:33. PMID: 21122093; PMCID: PMC3019207
 32. Shimshoni, JA, Basselin, M, Li, LO, Coleman, RA, Rapoport, SI, and Modi, HR. Valproate uncompetitively inhibits acylation of arachidonate acid by rat acyl-CoA synthetase 4: Relevance to its efficacy against bipolar disorder (2011) *Biochim. Biophys. Acta* 1811(3):163-9. PMID: 21184843; PMCID: PMC3037030
 33. Li, LO, Hu, YF, Wang, L, Mitchell, M, Berger, A, and Coleman, RA. Early hepatic insulin resistance: a metabolomics analysis (2010) *Mol. Endocrinol.* 24(3):657–666. PMID: 20150186; PMCID: PMC2840808
 34. Ellis, JM, Li, LO, Wu, PC, Koves, TR, Ilkayeva, O, Stevens, RD, Watkins, SM, Muoio, DM, Coleman, RA. Adipose acyl-CoA synthetase-1 directs fatty acids toward beta-oxidation and is required for cold thermogenesis. *Cell Metab.* 2010 Jul 4;12(1):53-64 PMID: 20620995; NIHMS 212791; PMCID: PMC2910420121.
 35. Wendel, AA, Li, LO, Li, Y, Cline GW, Shulman, GI, and Coleman, RA. Glycerol-3-phosphate acyltransferase 1-deficiency in ob/ob mice diminishes hepatic steatosis but does not protect against insulin resistance or obesity (2010) *Diabetes* 59(6):1321-9; PMID: 20200319, PMCID: PMC2874692
 36. Li, LO, Ellis, JM, Paich, HA, Wang, S, Gong, N, Altshuller, G, Thresher, RJ, Watkins, SM, Shulman, GI and Coleman, RA. Liver-specific loss of long-chain acyl-CoA synthetase-1 decreases triacylglycerol synthesis and β -oxidation, and alters phospholipid fatty acid composition (2009) *J. Biol. Chem.* 284(41):27816-26. PMCID: PMC2788832; PMID: 19648649
 37. Pellon-Maison, M, Garcia, CF, Cattaneo, ER, Coleman, RA, and Gonzalez-Baro, MR. *Macrobrachium borellii* hepatopancreas contains a mitochondrial glycerol-3-phosphate acyltransferase which initiates triacylglycerol biosynthesis (2009) *Lipids*, 44(4):337-44. PMID: 19130111; PMCID: PMC2823129
 38. Karlsson, EA, Wang, S, Shi, Q, Coleman, RA, and Beck, MA. Glycerol-3-phosphate acyltransferase 1 is essential for the immune response to infection with Coxsackievirus B3 in mice. (2009) *J. Nutr.* 139(4):779-83. PMID: 19193813, PMCID: PMC2666367
 39. Mansilla, F, da Costa, KA, Wang, S, Kruhøffer, M, Lewin, TM, Ørntoft, TF, Coleman, RA and Birkenkamp-Demtröder, K. Lysophosphatidylcholine acyltransferase 1 (LPCAT1) overexpression in human colorectal cancer, (2009) *J. Mol. Med.* 87(1):85-97. PMID: 18974965 PMCID: PMC2614561
 40. Lewin, TM, de Jong, H, Schwerbrock, NJM, Hammond, LE, Watkins, SM, Combs, TP and Coleman, RA. Mice deficient in mitochondrial glycerol-3-phosphate acyltransferase-1 have diminished myocardial triacylglycerol accumulation during lipogenic diet and altered phospholipid fatty acid composition (2008) *Biochim. Biophys. Acta* 1781:352-8. PMID: 18522808; PMCID: PMC3285559

41. Nagle, CA, Vergnes, L, DeJong, H, Wang, S, Lewin, TM, Reue, K and Coleman, RA. Identification of a novel sn-glycerol-3-phosphate acyltransferase isoform, GPAT4 as the enzyme deficient in Agpat6— /— mice (2008) *J. Lipid Res.* 49:823-31 PMID: 18192653, PMCID: PMC2819352
42. Pellon-Maison, M, Montanaro, MA, Coleman, RA and Gonzalez-Baró, MR. Mitochondrial glycerol-3-P acyltransferase 1 is most active in outer mitochondrial membrane but not in mitochondrial associated vesicles (MAV) (2007) *Biochim, Biophys. Acta*, 1771:830-838 PMCID: PMC2230616
43. Askari B, Kanter JE, Sherrid AM, Golej DL, Bender AT, Liu J, Hsueh WA, Beavo JA, Coleman RA, and Bornfeldt KE. Rosiglitazone inhibits acyl-CoA synthetase activity and fatty acid partitioning to diacylglycerol and triacylglycerol via a peroxisome proliferator-activated receptor-gamma-independent mechanism in human arterial smooth muscle cells and macrophages (2007) *Diabetes*, 56:1143-1152 PMID: 17259370, PMCID: PMC2819351
44. Wang, S, Lee, DP, Gong, N, Schwerbrock, NMJ, Mashek, DG, Gonzalez-Baró, MR, Stapleton, CM, Li, LO, Lewin, TM, and Coleman, RA. Cloning and functional characterization of a novel mitochondrial N-ethylmaleimide-sensitive glycerol-3-phosphate acyltransferase (GPAT2) (2007) *Arch. Biochem. Biophys.* 465:347-358 PMCID: PMC2133398
45. Nagle, CA, An, J, Shiota, M, Torres, TP, Cline, GW, Liu, Z-X, Wang, S, Catlin, RL, Shulman, GI, Newgard, CB, and Coleman, RA. Hepatic overexpression of glycerol-sn-3-phosphate acyltransferase 1 in rats causes insulin resistance (2007) *J. Biol. Chem.* 282:14807-14815 PMID: 17389595, PMCID: PMC2819346
46. Hammond, LE, Albright, CD, He, L, Rusyn, I, Watkins, SM, Doughman, SD, Lemasters, JJ, and Coleman, RA. Increased oxidative stress is associated with balanced increases in hepatocyte apoptosis and proliferation in glycerol-3-phosphate acyltransferase-1 deficient mice, (2007) *Exper. Molec. Pathol.* 82(2):210-9; PMCID: PMC1865130
47. Stinnett, L, Lewin, TM and Coleman, RA. Mutagenesis of rat acyl-CoA synthetase 4 indicates amino acids that contribute to fatty acid binding (2007) *Biochim. Biophys. Acta*, 1771:119-125 PMCID: PMC1828365
48. DeJong, H, Neal, AC, Coleman, RA, and Lewin, TM. Ontogeny of mRNA expression and activity of long-chain acyl-CoA synthetase (ACSL) isoforms in *Mus musculus* heart (2007) *Biochim. Biophys. Acta*, 1771:75-82. PMCID: PMC1797059
49. Li, LO, Mashek, DG, Jie, A, Doughman, SD, Newgard, CB and Coleman, RA. Rat long chain acyl-CoA synthetase 1 channels fatty acids toward reesterification to triacylglycerol and phospholipids and away from β -oxidation (2006) *J. Biol. Chem.* 281: 37246-37255
50. Mashek, DG, Li, LO, and Coleman, RA. Rat long chain acyl-CoA synthetase mRNA, protein and activity vary in tissue distribution and in response to diet (2006) *J. Lipid Res.* 47:2004-2010
51. Beigneux, AP, Vergnes, L, Qiao, X, Quatela, S, Davis, R, Watkins, SM, Coleman, RA, Walzem, RL, Phillips, M, Reue, K, and Young, SG. Agpat6 - a novel lipid biosynthetic gene required for triglyceride production in mammary epithelium (2006) *J. Lipid Res.* 47: 734-744 [Cover Article]
52. Tong, F, Black, PN, Coleman, RA and DiRusso, CC. Evidence Rat ACSL1, 4, and 6 but not ACSL5 participate in fatty acid transport by vectorial acylation (2006) *Arch. Biochem. Biophys.* 447:46-52
53. Pellon-Maison, M, Coleman, RA, and Gonzalez-Baró, MR. The C-terminal region of mitochondrial glycerol 3-phosphate acyltransferase-1 interacts with the active site region and is required for activity, (2006) *Arch. Biochem. Biophys.* 450:157-166
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Reviews and Book Chapters

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20. Mashek, DG, Bornfeldt, KE, Coleman, RA, Berger, J, Bernlohr, DA, Black, P, DiRusso, CC, Farber, SA, Guo, W, Hashimoto, N, Khodiyar, V, Kuypers, FA, Maltais, LJ, Nebert, DW, Renieri, A, Schaffer, JE, Stahl, A, Watkins, PA, Vasiliou, V, and Yamamoto, TT. Revised nomenclature for the mammalian acyl-CoA synthetase family (2004) *J. Lipid. Res.* 45:1958-1961; PMID:15292367
21. Coleman, RA and Lee, DP. Enzymes of triacylglycerol synthesis and their regulation (2003) *Prog. Lipid Res.* 43:134-176; PMID:14654091
22. Lewin, TM and Coleman, RA. Regulation of myocardial triacylglycerol synthesis and metabolism, 2003, *Biochim. Biophys. Acta* 1634:63-75
23. Coleman RA, Van Horn CG, Gonzalez-Baró MR, and Lewin TM. Long-chain acyl-CoA synthetase isoforms and their functions, in *Lipids: Glycerolipid Metabolizing Enzymes* (ed. D Haldar, SK Das) 2002, pp. 1-15, Research Signpost, Trivandrum
24. Coleman, RA, Lewin, TM, Van Horn, CG. and Gonzalez-Baró, MR. Do long-chain acyl-CoA synthetases regulate fatty acid entry into synthetic versus degradative pathways? 2002, *J. Nutr.* 132:2123-2126.
25. Coleman, RA, Lewin, TM, and Muoio, DM. Physiological and nutritional regulation of enzymes of triacylglycerol synthesis, *Ann. Rev. Nutr.*, 2000, 20:77-103.
26. Coleman, RA and Herrmann, TS. Nutritional regulation of leptin in humans, *Diabetologia*, 1999, 42(6):639-646.
27. Black, TM and Coleman, RA. The roles of tocotrienol, alpha-tocopherol, and beta-carotene in preventing atherosclerosis, *Proceedings PORIM International Palm Oil Congress: Emerging Technologies and Opportunities in the Next Millennium*, 1999, 114-120.
28. Walter, RD, Wang, P, Florant, GL, Bhat, BG, Igal, RA and Coleman, RA. Hepatic enzymes of enzymes of glycerolipid synthesis: Comparison of seasonal changes in the golden-mantled ground squirrel (*Spermophilus lateralis*) and the yellow-bellied marmot (*Marmota flaviventris*), In: *Adaptations to the Cold: Tenth International Hibernation Symposium* (ed. F Geiser, AJ Hulbert, and SC Nichol), 1996, University of New England Press, Armidale, Australia, pp. 233-236.
29. Coleman, RA and Zeisel, SH. Diacylglycerol metabolism in cellular membranes, In: *Advances in Lipobiology* (ed. R Gross), 1996, JAI Press, Inc., Greenwich, CT, vol. 1, pp 337-366.
30. Coleman, RA, Florant, GL, Mostafa, N, Xia, T and Bhat, BG. Molecular mechanisms for the selective retention of essential fatty acids during hibernation, In: *Life in the Cold III: Ecological, Physiological,*

- and Molecular Mechanisms (eds. C Carey, GL Florant, BA Wunder, and B Horwitz) 1993, Westview Press, Boulder, pp 519-525.
31. Coleman, RA. Diacylglycerol acyltransferase and monoacylglycerol acyltransferase from liver and intestine, In: Meth. Enzymol. (eds. EA Dennis, and DE Vance), Academic Press, 1992, Vol. 209, pp 98-104.
 32. Coleman, RA. Disorders of carbohydrate metabolism (excluding diabetes) (1992) Textbook of Internal Medicine (second edition), (ed. WN Kelley) JB Lippencott Co., Philadelphia, pp. 2065-2067.
 33. Coleman, RA. The role of the placenta in lipid metabolism and transport (1989) Semin. Perinatol. 13:180-191.
 34. Coleman, RA, Haynes, EB, Walsh, JP, Millington, DS and Maltby, DA. Monoacylglycerol acyltransferase: Stereospecificity and evidence that the hepatic and intestinal activities are tissue-specific isoenzymes, Enzymes of Lipid Metabolism II (eds. L Freysz, H Dreyfus, R Massarelli, and S Gatt), 1986, Plenum Publishing Corp., pp 99-103.
 35. Coleman, RA. Placental lipid metabolism and transport (1986) Fed. Proc. 45:2519-2523.
 36. Coleman, RA and Bell, RM. Molecular biology of complex lipid synthesis, Phospholipids in the Nervous System (ed. LA Horrocks, JN Kanfer and G Porcellati), 1985, Raven Press, New York, 2:259-266.
 37. Coleman, RA. Glycerolipid synthesis in perinatal and adult rat liver, Novel Biochemical, Pharmacological and Clinical Aspects of Cytidinediphosphocholine (ed. V Zappia, EP Kennedy, BI Nilsson, and P Galletti), 1985, Elsevier, New York pp. 35-40.
 38. Coleman, RA and Bell, RM. Topographic localization of membrane-bound enzymes that metabolize lipids, The Enzymes (ed. PD Boyer), 1983, Academic Press, New York, XVI: 605-626.
 39. Bell, RM and Coleman, RA. Enzymes of triacylglycerol formation in mammals, The Enzymes (ed. P.D. Boyer), 1983, Academic Press, New York, XVI:87-112.
 40. Bell, RM and Coleman, RA. Enzymes of glycerolipid synthesis in eukaryotes (1980) Ann. Rev. Biochem. 49:459-487.

Journal covers:



Letters to the Editor, Position Papers and Book Reviews

1. Coleman, RA. Scientific Gamesmanship, Cell Metabolism (2016) 24:268
2. Coleman, RA. and Tripp, M. Serum cholesterol: Screening and treatment, N.C. Pediatrician (1993) 3:5-6.
3. Coleman, RA. Tips for eating the low-fat, low-cholesterol way, N.C. Pediatrician (1993) 3:8.
4. Coleman, RA. The CRC Desk Reference for Nutrition (Book Review), J. Nutr. Biochem. (1998) 9:482.
5. Coleman, RA. Reminder: Deficiency of folic acid in goat milk, J. Pediat. (1976) 88(5):900-901
6. Coleman, RA. North Carolina School Lunch Survey: preliminary results, N.C. Pediatrician (1996) 6:1,3

Criticism and Fiction

1. Coleman, RA. Medical Games, a novel.

2. Coleman, RA. Pileated Woodpecker. iris: the UNC journal of medicine, literature, & visual art (1997) 1:46-55
3. Coleman, RA and Rolleston, JL. Anatomy lessons. The destiny of a text-book. S. Atlantic Quart. (1991) 90:153-173.

Doctoral Students: Current Position, thesis Title, Awards while in the Coleman lab

Dissertation chair: (I have been a committee member for 33 other doctoral students)

Deborah Muoio PhD 1999; Professor, Duke University

Thesis: Fatty Acid Partitioning in Muscle and Liver: Novel Sites of Regulation

- 1996 ASNS Predoctoral Fellowship \$5000
- 1996-8 NIH Training grant
- 1997 ASCN Outstanding Young Investigator Award
- 1997 Sigma Xi Predoctoral Grant-in Aid \$500
- 1997 American Heart Association Fellowship \$12,500
- 1998 UNC Dissertation Fellowship

Ji-Hyeon Kim, PhD 2001; Research Associate, University of Alberta

Thesis: Acyl-CoA Synthetase Isoforms 1, 4, and 5: Molecular Characterization Cellular Localization and Regulation

- 1997 Cancer Center Summer Fellowship
- 1998 ASNS Predoctoral Award \$5000

Linda E. Hammond, PhD 2005; Scientific Technical Writer, Thermo Fisher Scientific Inc, San Diego, CA

Thesis: Biochemical and Physiological Characterization of Mitochondrial Glycerol-3-Phosphate Acyltransferase-1

- Deficient Mice
- 2000 Minority Predoctoral Fellowship
- 2001-2004 NIH Predoctoral NRSA
- 2001 Institute of Nutrition Fellowship
- 2002 EB Minority Travel Award
- 2002 Finalist ASNS Young Investigator
- 2002 Winner ASCN Young Investigator
- 2003 EB Travel Award

Lei Li, PhD 2006; family leave

Thesis: Functions of Rat Acyl-CoA Synthetases in Bacteria and Mammalian Cells

- 2003 EB Travel Award
- 2004 Sigma Xi Grant-in-Aid (\$800)
- 2004 ASNS Kraft Predoctoral Award (\$5000)
- 2006 Winner ASN Young Investigator Award
- 2006 EB Travel Award

Cynthia A. Nagle, PhD 2007; Research Coordinator, Duke University

Thesis: Glycerol-3-Phosphate Acyltransferase Isoforms: Hepatic Triacylglycerol Synthesis and the Development of

- Insulin Resistance
- 2005 EB Travel Award
- 2005-7 American Heart Assn, graduate fellowship
- 2007 Finalist Proctor & Gamble ASN
- 2007 EB Travel Award
- 2008 A. Hughes Bryan Award

Jessica Ellis, PhD 2011; Assistant Professor Purdue University

Thesis: ACSL1 Deficiency Impairs β -Oxidation in Mouse Heart and Adipose Tissue

- 2004-6 Diet and Cancer Training Grant
- 2006-7 Kannapolis Metabolomics Training Grant (declined)
- 2007-8 Integrative Vascular Biology Training Program Traineeship T32HL069768
- 2007 Sigma Xi Grant-in-Aid
- 2008 Cargill Predoctoral Fellowship from ASN: \$5000
- 2008-10 American Heart Association Predoctoral Fellowship
- 2009 Winner, American Society for Nutrition Proctor and Gamble Graduate Student Research Awards abstract competition
- 2010 A. Hughes Bryan Award

2012 Dean's Distinguished Dissertation Award in the area of Biological and Life Sciences

Trisha Grevengoed, PhD 2015; Postdoctoral Fellow Copenhagen, Denmark

Thesis: Flawed Phospholipid Formation or Faulty Fatty Acid Oxidation: Determining the Cause of Mitochondrial Dysfunction in Hearts Lacking ACSL1

2009 Ethel J. Coleman Scholarship

2011-13 IVB T32 Traineeship

2012 Selected for oral presentation, ASBMB Annual Meeting in San Diego (Metabolic Branchpoints/Lipid Channeling)

2012 ASN Energy & Macronutrient RIS student-postdoc abstract prize: \$500

2012 Sigma Xi Grant-in-Aid of Research \$400

2013 Sabin travel grant to attend the Lipid Gordon conference

2013-5 American Heart Association; Predoctoral award

2014 Koch Travel Award \$200

2014 Selected for oral presentation, Barth Syndrome Foundation meeting

Daniel E. Cooper, PhD 2015; Postdoctoral Fellow, Duke University

Thesis: Physiological Consequences of Compartmentalized Glycerolipid synthesis

2010-1 Kannapolis Scholar Award

2012-3 MCO T32 Traineeship

2012 Sigma Xi Grant-in-Aid of Research \$400

2014 Selected for oral presentation: FASEB Conference: Lipid Droplets and Metabolic Consequences of Neutral Lipid Storage

Liyang Zhao, PhD expected 2017

Thesis (planned): Cause of the Myopathy in ACSL1-Deficient Mouse Muscle

2016 Sigma Xi Grant-in-Aid of Research \$600

Masters of Science: Current Position, Thesis Title

Tracy Black MD, 1998, Endocrinologist in private practice; Review of the pathophysiology of atherosclerosis and role of vitamin E and beta--carotene in the modification of cardiovascular disease

Marguerite R. Kelher, 2000, Research Scientist, U. of Colorado; Tafazzin is a potential phospholipid acyltransferase

Maie Hamdy El-Sourady, 2002, Assistant Professor of Internal Medicine and Pediatrics; Subcellular localization of full-length and truncated long-chain acyl-CoA synthase 4-Flag in transfected Chinese Hamster Ovary and McArdle-RH7777 cells

Pei-Chi Wu, 2008, Research Scholar UNC; Will absence of GPAT1 improve diet-induced atherosclerosis in apoE heterozygous mice?

Guo Hu, 2014, Research Technician II, Duke University Medical Center; Effects of liver -specific acyl4 deletion in liver lipid metabolism

Undergraduate: Further education and Current Position, Honors Papers and Publications

Erica G. Gantt, BSPH 1993, MD Harvard Medical School, Orthopedic surgeon; Glycerolipid metabolism in liver

Rita Walter, BS 1995, MS Tulane SPH, Lipid synthesis in tissues from hibernating marmots; Wang, P, Walter, RD, Florant, GL, Bhat, BG and Coleman, RA. Seasonal changes in enzymes of lipogenesis and triacylglycerol synthesis in the golden-mantled ground squirrel (*Spermophilus lateralis*), (1997) *Comp. Biochem. Physiol. [B]*, 118:261-267; Walter, RD, Wang, P, Florant, GL, Bhat, BG, Igal, RA and Coleman, RA. Hepatic enzymes of enzymes of glycerolipid synthesis: Comparison of seasonal changes in the golden-mantled ground squirrel (*Spermophilus lateralis*) and the yellow-bellied marmot (*Marmota flaviventris*), In: *Adaptations to the Cold: Tenth International Hibernation Symposium* (ed. F Geiser, AJ Hulbert, and SC Nichol), 1996, University of New England Press, Armidale, Australia, pp. 233-236

Navid Adieh, BSPH 1996, Vice President at The North Highland Company; Mixed micelle assays in 3T3-L1 adipocytes; Adieh, N, Bliklager, AT, Bhat, BG, Coleman, RA, Argenzio, RA, and Rhoads, JM. L- Glutamine and transforming growth factor- α enhance recovery of monoacylglycerol acyltransferase and diacylglycerol acyltransferase activity in porcine post-ischemia ileum, (1998) *Pediatr. Res.* 43:1-8.

Jennifer E. Jahn, BS 2000, PhD UNC; Effect of α -tocopherol on the activity of mitochondrial glycerol-3-phosphate acyltransferase

Ann Hau, BSPH 2004, MD U Texas Austin Medical School, Anesthesiologist, Houston; mtGPAT1 and mtGPAT-like activities in mouse brown adipose tissue increase after diet changes and cold exposure

Nikhil Pai, 2007, Function of mitochondrial glycerol-3-phosphate in the development of hepatic insulin resistance

Sadaf Hossain, 2006, Cloning, obesity and diabetes

Michelle McKenzie, BSPH 2005, Cookbook author; Overexpression of long-chain acyl-CoA synthetase 5 channels fatty acids to triacylglycerol in McArdle-RH7777 cells; Mashek, DG, McKenzie, MA, Van Horn, CG and Coleman, RA. Rat long chain acyl-CoA synthetase 5 increases fatty acid uptake and partitioning to cellular triacylglycerol in McArdle-RH7777 cells (2006) *J. Biol. Chem.* 281:945-950

Kara Tipper, 2009; Interaction of GPAT and Leptin deficiency

Shannon Mentock, 2010, MD Wake Forest School of Medicine; Substrate preference and enzyme kinetics for long chain acyl-CoA synthetase isoform 1; Ellis, JM, Mentock, SB, DePetrillo, MA, Koves, TR, Sen, S, Watkins, SM, Muoio, DM, Cline, GW, Taegtmeyer, H, Shulman, GI, Willis, MS, and Coleman, RA. Mouse cardiac acyl-CoA synthetase-1 deficiency impairs fatty acid oxidation and induces cardiac hypertrophy (2011) *Mol. Cell. Biol.* 31(6):1252-62. PMID: 21245374; PMCID: PMC3067914 [Cover Article]

Olivia Hostetter, 2012, MD Wake Forest School of Medicine; GPAT4 Function in Brown Adipose Tissue of Mice

Bianca Patel, BSPH 2012, MD NYU School of Medicine; ACSL1 function and activity in mouse tissues

Komal Patel, BSPH 2014

Gwen Yung-Hsin Hwang, BSPH 2014, University of Singapore School of Medicine; Finding links between obesity and diabetes using diacylglycerol kinase to regulate insulin signaling; Zhang, C, Hwang, G, Cooper DE, Grevengoed, TJ, Eaton, JM, Natarajan, V, Harris, TE, and Coleman, RA. Inhibited insulin signaling in mouse hepatocytes is associated with increased phosphatidic acid but not diacylglycerol (2015) *J. Biol. Chem.* 290(6):3519-28; PMID:25512376; PMCID:PMC4319019

Priyenka Niju Khatiwada, BS 2014, Research Assistant UNC Hospitals, Acyl-CoA synthetase isoform 5 reactivity with stearic, palmitic, and arachidonic acids and potential effect on health

Alekhyia Yechoor, BSPH 2014, UNC School of Medicine; Determining the fatty acid substrate preferences of long-chain acyl-CoA synthetase isoforms; Klett EL, Chen S, Yechoor A, and Coleman RA. Long-chain acyl-CoA synthetase isoforms differ in preferences for eicosanoid species and long-chain fatty acids (2017) *J Lipid Res*, in press

Audra Goldstein, 2017, Inhibiting GPAT in seipin knockout adipocytes

Dennis Lin, 2017, Functional mutations in ACSL1

Liliya Veliko, 2017, NCSU Veterinary School; Alterations in lysophosphatidic acyltransferase in GPAT mutant mice

Lawrence Bocadia, 2018, Fuel switching in ACSL1-deficient skeletal muscle

Postdoctoral Fellows: Current Employment and Awards while in the Coleman lab

Tian Xia, PhD (Pennsylvania State); Scientist, Monsanto

Ganesh Bhat, PhD (Mysore University, India); Senior Scientist, Pharmacia; Independent consultant: Drug Discovery Biology, Pharmacology, and Development, San Diego, CA

Neil Emmison, PhD (Newcastle, England); Senior Lecturer, Robert Gordon U, Scotland

Ariel R. Igal, MD, PhD (University of La Plata, Argentina); Instructor, Institute of Nutrition, Columbia University, NY
NIH Fogarty Grant

Tracy Black, MD (Howard University); Endocrinology private practice

Kiran Malhotra, PhD (Universite Pierre & Marie Curie, France); Scientist, Oakland Children's Hospital, CA

Tal Lewin, PhD (Duke University); President, Lerner School Board of Directors, Chapel Hill, NC
NIH NRSA Postdoctoral Fellowship
NIH K08 Award 2002-2005
American Heart Association Grant-in-Aid 2002-2006

Eugenia Posey, PhD (East Tennessee University); Senior Principle Scientist, Anteon Corporation
NIH Postdoctoral Traineeship

Maria Gonzales-Baró, PhD (University of La Plata, Argentina); Professor, University of La Plata, Argentina
NIH Fogarty Grant + renewal 2002-2013

Cynthia G. Van Horn, PhD (Bowman Gray University); Research Associate, Wake Forest University
 NIH NRSA Postdoctoral Fellowship

Douglas P. Lee, PhD (University of Manitoba, Canada); Staff Scientist, Metabolon, Inc.,
 NC Canadian Research Fellowship (declined)

Douglas Mashek, PhD (University of Wisconsin); Associate Professor, University of Minnesota
 NIH NRSA Postdoctoral Fellowship

Lori Stinnet, PhD (University of Tennessee); Associate Professor, Lee Univ., TN

Diana Mehedint, MD (Transylvania University, Romania); Resident physician, Catholic Health System, Buffalo, NY

Cliona Stapleton, PhD (National University of Ireland, Galway, Ireland); Scientific Editor, Compuscript, Inc.

Scott Doughman, PhD (University of Wisconsin); President & Chief Scientist, Source-Omega
 NIH Nutrition and Cancer Postdoctoral Fellowship

Lei O Li, PhD (UNC)
 American Heart Association Postdoctoral Fellowship 2007-9

Yue (Daisy) Li, PhD (University of Illinois); Research Associate, Duke University

Angela Wendel, PhD (Ohio State); Scientific writer and STEM/ science educator, Bradford High School
 T32 DK007129-35
 F32-DK083157
 UNC Postdoctoral Award for Research Excellence for the 2010-2011

Jennifer Frahm, PhD (NC State); Field Application Scientist, Fluidigm Corporation, Houston, TX
 IDOC Training Grant Fellowship NIH T32MH075854
 NRSA Postdoctoral Fellowship

Eric L. Klett, MD (Univ. South Carolina); Assistant Professor, UNC Dept of Medicine (Endocrinology)
 2010-15 NIH K08 Mentored Scientist Award
 2016-21 NIH R01

Chongben Zhang, PhD (Peking University, China); Research Associate, UNC-CH

Matthew Keogh, PhD (NC State University); Patent Examiner, US Gov't

Lolita Forrest, PhD (Wake Forrest U); Clinical Research Specialist, UNC REX Healthcare, Raleigh, NC
 2011-2 NIH Minority supplement

David Paul, PhD (UNC); Research Associate, UNC-CH

Florencia Pascual, PhD (Rutgers); current postdoctoral fellow

Zengying Wu, PhD (Oklahoma State University); current postdoctoral fellow

Pamela Young, PhD (National University of Ireland-Maynooth); current postdoctoral fellow

Amanda Suchanek, PhD (University of Kentucky); current postdoctoral fellow

UNC Service: Department of Nutrition NC

Division Chief, Nutritional Biochemistry 1991 – 2005; 2009 - 2015

Chair, Committee on Medical Education 1991 - 1997

Doctoral Committee 1/1994 – 3/2002; 2005 - present

Organizer, Undergraduate Summer Research Competition 1995

NIH Training Grant Selection Committee 1995-97

Organizer, UNC-ECU collaboration event 1995

Committee on Interdisciplinary Seminars and Journal Club 1996-97

Chair, Search committee for Assistant/Assoc. Professor in Nutritional Biochemistry 1997-8; 2003-4

Advisory Board, National Cancer Institute-funded Training Grant on Nutritional Biochemistry and the
 Epidemiology of Cancer

Chair, Search committee for nutrition-genomics faculty, Spring 2002

Outreach, minority doctoral student recruitment 1991-2005

Assoc. Director, CNRU/NORC 2000-2014

Assoc. Director, CNRU/NORC Phenotyping Core and P/F projects 2010-present

Doctoral Committee, ad hoc, 2005-2008

Doctoral Committee member 2009-2010

Associate Chair for Academic Affairs 2008-9

Faculty Mentoring (~ 2/year)

Mentoring of NORC Pilot and Feasibility Awardees (3/year since 2000)

Courses Taught (since 2007)

2007-2008 NUTR 600. Human Nutrition: Macronutrients & Metabolism. Course Director, ~ 50 students

2008 NUTR 845. Course Director, Seminar 5 students

2008-2009 NUTR 600. Human Nutrition: Macronutrients & Metabolism. Course Director, ~50 students
 2008-2009 Medical School: Endocrinology & Nutrition section: 1 session. ~ 30 students
 2009-2010 NUTR 845 Seminar. Course Director, 7 students
 2009-2011 Medical School: Endocrinology & Nutrition section: 1 session. ~ 30 students
 2010 NUTR 240. Co-Course Director, 120 students
 2010 Medical School: Endocrinology & Nutrition section: 2 sessions.~ 30 students
 2011 NUTR 600 Human Nutrition: Macronutrients & Metabolism. Course Director, 50 students
 2012 PHYI 703 Experimental Approaches to Human Disease, 1 lecture, 13 students
 2012 NUTR 600 Human Nutrition: Macronutrients & Metabolism. Course Director, 50 students
 2012 Medical School: Endocrinology & Nutrition section: 2 sessions. ~ 30 students
 2013 Medical School: Diabetes, 2 lectures, 160 students
 2013 NUTR 600 Human Nutrition: Macronutrients & Metabolism. Course Director, 57 students
 2013 Medical School: Endocrinology & Nutrition section: 1 lecture. ~ 30 students
 2014 NUTR 845: Advanced Metabolism: 5 students: 2 x 3-hour sessions
 2014 NUTR 600: Human Nutrition: Macronutrients & Metabolism. Course Director, 61 students
 2015 NUTR 600: Human Nutrition: Macronutrients & Metabolism. Co-Course Director, 63 students
 2016 NUTR 845: Advanced Metabolism; Co-Course Director, 9 students
 2016 NUTR 600: Human Nutrition: Macronutrients & Metabolism. Course Director, 59 students

School of Public Health Service

SPH Promotion and Tenure Committee 1991-1994; 2001-2004
 Five-Year Review Committee of W. Glaze as Chair of Environmental Sciences and Engineering, 1993
 SPH Space committee, 1997-1998
 Michael Hooker Research Center design committee 2000-2002
 SPH Space Committee 2006- 2007
 SPH Promotion and Tenure Committee 2001-2004
 SPH space Committee 2006-2007
 SPH Research Council and Conflict of Interest Committee (COI). 2012-2017

School of Medicine Service

Five-Year Review Committee of E. Oringer as Head of the Clinical Research Unit, 1994
 Committee on Promotion of M. Ulshen to Professor, 1993
 Member, UNC Re-accreditation, Basic Sciences subcommittee 1996
 Nominating Committee, Association of Professional Women in Medicine 1996-1998
 Member, Mary Ellen Jones Building Dedication Committee 1996-1997
 UNC Faculty Advisory Committee on Postdoctoral Scholars 2007-2009
 Member, Search Committee to select Director and investigators for the UNC Diabetes Center, 8/2010-2011
 IVB/MHI 2012 Symposium Judge
 IVB Training Grant selection committee 2013-2015

University of North Carolina Service

Administrative Board of the Graduate School 1994-1996
 Task Force on Graduate and Professional Programs 1994-1995
 Steering Committee, Administrative Board of the Graduate School 1995-1996
 Program Area Leader (Metabolic Diseases), Interdisciplinary Obesity Center 2005-2007
 UNC Faculty Advisory Committee on Postdoctoral Scholars, 2006- 2010
 Review Panel for Gillings Innovation Laboratory proposals 2010
 Review Panel for Rita Allan Award 2011 & 2012
 Member, Association of Professional Women in the Medical School Executive Committee (reported to Dr. Pisano, Vice Dean of the School of Medicine)
 Carolina Summer Reading Program, Discussion Leader 2006 - present
 Member, Executive Committee, UNC McAllister Heart Institute 2011- present
 Carolina Summer Reading Program Selection Committee 2014-2016

North Carolina Service

Chair, Committee on Nutrition and WIC, NC Pediatric Society 1993-1998
 Member, Review Committee, Institute of Nutrition 1993-1998

Chair, Review Committee for Graduate Fellowships, Institute of Nutrition 1995
Vice-President, Triangle Chapter, Association of Women in Science 1993-94
President, Triangle Chapter, Association of Women in Science 1994-95

National and International Service (See above – Organizational and Consultant sections)

Oral Presentations: INVITED SEMINARS, INVITED KEYNOTE SPEACHES, CHAIRED MEETINGS & SESSIONS

2001

Chair, MiniSymposium on "Lipid and Lipoprotein Metabolism and Transport," Experimental Biology Meeting, March 31-April 4, 2001, Orlando, FL

Session Chair, Gordon Conference; Molecular and Cellular Biology of Lipids, July 2001

Speaker, American Diabetes Association, Philadelphia, PA, June 2001, "Acyl-CoA synthetase: a new target for TZDs"

Speaker, Dept. of Biochemistry, Dalhousie University, Halifax, Canada, Sept 2001, "Biological roles of distinct subcellular lipid pools"

Speaker, Dept. of Biochemistry, Johns Hopkins University, Dec 2001, "Biological roles of distinct subcellular fatty acid pools"

2002

Co-Chair, MiniSymposium on "Lipid Metabolism and Transport," 2002 Experimental Biology Meeting, New Orleans, LA

Speaker, GlaxoSmithKline, Feb 2002, "Distinct subcellular fatty acid pools and their biological roles"

Speaker, Dept. of Biochemistry, U of Pittsburg, April 2002, "Acyl-CoA isoforms and channeling"

Chair, MiniSymposium on "Lipid and Lipoprotein Metabolism and Transport," 2002 Experimental Biology Meeting, New Orleans, LA

Consultant, Biovitrum, Stockholm, Sweden, August 2002

Consultant, Hoffman-LaRoche, Sept 2002 "Regulation of triacylglycerol synthesis by partitioning lipid intermediates"

Speaker, Thomas Jefferson University, Kimmel Cancer Center, November 19, 2002, "Regulating triacylglycerol synthesis by partitioning its lipid intermediates"

Speaker, Boston Obesity Nutrition Research Center, Harvard Clinical Nutrition Research Center, Dec 10, 2002, "Enzymatic regulation of triacylglycerol biosynthesis: the roles of acyl-CoA synthetases and glycerol-P acyltransferases"

2003

Speaker, NIH Nutrition group, February 6, 2003, "Enzymes of triacylglycerol synthesis: Are these new anti-obesity drug targets?"

Speaker, Washington University, St. Louis, April 3-4, 2003 "Lipid lessons from the GPAT KO mouse"

Speaker, Stedman Metabolism Forum, Duke University, April 29, 2003, "Enzymes of triacylglycerol synthesis: Possible obesity drug targets?"

Speaker, American Diabetes Association, New Orleans, June 2003 "Glycerol-P acyltransferase and triacylglycerol synthesis"

Speaker, Gordon Conference on the Molecular & Cellular Biology of Lipids, July 2003, "Triacylglycerol synthesis: insights from the mitochondrial GPAT knockout mouse"

Co-Chair (elected), 2003 FASEB Summer Conference on Intestinal lipid absorption, metabolism and transport, August 2003

Speaker, NY Academy of Science, NY, NY, Sept 30, 2003, "Fatty acid partitioning and triacylglycerol synthesis"

Speaker, NAASO, Ft. Lauderdale, FL, Oct 11-15, 2003, "Fatty acid flux at the outer mitochondrial membrane"

Speaker, San Diego State University, Nov 20, 2003, "Triacylglycerol synthesis and the glycerophosphate acyltransferase KO mouse"

Speaker, Pennington Biomedical Research Center, Baton Rouge, LA, Dec 4, 2003, "Obesity and hepatic steatosis: lessons from the GPAT knockout mouse"

2004

Speaker and Session Chair, Keystone Symposium on Molecular Control of Adipogenesis and Obesity, Banff, Alberta, Canada, March 4-10, 2004 "Regulation of triacylglycerol biosynthesis by GPAT"
Co-organizer and Speaker, Bob Bell Symposium, Duke University, Durham, NC, March 24-25, 2004 "Enzymes of TAG synthesis: 20 years later"
Speaker and Session Chair, Integrative role of fatty acids in metabolic regulation: Implications for obesity and diabetes, April 1-4, 2004, Newport, Rhode Island, "Acyl-CoA synthase and fatty acid channeling"
Participant, NIH Obesity Workshop, May 10-11, 2004 (declined)
Speaker, consultant, Pfizer, Boston, MA, June 2004, "Regulation of Triacylglycerol Biosynthesis: Lessons from the GPAT Knockout Mouse"
Speaker, Barth Syndrome Meeting, Orlando FL, July 2004, "Spectrum of acyltransferase biochemistry"
Invited presentation, Conference on Life in the Cold, Alaska, July, 2004, "Triacylglycerol repletion in brown adipose tissue: can we learn from the GPAT knockout mouse?"
Speaker, Minisymposium on Meganutrients: Fatty acids as agents of disease promotion and prevention, Center for Metabolic Diseases, Ordway Research Institute, Inc., Albany, NY, Sept 10, 2004, "Long-chain acyl-CoA synthetases: Competing or complementing functions?"
Speaker, Triangle Adipocyte Group, RTP, NC, Oct 20, 2004, "Absent glycerol-P acyltransferase: a cure for fatty liver?"

2005

Sonia Wolf Wilson Lectureship, University of Texas, Austin Jan 14, 2005, "GPAT knockout mice: protection from fatty liver and insulin resistance at a cost"
Speaker, Rutgers University, Department of Nutritional Sciences, Feb 15, 2005, "GPAT knockout mice: protection from fatty liver and insulin resistance?"
Discussion Leader, Session on Triacylglycerol and Neutral Lipids, Gordon Conference on the Molecular & Cellular Biology of Lipids, July 24-29, 2005
Speaker, Division of Pediatric Endocrinology, UNC, Sept. 22, 2005, "Triacylglycerol synthesis and fatty liver: new thoughts on insulin resistance"

2006

Speaker and Consultant, Abbott Labs, IL., Jan 31, 2006, "Mitochondrial glycerol-3-phosphate acyltransferase and its role in liver triacylglycerol metabolism"
Plenary Speaker, 1st Graz Meeting on Lipids and Biomembranes, Graz, Austria, March 16-18, 2006, "Why do we need two (or three!) isoforms of glycerol-3-phosphate acyltransferase?"
Speaker, Columbia University, NYC, April 12, 2006, "Triglyceride synthesis and insulin sensitivity,"
Seminar, UNC Department of Nutrition, May 7, 2006, "The contribution of triglyceride synthesis to insulin sensitivity,"
Speaker, GlaxoSmithKline, RTP, NC, May 8, 2006, "Do intermediates in glycerolipid synthesis regulate gene transcription?"
Speaker, FASEB Summer Conference on Intestinal lipid absorption, metabolism and transport, Omni Tucson National Golf Resort, Tucson, AZ, July 15-20, 2006, "GPAT and ACSL: Roles in FA channeling and uptake"
Speaker, Kern Aspen Lipid Conference on Developments in the pathogenesis of obesity and the metabolic syndrome, Aspen, CO, August 19-22, 2006, "Glycerol-P acyltransferase: metabolic consequences of altered lipid intermediates"
Speaker, Wake Forest University Botanicals Symposium, Winston Salem, NC, October 24, 2006, "Triacylglycerol and insulin resistance: the hepato-centric view"

2007

Invited participant, UNC Nutrition Research Institute conference on Metabolomics and Genomics, Charlotte, NC, April 15-17, 2007
Speaker, Department of Pharmacology, Physiology, and Therapeutics, University of North Dakota, Grand Rapids, ND, April 20, 2007, "The impact of acyl-CoA synthetases on fatty acid trafficking in cells"
Co-founder and Co-Chair FASEB Summer Conference: Lipid Droplets: Metabolic consequences of stored neutral lipids, Saxtons River, VT, July 28-August 2, 2007

2008

Speaker, Keystone Conference: Diabetes Mellitus, Insulin Action and Resistance, Breckenridge, CO, January 22-27, 2008, "Lipogenic Pathways: Links to Diabetes Risk"

Speaker, Laboratory of Signal Transduction (LST), NIEHS, RTP, February 4, 2008, "Triacylglycerol biosynthesis: novel signals that link obesity and insulin resistance"

Plenary Speaker, 2nd International Graz Symposium on Lipid and Membrane Biology: Lipotoxicity, Graz, Austria, March 13-15, 2008, "Are enzymes required for triacylglycerol synthesis redundant?"

Dr. Albert G. Hogan Memorial Lecturer for 2008, University of Missouri Nutrition Emphasis Week: Nutrition and Diabetes – From the Bench to Bedside, March 18-19, 2008 "Liver and lipid droplets: New ideas about obesity and diabetes"

Speaker, Dept. of Medicine, Gastroenterology, University of Missouri, March 18, 2008 "Lipogenic pathways in liver: Links to insulin resistance"

Speaker, Montreal Diabetes Research Center, April 16, 2008, "Glycerol-3-phosphate acyltransferases and insulin resistance"

Session Chair and Speaker, FASEB summer conference: Molecular Mechanisms Involved in the Nutrient Control of Cell Function, Phoenix, Arizona, July 20-25, 2008 "Why do we need so many acyl-CoA synthetases?"

Speaker, Tufts University, Sept. 4, 2008, "A surprising role for acyl-CoA synthetase-1"

Speaker, Dept. of Nutrition and Toxicology, Berkeley, CA, Sept 24, 2008, "Tissue-specific mouse mutants and a surprising role for ACSL1"

Speaker, 17th South East Lipid Research Conference (SELRC), Symposium on Molecular Mechanisms of Metabolic Disease, Callaway Gardens, Pine Mountain, GA, October 3-5, 2008, "Surprising findings from acyl-CoA synthetase knockout mice"

Speaker, Celebrating Women in Science & Engineering Lectureship, Departments of Nutrition and Biochemistry, U. Wisconsin, Madison, WI, Oct 16, 2008, "A surprising role for acyl-CoA synthetase-1 in β -oxidation"

2009

Speaker, Appetite for Life Speakers Series, NC Nutrition Research Institute, Kannapolis, NC February 10, 2009 "Fat and thin: How metabolism works"

Speaker, Distinguished Scientist Seminar (DSS) , University of South Alabama College of Medicine, Mobile, Alabama Feb 19, 2009 "Why do we need multiple ACSL isoforms to activate fatty acids: A surprising answer,"

Speaker, Division of Endocrinology, UNC, Feb 26, 2009, "Acyl-CoA synthetases and lipid oxidation"

Speaker, Stedman Center, Duke University, March 17, 2009, "Acyl-CoA synthetase-1 activates fatty acids destined for β -oxidation"

Speaker, Carolina Pre-Medical Association, March 25, 2009, "Are we all destined to be fat?"

Speaker, 9th Symposium on Molecular and Physiological Aspects of Type 2 Diabetes and Obesity, Nobel Forum, Karolinska Institutet, Stockholm Sweden, April 3, 2009, "Acyl-CoA synthetase-1 is required for adipocyte fatty acid oxidation"

Speaker, LIPID MAPS 2009 Meeting, San Diego, CA, May 6-7, 2009, "Partitioning of acyl-CoAs by acyl-CoA synthetase-1: Different views from different cells"

Diabetes and Endocrine Research Distinguished Lecturer, University of Massachusetts, Amherst, MA, May 12, 2009, "Directed fatty acid partitioning towards different metabolic pathways"

Speaker, 4th International Conference on Phospholipase A2 and Lipid Mediators (PLM2009), Tokyo, Japan, May 25-28, 2009. Declined.

Speaker, Gordon Research Conference on the Molecular and Cellular Biology of Lipids, July 19-24, 2009, "Acyl-CoA synthetase-1 gives fatty acids their marching orders"

Speaker, University of Virginia, Dept. of Pharmacology, Sept 17, 2009, "Acyl-CoA synthetase-1 tells fatty acids where to go"

2010

Speaker, 2010 Keystone Symposium on Triglycerides and Triglyceride-Rich Particles in Health and Disease, Big Sky Resort, Big Sky, Montana, Jan 9 - Jan 14, 2010, "Metabolic Channeling and control of fatty acid metabolism"

Speaker, Vanderbilt Institute of Chemical Biology, Vanderbilt University, Nashville, TN, February 10, 2010, "Metabolic channeling of acyl-CoAs"

Speaker, Burnham Institute at Nona Lake, Orlando, FL, February 25, 2010, "Metabolic channeling of acyl-CoAs"

Speaker, New York Lipid and Vascular Biology Research Club, Rockefeller University, NYC, May 11, 2010, "White fat, brown fat and heart: How important is fatty acid oxidation?"

Keynote Lecture, Hot Topics for ASN EMM RIS, 2010, on "state of the art" on FFA activation and trafficking; declined.

Speaker, FASEB Summer Conference: Phospholipid Metabolism: Disease, Signal Transduction, and Membrane Dynamics, Steamboat Springs, CO, June 27 –July 2, 2010, "Does the Kennedy pathway produce signaling lipids?"

Keynote Lecture, FASEB Summer Conference: Lipid Droplets: Metabolic consequences of stored neutral lipids, "Triacylglycerol: a conceptual history," Steamboat Springs, CO, July 28-August 2, 2010

Speaker, Society for Heart and Vascular Metabolism, Kananaskis, Alberta, August 22 – 25, 2010. "Acyl CoA synthetase and cardiac function"

Speaker, Dept. of Nutrition research update, Sept 9, 2010. "Blocking fatty acid oxidation in heart and fat: Is this good or bad?"

Speaker, Dept. of Biochemistry, Duke University, Sept 10, 2010 "Fatty acid partitioning in white fat, brown fat and heart: Is fatty acid oxidation essential?"

Speaker and Participant: Non-mammalian animal models for human lipid metabolism and related diseases, Foundation des Treilles, Tourtour, France, Nov 15-20, 2010, "Metabolic channeling of acyl-CoAs"

2011

Co-Chair, Keystone Symposium: Type 2 Diabetes, Insulin Resistance and Metabolic Dysfunction, January 12-16, 2011

Speaker, Keystone Conference on Diabetes/Adipocyte Biology, Keystone, CO, January 15, 2011 "Acyl CoA synthetase-1 and lipid partitioning"

Session Chair, Mechanisms of Metabolic Failure, Keystone Symposium: Type 2 Diabetes, Insulin Resistance and Metabolic Dysfunction, January 15, 2011

Speaker, Univ. Washington Diabetes and Obesity Center, Seattle, March 8-10, "Acyl-CoA synthetases tell fatty acids where to go"

Speaker, UT-Southwestern, Dallas, March 16-17, 2011, "Glucose vs. fat: Metabolic accommodation to altered energy fuels"

Speaker, April 1, 2011, Saha Cardiovascular Research Center, University of Kentucky, "Glucose vs. fat: Metabolic accommodation to altered energy fuels"

Speaker, UNC Department of Cell and Molecular Physiology, April 4, 2011, "Is fatty acid oxidation essential?"

Hot Topics Speaker, EB, April 9, 2011, ASN Energy and Macronutrient Metabolism RIS "The fate of fat: The use of knockout mice to examine lipid partitioning"

Speaker, Keystone Conference on Lipotoxicity, "Triacylglycerol Synthesis, Lipid Intermediates, and Insulin Resistance", Kilearny, Ireland, May 2011

Speaker, 34th Steenbock Symposium on Lipid Metabolism: Implications in Human Diseases, May 22-25 U. Wisconsin-Madison "Lipid metabolism: location, location, location"

Speaker, International Symposium on Lipids: Cell Biology and Metabolism, Beijing, China, Sept, June 2011. Declined

Vice-Chair (elected), Gordon Conference on Molecular and Cellular Biology of Lipids, July 17-22, Waterville Valley, NH

Session Chair, Regulation of Intracellular Lipid Storage, Gordon Conference on Molecular and Cellular Biology of Lipids, July 17-22, Waterville Valley, NH

Speaker, The Danish PhD Graduate School of Metabolism, PhD summer school, 7-10 September 2011, Gl. Avernoes, Southern Funen, Denmark (Declined because of teaching commitment)

Speaker, Boston University School of Medicine, December 13, 2011. "The Fate of Fat: Lipid partitioning in knockout mice"

2012

Speaker, Deuel Conference, Rancho Las Palmas in Palm Springs, CA, March 6-9, 2012, "Role of acyl-CoA synthetase-1 in thermoregulation"

Speaker, Geriatric Research Education & Clinical Center, Palo Alto Stanford VA Medical Center, March 12-13, "Fatty acid partitioning: Are fatty acids a critical fuel for heart and muscle"

Speaker, Duke Integrated Toxicology and Environmental Health Program, March 16, 2012, "Acyl-CoAs and lipid partitioning"

Speaker, Michigan State University, Biochemistry and Molecular Biology Department (BMB), April 5, 2012, "Acyl-CoAs and lipid partitioning in heart and muscle"

Speaker, Johns Hopkins University School of Medicine, Institute for Basic Biomedical Sciences, April 10, 2012, "Acyl-CoA synthetase-1 knockout mice: Why fuel switching matters"

Speaker, Experimental Biology 2012, April 25, Symposium on Mammalian Target of Rapamycin (mTOR) as a Central Player in Energy Balance Regulation, "Glycerolipid signals alter mTOR complex 2 (mTORC2) to diminish insulin signaling"

Speaker, June 8-12 American Diabetes Association, Philadelphia, PA. June 8-12, 2012, Philadelphia, PA. Symposium: Novel Players in Hepatic Lipid Metabolism and Insulin Resistance, June 9, 2012, "Lipid Signaling and Insulin Resistance"

Session Chair, Delivery and Metabolism of Lipids, FASEB Summer Conference on Lipid Droplets: July 24, 2012

Speaker, PhD Graduate School of Metabolism and Endocrinology, PhD summer school; 5-8 September 2012 at Gl. Avernoes, Southern Funen, Denmark (Declined because of teaching)

Speaker, UNC Heart Club, Oct 8, 2012, "Does fuel switching matter for the heart?"

Speaker and participant, NIDDK New Investigator Workshop, Bethesda, MD, Dec 4, 2012, "Building a research career: Insights into career development"

2013

Speaker, UAB Comprehensive Diabetes Center (CDC) sponsored plenary lecture series, University of Alabama, Birmingham, March 21, 2013, "The role of acyl-CoA synthetase-1 in energy metabolism"

Speaker, Lipids & Membranes theme, American Society for Biochemistry and Molecular Biology, ASBMB, 2013 Annual Meeting, Boston, MA; April 24, Lipids in Nutrient Metabolism & Metabolic Dysfunction: "Glycerolipid intermediates alter insulin signaling"

ASBMB Session Chair: Lipid Signaling in Health and Disease, 2013 Annual Meeting, Boston, MA, April 21

Chair (elected), Gordon Conference on Molecular and Cellular Biology of Lipids, Waterville Valley, NH, July 22-26, 2013

Keynote Lecturer, Wake Forest University Lipid Sciences Mini-Symposium: Integrative Lipid Sciences, Inflammation, and Chronic Diseases, Sept 24, 2013, "Compartmentalized acyl-CoA metabolism in skeletal muscle regulates systemic glucose homeostasis"

Speaker, 11th Annual Meeting of the Society for Heart and Vascular Metabolism (SHVM), Cambridge, Maryland, Sept 29 - Oct 2, 2013, "Role of fatty acid esterification in the normal and diseased heart".

Speaker, Cleveland Clinic, Oct 18, 2013 "Compartmentalized acyl-CoA metabolism in skeletal muscle regulates systemic glucose homeostasis"

Speaker, Department of Pathology & Laboratory Medicine Grand Rounds, UNC, Nov 14, 2013, "Muscle fuel switching and systemic glucose homeostasis"

2014

Plenary Lecturer, 5th Intl Graz Symposium on Lipid and Membrane Biology, Graz, Austria, March 13-15 "Lack of fatty acid activation by ACSL1 disrupts mitochondrial function and gene regulation"

2014 Journal of Lipid Research Lectureship Award lecture, Keystone Symposium on Lipid Pathways in Biology and Disease, Royal Dublin Society, Dublin, Ireland, March 19-24, 2014, "Acyl-CoA Synthesis, Metabolism and Signaling"

Speaker, Harvard Digestive Diseases Center (HDDC) Symposium: Alimentary Tract Lipids in Health and Disease", in honor of Dr. Martin C. Carey, Apr 1, 2014, "Acyl-CoA partitioning"

Speaker, Mayo Clinic, Scottsdale, AZ, Apr 10, 2014, "Lipid metabolism, fuel switching and insulin sensitivity"

Speaker, Carnegie Institute, Department of Embryology, Apr 28, 2014, "Fatty acid partitioning"

Speaker, Northwestern Univ. Endocrinology Seminars, May 8, 2014, "Acyl-CoA compartmentalization and glucose homeostasis"

Speaker, LIPID MAPS: 11th Annual Meeting: Impact of Lipidomics on Cell Biology, Inflammation and Metabolic Diseases, La Jolla, CA, May 13-14, 2014, "Acyl-CoA partitioning"

Speaker 2014 FASEB Summer Conference: Lipid Droplets: Metabolic Consequences of the Storage of Neutral Lipids, Saxtons River, July 13-18, 2014, "Compartmentalized acyl-CoA metabolism"

Key Speaker. The Obesity Society (TOS), Boston, MA, November 4-7, 2014. "Fuel Trafficking in Adipose, Muscle and Heart"

Speaker, NIH NIDDK New PIs Workshop, Dec 3, 2014, "Building a research career: Insights into career development"

2015

Speaker, McAllister Heart Institute, UNC, Feb. 10, 2015

Speaker, Rutgers, Feb 16, 2015, "Fuel switching from fatty acid to glucose and compartmentalized acyl-CoA metabolism"

Speaker, Postdoctoral Winter School in Malaga (Spain), Danish Diabetes Academy, March 9-12, 2015
Speaker and Discussion Leader, Keystone Symposia on Obesity and the Metabolic Syndrome: Mitochondria and Energy Expenditure/Liver Metabolism and Nonalcoholic Fatty Liver Disease (NAFLD, Fairmont Chateau Whistler, Whistler, British Columbia, Canada, March 22-27, 2015, "Lipid intermediates and insulin resistance"
Speaker, Cold Spring Harbor Asia (CSHA) Conference on Lipid Metabolism and Metabolic Disorders, Suzhou, China, June 1-5, 2015, "Acyl-CoA compartmentalization"
Discussion leader, Gordon Conference on Molecular and Cellular Biology of Lipids, July 18-23, 2015, Waterville Valley, NH
Keynote Lecturer, Fatty Acids and Cell Signaling (FACS-12) From Genes to Human Physiology, Toronto, Canada, Oct 25th- 27th, "Compartmentalization of Fatty acids and acyl-CoAs"
Speaker, Center for Cardiovascular Research and the Department of Physiology and Biophysics, University of Illinois at Chicago College of Medicine, Nov 6, 2015. "Lipid compartmentalization and fuel switching in the heart"

2016

Speaker, DeWitt Goodman Seminar Series, Division of Preventive Medicine and Nutrition, Columbia University, Feb 24, 2016 "Compartmentalization of acyl-CoAs"
Speaker, Dept. of Biochemistry, Odense University, Denmark April 26, 2016 "Acyl-CoA metabolism in oxidative tissues"
Speaker, LIPID MAPS annual meeting, San Diego, May 17-18, 2016. Declined because of previous commitment
Speaker American Diabetes Assn 76th Scientific sessions New Orleans, LA, June 12, 2016; Symposium on Insulin resistance – what we know and don't know. "To store or to signal? Glycerolipids and Insulin Resistance"
Speaker, 2016 Lipoprotein Metabolism Gordon Research Conference, Waterville Valley, NH, June 12-17, 2016, "Hepatic triacylglycerol synthesis: Acyl-CoA synthetases and lipid compartmentalization"
Discussion Leader, 2016 Lipoprotein Metabolism Gordon Research Conference Session 3: Lipid Transport and Catabolism
Speaker, Kern Lipid Conference: Lipid and Immune System Cross-talk in the Evolution of Atherosclerosis, Obesity, Diabetes and NASH, 8/8- 8/10, 2016, Vail, Colorado.

2017

Speaker, 2017 Keystone Symposia on Lipidomics and Bioactive Lipids in Metabolism and Disease, 2/26-3/3, 2017, Granlibakken Tahoe, Tahoe City, CA; "Acyl-CoA Metabolism and Partitioning"
Session Chair, 2017 Keystone Symposia on Lipidomics and Bioactive Lipids in Metabolism and Disease, 2/26-3/3, 2017, Granlibakken Tahoe, Tahoe City, CA
Goldberg Lectureship in Signal Transduction and Metabolism, University of Minnesota, March 29, 2017, "Signaling effects of ACSL4"
Speaker, Lipids@Wayne Symposium, May 10, 2017 "Lipid regulation of β -adrenergic receptor signaling"
Speaker, Mini-symposium on "Metabolism and Cardiovascular Diseases", Department of Physiology, Medical College of Georgia and Augusta University, Augusta, GA, May 25
Speaker, FASEB Summer Research on Molecular, physiological and therapeutic studies of intestinal lipid transport and metabolism, July 23-28, 2017, Snowmass, CO, "Acyl-CoA Synthetase and its partners in compartmentalizing fatty acid metabolism"
Keynote Lecture, Gordon Conference on Molecular and Cellular Biology of Lipids, July 18-23, 2017, Waterville Valley, NH, "Acyl-CoA compartmentalization in liver"

2018

Speaker, Keystone Symposia on *Organ Crosstalk in Obesity and NAFLD/Bioenergetics and Metabolic Disease*, 2018 Keystone, Colorado, January 21-26 "Compartmentalization of Hepatic Lipid Metabolism"
Session Chair, FASEB Lipid Droplet Conference, July 2018

SUPPORT

R01-DK59935-14 (PI: RA Coleman)
NIH NIDDK

07/01/012-05/31/17

Acyl-CoA synthetase - structure, function and regulation

The major goal of this project is to investigate long-chain acyl-CoA synthetase isoforms in order to elucidate their separate functions in liver and adipocyte fatty acid metabolism.

R01-DK56598-31 (PI: RA Coleman)

11/01/12-7/31/17

NIH NIDDK

Metabolism of glycerolipids in liver.

The major goals of this project are to use biochemical and molecular techniques to study the synthesis and signaling roles of enzymes of glycerolipid metabolism in liver.

P30-DK56350 (PI: S Zeisel)

04/01/11-3/31/16

National Institutes of Health

Nutrition Obesity Research Center

This center grant supports nutrition and obesity research at UNC.

Role: Assoc. Director of NORC Mouse Phenotyping Core

Completed

NORC/NRI Research Collaborations (Co-PIs: N Krupenko, RA Coleman)

UNC NORC/NRI

01/01/15-06/30/15

Mechanism for development of fatty liver in glycine *N*-methyltransferase (GNMT) knockout mice

The major goal of this project is to analyze changes in the transcriptomic and metabolic profiles of GNMT-responsive genes that will help identify pathways that drive progression of fatty liver to hepatocellular carcinoma.

T32DK007686-16 (PI: J Stevens)

08/01/08-7/31/13

NIH NIDDK

Ruth L. Kirschstein National Research Service Award (NRSA) Institutional Research Training Grant

The primary goal of this project is to train PhD students in nutrition.

Role: Co- Director

1 R13 DK098861-01 (PI: RA Coleman)

04/17/13-08/31/13

NIDDK, NIHHLB, NIHGM

2013 Molecular and Cellular Biology of Lipids Gordon Research Conference

The primary goal of this project is to partially support a summer conference.

American Heart Association (PI: RA Coleman)

07/01/12-12/30/14

12GRNT12030144

Metabolic flexibility, gene expression, and metabolic heart disease

The major goals of this project are to identify gene and metabolite changes in a cardiac model of metabolic inflexibility and to learn whether inhibiting fatty acid oxidation can improve metabolic heart disease.