CURRICULUM VITAE

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EDUCATION:

July 2002- June 2005	Fellow in Endocrinology Medical University of South Carolina Charleston, South Carolina
July 2002- June 2004	NIH Institutional Post-Doctoral Training Fellowship Department of Pharmacology, Medical University of South Carolina (NIH-HL 07260) Charleston, South Carolina
July 1999- June 2002	Resident in Internal Medicine Medical University of South Carolina Charleston, South Carolina
June 1995- May 1999	Medical University of South Carolina; Charleston, South Carolina Doctor of Medicine
August 1992- December 1994	Clemson University, Clemson, South Carolina Bachelor of Science in Biochemistry Graduated Magna Cum Laude
August 1991-May 1992	University of Colorado Boulder, Colorado Major: Chemistry

CERTIFICATIONS AND LICENSES:

Licensed to Practice Medicine in North Carolina; January 2008 to present

Licensed to Practice Medicine in South Carolina; July 1999 to present

Diplomate, American Board of Internal Medicine, Initial Certification 2003

Board Certified in Endocrinology, Diabetes and Metabolism, American Board of Internal Medicine, Initial Certification 2005, Participating in Maintenance of Certification

EMPLOYMENT/POSITIONS:

October 2010- present	Assistant Professor of Medicine University of North Carolina, Chapel Hill School of Medicine, Department of Medicine, Division of Endocrinology Primary appointment
June 2015- present	Assistant Professor of Nutrition University of North Carolina, Chapel Hill Gillings School Global Public Health, Department of Nutrition Secondary appointment
May 2008- October 2010	Instructor of Medicine University of North Carolina, Chapel Hill Department of Medicine, Division of Endocrinology Chapel Hill, North Carolina
August 2005-April 2008	Staff Endocrinologist Lexington Medical Center West Columbia, South Carolina

HONORS:

1994	Senior Departmental Honors in Biochemistry; Clemson University
1994	Phi Kappa Phi Honor Society; Clemson University
1992-1994	Calhoun Honors College; Clemson University

PUBLICATIONS (in chronological order):

Book Chapters-

1. The Role of Non-cholesterol Sterols in the Pathogenesis of Atherosclerosis and their modulation by the Sitosterolemia Locus. (2006) **Klett, EL** and Patel, SB in Lipids and Atherosclerosis, eds. C. J. Packard and D. J. Rader. Publisher Taylor & Francis, London and New York. Chapter 6, 63-38.

Original research-

1. Pollenz RS, Santostefano MJ, **Klett E**, Richardson VM, Necela B and Birnbaum LS (1998) Female Sprague-Dawley rats exposed to a single oral dose of 2,3,7,8-tetrachlorodibenzo-p-dioxin exhibit sustained depletion of aryl hydrocarbon receptor

protein in liver, spleen, thymus and lung. *Toxicol Sci.* 42(2), 117-128. PMID: 9579024.

2. Yu H, Pandit B, **Klett E**, Lee MH, Lu K, Helou K, Ikeda I, Egashira N, Sato M, Klein R, Batta A, Salen G, Patel SB. (2003) The rat STSL locus: characterization, chromosomal assignment, and genetic variations in sitosterolemic hypertensive rats. *BMC Cardiovasc Disord*. 3: 4. PMID: 12783625.
3. **Klett EL**, Lu K, Kosters A, Vink E, Lee MH, Altenburg M, Shefer S, Batta AK, Yu H, Chen J, Klein R, Looije N, Oude-Elferink R, Groen AK, Maeda N, Salen G and Patel SB. (2004) A mouse model of Sitosterolemia: absence of Abcg8/sterolin-2 results in failure to secrete biliary cholesterol. *BMC Med*. 2: 5. PMID: 15040800.
4. **Klett EL**, Lee MH, Adams DB, Chavin KD and Patel SB. (2004) Localization of ABCG5 and ABCG8 proteins in human liver, gall bladder and intestine. *BMC Gastroenterol*. 4: 21. PMID: 15383151.
5. Miettinen TA, **Klett EL**, Gylling H, Isoniemi H, Patel SB. (2006) Liver transplantation in a patient with sitosterolemia and cirrhosis. *Gastroenterology* 130: 542-547. PMID: 16472606.
6. **Klett EL,** Chen S, Edin ML, Li LO, Ilkayeva O, Zeldin DC, Newgard CB, Coleman RA. (2013) Diminished acyl-CoA synthetase isoform 4 activity in INS 832/13 cells reduces cellular epoxyeicosatrienoic acid levels and results in impaired glucose-stimulated insulin secretion. *J Biol Chem* 288(30): 21618-21629. PMID: 23766516.
7. Zhang C, Cooper DE, Grevengoed TJ, Li LO, **Klett EL**, Eaton JM, Harris TE, Coleman RA (2014) Glycerol-3-phosphate acyltransferase-4 deficient mice are protected from diet-induced insulin resistance by the enhanced association of mTOR and rictor. *Am J Physiol Endocrinol Metab.* 307(3): E305-15. PMID: 24939733.
8. Cooper DE, Grevengoed TJ, **Klett EL**, Coleman RA (2015) Glycerol-3-phosphate acyltransferase isoform-4 (GPAT4) limits oxidation of exogenous fatty acids in brown adipocytes. *J Biol Chem.* 290(33):20023-31. PMID: 25918168.
9. Alves-Bezerra M, **Klett EL**, De Paula IF, Ramos IB, Coleman RA, Gondim KC (2016) 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. *Biochim Biophys Acta.* 1861(7): 650-662. PMID: 27091636.

Reviews-

1. **Klett EL** and Patel SB. The genetics of sitosterol absorption and biliary excretion. International Atherosclerosis Society e-Newsletter September 2002. Found at http://www.athero.org/
2. **Klett EL** and Patel SB (2003). Genetic defenses against noncholesterol sterols. *Curr Opin Lipidol*. 14(4): 341-345. PMID: 12865730.
3. Patel, SB, **Klett EL**, Anh, GS, Yu, H, Chen, J, Pandit, B, Lee, MH, Salen, G. (2004) Sitosterolemia; of mice and man. International Congress Series 1262: 300-304.
4. **Klett EL** and Patel SB (2004). Will the real cholesterol transporter please stand up? *Science* 303: 1149-1150. PMID: 14976303.

5. Nagle, CA, **Klett EL**, Coleman RA (2009) Hepatic triacylglycerol accumulation and insulin resistance. *J Lipid Res* 50: S74-S79. PMID: 18997164.
6. Li LO, **Klett EL**, Coleman RA (2010) Acyl-CoA synthesis, lipid metabolism and lipotoxicity. *Biochim Biophys Acta* 1801(3): 246-51. PMID: 19818872.
7. Zhang C, **Klett EL**, Coleman RA (2013) Lipid signals and insulin resistance. *Clin Lipidol* 8(6): 659-67. PMID: 24533033.
8. Grevengoed T, **Klett EL**, Coleman RA (2014) Acyl-CoA metabolism and partitioning. *Ann Rev Nutr* **34:** 2.1-2.30. PMID 24819326.
9. Cooper DE, Young PA, **Klett EL**, Coleman RA. (2015) Physiological Consequences of Compartmentalized Acyl-CoA Metabolism. *J Biol Chem.* 290(33): 20023-31. PMID: 26124277.

Abstracts-

1. Wendel AA, **Klett EL**, Coleman RA. (2010) Glycerolipids are essential for glucose stimulated insulin secretion in islets. Abstract for the FASEB SRC Lipid Droplets Conference July 25-30, 2010 Steamboat Springs, Colorado.
2. **Klett EL,** Chen S, Edin ML, Li LO, Ilkayeva O, Zeldin DC, Newgard CB, Coleman RA. (2013) Reduced acyl-CoA synthetase isoform 4 activity in INS 832/13 cells diminishes cellular epoxyeicosatrienoic acid levels and leads to impaired glucose-stimulated insulin secretion. Abstract for the Gordon Research Conference-Molecular & Cellular Biology of Lipids, July 21-26, 2013, Waterville Valley, NH.
3. Alves-Bezerra M, **Klett EL**, Coleman RA, Gondim KC. (2014) Expression and characterization of recombinant long-chain acyl-CoA synthetases 1 and 2 from the insect *Rhodnius prolixus*. Abstract for the FASEB SRC Lipid Droplets Conference July 13-18, 2014. Saxtons River, Vermont.

INVITED LECTURES-

Endocrinology Grand Rounds, University of Michigan, “Mouse Models of Selective Dietary Sterol Trafficking”; March 16, 2005.

Cardiovascular Disease Epidemiology Seminar Series, UNC School of Public Health Department of Epidemiology, November 31, 2010.

22nd South East Lipid Research Conference (SELRC), “Atypical eicosanoids' role in insulin secretion”; Callaway Gardens, Pine Mountain, Georgia, September 26 – 28, 2013.

TEACHING:

Lecturer, MS2 Endocrinology/Nutrition course- ‘Disorders of Lipid Metabolism,’ Spring 2009, 2010, and 2011.

Small group preceptor, MS2 Endocrinology/Nutrition course- Spring 2009, 2010, and 2011.

Lecturer, UNC MS1 and MS2 Endocrinology course- ‘Healthcare for Transitioning

Patients' Spring 2010 to present.

Seminar leader, UNC Nutrition 845: Nutritional Metabolism Spring 2010- Sterol metabolism and Spring 2016- Glucose Clamps.

Lecturer, UNC Nutrition 620: Micronutrients Spring 2013, 2014, 2015- Iodine.

Mentor for UNC Endocrinology Fellows research projects- Drs. Kristin Fabiato, Bhakti Paul, and Raymond Stadiem

Mentor for UNC Nutrition undergraduate students- Alekhya Yechoor 11/2011 to 5/2014

Dissertation Committee Member in Department of Nutrition:

August 2012 – May 2014	Guo Hu, M.S. Thesis Title- Effects of liver-specific ACSL4 (long-chain acyl-Coenzyme A synthetase 4) deletion in liver lipid metabolism
August 2012 – April 2015	Daniel Cooper, Ph.D. Thesis Title- Physiological Consequences of Compartmentalized Glycerolipid Synthesis
December 2015- present	Madelyn "Mimi" Huang Thesis Title- Pending

RESEARCH SUPPORT:

Active:

R01ES022697-01A1 (Styblo) 12/13/2013 – 10/31/1017
NIH/NIEHS
Mechanisms of Arsenic-Induced Diabetes Mellitus.
The major goal of this project is to determine the mechanism by which Arsenic causes diabetes mellitus.
Role- Collaborator

Completed:

K08DK090141 (Klett) 8/31/2012 – 9/1/2015
NIH/NIDDK
Role of acyl-CoA synthetases in mouse pancreatic beta-cell function
The major goal of this mentored career development award is to evaluate the role of acyl-CoA synthetases in mouse pancreatic beta-cell function. The proposed research plan, career development activities, mentorship team, and institutional environment will allow for the investigator to progress on to an independent investigator.
Role- PI

P30 DK34987 (Sandler) 7/1/2011 – 6/30/2012
NIH/NIDDK

UNC- CGIBD
Role of long-chain acyl-CoA synthetase 4 (Acsl4) in NAFLD. The major goal of this project is to determine the role of acyl-CoA synthetase 4 and its acyl-CoA products in Non-alcoholic fatty liver disease (NAFLD). Role- Recipient of pilot and feasibility award (no salary support)

P30 DK056350 (Zeisel) 4/10/2009 – 3/31/2011
NIH/NIDDK
UNC- Nutritional Obesity Research Center
Effects of dietary non-cholesterol sterols of pancreatic ß-cell function.
The major goal of this project is to determine if there is a role of dietary non-cholesterol sterols on pancreatic ß-cell insulin secretion.
Role- Recipient of pilot and feasibility award (no salary support).

Pending:
1R01DK107481-01A1 (Klett)
NIH/NIDDK
Lipid Metabolism and Beta-cell Function
The major goal of this proposed research is to determine the mechanism by which dietary omega-6 polyunsaturated fatty acids impair glucose stimulated insulin secretion and how beta-cell acyl-CoA synthetase 4 activity impacts upon whole-body glucose homeostasis.
Role- PI (50% effort)