

Lance E. Davidson, Ph.D.

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EDUCATION AND TRAINING

University of Utah School of Medicine, Center for Clinical and Translational Sciences, Salt Lake City, UT

Master of Science in Clinical Investigation, 2010-13

Thesis: "Mechanisms for Surgically-Induced Diabetes Remission"

Mentors: Donald McClain, M.D./Ph.D., Steven Hunt, Ph.D. and Dennis Parker, Ph.D.

University of Utah School of Medicine, Cardiovascular Genetics, Salt Lake City, UT

Postdoctoral Fellowship, Obesity Research, 2009-10

Mentors: Steven Hunt, Ph.D. and Ted Adams, Ph.D./M.P.H.

New York Obesity Research Center, Columbia University, New York, NY

Postdoctoral Fellowship, Obesity and Body Composition Research, 2008-09

Mentor: Dympna Gallagher, Ed.D.

Queens University, Kingston, Ontario, Canada

Doctor of Philosophy in Physical and Health Education, 2007

Dissertation: "Influence of Exercise Modality on Body Composition, Insulin Resistance and Functional Fitness in Aging: A Randomized Controlled Trial"

Advisor: Robert Ross, Ph.D.

Brigham Young University, Provo, UT

Bachelor of Science cum laude in Physical Education, 2000

Master of Science magna cum laude and valedictorian in Exercise Sciences, 2002

Thesis: "Physical Activity and Changes in Abdominal Fat over 18 Months: A Prospective Study of Middle-Aged Women"; approved with honors

Received: Departmental Award for Research Excellence

Advisor: Larry A. Tucker, Ph.D.

PROFESSIONAL EXPERIENCE

2013 - Present Assistant Professor, Department of Exercise Sciences, Brigham Young University, Provo, UT

2018 - Present Adjunct Assistant Professor, Department of Internal Medicine, Epidemiology Division, University of Utah, Salt Lake City, UT

2013 - 2018 Adjunct Assistant Professor, Department of Internal Medicine, Cardiovascular Genetics Division, University of Utah, Salt Lake City, UT

2011 - 2013	Research Assistant Professor, Department of Internal Medicine, Cardiovascular Genetics Division, University of Utah, Salt Lake City, UT
2010 - 2011	Adjunct Assistant Professor, Department of Internal Medicine, Cardiovascular Genetics Division, University of Utah, Salt Lake City, UT
2007 - 2008	Visiting Assistant Professor, Department of Exercise Sciences, Brigham Young University, Provo, UT

FUNDING

Active Grants

01/01/2019 – 12/31/2020 (final legal approvals still pending)	Intermountain Live Well Center Clinical Record Data Extraction Project Principal Investigator: Lance E. Davidson, Ph.D. Direct Costs: \$40,000 Intermountain Medical and Research Foundation Role: Principal Investigator
07/01/14 - 06/30/18 (2 nd wave of funding delayed but still pending)	Long-Term Clinical Diabetic Outcomes and Reduced Incidence of Diabetes Following Gastric Bypass Surgery Principal Investigator: Ted D. Adams, Ph.D./M.P.H. Total Costs: \$300,000 Ethicon Endo-Surgery Inc. Mechanism: Investigator-initiated grant Role: Investigator
10/1/2015-present (funding still available)	Three-point Dixon whole body composition analysis: evaluating the utility of fat and water suppression imaging by MRI in humans Principal Investigator: Lance E Davidson, PhD Award: \$10,000 MRIRF Research Grant Role: Principal Investigator

Past Grants

04/26/14 - 03/31/18	Effects of Gastric Bypass Surgery and Sustained Weight Loss on Fracture Risk Principal Investigator: Lance E. Davidson, Ph.D. Direct Costs: \$274,263 NIH National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Mechanism: R21 Role: Principal Investigator
07/01/11 - 06/30/16	Morbidity and Mortality Related to Gastric Bypass Surgery, Renewal Principal Investigator: Steven C. Hunt, Ph.D. Direct Costs: \$2,607,713 Total Costs: \$3,612,227 NIH National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Mechanism: R01 Role: Investigator
1/13/2015- 12/31/2015	The role of matricellular proteins in skeletal muscle regeneration and stem cell activity in aged adults

Principal Investigator: Robert Hyldahl, PhD
Award: \$9,610
BYU Gerontology Research Grant
Role: Co-Investigator

1/13/2015-12/31/2015 Effect of pre-operative sedentary and physical activity time on intra- and post-hospital outcomes in geriatric surgery patients
Principal Investigator: Neil Peterson, PhD/AGACNP-BC
Award: \$10,000
Brigham Young University
Mechanism: Gerontology Research Grant
Role: Co-Investigator

05/01/11 - 04/30/13 Mechanisms for Surgically-Induced Diabetes Remission
Principal Investigator: Lance E. Davidson, Ph.D.
Direct Costs: \$225,642 Total Costs: \$262,700
University of Utah Center for Clinical and Translational Science (CCTS)
Mechanism: CCTS KL2
Role: Principal Investigator

11/01/10 - 05/01/11 Mentored Scholars Program for Translational Comparative Effectiveness Research (T-CER)
Description: This program facilitated training in comparative effectiveness research for faculty members interested in developing their research path to include clinical and translational investigations. Related coursework, training, and support for research and travel are provided for six scholars each year on a competitive basis.
Principal Investigator: Carrie L. Byington, M.D.
Direct Costs: \$10,763 Total Costs: \$13,066
NIH National Cancer Institute (NCI)
Role: T-CER Scholar

09/01/09 - 08/31/10 Morbidity and Mortality Related to Gastric Bypass Surgery, Administrative Supplement
Description: This supplement provided one year of full funding for a post-doctoral research fellow (I wrote this grant application to transfer my postdoctoral fellowship to the University of Utah from Columbia University). The funding mechanism was intended to support promising researchers transitioning into NIH-funded projects, accelerate recruitment, and to spearhead specific genetic and behavioral analyses for the parent trial: a 6-year follow-up of gastric bypass surgery patients.
Principal Investigator: Steven C. Hunt, Ph.D.
Direct Costs: \$66,369 Total Costs: \$66,369
NIH National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
Mechanism: R01
Role: Consultant and NIH Postdoctoral Fellowship Recipient

09/01/08 - 08/31/09 Ruth L. Kirschen-NRSA Institutional Training Grant
Description: This training grant allows young investigators to pursue their research interests in NIH-funded core laboratories in which they can devote all their time toward developing a line of research and receive training that will help them to become leaders in their chosen fields.

Principal Investigator: F. Xavier Pi-Sunyer, M.D
NIH National Institute of Diabetes and Digestive and Kidney Diseases
(NIDDK)
Mechanism: Parent T32
Role: Fellowship Recipient (I was awarded funding for my post-doctoral fellowship at the New York Obesity Nutrition Research Center as part of this T32 grant)

Unfunded Grant Applications

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| Submitted
01/16/18 | Development of Nanocomposite Wearable Technologies for Increased Understanding of Knee Osteoarthritis
Principal Investigator: Matthew K. Seeley, Ph.D.
Direct Costs: \$112,750 (2 Years)
Brigham Young University
Mechanism: Interdisciplinary Research Grant
Role: Investigator |
| Submitted
01/16/18 | The Brain on Breakfast: The Impact of Breakfast in the Classroom on Cognitive Performance and Nutritional Outcomes
Principal Investigator: Lori A. Spruance, Ph.D.
Direct Costs: \$57,460 (1 Year)
Brigham Young University
Mechanism: Interdisciplinary Research Grant
Role: Investigator |

SCHOLARSHIP

Published Manuscripts (Peer Reviewed)

1. **Davidson LE**, Hunt SC, Adams TD. Fitness versus adiposity and cardiovascular disease risk. *Eur J Clin Nutr.* [E-pub Oct 8, 2018].
2. Kolotkin RL, Kim J, **Davidson LE**, Crosby RD, Hunt SC, Adams TD. 12-year trajectory of health-related quality of life in gastric bypass patients versus comparison groups. *Surg Obes Relat Dis.* [E-pub May 9, 2018].
3. †Masterson TD, Kirwan CB, **Davidson LE**, Larson MJ, Keller KL, Fearnbach SN, *Evans A, LeCheminant JD. Brain reactivity to visual food stimuli after moderate-intensity exercise in children. *Brain Imaging Behav.* 12(4):1032-1041, 2018.
4. **Davidson LE**, Yu W, Goodpaster BH, DeLany JP, Widen E, Lemos T, Strain GW, Pomp A, Courcoulas AP, Lin S, Thornton JC, Gallagher D. Fat free mass and skeletal muscle five years after bariatric surgery. *Obesity.* 26(7):1130-1136, 2018.
5. †Daniels P, Burns RD, Brusseau TA, Hall MS, **Davidson L**, Adams TD, Eisenman P. Effect of a randomised 12-week resistance training programme on muscular strength, cross-sectional area and muscle quality in women having undergone Roux-en-Y gastric bypass. *J Sports Sci.* 36(5):529-535, 2018.
6. Adams TD, **Davidson LE**, Litwin SE, Kim J, Kolotkin RL, Nanjee MN, Gutierrez JM, Frogley SJ, Ibele AR, Brinton EA, Hopkins PN, McKinlay R, Simper SC, Hunt SC. Weight and metabolic outcomes 12 years after gastric bypass. *N Engl J Med.* 377(12):1143-1155, 2017.

7. Hopkins JL, Hopkins PN, Brinton EA, Adams TD, **Davidson LE**, Nanjee MN, Hunt SC. Expression of metabolic syndrome in women with severe obesity. *Metab Syndr Relat Disord*. 15(6):283-290, 2017.
8. †Ko G, **Davidson LE**, Brennan AM, Lam M, Ross R. Abdominal adiposity, not cardiorespiratory fitness, mediates the exercise-induced change in insulin sensitivity in older adults. *PLoS One*. 11(12):e0167734, 2016.
9. †Ouellette KA, Brusseau TA, **Davidson LE**, Ford C, Hatfield DL, Shaw JM, Eisenman PA. Comparison of the effects of seated, supine and walking inter-set rest strategies upon work rate. *J Strength Cond Res*. 30(12):3396-3404, 2016.
10. **Davidson LE**, Adams TD, Kim J, Jones JL, Hashibe M, Taylor D, Mehta T, McKinlay R, Simper SC, Smith SC, Hunt SC. Association of patient's age at gastric bypass surgery with long-term all-cause and cause-specific mortality. *JAMA Surg*. 151(7):631-7, 2016.
11. Lin WY, Peng CY, Lin CC, **Davidson LE**, Pi-Sunyer FX, Sung PK, Huang KC. General and abdominal adiposity and risk of death in HBV vs. non-HBV carriers: A 10-year population-based cohort study. *Medicine*. 95(2):e2162, 2016.
12. †Masterson TD, Kirwan CB, **Davidson LE**, LeCheminant JD. Neural reactivity to visual food stimuli is reduced in some areas of the brain during evening hours compared to morning hours: an fMRI study in women. *Brain Imaging Behav*. 10(1):68-78, 2016.
13. Adams TD, Mehta TS, **Davidson LE**, Hunt SC. All-Cause and Cause-Specific Mortality Associated with Bariatric Surgery: A Review. *Curr Atheroscler Rep*. 17(12):74, 2015.
14. Adams TD, Hammoud AO, **Davidson LE**, Laferrere B, Fraser A, Stanford JB, Hashibe M, Greenwood JL, Kim J, Taylor D, Watson AJ, Smith KR, McKinlay R, Simper SC, Smith SC, Hunt SC. Maternal and neonatal outcomes for pregnancies before and after gastric bypass surgery. *Int J Obes*. 39(4):686-94, 2015.
15. †Priester T, †Ault TG, **Davidson L**, Gress R, Adams TD, Hunt SC, Litwin SE. Coronary calcium scores 6 years after bariatric surgery. *Obes Surg*. 25(1):90-6, 2015.
16. **Davidson LE**, Kelley DE, Heshka S, Thornton J, Pi-Sunyer FX, Boxt L, Balasubramanyam A, Gallagher D. Skeletal muscle and organ masses differ in overweight adults with type 2 diabetes. *J Appl Physiol*. 117(4):377-82, 2014.
17. Chao MC, Hu SL, Hsu HS, **Davidson LE**, Lin CH, Li CI, Liu CS, Li TC, Lin CC, Lin WY. Serum homocysteine level is positively associated with chronic kidney disease in a Taiwan Chinese population. *J Nephrol*. 27:299-305, 2014.
18. Lin WY, Chiu TY, Ho CT, **Davidson LE**, Hsu HS, Liu CS, Chiu CF, Peng CT, Chen CY, Hu WY, Hsu LN, Li CI, Li TC, Lin CY, Chen CY, Lin CC. Hospice shared-care saved medical expenditure and reduced the likelihood of intensive medical utilization among advanced cancer patients in Taiwan--a nationwide survey. *Support Care Canc*. 22(7):1907-14, 2014.
19. Yu YT, Ho CT, Hsu HS, Li CI, **Davidson LE**, Liu CS, Li TC, Shih CM, Lin CC, Lin WY. Subclinical hypothyroidism is associated with elevated high-sensitive C-reactive protein among adult Taiwanese. *Endocrine*. 44(3):716-22, 2013.
20. Adams TD, **Davidson LE**, Litwin SE, Kolotkin RL, LaMonte MJ, Pendleton RC, Strong MB, Vinik R, Wanner NA, Hopkins PN, Gress RE, Walker JM, Cloward TV, Nuttall RT, Hammoud A, Greenwood JL, Crosby RD, McKinlay R, Simper SC, Smith SC, Hunt SC. Health benefits of gastric bypass surgery after 6 years. *JAMA*. 308(11):1122-31, 2012.

21. Lin WY, Pi-Sunyer FX, Liu CS, Li CI, **Davidson LE**, Li TC, Lin CC. Central obesity and albuminuria: both cross-sectional and longitudinal studies in Chinese. *PLoS One*. 7(12):e47960, 2012.
22. Adams TD, **Davidson LE**, Litwin SE, Hunt SC. Gastrointestinal surgery: cardiovascular risk reduction and improved long-term survival in patients with obesity and diabetes. *Curr Atheroscler Rep*. 14(6):606-15, 2012.
23. Hu SL, Liu CS, Lin CH, **Davidson LE**, Li CI, Lin CC, Li TC, Lin WY. Uric acid and mortality in elderly Chinese: a 10-year population-based cohort study. *J Am Geriatr Soc*. 60(9):1783-5, 2012.
24. Kolotkin RL, **Davidson LE**, Crosby RD, Hunt SC, Adams TD. Six-year changes in health-related quality of life in gastric bypass patients versus obese comparison groups. *Surg Obes Relat Dis*. 8(5):625-33, 2012.
25. Hunt SC, Hasstedt SJ, Xin Y, Dalley BK, Milash BA, Yakobson E, Gress RE, **Davidson LE**, Adams TD. Polymorphisms in the NPY2R gene show significant associations with BMI that are additive to FTO, MC4R, and NPFFR2 gene effects. *Obesity (Silver Spring)*. 19(11):2241-7, 2011.
26. †Bouchard DR, †McGuire KA, **Davidson L**, Ross R. Cardiorespiratory fitness, obesity, and functional limitation in older adults. *J Aging Phys Act*. 19(4):336-46, 2011.
27. Kolotkin RL, Lamonte MJ, Walker JM, Cloward TV, **Davidson LE**, Crosby RD. Predicting sleep apnea in bariatric surgery patients. *Surg Obes Relat Dis*. 7(5):605-10, 2011.
28. Lin WY, Pi-Sunyer FX, Chen CC, **Davidson LE**, Liu CS, Li TC, Wu MF, Li CI, Chen W, Lin CC. Coffee consumption is inversely associated with type 2 diabetes in Chinese. *Eur J Clin Invest*. 41(6):659-666, 2011.
29. **Davidson LE**, Wang J, Thornton JC, Kaleem Z, Silva-Palacios F, Pierson RN, Heymsfield SB, Gallagher D. Predicting fat percent by skinfolds in racial groups: Durnin and Womersley revisited. *Med Sci Sports Exerc*. 43(3):542-9, 2011.
30. Ho CT, Lin CC, Hsu HS, Liu CS, **Davidson LE**, Li TC, Li CI, Lin WY. Arterial stiffness is strongly associated with insulin resistance in Chinese--a population-based study (Taichung Community Health Study, TCHS). *J Atheroscler Thromb*. 18(2):122-30, 2011.
31. Liu CS, Pi-Sunyer FX, Li CI, **Davidson LE**, Li TC, Chen W, Lin CC, Huang CY, Lin WY. Albuminuria is strongly associated with arterial stiffness, especially in diabetic or hypertensive subjects--a population-based study (Taichung Community Health Study, TCHS). *Atherosclerosis*. 211(1):315-21, 2010.
32. **Davidson LE**, Tucker L, Peterson T. Physical activity changes predict abdominal fat change in midlife women. *J Phys Act Health*. 7(3):316-22, 2010.
33. Javed F, He Q, **Davidson LE**, Thornton JC, Albu J, Boxt L, Krasnow N, Elia M, Kang P, Heshka S, Gallagher D. Brain and high metabolic rate organ mass: contributions to resting energy expenditure beyond fat-free mass. *Am J Clin Nutr*. 91(4):907-12, 2010.
34. **Davidson LE**. Should doctors recommend a specific exercise program for elderly patients? *Aging Health*. 5(3):263-264, 2009.
35. Lin WY, Chiu TY, Hsu HS, **Davidson LE**, Lin T, Cheng KC, Chiu CF, Li CI, Chiu YW, Lin CC, Liu CS. Medical expenditure and family satisfaction between hospice and general care in terminal cancer patients in Taiwan. *J Formos Med Assoc*. 108(10):794-802, 2009.

36. Kuk JL, Saunders TJ, **Davidson LE**, Ross R. Age-related changes in total and regional fat distribution. *Ageing Res Rev.* 8(4):339-48, 2009.
37. Saunders TJ, **Davidson LE**, Janiszewski PM, Despres JP, Hudson R, Ross R. Associations of the limb fat to trunk fat ratio with markers of cardiometabolic risk in elderly men and women. *J Gerontol A Biol Sci Med Sci.* 64(10):1066-70, 2009.
38. **Davidson LE**, Hudson R, Kilpatrick K, Kuk JL, McMillan K, Janiszewski PM, Lee S, Lam M, Ross R. Effects of exercise modality on insulin resistance and functional limitation in older adults: a randomized controlled trial. *Arch Intern Med.* 169(2):122-31, 2009.
39. Kuk JL, Kilpatrick K, **Davidson LE**, Hudson R, Ross R. Whole-body skeletal muscle mass is not related to glucose tolerance or insulin sensitivity in overweight and obese men and women. *Appl Physiol Nutr Metab.* 33(4):769-74, 2008.
40. Kuk JL, **Davidson LE**, Hudson R, Kilpatrick K, Bacskai K, Ross R. (2008). Association between dietary fat intake, liver fat, and insulin sensitivity in sedentary, abdominally obese, older men. *Appl Physiol Nutr Metab.* 33(2):239-45, 2008.
41. **Davidson LE**, Kuk JL, Church TS, Ross R. Protocol for measurement of liver fat by computed tomography. *J Appl Physiol.* 100(3):864-8, 2006.
42. Lee S, Kuk JL, **Davidson LE**, Hudson R, Kilpatrick K, Graham TE, Ross R. Exercise without weight loss is an effective strategy for obesity reduction in obese individuals with and without Type 2 diabetes. *J Appl Physiol.* 99(3):1220-5, 2005.

Other Published Manuscripts (Correspondence)

1. Adams TD, **Davidson LE**, Hunt SC. Weight and metabolic outcomes 12 years after gastric bypass: Correspondence. *N Engl J Med.* 378(1):93-96, 2018.
2. **Davidson LE**, Thornton JC, Heymsfield SB, Gallagher D. Response to Durnin and Womersley revisited: need for Bland Altman plots. *Med Sci Sports Exerc.* 43(8):1599, 2011.

Book Chapters

1. Adams TD, Hunt SC, **Davidson LE**, Hashibe M. 50 Obesity and cancer with emphasis on bariatric surgery. In: Brethauer SA, Schauer PR, Schirmer BD (eds). *Minimally Invasive Bariatric Surgery*. Springer New York, 471-484, 2015.
2. Tucker LA, **Davidson LE**. Cardiovascular Health. In *Brigham Young University's Health Education Physical Education 129 Lecture Course Manual*. BYU Bookstore, 2008-2009.

Edited Works

1. **Davidson LE**, Vincent WJ. (2009). Brigham Young University's health education physical education 129 lecture course manual. BYU Independent Study and Online Course, 2009.

Manuscripts in Progress

1. Litwin SE, Adams TD, **Davidson LE**, McKinlay R, Simper SC, Ranson L, Hunt SC. Longitudinal changes in cardiac structure and function in severe obesity: 11 year follow up in the Utah Obesity Study. *In review; submitted to J Am Coll Cardiol, 2018.*
2. †Farmer T, Johnson M, *Scott JD, **Davidson LE**. Exploring a modification to the readiness assurance process in team-based learning. *In preparation. Only minor changes left before submission.*
3. *Mabey J, †Ouellette K, *Pace B, **Davidson LE**. Physical activity patterns during rapid weight loss phase after bariatric surgery. *BYU undergraduate research assistants*

collaborating with my former PhD student to publish data from her dissertation (poster presented at Obesity Week 2018).

4. **Davidson LE**, Adams TD, Simper SC, McKinlay R, Hunt SC. The role of body composition on changes in resting metabolic rate a decade after gastric bypass: the Utah Obesity Study. *Manuscript in preparation (poster presented at Obesity Week 2018).*
5. *Braathen DL, LeCheminant JD, Adams TD, Hunt SC, **Davidson LE**. Comparison of resting energy expenditure prediction equations and indirect calorimetry before and after gastric bypass surgery. *In preparation (poster presented at Obesity Week 2018).*
6. †Kelley J, *Rummler C, *Braathen D, *Mabey J, **Davidson LE**. Can eccentric training improve muscle strength and function during rapid weight loss? *Data collection in progress, manuscript in preparation.*
7. *Mabey JG, Crowell SE, Kolotkin RL, Crosby RD, Adams TD, **Davidson LE**. Suicide risk in gastric bypass patients relative to a non-surgery comparison group and population controls. *Analysis planning underway, but collaborative group established; writing in beginning stages.*

PRESENTATIONS

Invited Speaking Opportunities

Keynote Lecture

1. **Davidson LE**. Healthy aging with exercise. Conference for the Third China's National Physical Fitness Surveillance (CNPFS) & International Seminar of Physical Fitness Research, Macau, China, 2012.

Symposium Talks at National/International Research Conferences

1. **Davidson LE**. Session: Body Composition: Metabolic Disease. Presentation: Fitness/Adiposity and CVD. 11th International Symposium on In Vivo Body Composition Studies, New York, NY, 2018.
2. **Davidson LE**. Session: Longitudinal cohort studies vs RCTs to influence practice. Presentation: Resting metabolic rate and cardiorespiratory fitness after gastric bypass. 22nd World Congress, International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO), London, UK, 2017.

Presentations with Peer-Reviewed Published Abstracts

1. *Mabey JG, **Davidson LE**, *Pace BK, Brusseau TA, †Ouellette KA. Acute changes in physical activity post-bariatric surgery. Poster abstract presentation at: Obesity Society 2018, Nashville, TN. Abstract #T-P-3462, Nov. 14, 2018.
2. **Davidson LE**, Adams TD, Simper S, McKinlay R, Hunt SC. Resting energy expenditure reflects fat and fat-free mass changes 11 years after gastric bypass. Poster abstract presentation at: Obesity Society 2018, Nashville, TN. Abstract #T-P-3271, Nov. 13, 2018.
3. *Braathen DL, **Davidson LE**, LeCheminant JD, Adams TD, Hunt SC. Does fat free mass improve prediction of resting energy expenditure in adults with severe obesity? Poster abstract presentation at: Obesity Society 2018, Nashville, TN. Abstract #T-P-3xxx, Nov. 13, 2018.
4. **Davidson LE**, Yu W, Goodpaster B, Delany JP, Strain G, Pomp A, Courcoulas A, Lin S, Janumala I, Thornton JC, Gallagher D. Fat-free mass and skeletal muscle in women from

one to 5 years after bariatric surgery. Poster abstract presentation at: The 35th Annual Scientific Meeting of the Obesity Society 2017; Oct. 30 – Nov. 2; Washington, DC. <http://www.obesity.org/meetings/obesity-week/archive> Abstract #T-P-3271, p46-47, Nov. 1, 2017.

5. **Davidson LE**, Adams TD, Simper S, McKinlay R, Hunt SC. Changes in fat and fat free mass a decade after gastric bypass: the Utah Obesity Study. Quickshot oral presentation presented at Obesity Week: The 34th Annual Meeting of the American Society for Metabolic and Bariatric Surgery; Oct. 29 – Nov. 2; Washington DC. <https://asmbs.org/wp/uploads/2017/11/ASMBS-2017-Abstract-Book.pdf> Abstract #A519, p11, 2017.
6. McKinlay R, Kim J, **Davidson LE**, Simper S, Adams TD, Hunt SC. Association of metabolic syndrome prior to gastric bypass surgery and long-term weight loss outcomes: the Utah Obesity Study. Oral presentation presented at Obesity Week: The 34th Annual Meeting of the American Society for Metabolic and Bariatric Surgery; Oct. 29 – Nov. 2; Washington DC. <https://asmbs.org/wp/uploads/2017/11/ASMBS-2017-Abstract-Book.pdf> Abstract #A131, p23, 2017.
7. LeCheminant JD, **Davidson LE**, Adams TD, Hunt SC. Comparison of resting energy expenditure prediction equations and indirect calorimetry among obese adults before and 2 years after Roux-en-Y gastric bypass surgery. Poster abstract presentation at: Obesity Week 2017; Oct. 30 – Nov. 2; Washington, DC. <http://www.obesity.org/meetings/obesity-week/archive> Abstract #T-P-3171, p4, Nov. 1, 2017.
8. Litwin SE, Adams TD, **Davidson LE**, Hunt SC. Is there a cardiomyopathy of obesity? 10-year follow up of severely obese patients in the Utah Obesity Study. Abstract presented at the 66th annual scientific session and expo of the American College of Cardiology; Mar. 17-19; Washington, DC. *J Amer Coll Cardiol.* 69(11):S725, 2017.
9. **Davidson LE**, Adams TD, Simper SC, McKinlay R, Hunt SC. Two-year resting metabolic rate predicts weight regain 12 years after gastric bypass surgery. Poster abstract presentation at: The Obesity Society Annual Meeting at Obesity Week 2016; Oct. 31 – Nov. 4; New Orleans, LA. <http://www.obesity.org/meetings/obesity-week/archive> Abstract #T-P-LB-3661, 233-4, 2016.
10. Adams TD, **Davidson LE**, Litwin SE, Kim J, Kolotkin RL, Nanjee MN, Gutierrez J, Frogley SJ, Brinton EA, Hopkins PN, Simper SC, McKinlay R, Hunt SC. Long-term clinical outcomes of a prospective gastric bypass study: 12 year follow-up results. Poster abstract presentation at: Obesity Week 2016, New Orleans, LA; Oct. 31 – Nov. 4, 2016. <http://www.obesity.org/meetings/obesity-week/archive> Abstract #T-P-LB-3660, 233, 2016.
11. *Martinez K, Tucker LA, Bailey BW, LeCheminant JD, **Davidson LE**. Expanded normal weight obesity and insulin resistance among U.S. adults in the National Health and Nutrition Examination Survey. Poster abstract presentation at: Obesity Week 2016, New Orleans, LA.; Oct. 31 – Nov. 4, 2016.
12. **Davidson LE**, Yu W, Goodpaster B, DeLany JP, Strain G, Pomp A, Lin S, Thornton JC, Gallagher D. Fat weight increases while fat-free mass decreases in women 5 years after gastric bypass surgery. *World Obesity 2016: 13th Annual International Congress on Obesity*, Vancouver, BC. *Obesity Reviews.* 17(Suppl S2):1-248, 2016.
13. *Masterson TD, Evans A, Kirwan CB, Keller K, Fearnbach SN, LeCheminant J, **Davidson LE**. Neural responses to pictures of food after exercise. *ACSM 2016*. Boston, MA. *Med Sci Sports Exerc.* 48(5 Suppl 1):856, 2016.

14. Brusseau T, Burns R, Hannon J, **Davidson LE**. Predictors and grade level trends of school day physical activity achievement in at-risk children in the U.S. Poster abstract presentation at: The Obesity Society Annual Meeting at Obesity Week 2015; Nov. 1 – Nov. 6; Los Angeles, CA. <http://www.obesity.org/meetings/obesity-week/archive> Abstract #T-P-3713, Friday, Nov. 4, 2015.
15. **Davidson LE**, Simper S, Smith S, McKinlay R, Hunt SC, Adams TD. Lower fat mass contributes to greater cardiorespiratory fitness 10 years after gastric bypass surgery. Poster abstract presentation at: The Obesity Society Annual Meeting at Obesity Week 2015; Nov. 1 – Nov. 6; Los Angeles, CA. <http://www.obesity.org/meetings/obesity-week/archive> Abstract #T-P-3640, Friday, Nov. 4, 2015.
16. †Daniels P, Eisenman P, Brusseau T, Adams TD, **Davidson LE**. Effects of a 12-week periodized resistance training program on muscle size, strength, quality, and physical activity after Roux-en-Y gastric bypass surgery. Poster abstract presentation at: The Obesity Society Annual Meeting at Obesity Week 2015; Nov. 1 – Nov. 6; Los Angeles, CA. <http://www.obesity.org/meetings/obesity-week/archive> Abstract #T-P-3628, Friday, Nov. 4, 2015.
17. Simper S, Kim J, Smith S, McKinlay R, **Davidson LE**, Hunt S, Adams TD. Improved cardiorespiratory fitness persists 10 years following gastric bypass surgery. International Federation for the Surgery of Obesity and metabolic disorders, 20th World Congress, Vienna, Austria, 2015. *Obesity Surgery* 25, S82-S83, 2015.
18. Smith S, Kim J, Simper S, McKinlay R, **Davidson LE**, Hunt S, Adams TD. Does prevalence of metabolic syndrome pre-gastric bypass surgery predict weight loss and weight loss maintenance post-surgery? International Federation for the Surgery of Obesity and metabolic disorders, 20th World Congress, Vienna, Austria. *Obesity Surgery* 25, S82, 2015.
19. Lin WY, Lin CC, **Davidson LE**, Huang KC. Obesity and mortality among Chinese HBV carriers. Experimental Biology, Boston, MA. *The FASEB Journal* 29(1):595.11, 2015.
20. *Masterson T, **Davidson LE**, Kirwan B, LeCheminant JD. Neural reactivity to visual food stimuli is lower in the evening than the morning in some areas of the brain: an fMRI study. Poster abstract presentation at: The Obesity Society Annual Meeting at Obesity Week 2014; Nov. 3 – Nov. 7; Boston, MA. <http://www.obesity.org/meetings/obesity-week/archive> Abstract #T-2039-P, Tuesday, Nov. 4, 2014.
21. Adams TD, **Davidson LE**, Gress R, McKinlay R, Smith S, Simper SC, Hunt SC. Carotid intima-medial thickness measured 10-years following Roux-en-Y gastric bypass surgery. Poster abstract presentation at: The Obesity Society Annual Meeting at Obesity Week 2014; Nov. 3 – Nov. 7; Boston, MA. <http://www.obesity.org/meetings/obesity-week/archive> Abstract #T-2536-P, Wednesday, Nov. 5, 2014.
22. **Davidson LE**, LaMonte MJ, Ouellette K, Hunt SC, Adams TD. Relationship between self-reported activity, objectively-measured activity and treadmill performance in severely obese subjects. Poster abstract presentation at: The Obesity Society Annual Meeting at Obesity Week 2014; Nov. 3 – Nov. 7; Boston, MA. <http://www.obesity.org/meetings/obesity-week/archive> Abstract #T-2382-P, Wednesday, Nov. 5, 2014.
23. *Ouellette K, **Davidson LE**, Brusseau T, Shaw J, Hatfield D, Eisenman PA. Short-term changes in physical activity after bariatric surgery. Poster abstract presentation at: The Obesity Society Annual Meeting at Obesity Week 2014; Nov. 3 – Nov. 7; Boston, MA. <http://www.obesity.org/meetings/obesity-week/archive> Abstract #T-2761-P, Thursday, Nov. 6, 2014.

24. *Wei C, Ranson L, **Davidson LE**, Adams TD, Gress R, Hunt SC, Litwin S. Patients with weight regain after bariatric surgery have continued reversal of metabolic syndrome but not cardiac remodeling: 10-year longitudinal echocardiographic follow-up. *J Am Coll Cardiol.* 63(12S):A1283, 2014.
25. *Wei C, Ranson L, **Davidson LE**, Adams TD, Gress R, Hunt SC, Litwin S. Distinct effects of age and obesity on cardiac structure and diastolic function. *J Am Coll Cardiol.* 63(12S):A1087, 2014.
26. *Wei C, Ranson L, **Davidson LE**, Adams TD, Gress R, Hunt SC, Litwin S. Metabolically healthy severe obesity and cardiovascular disease risk: a 6-year longitudinal prospective study. *J Am Coll Cardiol.* 63(12S):A1353, 2014.
27. *Ko G, **Davidson LE**, Lam M, Hudson R, Ross R. Change in cardiorespiratory fitness in response to exercise is not required to observe improvement in cardiometabolic risk factors in older adults. *Circulation.* 127(12 Suppl):AP140, 2013.
28. Adams TD, Hammoud AO, **Davidson LE**, Fraser AM, McKinlay R, Simper SC, Smith S, Smith KR, Hunt SC. Association of gastric bypass on gestational weight of children born before and following gastric bypass surgery. *Obesity.* 21:S69, 2013.
29. Crowell SE, **Davidson LE**, Gress RE, Kolotkin RL, Hunt SC, Adams TD. Suicide risk in gastric bypass patients relative to a non-surgery comparison group and population controls. *Obesity.* 21:S107, 2013.
30. **Davidson LE**, Adams TD, Gress RE, Smith S, Simper SC, McKinlay R, Hunt SC. Are mortality benefits of gastric bypass surgery influenced by the patient's age at surgery? *Obesity.* 21:S107, 2013.
31. DePaoli AM, Ling L, Kaplan DD, Saberi M, Zhang P, Lindhout D, Gao S, Yang H, Zhou M, **Davidson LE**, Hunt SC, Adams TD, Tian H. Fibroblast growth factor 19 (FGF19) is regulated by gastric bypass and mimics the metabolic benefits after the surgery. *Diabetologia.* 55:S243, 2012.
32. Hopkins JL, Hopkins PN, Brinton EA, **Davidson LE**, Adams TD. Increased fat-free mass and resting energy expenditure in severely obese women. *Obesity.* 20:S219, 2012.
33. Adams TD, **Davidson LE**, Gress RE, Hopkins PN, Hunt SC. Changes in metabolic parameters are not related to weight regain six years after gastric bypass surgery. *Obesity.* 20:S160, 2012.
34. **Davidson LE**, Adams TD, Hunt SC. Resting metabolic rate and fat free mass, not diet or exercise, predict weight regain six years after gastric bypass surgery. *Obesity.* 20:S73-74, 2012.
35. Kolotkin RL, **Davidson LE**, Crosby RD, Hunt SC, Adams TD. Changes in health-related quality of life post-surgery. *Obes Surg.* 21(8):1038, 2011.
36. Adams TD, **Davidson LE**, Litwin SE, Kolotkin R, Gress RE, Smith S, Simper SC, McKinlay R, Hunt SC. Six-year follow-up of gastric bypass surgery: the Utah Obesity Study. *Obesity.* 19:S56, 2011.
37. **Davidson LE**, Adams TD, Brinton EA, Hopkins PN, Hopkins JL, Gress RE, Hunt SC. Fat and fat-free mass regain after RYGB surgery have differing effects on lipid levels. *Obesity.* 19:S186-S187, 2011.

38. **Davidson LE**, Adams TD, Hasstedt SJ, Xin Y, Gress RE, Hunt SC. Gene variants on the NPY receptor and weight regain after gastric bypass surgery. *Clin Transl Sci.* 4(2):125, 2011.
39. **Davidson LE**, Wang J, Strain G, Goodpaster B, Pomp A, Dakin G, Courcoulas A, Thornton JC, Gallagher D. Weight and fat mass stabilize whereas fat-free mass trends towards continued loss two years after gastric bypass surgery. *Int J Obes (Lond).* 35:S10, 2011.
40. **Davidson LE**, Lamonte M, Adams TD, Gress RE, Hunt SC. Physical activity and long-term weight maintenance after gastric bypass surgery. *Obesity.* 18:S107, 2010.
41. Gallagher D, Strain GW, **Davidson LE**, Courcoulas AP, Pomp A, Gagner M, Dakin G, Kang P, Janumala I, Thornton J. Effects of bariatric surgery-induced weight loss on changes in total body adipose tissue, regional adipose tissue depots and muscle mass. *Obesity.* 18:S162, 2010.
42. Kolotkin R, **Davidson LE**, Crosby RD, Hunt SC, Adams TD. Six-year changes in health-related quality of life in gastric bypass patients versus obese comparison groups. *Surg Obes Relat Dis.* June 2010.
43. **Davidson LE**, Gress R, Hunt SC, Adams TD. Independent contributions of lean body mass and fat mass changes on resting energy expenditure 2 years after gastric bypass surgery. *Obesity.* 17:S282, 2009.
44. Gallagher D, Kelley D, **Davidson LE**, Heshka S, Pi-Sunyer FX, and the MRI Ancillary Study Group of the Look Ahead Research Group. Effects of a lifestyle intervention on lean tissue composition (skeletal muscle and organ depots) measured by whole-body MRI in adults with type 2 diabetes. *Obesity.* 17:S137, 2009.
45. **Davidson LE**, Kelley D, Heshka S, Thornton JC, Pi-Sunyer FX, Boxt L, Gallagher D, and the MRI Ancillary Study Group of the Look Ahead Research Group. Less skeletal muscle and heart, greater liver and kidney mass in diabetic adults. *Obesity.* 17:S203, 2009.
46. †Saunders TJ, **Davidson LE**, Kuk JL, †McMillan K, †Janiszewski PM, Hudson R, Kilpatrick K, Ross R. Influence of abdominal fat on the relationship between cardiorespiratory fitness and C-reactive protein in elderly men and women. *Appl Physiol Nutr Metab.* 33, 2008.
47. **Davidson LE**, †Saunders TJ, †Janiszewski PM, Hudson R, Ross R. Relationship of adiponectin to ectopic fat and cardiometabolic risk factors in older, abdominally obese women. *Obesity.* 16:S126, 2008.
48. †Saunders TJ, Janiszewski PM, †**Davidson LE**, Ross R. Is the relationship between limb-to-trunk ratio, insulin sensitivity, and adiponectin in the elderly mediated by visceral adiposity? *Obesity.* 16:S125, 2008.
49. †Saunders TJ, Kilpatrick K, †Kuk JL, †**Davidson LE**, Hudson R, Ross R. Effect of skeletal muscle mass on insulin sensitivity in overweight and obese men and women. *Appl Physiol Nutr Metab.* 32:S79, 2007.
50. †**Davidson LE**, †Kuk JL, Ross R. Morphologic and metabolic adaptations to resistance and/or aerobic exercise in abdominally obese older men and women: a randomized controlled trial. *Obesity.* 15:A218, 2007.
51. †**Davidson LE**, †Kuk JL, Hudson R, Kilpatrick K, and Ross R. Effect of dietary fat intake on the relationship between liver fat and insulin sensitivity in sedentary, abdominally obese older men. *Obesity.* 14:A147, 2006.

52. Tucker LA, Peterson TR, †Strong E, Bailey BW, LeCheminant JD, †**Davidson LE**, †Bikman B, *Nokes N, Tucker J. Objectively measured physical activity and body fat gains in women: a 4-year prospective study. *Med Sci Sports Exerc.* 38(Suppl 5):S57, 2006.
53. †**Davidson LE**, Hudson R, Kilpatrick K, Ross R. Novel assessment of hepatic steatosis by computed tomography. *Can J Appl Physiol.* 30:S20, 2005.
54. Tucker LA, †Peterson TR, †LeCheminant JD, †Bailey JW, †**Davidson L**. HDL cholesterol: a comparison of the contributions of intensity and volume of physical activity. *Med Sci Sports Exerc.* 37(5):S382, 2005.
55. †**Davidson LE**, †Kuk JL, Ross R. Independent relationships among abdominal adipose depots, liver fat, cardiorespiratory fitness, and insulin resistance in abdominally obese older men and women. *Obesity Research.* 13:A126, 2005.
56. †**Davidson LE**, †Kuk JL, Ross R. Liver volume as a marker of hepatic fat in men. *Obesity Research.* 12:A137, 2004.
57. †**Davidson LE**, Janssen I, Hudson R, Kilpatrick K, Ross R. Age-related reduction in glucose uptake is explained by corresponding increase in obesity, not aging per se. *Can J of Appl Physiol.* Z8:S45, 2003.
58. †**Davidson LE**, †Peterson T, Tucker L. Television viewing habits and measured cardiorespiratory fitness in 277 women. *Med Sci Sport Exer.* 34(5):S66, 2002.
59. †**Davidson LE**, †Peterson T, †Bailey B, †LeCheminant J, Tucker L. Objectively measured changes in physical activity predict changes in abdominal fat: a prospective 20-month study. *Obesity Research.* 9(Suppl 3):203S, 2001.

Peer-Reviewed Meeting Presentations (Abstracts Not Published)

1. †Farmer T, Johnson M, **Davidson LE**. Exploring a modification to the readiness assurance process in team-based learning. Interactive oral presentation with all three authors at: Teaching 4 Learning Conference. Orem, UT, 2017.
2. **Davidson LE**. Abdominal obesity and metabolic effects of exercise. Rocky Mountain Geriatrics Conference, Park City, UT, 2010.
3. †**Davidson LE**, †Kuk JL, †McMillan K, †Janiszewski P, Hudson R, Kilpatrick K, Ross R. Influence of exercise modality on skeletal muscle, fat, and functional fitness in older men and women: a randomized controlled trial. CSEP Conference, Toronto, Ontario, 2007.
4. †Watts M, †**Davidson LE**, †Lee SJ, Hudson R, Kilpatrick K, Ross R. "Abdominal adiposity, skeletal muscle composition, liver fat and insulin resistance in obese men" OEP Conference, Barry, Ontario, January 2004.
5. †**Davidson LE**, Janssen I, Hudson R, Kilpatrick K, Ross R. Insulin resistance corresponds to obesity rather than aging in women. Ontario Exercise Physiology Conference, Barry, Ontario, 2004.
6. †**Davidson LE**, Janssen I, Hudson R, Kilpatrick K, Ross R. Age-related reduction in glucose uptake is explained by corresponding increase in obesity, not aging per se. CSEP Conference, Niagara-on-the-Lake, Ontario, 2003.

Invited/Visiting Professor Presentations

1. **Davidson LE**. The FIT vs FAT controversy: which is more important for CVD risk? Exercise Sciences Research Seminar, Brigham Young University, June 14, 2018.

2. **Davidson LE.** Long-term health outcomes of bariatric surgery. Exercise Sciences Research Seminar, Brigham Young University, March 16, 2017.
3. **Davidson LE.** Challenges in recruiting for obesity studies. Clinical Research Series, University of Utah School of Medicine, September 24, 2013.
4. **Davidson LE.** Investigations in obesity, exercise and metabolism: is exercise the best medicine? Research seminar, The Pennsylvania State University, February 8, 2013.
5. **Davidson LE.** KL2 Project - mechanisms for surgically-induced diabetes remission. K Club, Center for Clinical and Translational Sciences, University of Utah, September 11, 2012.
6. **Davidson LE.** Preventing disease and disability in abdominally obese seniors: the modality-specific effects of exercise intervention. Research Seminar, New York Obesity Research Center, St. Luke's-Roosevelt Hospital, Columbia University, September 17, 2008.
7. **Davidson LE.** Pathways to healthy lifestyles: investigations in abdominal obesity and physical activity. Exercise Sciences Research Seminar, Brigham Young University, January 29, 2008.
8. **Davidson LE.** Influence of exercise modality on body composition, insulin resistance and functional fitness in aging: a randomized controlled trial. Research Seminar, Southern Illinois University, Edwardsville, April 23, 2008.
9. **Davidson LE.** Modifying health risk in the elderly through lifestyle intervention. Graduate Research Seminar, Queen's University, October 4, 2005.
10. **Davidson LE.** Prevention and treatment of abdominal obesity and related insulin resistance in elderly men and women. Research Day Presentation, Queen's University, 2003.

Community Outreach Presentations

1. **Davidson LE.** Fitness is emergency preparedness. LDS Church Pleasantview 4th Ward combined priesthood/relief society, Provo, Utah, 2017.
2. **Davidson LE.** Cow-a-bunga: becoming a 10-cow woman through diet and exercise. LDS Church Coalville 1st Ward Relief Society, Coalville, Utah, 2012.
3. **Davidson LE.** Avoiding health risk through lifestyle choices. LDS Church Young Single Adults, Coalville, Utah, 2008.
4. **Davidson LE.** Your body and the aging process: what you can do about it. LDS Church Singles Group, Kingston, Ontario, 2006.
5. **Davidson LE.** Avoiding the risk-laden shift toward central obesity. Queen's University Advancement Office, Kingston, Ontario, 2006.
6. **Davidson LE.** Improving health risk in seniors: a weighty challenge. Saint Peter's Church, Kingston, Ontario, 2005.
7. **Davidson LE.** Exercise in the reduction of health risk: a unique challenge in aging. Gananoque Rotary Club, Kingston, Ontario, 2005.

SERVICE

Professional Associations

The Obesity Society (TOS) - (2001-present)

Service assignments within TOS:

- *Education Committee (2014-present)*
We are responsible for planning and coordinating the continuing education courses and other pre-conference sessions and education activities (other than Obesity Week). The committee meets once a year during the annual meeting and has conference calls throughout the year. We oversaw the format and redesign of the TOS website.
- *Education Subcommittee – ABOM exam prep course (2015-present)*
A committee charged with the administration of a two-day prep course prior to the annual Obesity Week meeting (combined TOS/ASMBS) to prepare physicians to treat and manage care of patients with obesity. Committee members compile feedback from attendees and make recommendations to invited speakers for the next annual pre-conference meeting. Compare lecture content to ABOM rubric to assure close alignment. I am responsible for content presented on physical activity benefits and recommendations.
- *Education Subcommittee – OMEC initiative (2015-2017)*
A committee designed to assist in developing new competencies for various medical specialties in the treatment of patients with obesity and coexisting conditions.

Specific Research Sections within TOS; I attend annual meetings, contribute to aims, and promote interests:

- Obesity & Cancer Section (2013-present)
- Health Services Research (2013-present)
- Clinical Management Section (2013-present)
- Bariatric Surgery Section (2007-present)

Moderator for Interventions for Severe Obesity Symposium (2012)

American College of Sports Medicine (ACSM) – (1999-present)

Association for Clinical and Translational Science (ACTS) – (2010-2016)

Canadian Society for Exercise Physiology (CSEP) – (2002-2009)

BYU Service Assignments

University

Center for Teaching and Learning Advisory Council (2015-present)

- This council assists the CTL and the Associate Academic Vice President for Undergraduate Studies define faculty needs in the development of CTL projects, acts as consultant during the development of new CTL projects, provides input to inform priorities for current and future CTL projects/resources, and help communicate technology tools, teaching and learning strategies and new projects being developed for BYU courses to the academic community at BYU
- Explored methods of student cheating through “sharing” websites. We learned that this is surprisingly prevalent at BYU and other universities. We proposed more explicit language on these practices in the academic honesty statements.
- Polled professors within each of our colleges on their use and opinions of Learning Suite, Canvas, Top Hat, and other learning management systems. We summarized this feedback for the CTL, and they went to work on many of the faculty suggestions.

- Investigated and made a report to the AAVP on the testing center's policy for late fees. This report may be disseminated in the near future.

BYU Honors Program – Great Questions Essay mentor (2016)

- Met with and mentored an honors program undergraduate as she composed a 25-page capstone project: an essay on (among other things) treatment of Japanese women.

College of Life Sciences

Three-minute thesis (3MT) judge (2016)

- Critically evaluated graduate student competitors as they presented brief synopses of their graduate projects

ORCA Grant Reviewer (2014, 2015, and 2017)

- Reviewed and scored 10-12 ORCA grant applications per year
- Evaluated project merit and mentoring environment

Department of Exercise Sciences

Faculty Search Committees (2016-2017 and 2017-2018)

- Reviewed and provided feedback on position posting
- Evaluated candidates to narrow the search
- Provided summary of candidates and recommendations to department faculty

Exercise Sciences Graduate Studies Advisory Committee (2015-present)

- Revised and accepted update of graduate faculty handbook
- Evaluated proposal for transition of undergraduate athletic training program to 5-year integrated BS/MS degree
- Refined and established graduate faculty status; reviewed individual faculty applications for associate or full graduate faculty status
- Contributed to a revision of a consolidated map sheet for EXSC PhD students
- Assisted in editing PhD Comprehensive Examination Guidelines
- Reviewed and approved a petition for a graduate student to use existing (NHANES) data

Department of Exercise Sciences Self-Study (2014-2015)

- Assisted in departmental self-study meetings, contributed to mission statement development, and interviewed with external review panel

PEER REVIEW

Invited ad-hoc reviewer for the following journals:

Aging Health
 American Journal of Clinical Nutrition
 American Journal of Human Biology
 American Journal of Preventive Medicine
 Applied Physiology, Nutrition, and Metabolism
 BMC Obesity
 Clinical and Experimental Pharmacology and Physiology
 International Journal of Obesity
 JAMA
 Journal of the Academy of Nutrition and Dietetics
 Journal of Endocrinological Investigation

Journal of Obesity
Journal of Physical Activity and Health
Journal of Sport Sciences
Journal of Women's Health, Issues & Care
Macedonian Journal of Medical Sciences
Medicine & Science in Sports & Exercise
Nutrition Reviews
Obesity
Obesity Surgery
PLOS One
Research on Biomedical Engineering

TEACHING

Experience and Competencies

- 2013- **Assistant Professor**, Brigham Young University
- EXSC 463 – Exercise Physiology
(Fall 2013, Winter 2014, Fall 2014, Winter 2015, Fall 2015, Winter 2016, Fall 2016, Winter 2017, Fall 2017, Winter 2018)
 - EXSC 468 – Problems in Exercise Prescription
(Fall 2014, Winter 2015, Spring 2015, Fall 2015, Winter 2016, Fall 2016, Winter 2017, Fall 2017, Winter 2018)
 - EXSC 221 – Science of Wellness, online section
(Fall 2015, Winter 2016)
- 2007-08 **Visiting Assistant Professor**, Brigham Young University
- EXSC 463 – Exercise Physiology
(Fall 2007)
 - Coordinated a general education health course (HEPE 129), scheduling faculty lectures from the departments of exercise sciences, health sciences, and nutrition (300+ students)
 - Assisted in updating and editing the lecture course manual for the above course
 - Developed an on-line version of the multi-disciplinary course manual for use by BYU and its affiliated universities (Idaho and Hawaii)
- 2000-07 **Graduate Instructor**, Queen's University and Brigham Young University
- Developed lectures and taught students (class sizes 40-250) on exercise metabolism and nutrition, muscle physiology, ergogenic aids in exercise performance, and health behavior change
 - Created and evaluated exams and assignments associated with lectures
 - Assisted in management, leading laboratories, or grading for other health-related courses: health promotion, exercise and sport psychology, addictive substances, social determinants of health, physical health and wellness
 - Conceived and implemented new exercise science laboratory experiences for a beginning and also an advanced exercise science course

Taught numerous (4-5 per semester at BYU) skill development courses with class sizes ranging from 20-40 students: Jogging, Basketball, Racquetball, Weight Training, Swimming, Bowling, K-12 Physical Education Teacher Education

1995-98 **Instructor**, Brigham Young University

Taught introductory foreign language courses in Serbian and Croatian

MENTORING

Thesis/Dissertation Committee Chair

Student Name	Degree	Years	Thesis/Dissertation Title
Joshua Kelley	MS	2017 - 2019	Maintaining muscle through eccentric exercise during surgery-induced weight loss
Victoria Violette	MS	2016 - 2019	Acute muscle responses to blood flow restriction exercises in post bariatric surgery
Sandra Marks	MS	2015 - 2018	Do maternal psychosocial factors predict adolescent weight?

Thesis/Dissertation Committee Member

Student Name	Degree	Years	Thesis/Dissertation Title
Landon Deru	MS	2018 –	
Britta Murphy	MS	2017 – 2019	Effect of water consumption on resting and exercise metabolism in adults with overweight and obesity
Sheryl Carr	MS	2016 – 2017	The role of insulin in the pathology of Alzheimer's disease
Jeffrey Tolley	MS	2015 – 2017	Are cardiovascular disease inflammatory markers elevated in those with nonspecific chronic musculoskeletal pain compared to non-pain case controls?
Travis Masterson	MS	2013 - 2014	Neural reactivity to visual food stimuli in the morning and evening: an fMRI study in women
Kristen Ouellette*	PhD	2010 – 2016	Acute changes in physical activity post-bariatric surgery
Paul Daniels*	PhD	2010 – 2016	Effects of a 12-week periodized resistance training program on muscle strength, muscle quality and physical activity after Roux-en-Y gastric bypass surgery

*These students began with me at the University of Utah and completed dissertations there.

Undergraduate Mentoring

Student Name	Years	Responsibilities/Projects
Mary Ann Warner	2018 –	Assistant to Britta Murphy on her thesis project

Camille Haycock	2018	Exercise supervision, RENEW pilot study
McKayla Niemann	2018	Exercise supervision, RENEW pilot study
Jacob Mabey	2017 – 2019	Exercise supervision, RENEW pilot study; also manages accelerometry data collection for RENEW; manuscript in review from Kristin Ouellette's data; presented a poster on physical activity data for Obesity Week 2018; writing a manuscript on suicidality after bariatric surgery.
Jordan Jones	2017 – 2019	Exercise supervision, RENEW pilot study; data entry
Dalton Braathen	2017 – 2018	Exercise supervision, RENEW pilot study; also manages RMR and other testing for RENEW; becoming level 2 certified at the MRI RF and preparing abstract using RMR change data for Obesity Week 2018
Chance Rummier	2016 – 2018	Data extraction Team 2 for NIH R21; Exercise supervision, RENEW pilot study; also manages RMR and other testing for RENEW; becoming level 2 certified at the MRI RF and preparing abstract using strength change data for Obesity Week 2018
Christiaan Allen	2016 – 2018	Data extraction Team 2 for NIH R21; Exercise supervision, RENEW pilot study; data entry for RENEW
Adam Hartshorn	2015 – 2018	Lead on MRI body composition study, awarded \$10,000 grant from MRI RF funds for project: "Three-Point Dixon Whole Body Composition Analysis: Evaluating the Utility of Fat and Water Suppression Imaging by MRI in Humans
Brennan Pace	2017 – 2018	Data extraction Team 2 for NIH R21; Co-author on manuscript using Kristin Ouellette's data
Bryce Wainwright	2016 – 2017	Data extraction Team 2 for NIH R21; Exercise supervision, RENEW pilot study
Austin Emery	2016 – 2017	Data extraction Team 2 for NIH R21; Exercise supervision, RENEW pilot study; also managed accelerometry data for RENEW
Joshua Kelley	2015 - 2017	Undergraduate lead for RENEW pilot study; managed all data collection, recruitment, and screening. Helped with IRB. Received an ORCA award for this work in 2016. Began MS program and continues leadership for RENEW study
William McNeil	2016	Data extraction Team 2 for NIH R21
Trevor Davis	2016	Data extraction Team 2 for NIH R21
Travis Bloomfield	2016	Data extraction Team 2 for NIH R21
Sara Pettitt	2016	Data extraction Team 2 for NIH R21

Paul Vance	2016	Data extraction Team 2 for NIH R21
Nathan Zuniga	2016	Data extraction Team 2 for NIH R21
Nathan Balkman	2016	Data extraction Team 2 for NIH R21
Mckenzie White	2016	Data extraction Team 2 for NIH R21
Mark Frost	2016	Data extraction Team 2 for NIH R21
John DeLong	2016	Data extraction Team 2 for NIH R21
Hannah Stohr	2016	Data extraction Team 2 for NIH R21
Emie Allen	2016	Data extraction Team 2 for NIH R21
Britta Beck	2016	Data extraction Team 2 for NIH R21
Austin Evans	2016	Data extraction Team 2 for NIH R21
Amanda Greer	2015 – 2016	Data extraction Team 1 and 2 for NIH R21
Ally Frandsen	2014	Data extraction Team 1 for NIH R21
Clint “Ricky” Fenton	2014 – 2015	Data extraction Team 1 for NIH R21; Lead author on a manuscript on hysterectomies after gastric bypass
Carson Brockbank	2014 – 2015	Data extraction Team 1 for NIH R21
Austin Smith	2014 – 2015	Data extraction Team 1 for NIH R21
Janene Murphy	2014 – 2015	Data extraction Team 2 for NIH R21
Megan Stott	2014	Data extraction Team 2 for NIH R21
Tanner Christensen	2014	Data extraction Team 2 for NIH R21

INVITED LECTURES

- 2010-2018 Obesity and Weight Management, Department of Exercise Sciences, Brigham Young University
Teach lectures on bariatric surgery for EXSC 480 (Drs. LeCheminant and Tucker)
- 2010-14 Neuromuscular Adaptations in Rehabilitation, Department of Physical Therapy, University of Utah
Taught lectures on visceral fat, insulin resistance, bariatric surgery and diabetes remission to PT graduate students
- 2012 Grant Writing, Center for Clinical and Translational Sciences Master of Science in Clinical Investigations Course, University of Utah School of Medicine
Taught a lecture on writing the mentoring section of career development awards
- 2004-06 Exercise, Nutrition, and Metabolism, Queen’s University
Developed and taught 5 lectures and was responsible for associated exams
- 2002 Physiology of Exercise, Queen’s University
Taught 2 lectures and created exam questions on gender differences in exercise metabolism

- 2002 Physical Health and Wellness, Queen's University
Taught 2 lectures on lifestyle and readiness to change, marked term papers summarizing fitness plans

TEACHING DEVELOPMENT

- 2018 Currently participating in: "Being a Spiritually Strengthening and Intellectually Enlarging Teacher" Seminar. We meet every other week for 90 minutes, and interact with smaller teams within our discipline to discuss goals, report progress, and assist each other in goal achievement
- 2014-15 Completed BYU faculty development series and course development project to implement a team-based learning approach in EXSC 463 Exercise Physiology course. Received a \$300 grant to purchase team assessment supplies
- 2014 Participated in a BYU Disciple-Scholar Seminar where we met weekly, set teaching goals, and reported progress while learning more about teaching by the Spirit
- 2009 Completed Columbia University course, "Teaching Statistics at the University Level" Instructor: Andrew Gelman, Ph.D.
- 2007 Obtained three teaching certificates through the Queen's University Program in University Teaching and Learning: Practical Experience, Professional Development, Scholarship

RESEARCH TRAINING

- 2011-13 **NIH Research Career Development (KL2) Awardee**, Center for Clinical and Translational Science (CCTS), University of Utah
Submitted a grant application for another 2-year competitive funding opportunity and was selected as the Department of Internal Medicine's candidate for this university-wide competition
Pursued further coursework toward the MSCI degree according to my mentored research plan: courses include clinical research ethics, molecular biology laboratory, clinical trial design, regulation of metabolism, grant writing, intro to epidemiology, data management, medical genetics, genetics of complex disease
Conducted a research project entitled, "Mechanisms of Surgically-Induced Diabetes Remission," – a project which compared the rate of lipid mobilization from the liver to the rate of whole body and hepatic insulin sensitivity changes after gastric bypass and lap band procedures
Completed the MSCI degree and funded research project August 2013.
- 2010-11 **Translational Comparative Effectiveness Research (TCER) Scholar**, Center for Clinical and Translational Science (CCTS), University of Utah
Submitted a grant application for a 2-year competitive funding opportunity
Organized a research mentoring team to assist me in my research development plan
Began coursework leading to a Master of Science in Clinical Investigation (MSCI) degree, with a focus on translational science through the CCTS: courses included regression models, research networks, and communication and collaboration in translational research
Represented the CCTS at a national conference by presenting an abstract that featured ongoing translational research
Transferred to a more comprehensive career development grant within 6 months

- 2009-10 **Postdoctoral Fellow**, Cardiovascular Genetics, University of Utah
 Assisted in data analysis and publication of results from an ongoing study of morbidity and mortality in gastric bypass patients compared to severely obese controls
 Assured quality of collected data
 Recruited remaining cohort in final months of 6-year follow-up
 Conducted genetic analyses of appetitive hormones on weight loss and regain
 Submitted career award (K01) application and provided support for other NIH grant submissions within the division
- 2008-09 **Postdoctoral Fellow**, New York Obesity Research Center, Columbia University
 Coordinated recruitment and collected data for an NIH-funded research trial entitled: Body composition and REE responses to bariatric surgeries
 Facilitated IRB renewals and consented subjects for other NIH-funded trials
 Ensured IRB compliance for all active research studies in the bone density laboratory
 Compiled, cleaned, and finalized datasets from past and ongoing studies conducted in the body composition unit to produce peer-reviewed publications
- 2002-07 **Doctoral Student**, Queen's University
 Directed a 5-year randomized controlled trial investigating the effect of exercise modality on the prevention and treatment of abdominal obesity, insulin resistance, and functional impairment in elderly men and women
 Publicized the study on local radio and television stations, and promoted enrollment or independent exercise in over 200 recruitment meetings at public and private venues
 Led a crew of over 20 graduate and undergraduate students, physicians and other medical personnel through the rigors of data collection including metabolic testing, diet and exercise monitoring, and image analysis
 Assisted in data collection and analysis of another randomized controlled trial involving aerobic exercise intervention in lean and obese men with or without diabetes
 Collaborated with the Cooper Institute in Dallas Texas to develop a novel technique to reduce radiation exposure during acquisition of computed tomography images of the liver and spleen when assessing hepatic steatosis
- 2000-02 **Masters Student**, Brigham Young University
 Co-directed operations of a prospective cohort study investigating body composition and lifestyle factors (physical activity and dietary patterns) in peri-menopausal women
- 1999-00 **Undergraduate Research Assistant**, Brigham Young University
 Cleaned and compiled longitudinal data set during BYU Lifestyle Project data collection

APPLIED RESEARCH COMPETENCIES

Body Composition Analysis Techniques

- Circumferences and skinfolds
- Bioelectrical impedance analysis (BIA)
- Hydrostatic weighing
- Air displacement plethysmography (Bod Pod and Pea Pod)
- Total body water (TBW) and Extracellular water (ECW)
- 3-dimensional photonic scanner (3DPS)

Dual energy X-ray absorptiometry (Utah Licensed Radiology Technician in 2001)
Computed tomography (CT) image analysis for liver, spleen, and muscle lipid infiltration
Magnetic Resonance Spectroscopy (MRS) for skeletal muscle lipid assessment
Quantitative Magnetic Resonance (QMR)
Magnetic Resonance Imaging (MRI) for quantification of whole body adipose tissue, muscle and organ mass

Metabolic Procedures

Blood pressure and heart rate
Basic blood sample processing from blood draw to centrifugation, separation, and storage
Resting metabolic rate (RMR) testing and analysis
Oral Glucose Tolerance (OGT) test
Hyperinsulinemic euglycemic clamp test

Fitness and Activity Testing

Accelerometry
Strength capacity (1RM, 5RM)
Functional fitness tests for the elderly
Maximal graded exercise (VO_{2max}) test
Stress testing with 6-lead EKG

Data Management Tools

Microsoft Access and Excel
Statistical Analysis Software (SAS), SPSS, Stata

FITNESS COUNSELING AND LEADERSHIP

2000-02 Co-directed a student-operated wellness program, "Y-Be-Fit" that offered comprehensive body composition and dietary assessment as well as six months of wellness counseling to Brigham Young University affiliates