

LEE, MJ

Mi-Jeong Lee
College of Tropical Agriculture and Human Resources
Department of Human Nutrition, Food and Animal Sciences
FTE Distribution: 60%I; 40%R

Education

<u>Degree</u>	<u>University</u>	<u>Major</u>
PhD	Rutgers University	Nutritional Biochemistry
MS	Seoul National University	Human Nutrition
BS	Seoul National University	Human Nutrition

Professional Appointments

<u>Title</u>	<u>Employer</u>	<u>Dates Employed</u>
Assistant Professor	University of Hawaii	2019 to Present
Assistant Professor	Icahn School of Medicine at Mt. Sinai Hospitals	2016 to 2019
Assistant core Director	Boston Nutrition and Obesity Research Center	2014 to 2016
Instructor	Boston University SOM	2009 to 2016
Post-doctoral fellow	University of Maryland SOM	2005 to 2009

Courses Taught

Course ID and name (credits)

FSHN485	Nutritional Biochemistry I (3)
FSHN486	Nutritional Biochemistry II (3)
ANSC641	Seminar in Animal Sciences (1)
FSHN681	Seminar in Nutritional Sciences (1)
FSHN685	Nutrition and Diseases: Molecular and Cellular Aspects (3)

Publications (reverse chronological order)

Book Chapters

Lee MJ and Susan K. Fried, Adipose Tissue in Health and Disease, Chapter 15. Depot-Specific Biology of Adipose Tissues: Links to Fat Distribution and Metabolic Risk. Wiley-VCH Verlag GmbH & Co. KGaA. <https://doi.org/10.1002/9783527629527.ch15>. EID: 2-s2.0-84885550848

Refereed Journal Publications

Complete list of published work is available through Pubmed at:

<https://www.ncbi.nlm.nih.gov/sites/myncbi/1jWEf87uax8Ax/bibliography/41993006/public/?sort=date&direction=ascending>

or through ORCID at:

<https://orcid.org/0000-0002-8171-791>

Jobgen WS, **Lee MJ**, Fried SK and Wu G "L-Arginine supplementation regulates energy-substrate metabolism in skeletal muscle and adipose tissue of diet-induced obese rats", *Accepted for Publication in Experimental Biology and Medicine*.

Nimitphong H, Guo W, Holick MF, Fried SK and **Lee MJ*** Vitamin D inhibits adipokine production and inflammatory signaling through the vitamin D receptor in human adipocytes, *Obesity (Silver Spring)*. 2021 Mar;29(3):562-568. doi: 10.1002/oby.23109. PubMed PMID: 33624437.

Wang L, Sinnott-Armstrong N, Wagschal A, Wark AR, Camporez JP, Perry RJ, Ji F, Sohn Y, Oh J, Wu S, Chery J, Moud BN, Saadat A, Dankel SN, Mellgren G, Tallapragada DSP, Strobel SM, **Lee MJ**, Tewhey R, Sabeti PC, Schaefer A, Petri A, Kauppinen S, Chung RT, Soukas A, Avruch J, Fried SK, Hauner H, Sadreyev RI, Shulman GI, Claussnitzer M, Näär AM. A MicroRNA Linking Human Positive Selection and Metabolic Disorders. *Cell*. 2020 Oct 13:50092-8674(20)31158-2. doi: 10.1016/j.cell.2020.09.017. PMID: 33058756.

- Jash S, Banerjee S, **Lee MJ**, Farmer SR, Puri V. CIDEA Transcriptionally Regulates UCP1 for Britening and Thermogenesis in Human Fat Cells. *iScience*. 2019 Sep 13;20:73-89. doi: 10.1016/j.isci.2019.09.011. [Epub ahead of print] PubMed PMID: 31563853.
- Lee MJ***, Jash S, Jones JEC, Puri V, and Fried SK. "Rosiglitazone remodels the lipid droplets and britens humans visceral and subcutaneous adipocytes ex vivo". *Journal of Lipid Research*. 2019 60:(4) 856-868, [Epub ahead of print]; 2019 Feb 19. pii: jlr.M091173. doi: 10.1194/jlr.M091173. PMID: 30782959, *first and corresponding author.
- Lee MJ***, Pickering RT, Shivad V, Layne MD, Karastergiou K, Jagar M, and Fried SK. "Resistance to the glucocorticoid-mediated suppression of the TGF β pathway contributes to the poor adipogenic capacity of human visceral adipose tissue stem cells". *Diabetes*. 2019; 68(3):587-597, [Epub ahead of print]; 2018 Dec 7. pii: db180955. doi: 10.2337/db18-0955. PMID: 30530781, *first and corresponding author.
- Jager M, **Lee MJ**, Li C, Farmer SR, Fried SK, Layne MD. Aortic carboxypeptidase-like protein enhances adipose tissue stromal progenitor differentiation into myofibroblasts and is upregulated in fibrotic white adipose tissue. *PLoS One*. 2018 May 25;13(5):e0197777. doi: 10.1371/journal.pone.0197777. PMID: 29799877.
- Killion EA, Reeves AR, El Azzouny MA, Yan QW, Surujon D, Griffin JD, Bowman TA, Wang C, Matthan NR, Klett EL, Kong D, Newman JW, Han X, **Lee MJ**, Coleman RA, Greenberg AS. A role for long-chain acyl-CoA synthetase-4 (ACSL4) in diet-induced phospholipid remodeling and obesity-associated adipocyte dysfunction. *Molecular Metabolism*. Mar;9:43-56. doi: 10.1016/j.molmet.2018.01.012. Epub 2018 Jan 31. PMID: 29398618.
- Lee MJ***, Wu Y*, Ido Y, Fried SK. High-fat diet-induced obesity regulates MMP3 to modulate depot- and sex-dependent adipose expansion in C57BL/6J mice. *Am J Physiol Endocrinol Metab*. 2017 Jan 1;312(1):E58-E71. doi:10.1152/ajpendo.00128.2016. Epub 2016 Nov 22. PMID: 27879248. *equal first author. Selected for **APSselect Award**, a collection from the American Physiological Society that showcases some of the best recently published articles in physiological research.
- Cederquist CT, Lentucci C, Martinez-Calejman C, Hayashi V, Orofino J, Guertin D, Fried SK, **Lee MJ**, Cardamone MD, Perissi V. Systemic insulin sensitivity is regulated by GPS2 inhibition of AKT ubiquitination and activation in adipose tissue. *Molecular Metabolism*. 2016 Oct 31;6(1):125-137. doi: 10.1016/j.molmet.2016.10.007. eCollection 2017 Jan. PMID: 28123943.
- Lee MJ***, Pickering RT*, Karastergiou K, Gower A, Fried SK. Depot Dependent Effects of Dexamethasone on Gene Expression in Human Omental and Abdominal Subcutaneous Adipose Tissues from Obese Women. *PLoS one*. 2016; 11(12):e0167337. PMID: 28005982. *equal first author.
- Lee MJ***, Yang RZ, Karastergiou K, Gong DW, Fried SK. Low expression of the glucocorticoid-induced leucine zipper may contribute to adipose inflammation and altered adipokine production in human obesity. *J Lipid Res*. 2016 Jul;57(7):1256-63. doi: 10.1194/jlr.M067728 PMID:27178044, *first and corresponding author.
- Karastergiou K, Bredella MA, **Lee MJ**, Smith SR, Fried SK, Miller KK. Growth hormone receptor expression in human gluteal versus abdominal subcutaneous adipose tissue: Association with body shape. *Obesity (Silver Spring)*. 2016 Mar 26. doi: 10.1002/oby.21460. [Epub ahead of print], PMID: 27015877.
- Lillis AP, Muratoglu SC, Au DT, Migliorini M, **Lee MJ**, Fried SK, Mikhailenko I, Strickland DK. LDL Receptor-Related Protein-1 (LRP1) Regulates Cholesterol Accumulation in Macrophages. *PLoS One*. 2016 Jan 21;11(1):e0147457. doi: 10.1371/journal.pone.0147457.
- Jedrychowski MP, Liu LB, Laflamme CJ, Karastergiou K, Meshulam T, Ding SY, Wu Y, **Lee MJ**, Gygi SP, Fried SK and Pilch PF. Adiporedoxin, an upstream regulator of ER oxidative folding and protein secretion in adipocytes. *Molecular Metabolism*. 2015 Sep 18;4(11):758-70. doi: 10.1016/j.molmet.2015.09.002. eCollection 2015 Nov.
- Jang H, Bhasin S, Guarneri T, Serra C, Schneider M, **Lee MJ**, Guo W, Fried SK, Pencina K, Jasuja R. The Effects of A Single Developmentally-Entrained Pulse of Testosterone in Female Neonatal Mice On Reproductive

LEE, MJ

and Metabolic Functions in Adult Life. Endocrinology. 2015 Jul 1:EN20151117. [Epub ahead of print] PMID: 26132920.

Lee MJ, Fried SK. Reply to Armani et al. Can cortisol stimulate adipogenesis without the glucocorticoid receptor? Int J Obes (Lond). 2014 Dec;38(12):1578-9. doi: 10.1038/ijo.2014. PMID:24785104

Singh M, Kaur R, **Lee MJ**, Pickering RT, Sharma VM, Puri V, Kandror KV. Fat specific protein 27 inhibits lipolysis by facilitating the inhibitory effect of Egr1 on transcription of adipose triglyceride lipase. J Biol Chem. 2014 May 23;289(21):14481-7. doi: 10.1074/jbc.C114.563080. Epub 2014 Apr 17.

Grahn TH, Kaur R, Yin J, Schweiger M, Sharma VM, **Lee MJ**, Ido Y, Smas CM, Zechner R, Lass A, Puri V. FSP27 interacts with ATGL to regulate lipolysis and insulin sensitivity in human adipocytes. J Biol Chem. 2014 Apr 25;289(17):12029-39. doi:10.1074/jbc.M113.539890. Epub 2014 Mar 13.

Ding SY, **Lee MJ**, Summer R, Liu L, Fried SK, Pilch PF. Pleiotropic effects of cavin-1 deficiency on lipid metabolism. J Biol Chem. 2014 Mar 21;289(12):8473-83. doi: 10.1074/jbc.M113.546242. Epub 2014 Feb 7. PMID: 24509860.

Lee MJ*, Fried SK*. The glucocorticoid receptor, not the mineralocorticoid receptor, plays the dominant role in adipogenesis and adipokine production in human adipocytes. Int J Obes (Lond). 2014 Sep;38(9):1228-33. doi: 10.1038/ijo.2014.6. Epub 2014 Jan 16. PMID:24430397. *co-correspondence.

Yang RZ, Blumenthal JB, Glynn NM, **Lee MJ**, Goldberg AP, Gong DW, Ryan AS. Decrease of circulating SAA is correlated with reduction of abdominal SAA secretion during weight loss. Obesity (Silver Spring). 2014 Apr;22(4):1085-90. doi: 10.1002/oby.20657. Epub 2013 Dec 6. PMID: 24311467.

Lee MJ*, Pickering RT, Puri V*. Prolonged efficiency of siRNA-mediated gene silencing in primary cultures of human preadipocytes and adipocytes. Obesity (Silver Spring). 2014 Apr;22(4):1064-9. doi: 10.1002/oby.20641. Epub 2013 Dec 5. PMID: 24307633. *co-correspondence.

Lee MJ*, Fried SK. Optimal protocol for the differentiation and metabolic analysis of human adipose stromal cells. Methods Enzymol. 2014 (Feb);538:49-65. doi:10.1016/B978-0-12-800280-3.00004-PMID: 24529433. *co-correspondence.

Chakrabarti P, Kim JY, Singh M, Shin YK, Kim J, Kumbrink J, Wu Y, **Lee MJ**, Kirsch K, Fried SK, and Kandror K. Insulin inhibits lipolysis in adipocytes via the evolutionary conserved mTORC1-Egr1-ATGL-mediated pathway. Mol Cell Biol. 2013 Sep;33(18):3659-66. doi: 10.1128/MCB.01584-12. Epub 2013 Jul 15. PMID:23858058.

Grahn TH, Zhang Y, **Lee MJ**, Sommer AG, Mostoslavsky G, Fried SK, Greenberg AS, Puri V. FSP27 and PLIN1 interaction promotes the formation of large lipid droplets in human adipocytes. Biochem Biophys Res Commun. 2013 Mar 8;432(2):296-301. doi: 10.1016/j.bbrc.2013.01.113. Epub 2013 Feb 8. PMID: 23399566.

Karastergiou K, Fried SK, Xie H, **Lee MJ**, Divoux A, Rosencrantz MA, Chang RJ, Smith SR. Distinct developmental signatures of human abdominal and gluteal subcutaneous adipose tissue depots. J Clin Endocrinol Metab. 2013 Jan;98(1):362-71. doi: 10.1210/jc.2012-2953. Epub 2012 Nov 12. PMID: 23150689.

Nimitphong H, Holick MF, Fried SK, **Lee MJ**. 25-hydroxyvitamin D3 and 1,25-dihydroxy vitamin D3 promote the differentiation of human subcutaneous preadipocytes. PLoS One. 2012;7(12):e52171. doi: 10.1371/journal.pone.0052171. Epub 2012 Dec 18. PMID: 23272223. *correspondence

Lee MJ*, Fried SK*. Glucocorticoids antagonize tumor necrosis factor- α -stimulated lipolysis and resistance to the antilipolytic effect of insulin in human adipocytes. Am J Physiol Endocrinol Metab. 2012 Nov 1;303(9):E1126-33. doi: 10.1152/ajpendo.00228.2012. Epub 2012 Sep 4. PMID:22949029; PMCID: PMC3492859. *co-correspondence

Lee MJ*, Wu Y, Fried SK*. A Modified Protocol to Maximize Differentiation of Human Preadipocytes and Improve Metabolic Phenotypes. Obesity (Silver Spring). 2012 Dec;20(12):2334-40. doi: 10.1038/oby.2012.116. Epub May 4 PMID: 22627913. *co-correspondence

- Carswell KA, **Lee MJ**, Fried SK. Culture of isolated human adipocytes and isolated adipose tissue. Methods Mol Biol. 2012;806:203-14. doi: 10.1007/978-1-61779-367-7_14. PMID: 22057454.
- Lee MJ***, Gong DW, Burkey BF, Fried SK. Pathways regulated by glucocorticoids in omental and subcutaneous human adipose tissues: a microarray study. Am J Physiol Endocrinol Metab. 2011 Mar;300(3):E571-80. Epub 2010 Dec 28. *correspondence
- Lee EK, **Lee MJ**, Abdelmohsen K, Kim W, Kim MM, Srikantan S, Martindale JL, Hutchison ER, Kim HH, Marasa BS, Selimyan R, Egan JM, Smith SR, Fried SK, Gorospe M. miR-130 Suppresses Adipogenesis by Inhibiting Peroxisome Proliferator-Activated Receptor $\{\gamma\}$ Expression. Mol Cell Biol. 2011 Feb;31(4):626-638. Epub 2010 Dec 6. PubMed PMID: 21135128.
- Jobgen W, Meininger CJ, Jobgen SC, Li P, **Lee MJ**, Smith SB, Spencer TE, Fried SK, and Wu G, Dietary L-Arginine Supplementation Reduces White-Fat Gain and Enhances Skeletal Muscle and Brown Fat Masses in Diet-Induced Obese Rats. J Nutr. 2009 Feb;139(2):230-7. Epub 2008 Dec 23.
- Lee MJ***, Fried SK, Mundt SS, Wang Y, Sullivan S, Stefanni A, Daugherty BL, Hermanowski-Vosatka A. Depot-specific Regulation of the Conversion of Cortisone to Cortisol in Human Adipose Tissue. Obesity 2008 Jun;16(6):1178-85. Epub 2008 Apr 3. *correspondence
- Varma V, Yao-Borengasser A, Bodles AM, Rasouli N, Phanavanh B, Nolen GT, Kern EM, Nagarajan R, Spencer HJ 3rd, **Lee MJ**, Fried SK, McGehee RE Jr, Peterson CA, Kern PA. Thrombospondin-1 is an adipokine associated with obesity, adipose inflammation, and insulin resistance. Diabetes. 2008 Feb;57(2):432-9. Epub 2007 Dec 5.
- Berk ES, Johnson JA, **Lee M**, Zhang K, Boozer CN, Pi-Sunyer FX, Fried SK, Albu JB. Higher post-absorptive skeletal muscle LPL activity in African American vs. non-Hispanic White pre-menopausal women. Obesity. 2008 Jan;16(1):199-201.
- Yao-Borengasser A, Varma V, Bodles AM, Rasouli N, Phanavanh B, **Lee MJ**, Starks T, Kern LM, Spencer HJ 3rd, Rashidi AA, McGehee RE Jr, Fried SK, Kern PA. Retinol binding protein 4 expression in humans: relationship to insulin resistance, inflammation, and response to pioglitazone. J Clin Endocrinol Metab. 2007 Jul;92(7):2590-7. Epub 2007 Jun 26.
- Lee MJ**, Wang Y, Ricci MR, Sullivan S, Russell CD, Fried SK. Acute and chronic regulation of leptin synthesis, storage, and secretion by insulin and dexamethasone in human adipose tissue. Am J Physiol Endocrinol Metab. 2007 Mar;292(3):E858-64. Epub 2006 Nov 22.
- de Souza Batista CM, Yang RZ, **Lee MJ**, Glynn NM, Yu DZ, Pray J, Ndubuizu K, Patil S, Schwartz A, Kligman M, Fried SK, Gong DW, Shuldiner AR, Pollin TI, McLenithan JC. Omentin Plasma Levels and Gene Expression are Decreased in Obesity. Diabetes. Jun;56(6):1655-61. Epub 2007 Feb 28.
- Varma V, Yao-Borengasser A, Rasouli N, Bodles AM, Phanavanh B, **Lee MJ**, Starks T, Kern LM, Spencer HJ 3rd, McGehee RE Jr, Fried SK, Kern PA. Human visfatin expression: relationship to insulin sensitivity, intramyocellular lipids, and inflammation. J Clin Endocrinol Metab. 2007 Feb;92(2):666-72. Epub 2006 Nov 7.
- Lee MJ**, Yang RZ, Gong DW, and Fried SK. Feeding and insulin increase leptin translation. Importance of the leptin mRNA untranslated regions. J Biol Chem. 2007 Jan 5;282(1):72-80. Epub 2006 Nov 3.
- Lee MJ**, Fried SK. Multilevel regulation of leptin storage, turnover, and secretion by feeding and insulin in rat adipose tissue. J Lipid Res. 2006 Sep;47(9):1984-93. Epub 2006 May 31.
- Yang RZ, **Lee MJ**, Hu H, Pollin TI, Ryan AS, Nicklas BJ, Snitker S, Horenstein RB, Hull K, Goldberg NH, Goldberg AP, Shuldiner AR, Fried SK, Gong DW. Acute-phase serum amyloid A: an inflammatory adipokine and potential link between obesity and its metabolic complications. PLoS Med. 2006 Jun;3(6):e287.
- Yang RZ, **Lee MJ**, Hu H, Pray J, Wu HB, Hansen BC, Shuldiner AR, Fried SK, McLenithan JC, Gong DW. Identification of omentin as a novel depot-specific adipokine in human adipose tissue: possible role in modulating insulin action. Am J Physiol Endocrinol Metab. 2006 Jun;290(6):E1253-61. Epub 2006 Mar 10.

LEE, MJ

- Trujillo ME, **Lee MJ**, Sullivan S, Feng J, Schneider SH, Greenberg AS, Fried SK. Tumor necrosis factor alpha and glucocorticoid synergistically increase leptin production in human adipose tissue: role for p38 mitogen-activated protein kinase. J Clin Endocrinol Metab. 2006 Apr;91(4):1484-90. Epub 2006 Jan 10.
- Lee MJ***, Ricci MR*, Russell CD, Wang Y, Sullivan S, Schneider SH, Brolin RE, Fried SK. Isoproterenol decreases leptin release from rat and human adipose tissue through posttranscriptional mechanisms. Am J Physiol Endocrinol Metab. 2005 Apr;288(4):E798-804. Epub 2004 Dec 7. *equal first author.
- Wang Y, Sullivan S, Trujillo M, Lee MJ, Schneider SH, Brolin RE, Kang YH, Werber Y, Greenberg AS, Fried SK. Perilipin expression in human adipose tissues: effects of severe obesity, gender, and depot. Obes Res. 2003 Aug;11(8):930-6.
- Park MN, **Lee MJ**, and Lee YS, Effects of Dietary Protein Levels on Organ Growth and Protein Metabolism in Early and Normally Weaned Rats. Korean Journal of Nutrition 31(1): 5-12, 1998.

INVITED REVIEW PAPERS:

- Raj RR, Lofquist S, and **Lee MJ*** "Remodeling of Adipose Tissues by Fatty Acids: Mechanistic Update on Browning and Thermogenesis by n-3 Polyunsaturated Fatty Acids. Pharm Res. 2022 Sep 1. doi: 10.1007/s11095-022-03377-w. Online ahead of print. PMID: 36050546
- Nimitphong H, Park E and **Lee MJ***. Vitamin D regulation of adipogenesis and adipose tissue functions, * *corresponding author*, Nutr Res Pract. 2020 Dec;14(6):553-567. doi: 10.4162/nrp.2020.14.6.553. Epub 2020 Aug 5. PMID: 33282119
- Lee MJ**. Transforming growth factor beta superfamily regulation of adipose tissue biology in obesity. Biochimica et Biophysica Acta. Molecular Basis of Diseases. 2018 Apr;1864(4 Pt A):1160-1171. doi: 10.1016/j.bbadis.2018.01.025. PMID: 29409985.
- Lee MJ**. Hormonal Regulation of adipogenesis, Comprehensive Physiology, 2017 Sep 12;7(4):1151-1195. doi: 10.1002/cphy.c160047. PMID: 28915322.
- Lee MJ*** and Fried SK. Sex-dependent Depot Differences in Adipose Tissue Development and Function; Role of Sex Steroids, J Obes Metab Syndr 2017;26:172-180. <https://doi.org/10.7570/jomes.2017.26.3.172>. **first and correspondence*.
- Fried SK, **Lee MJ**, Karastergiou K. Shaping fat distribution: New insights into the molecular determinants of depot- and sex-dependent adipose biology. Obesity (Silver Spring). 2015 Jul;23(7):1345-52. doi: 10.1002/oby.21133. Epub 2015 Jun 7. PMID: 26054752.
- Lee MJ***, Pramyothin P, Karastergiou K, and Fried SK. Deconstructing the roles of glucocorticoids in adipose tissue biology and the development of central obesity. Biochim Biophys Acta. 2014 Mar;1842(3):473-81. doi: 10.1016/j.bbadis.2013.05.029. Epub 2013 Jun 2. PMID:23735216, **first and correspondence*.
- Lee MJ**, Wu Y, and Fried SK. Adipose tissue heterogeneity: Implication of depot differences in adipose tissue for obesity complications. Mol Aspects Med. 2013 Feb;34(1):1-11. doi: 10.1016/j.mam.2012.10.001. Epub 2012 Oct 13. PMID:23068073.
- Lee MJ**, Wu Y, and Fried SK. Adipose tissue remodeling in pathophysiology of obesity. Curr Opin Clin Nutr Metab Care. 2010 Jul;13(4):371-6. doi: 10.1097/MCO.0b013e32833aabef. PMID:20531178.
- Lee MJ** and Fried SK. The adipocyte as an endocrine cell: integration of hormonal and nutrient signals that regulate leptin synthesis and secretion. Am J Physiol Endocrinol Metab 2009 Jun;296(6):E1230-8. doi: 10.1152/ajpendo.90927.2008. Epub 2009 Mar 24. PMID:19318513.

ACADEMIC AND PROFESSIONAL HONORS:

- 2016: *Travel Award*, NIH workshop on The Adipose Tissue Niche: Role in Health and Diseases, NIH, Bethesda, MD, USA
- 2015: *Travel Award*, Danish Diabetes Research Council meeting, Malaga, Spain
- 2012: *Faculty Development & Diversity grant*, Boston University School of Medicine, MA, USA
- 2007-2008: *Post-doctoral Fellowship*, American Heart Association, USA

LEE, MJ

2003: *Travel Award*, Summer FASEB conference on Obesity, Augusta, GA, USA

2000-2002: *Excellence Graduate Student Fellowship*, Rutgers University, NJ, USA

Leadership Roles (Committees, Boards, Advisory, etc.)

Editorial Board Member

Nutrition Research and Practice (2017- current)

National Service

Ad hoc member, AHA-Study Section, Lipids Basic Science, Oct 2013 - April 2016

THE OBESITY SOCIETY:

Session Chair, The Obesity Society's 28th Annual Scientific Meeting, 2010

Membership to Professional Organization

Jan. 2018 – current: The Korean Nutritional Society

Sept. 2018 – current: The Obesity Society

Other Agencies – *reviewing activities*

Reviewer – P&F grants, Boston Nutrition and Obesity Research Center, Boston University, 2013-2016

P & F grants for Michigan Diabetes Research Center, 2019 - 2020

Manuscripts Peer Reviewer

Diabetes, Journal of Biological Chemistry, International Journal of Obesity, Am J Physiol Endocrinol Metab, Endocrinology, Molecular Metabolism, Journal of Lipid Research, Journal of Nutrition, Journal of Nutritional Biochemistry, Scientific Reports, BBA - Molecular and Cell Biology of Lipids, BBA - General Subjects, PLoS One, Obesity, Biochemical and Biophysical Research Communications, Molecular and Cellular Biochemistry, Nutrition Research and Practice, Functional Foods in Health and Disease, Nutrients, Annual Review of Nutrition

Committees

2014-2016: Member of Admission Committee of the Graduate Program in Nutrition and Metabolism, BUSM

2016-2019: Committee member of the Graduate Program in Biomedical Sciences at Mt. Sinai Medical School

2019-current: Committee member, Nutritional Science Graduate Program in the Dept of Human Nutrition, Food and Animal Sciences at the University of Hawaii at Manoa

Spring 20 – current: Dietetics Program committee / member

March 20 – current: HNFAS Scholarship committee / member

Fall 21 – current: CTAHR Research committee / member

Graduate Students

<u>Category</u>	<u>Current Number of Students</u>	<u>Number Graduated (Career)</u>
Chair of Master Committees	0	1
Chair of PhD Committees	2	1
Member of Master Committees	2	5
Member of PhD Committees	5	3

Grant Support

Title: Integrative Center for Precision Nutrition and Human Health, P20GM139753

Agency: NIH/NIDDK

Duration: 03/20/2022 – 01/31/2027

Budget: \$7,800,000 (fund allocated to me \$181,800/year)

Role: Project Leader for the project 2 "Role of LPCAT3 in adipose remodeling and metabolic health"

Title: Role of ER stress in adipogenesis

Agency: Chungnam Nat'l University Innovative Research Grant, Republic of Korea

Budget: \$30,000 (fund allocated to me \$5,000)

Duration: 10/01/21 – 03/31/22

LEE, MJ

Role: Co-Investigator (PI, Cho JA)

Title: "Come n' Go" Domestic Research Collaboration Seed Grant (PI, Latha R)

Agency: Texas Tech University

Duration: 11/01/19-10/31/20

Budget: \$8,000 (funding allocated to me, \$3,000)

Role: Co-I (PI, Ramagalin L)

Title: Role of TGFbeta signaling in adipose tissue biology

Agency: NY Diabetes Research Center P& F Grant

Duration: 06/01/18-05/31/19

Budget: \$35,000

Role: PI

Title: Glucocorticoids & adipocyte function in human obesity

Agency: NIH/NIDDK 1R01DK080448

Duration: 06/01/18-05/31/19

Role: Co-I (PI: Fried)

Title: Reprogramming Fatty Acid Handling to Improve Adipocyte Function in Human Obesity

Agency: ADA 7-14-BS-059

Duration: 07/01/2014-09/30/19

Role: Co-I (PI: Fried)

Title: Boston Nutrition and Obesity Research Center

Agency: NIH/NIDDK P30 DK046200

Duration: 07/01/13-09/30/16

Role: Co-I (PI: Fried)

Title: Defining the phenotype of brite human adipocytes – a systems biology approach

Agency: Joslin Diabetes Research Center/BUSM P & F Grant

Duration: 03/01/13-6/31/15

Budget: \$35,000 per year

Role: PI

Title: Glucocorticoid and TNF regulation of adipocyte transcriptome

Agency: BU CTSI Microarray Core

Duration: 4/1/2014-3/31/2015

Budget: \$2,400

Role: PI

Title: Cidea Proteins and Regulation of Energy Expenditure

Agency: NIH R01DK101711-01

Duration: 10/1/14-8/31/15

Role: Co-I (PI: Puri)

Title: BU Undergraduate Research Opportunity Program

Agency: BU UROP

Budget: \$10,000/year

Duration: 06/01/13-05/31/15

Role: Sponsor

Title: Glucocorticoids & adipocyte function in human obesity

Agency: NIH/NIDDK 1R01DK080448-04

Duration: 06/01/2009 – 03/31/2014

Role: PI (PI: Fried)

Title: Depot-differences in adipocyte progenitors

Agency: BU Integrated Biomedical Pilot & Feasibility Grant

Duration: 07/01/12-6/30/13

LEE, MJ

Budget: \$12,000

Role: PI

Title: Depot-differences in adipocyte progenitors

Agency: NIH/NIDDK R56DK094815-01A1

Duration: 09/14/2012 – 08/31/2013

Role: Co-I (PI: Puri)

Title: Regulation of leptin expression in human adipose tissue

Agency: NIH RO1 DK052398

Duration: 01/01/09-06/30/12

Role: Co-I (PI: Fried)

Title: A survey of miRNAs in adipose tissue across sex and depots

Agency: Interdisciplinary Studies In Sex-differences (ISIS) Network, Studies for Women's Health Research

Duration: 07/01/10-06/30/11

Budget: \$10,000

Role: PI

Title: Regulation of leptin expression in human adipose tissue

Agency: Pilot and Feasibility Grant from CNRU of Maryland

Duration: 1/2008-12/2008

Budget: \$14,800

Role: PI

Title: TNF α regulation of glucocorticoid receptor in human adipose tissue

Agency: AHA Post-doctoral fellowship

Duration: 7/2007-12/2008

Budget: \$35,000 per year

Role: PI

INVITED LECTURES AND PRESENTATIONS

Aug. 2004 "Feeding and insulin increase leptin production in rat adipose tissue", FASEB summer conference, Colorado, USA. *Oral presentation*

Oct. 2006 "Post-transcriptional modulation of glucocorticoid receptors in human adipose tissue" International Congress of Obesity, Sidney, Australia. *Oral presentation*

May 2008 "Depot-specific effects of glucocorticoid on gene expression in human abdominal subcutaneous and omental adipose tissues", NIH workshop on adipose tissue maintenance and remodeling. Bethesda, MD, USA. *Oral presentation*

May 25, 2010 "Glucocorticoid regulation of adipose tissue biology", Boston Nutrition and Obesity Research Center Adipocyte & Metabolic Study group seminar series. Boston, MA, USA *Oral presentation*

Oct. 2010 "Glucocorticoids Antagonize Tumor Necrosis Factor-alpha Induced Lipolysis in Human Adipocytes", The Obesity Society Annual Meeting, San Diego, USA. *Oral presentation*

April 2013 "1,25(OH)2D3 decreases leptin, IL-6 and SAA expression in human adipocytes: role of vitamin D receptor", Experimental Biology, American Society for Nutrition, Annual Meeting, Boston, USA. *Oral presentation*

Nov. 2014 "Thiazolidinediones induction of brite phenotype in subcutaneous human adipose tissue", The Obesity Society Annual Meeting, Boston, USA. *Oral presentation*

Mar. 13, 2015 "Can we brite human adipocytes?", Center of Animal Biotechnology and Gene Therapy and Department of Biochemistry and Molecular Biology, School of Veterinary Medicine,

LEE, MJ

Universitat Autònoma de Barcelona, Spain

- April 08, 2015 “Rosiglitazone Induction of Britening in Human Adipose Tissue”, James C. Melby, M.D. Memorial Endocrinology Grand Rounds, Boston University School of Medicine, Boston, MA, USA
- Sept. 2015 “Secretory factors produced by cultures of human omental adipose stem cells inhibit adipose differentiation”, New York Regional Obesity Forum, New York, NY, USA. *Oral presentation*
- Aug. 6, 2016 “Glucocorticoid Regulation of Adipose Inflammation in Obesity”, FASEB Science Research Conference on Immunological Aspects of Obesity, Big Sky, Montana, USA.
- Nov. 2016 “High Fat Diet-Induced Obesity Downregulates MMP3 to Modulate Depot- and Sex-dependent Adipose Expansion in C57BL/6J Mice”, NIH workshop on The Adipose Tissue Niche: Role in Health and Diseases, *Oral presentation, Selected for Travel Award*, NIH, Bethesda, MD, USA
- Mar. 28, 2017 “Glucocorticoid-TGF β cross-talk contributes to the lower adipogenic capacity of human adipose stem cells”, Mount Sinai Obesity Forum, Manhattan, NY, USA
- April 13, 2017 Diabetes, Obesity and Metabolism Institute Work in Progress Seminar Series, “Resistance to Glucocorticoid Suppression of TGF β Signaling Pathway Contributes to the Low Adipogenic Capacity of Visceral Adipose Progenitors”. Manhattan, NY, USA.
- Feb. 26, 2018 Diabetes, Obesity and Metabolism Institute Work in Progress Seminar Series, “Britening of human white adipose tissue”, Manhattan, NY, USA.
- June 2018 “Reprograming of Human Adipocytes to a Briter Phenotype – Enhanced Fatty Acid Oxidation and Lipid Droplet Remodeling”, *Oral Presentation*, American Diabetes Association, 78th Scientific Session, Orlando, FL, USA.
- Oct. 16, 2018 “Contribution of sex and depot dependent differences in adipose tissue remodeling capacity to metabolic diseases”, Gyeongbuk National University School of Medicine, Center for Developing Treatment for Diabetes and Metabolic Diseases, Daegu, Korea.
- Oct. 18, 2018 “Impaired remodeling capacity of visceral adipose tissue in obesity”, The Korean Nutrition Society – 2018 Annual Conference, Pyeongchang, Korea.
- Oct. 23, 2018 “Lower remodeling capacity in visceral adipose tissues of human obesity”, Renowned International Scholar Lecture Series, Pusan National University, Pusan, Korea.
- Oct. 24, 2018 “Accumulation of Dysfunctional Adipose Tissues Contributes to Metabolic Diseases in Obesity”, Hannam University, Department of Food and Nutritional Sciences, Daejeon, Korea.
- March 04, 2019 Diabetes, Obesity and Metabolism Institute Work in Progress Seminar Series, “Structural and metabolic remodeling during conversion from white into briter human adipocytes”, Manhattan, NY, USA.
- June 25, 2019 “Harnessing Adipose Tissue Functions to Improve Systemic Metabolism”, Pusan National University, Pusan, Korea.
- Oct. 29, 2019 “Structural and Metabolic Remodeling during Britening of White Adipocytes”, Texas Tech University, TX, USA.
- Dec. 17, 2021 “Effects of n-3 fatty acids on adipocyte functions”, Chungnam National University, Daejeon, Korea