Mi-Jeong Lee

College of Tropical Agriculture and Human Resilience
Department of Human Nutrition, Food and Animal Sciences
University of Hawaii at Manoa
FTE Distribution: 60% I; 40% R; 0% E

Education

Degree	University	Major
PhD	Rutgers University	Nutritional Biochemistry
MS	Seoul National University	Human Nutrition
BS	Seoul National University	Human Nutrition

Professional Appointments

Title	Employer	Dates Employed
Associate Professor	University of Hawaii	2024 to Present
Assistant Professor	University of Hawaii	2019 to 2024
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

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
- 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 (2018 - 2022)
Obesity (2024 – current)

National Service
Session Chair, The Obesity Society's 28th Annual Scientific Meeting, 2010
Ad hoc member, AHA-Study Section, Lipids Basic Science, Oct 2013 - April 2016

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

TEACHING AND MENTORING

Teaching Philosophy

I believe learning is an active process through which students acquire basic knowledge but also become independent thinkers and as a teacher and mentor, I facilitate the learning process by guiding, stimulating and challenging the students. I also believe that all individuals have his or her own strengths and weaknesses, but it is our responsibility to find out each student's unique strengths, encourage them to develop their own great qualifications and support them to overcome their weaknesses. My goal is

creating a classroom environment in which students from all backgrounds can reach their potential and learn to think critically and independently.

Courses Taught at the University of Hawaii at Manoa

Course ID	Course 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)

Guest Lectures for Other Courses

- FSHN185 The Science of Human Nutrition
- FSHN 488 Obesity, Sciences and Issues
- FSHN689 Nutritional Epidemiology

Teaching Prior to Appointment at the UHM

- Lecturer, Korean National Open University, in class lecture for "Nutrition throughout the Life Cycle" course, 1998-1999.
- Teaching Assistant for "Nutrition/Biochemistry and Physiology", Rutgers University, 2001-2002, weekly 1h recitation in class room setting and tutoring on need base. Assist journal discussion for the Nutritional Science Seminar.
- Teaching (tutoring and journal discussion), Metabolism Section in Graduate Program in Life Sciences Core Class, "Metabolism", University of Maryland 2007-2008.
- Instructor/Assistant Professor, Boston University 2010-2016 in NU 756: "Molecular, Biochemical and Physiological Bases of Nutrition: Macronutrient Metabolism", lecture and paper discussion "Long term regulation of nutrient absorption and metabolism: Molecular mechanisms". "Nutrition Sciences Seminar", guide students to present their research work.
- Assistant Professor, Icahn School of Medicine at Mount Sinai Hospitals 2016 – 2019: lecture and paper discussion, "Metabolism".

Mentoring and Training

I have always enjoyed interactions with students and the main reason that I decided to pursue my career in academia was that I have the opportunity to work with next generation of scientists while continuing my independent research. Since starting my appointment at the UHM, I have advised two MS (one graduated) and two PhD students as the primary mentor. Additionally, I have served for five MS students (three graduated) and six PhD students (three graduated). I will continue to recruit and mentor students, especially from underrepresented groups, for guide them to develop their research projects.

Graduate Students

Category	Current Number of Students	Number Graduated (Career)
Chair of Master Committees	1	2
Chair of PhD Committees	1	1
Member of Master Committees	2	8
Member of PhD Committees	3	5

Mentoring and Training during Appointment at the UHM

- Nia Miyashiro (an undergraduate student, currently working as a medical technician in Oregon), Fatty acid modulation of adipocyte biology, Jan. 2020 – June. 2020

- Sydney Lofquist (a MS student in Nutritional Sciences, currently in PhD program in the University of Melbourne), Impact of TGFβ signaling on adipose biology, September 2020 - July 2022
- Yuka Yamamoto (an undergraduate student, currently working as a technician at the UHM), Anti-oxidative capacity of astaxanthin in human adipocytes, August 2022 – June 2023
- Christopher Ovens (an undergraduate, currently working as a technician at Pfizer), Effects of astaxanthin on adipogenesis, January 2023 – June 2023
- Nabahi Hickman (an undergraduate), Role of LPCAT3 in adipocyte differentiation in human adipose stem cells, September 2022 – June 2023
- Radha Raman Raj, a PhD student, Omega-3 fat mediated adipose remodeling, January 2020 – current.
- Fiorenzo Toncan, a MS student, Interactive role of omega-3 PUFAs and astaxanthin in metabolic health, January 2023 – current

Mentoring and Training prior to Appointment at the UHM

- Mentor, Sam Woodle (High school summer student, currently in Military Medical School), University of Maryland, School of Medicine, summer 2004.
- Mentor, Samuel Antwi (Undergraduate summer student, Howard University), University of Maryland, School of Medicine, summer 2005.
- Train and mentor, Jamie Fleenor (a research associate, currently working as a research associate at the Johns Hopkins), University of Maryland, School of Medicine, 2003-2004.
- Train and mentor, Ling Duan (a research associate, currently working as a research associate at the University of Pennsylvania), 2003-2005.
- Train Sara Fletcher (Graduate student at University of Tennessee) for 3 months in adipose tissue organ culture and molecular biology for her MS thesis project, "Regulation of Angiotensinogen production from omental and subcutaneous human adipose tissue", University of Maryland School of Medicine, summer 2006.
- Train and co-mentor, Urmila Sreenivasan, MS (currently, working as a research associate at University of Maryland), University of Maryland, School of Medicine, 2006-2008.
- Mentor, Vicky Zhang (high school summer student, currently working as a research associate III at Teva Pharmaceuticals), University of Maryland School of Medicine, 2007-2008.
- Train and co-mentor Silvia de Barros-Mazon (associate professor at University of Sao Paulo, Brazil), University of Maryland School of Medicine, 2007-2008.
- Train Xia Tao (a MS student at University of Massachusetts) for adipocyte biology, Boston University, summer 2009.
- Train and co-mentor, Weimin Guo, PhD, a postdoctoral fellow (Boston University), 2009-2013. He is currently working as a research fellow at Brigham Women's Hospital.
- Mentor, Kirstin Carswell, M.D., Visiting Scholar from Kings College (Boston University), United Kingdom, 2010 (methods for adipocyte culture). After training in our laboratory, we published a method paper in *Methods Mol Biol*, "Culture of isolated human adipocytes and isolated adipose tissue". She is an Assistant Professor at King's College Hospital, England.
- Train and co-mentor a visiting scholar, Dr. H. Nimitphong, with Dr. Michael Holick (Boston University), 2010-2013. She is an associate Professor at Mahidol Hospital, Thailand.
- Co-mentor, Mara Banks, MD/PhD student (Boston University) with Dr. Michael Holick. Currently, she is working as a resident at Georgia Hospitals.
- Train and mentor, an undergraduate student, Felicia Lesman (Boston University), 2013~2015, supported by the Undergraduate Research Opportunity Program at Boston University. Currently, she

is working as a Medical Assistant at Harvard Vanguard Medical Associates - Atrius Health.

- Mentor, a visiting PhD student, Pia Villarroel from University de Chile, 2014 (Boston University). She presented her work, "Calcium sensing receptor activation in human subcutaneous adipose depots" for the annual meeting of The Obesity Society, 2014. Her poster presentation was selected as a travel award.
- Co-mentor, Yuanyuan Wu, a post-doctoral fellow (Boston University), 2011-2014, currently working as a research scientist at Pfizer Pharmaceutical.
- Co-mentor, Stephaine Knebusch Toriello, MS in Molecular Medicine (Boston University) with Dr. Susan K. Fried, 2014-2015.
- Co-mentor, Swati Bhattacharya, a MS student at Boston University, 2014 – 2016. Currently, she is working as a clinical coordinator at Boston Medical Center.
- Co-mentor, Taylor Pickering, a PhD student (Boston University) with Dr. Susan K. Fried, 2013-2017. His thesis project has been published as two papers. He is currently working as a post-doctoral fellow at Boston University School of Medicine funded by a T32 NIH training grant.
- Train and mentor, Varuna Shibad, a research associate and then MS student (Boston University), 2015-2016. She is currently working as a research associate at Boston University School of Medicine.
- As an assistant core director of the Adipocyte Biology and Nutrient Metabolism Core of the NIH funded Boston Nutrition and Obesity Research Center, I also provided hands-on training (M. Jager, E. Killion, T. Bowman, C. Cederquist, S. Ding, Simonyte-Sjodin, and others) on adipose tissue biology as well as consultation and advice on the experimental design and data interpretation, greatly broadening the technical capacities of the Core, 2014 - 2016.
- Hosted and mentored two visiting scholars from Korea, Eunmi Park (Associate Professor, Hannam University) and Jinkyung Cho (Postdoctoral fellow, Sungkyunkwan University) at Mt. Sinai School of Medicine, Jan. 2019-Sept. 2019. Jinkyung Cho is currently working as an assistant professor at Sungkyunkwan University.

Publications (reverse chronological order)

Complete list of 62 published work is available through

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

at ORCID: https://orcid.org/0000-0002-8171-791

or at Research Gate: https://www.researchgate.net/profile/Mi-Jeong-Lee-2/stats

Publications

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

Lee MJ*, Hormonal Regulation of adipogenesis, Comprehensive Physiology, 2017 Sep 12;7(4):1151-1195. doi: 10.1002/cphy.c160047. PMID: 28915322.

Peer-reviewed Publications

Lee MJ*. Vitamin D Enhancement of Adipose Biology: Implications on Obesity-Associated Cardiometabolic Diseases. Nutrients. 2025 Feb 6;17(3):586. doi:10.3390/nu17030586. PMID: 39940444; PMCID: PMC11820181.

Lee MJ, Kim J. The pathophysiology of visceral adipose tissues in cardiometabolic diseases. Biochem Pharmacol. 2024 Apr;222:116116. doi:10.1016/j.bcp.2024.116116. Epub 2024 Mar 8. PMID: 38460909; PMCID: PMC11407912.

Lee MJ*, Puri V, Fried, SK. Metabolic and structural remodeling during browning of primary human adipocytes derived from omental and subcutaneous depots. Obesity (Silver Spring). 2023 Nov 6. doi: 10.1002/oby.23912. Online ahead of print. PMID: 37929774

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", Exp Biol Med (Maywood). 2023 Feb;248(3):209-216. doi: 10.1177/15353702221139207. Epub 2022 Dec 21. PubMed PMID: 36544403.

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, 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:S0092-8674(20)31158-2. PMID: 33058756. https://doi.org/10.1016/j.cell.2020.09.017

Nimitphong H, Park E and **Lee MJ***. Vitamin D regulation of adipogenesis and adipose tissue functions, Nutr Res Pract. 2020 Dec;14(6):553-567. doi: 10.4162/nrp.2020.14.6.553. PMID: 33282119; PMCID: PMC7683208.

Jash S, Banerjee S, **Lee MJ**, Farmer SR, Puri V. CIDEA Transcriptionally Regulates UCP1 for Britening and Thermogenesis in Human Fat Cells. iScience. 2019 Oct 25;20:73-89. PMID: 31563853. https://doi.org/10.1016/j.isci.2019.09.011

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.

Lee MJ*, Pickering RT, Shivad V, Layne MD, Karastergiou K, Jagar M, and Fried SK. "Impaired Glucocorticoid Suppression of TGF beta Signaling in Human Omental Adipose Tissues Limits Adipogenesis and May Promote Fibrosis". Diabetes. 2019; 68(3):587-597, [Epub ahead of print]; 2018 Dec 7. pii: db180955. doi: 10.2337/db18-0955. PMID: 30530781

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.

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.

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 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.

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 **APS *select 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.

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.

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

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 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.

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.

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 corresponding author.*

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.

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.

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. 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

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.

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.

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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.

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.

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.

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. PMID:19318513.

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.

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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.

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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.

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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.

Presentation for the conferences during appointment at the UHM

- Radha Raj**,** Chenchen Zhao, Fiorenzo Toncan, Madhu Bharti and Mi-Jeong Lee. "Role of omega-3 fatty acids in adipocyte remodeling". The International Society for Nutraceuticals and Functional Foods, Honolulu, Hawai'i. Dec. 2023
- Fiorenzo Toncan, Yuka Yamamoto, Radha Raman Raj, Mi-Jeong Lee. "Effects of astaxanthin on adipogenesis and lipid accumulation in human adipose stem cells". The International Society for Nutraceuticals and Functional Foods, Honolulu, Hawai'i. Dec. 2023
- Radha Raj and Mi-Jeong Lee. "Very Long-Chain Polyunsaturated Fatty Acids Induce Ferroptosis in Human Adipocytes". American Society for Nutrition Annual Conference May 2024.
- Jeehoon Kim and Mi-Jeong Lee. "Staying active in daily later life: benefits on hypertension and depression during the COVID-19". The Gerontological Society of America Nov. 2024 Annual Scientific Meeting.

Grant Support (awarded during appointment at the UHM)

Title of Grant: Integrative Center for Precision Nutrition and Human Health, P20GM139753
Source of Grant: USDA NIFA CTSA Grant
Total Dollar Value (My share of the grant value): $$7,800,000 ($576,400)
Dates of Grant: 03/20/2022 – 03/31/2025
Role: Project Leader 2, Role of LPCAT3 in adipose remodeling and metabolic health

Title of Grant: Astaxanthin Regulation of Adipocyte Biology and Cardiometabolic Diseases
Source of Grant: Hawaii Medical Foundation
Total Dollar Value (My share of the grant value): $60,000 ($60,000)
Dates of Grant: 2024-2025
Role: PI

Title of Grant: Uncovering Genetic Markers of Thermal Tolerance in Pacific white shrimp
Source of Grant: USDA NIFA CTSA Grant
Total Dollar Value (My share of the grant value): $100,000 ($5,000)
Dates of Grant: 2024-2025
Role: (PI, Co-PI) Co-PI

Title of Grant: BK21 graduate student training grant: College of Ecology, CNU
Source of Grant: National Research Foundation of Korea
Total Dollar Value (My share of the grant value):
Dates of Grant: 2025-2030
Role: Collaborator

Title of Grant: Role of ER stress in adipogenesis
Source of Grant: Chungnam Nat'l University Innovative Research Grant, Republic of Korea
Total Dollar Value (My share of the grant value): $30,000 ($5,000)
Dates of Grant: 10/01/21 – 03/31/22
Role: Co-PI

Title of Grant: "Come n' Go" Domestic Research Collaboration Seed Grant
Source of Grant: Texas Tech University
Total Dollar Value (My share of the grant value): $8,000 ($3,000)
Dates of Grant: 11/01/19-10/31/20
Role: Co-PI

Grant Support Prior to Appointment at the UHM

NY Diabetes Research Center P& F Grant "Role of TGFbeta signaling in adipose tissue biology Agency", 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: Assistant Core Director for the Adipocyte Metabolism Core (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: $70,000; 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 RO1DK101711-01; Duration: 10/1/14-8/31/15; Role: Co-I (PI: Puri)

Title: BU Undergraduate Research Opportunity Program
Agency: BU UROP; Budget: $20,000; 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: co-I (PI: Fried)

Title: Depot-differences in adipocyte progenitors
Agency: BU Integrated Biomedical Pilot & Feasibility Grant; Duration: 07/01/12-6/30/13; 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/NIDDK 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: 01/01/2008-12/31/2008; Budget: $14,800; Role: PI

Title: TNFα regulation of glucocorticoid receptor in human adipose tissue
Agency: American Heart Association Post-doctoral fellowship; Duration: 07/01/2007-06/31/2009
Budget: $70,000; Role: PI

Invited Lectures and Presentations during Appointment at the UHM

Oct. 29, 2019 "Structural and Metabolic Remodeling during Britening of White Adipocytes", Texas Tech University, TX, USA.

March 24, 2020 "Harnessing Adipose Tissue Functions to Improve Systemic Metabolism" Graduate Seminar, University of Hawaii, HI, USA.

Dec. 17, 2021 "Palmitate induces ER stress in human adipocytes", Chungnam Nat'l University, Korea

Dec. 12, 2022 "Effects of n-3 fatty acids on adipocyte functions", Hannam University, Korea

Jan. 17, 2023 "Remodeling of Adipose Tissues in Obesity and Metabolic Diseases", Graduate Seminar University of Hawaii, HI, USA

Jan. 03, 2025 "Ferulic acid regulation of adipose biology", Chungnam Nat'l University, Korea

Invited Lectures and Presentations prior to Appointment at the UHM

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 briten human adipocytes?", Center of Animal Biotechnology and Gene Therapy and Department of Biochemistry and Molecular Biology, School of Veterinary Medicine, 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-TGFβ 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 TGFβ 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", Gyeongpuk 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 "Adipose Tissue Functions in Systemic Metabolism", Pusan National University, Pusan, Korea.

SERVICE

Service to the Department and College

- March 20 – March 22: HNFAS Scholarship committee / member
- Fall 21 – Spring 23: CTAHR Research committee / member
- Spring 23: Search Committee for Community Nutrition Extension Specialist in the Dept of Human Nutrition, Food and Animal Sciences at the University of Hawaii at Manoa (director for the SNAP-ED and EFNEP)/member
- Spring 25: Search Committee for Assistant Professor in Human Nutrition, Dept of Human Nutrition, Food and Animal Sciences at the University of Hawaii at Manoa
- 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 24 – current: Executive Committee member, Nutritional Sciences PhD program
- Spring 20 – current: Dietetics Program committee in the Dept of Human Nutrition, Food and Animal Sciences at the University of Hawaii at Manoa
- Spring 24 – current: Member, Curriculum committee in the Dept of Human Nutrition, Food and Animal Sciences at the University of Hawaii at Manoa
- Spring 24 – current: Member, Research committee in the Dept of Human Nutrition, Food and Animal Sciences at the University of Hawaii at Manoa

Served for Qualifying Exam Committees

I have served on 16 qualifying and comprehensive exam committees for graduate students; Nutritional Biochemistry for students in Human Nutrition track, and Research Methods and Animal Physiology for students in the Animal Sciences track.

Mentor Teaching Assistants

As a member of HNFAS graduate faculty, I provide mentorship/training for 8 graduate students to build teaching portfolio. To fulfill their TA experience, graduate students provide input on the course syllabus and assignments, lead at least two full classes and assist with grading and implementing class projects. I meet with graduate students weekly providing constructive feedback on their strengths, areas of improvement and progress. Additionally, I provide guidance for developing lesson plans, teaching content including power point presentations, and leading class discussions. I evaluate students' performance and progress in their teaching development and discuss the results of the student evaluation.

Manuscripts Peer Reviewer

Diabetes, International Journal of Obesity, Am J Physiol Endocrinol Meta, 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, Nutrition Research and Practice, Nutrients, Annual Review of Nutrition