**Curriculum Vitae**

**Michael Lustgarten, PhD**

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**EDUCATION**

Ph.D., Physiology, University of Texas-HSC at San Antonio 2003-2009

B.S., Biochemistry (*magna cum laude*), Queens College, NY 2000-2003

B.A., English Textual Studies, Syracuse University, NY 1990-1994

**PROFESSIONAL POSITIONS**

Scientist II, Tufts University HNRCA 2016-Present

Scientist III, Tufts University HNRCA 2015-2016

Post-Doctoral Associate, Tufts University 2010-2015

Post-Doctoral Associate,University of Texas-HSC at San Antonio 2009-2010

**RESEARCH SUPPORT**

# PA14-044 Mentored Research Scientist Development Award (Parent K01), National Institute on Aging

# *Title:* “Role of the gut microbiome and the serum metabolome on lean mass and physical function in older adults.”

*Impact Score*, 10

Project Duration: 5/2016-5/2020

HNRCA Pilot Grant, Principal Investigator

*Title:* “Are gut bacteria associated with physical function?”

Project Duration: 9/2015-9/2016

**TEACHING EXPERIENCE**

*Guest Lecturer* - Nutrition 370- Nutritional Biochemistry and Physiology 11/2016

*Topic:* The role of oxidative stress, the serum metabolome, and the gut

microbiome on muscle mass and function during aging

Tufts University, Friedman School of Nutrition Science and Policy

*Guest Lecturer* - Nutrition 321-Dietary Antioxidants and Degenerative Disease 12/2012, 12/2014

and Policy

*Topic:* Oxidative Stress, Exercise, and Sarcopenia

Tufts University, Friedman School of Nutrition Science and Policy

**PEER REVIEWED PUBLICATIONS**

1. **Lustgarten, M.S.**, Price, L.L, Chale A., Phillips, E., Fielding, R.A. Serum predictors of percent lean mass in young adults. Journal of Strength and Conditioning Research, 2016 Aug; 30(8):2194-201. PMID:23774283.
2. **Lustgarten, M.S.** and Fielding, R.A. Metabolites associated with circulating interleukin-6 adults. Journals of Gerontology Series A: Medical Sciences, 2016 Mar 14. [Epub ahead of print]. PMID: 26975982.
3. **Lustgarten, M.S.**, Price, L.L., Fielding, R.A. Analytes and metabolites associated with muscle quality in young, healthy adults. Medicine and Science in Sports and Exercise, 2015 Aug;47(8):1659-64. PMID: 25412292.
4. **Lustgarten, M.S.**, Price, L.L., Phillips, E., Fielding, R.A. Metabolites related to gut bacterial metabolism and PPAR-α activation are associated with physical function in functionally-limited older adults.Aging Cell, 2014 Oct; 13(5):918-925. PMID: 25041144.
5. Rivas D.A., Lessard S.J., Rice N.P., **Lustgarten M.S.**, So K., Goodyear L.J., Parnell L.D., Fielding R.A. Diminished skeletal muscle microRNA expression with aging is associated with attenuated muscle plasticity and inhibition of IGF-1 signaling. FASEB J., 2014 Sep;28(9):4133-47. PMID: 24928197.
6. **Lustgarten, M.S.**, Price, L.L., Phillips, E., Fielding, R.A. Branched chain amino acids are associated with muscle mass in functionally-limited older adults. Journals of Gerontology Series A: Medical Sciences, 2014 Jun;69(6):717-724. PMID: 24085401.
7. **Lustgarten, M.S.**, Price, L.L., Logvinenko, T., Hatzis, C., Padukone, N., Reo, N.V., Phillips, E., Kirn, D., Mills, J., Fielding, R.A. Identification of serum analytes and metabolites associated with aerobic capacity.European Journal of Applied Physiology, 2013 May;113(5):1311-1320. PMID: 23184236.
8. **Lustgarten, M.S.**, Price, L.L., Phillips, E., Fielding, R.A. Serum glycine is associated with regional body fat and insulin resistance in functionally-limited older adults. PLOS One, 2013 Dec; 8(12):e84034. PMID: 24391874.
9. Jang, Y.C., Liu, Y., Hayworth C.R., Bhattacharya, A., **Lustgarten, M.S.**, Muller, F.L., Chaudhuri, A., Qi, W., Li, Y., Huang, Y.Y., Verdin, E.M., Richardson, A.R., Van Remmen, H. Dietary restriction attenuates age-associated muscle atrophy by lowering oxidative stress in mice even in the complete absence on CuZnSOD. Aging Cell, 2012 Oct;11(5):770-782. PMID: 22672615.
10. **Lustgarten, M.S.**, Bhattacharya, A., Muller, F.L., Jang, Y.C., Liu, Y., Shi, Y., Shimizu, T., **Shirasawa, T.,** Richardson, A., Van Remmen, H. Complex I generated, mitochondrial matrix directed superoxide is released from the mitochondria through voltage dependent anion channels. Biochemical and Biophysical Research Communications, 2012 Jun;422(3):515-521. PMID: 22613204.
11. **Lustgarten, M.S.**, Jang, Y.C., Liu, Y., Muller, F.L., Dahia, P.L., Shi, Y., Bhattacharya, A., Shimizu, T., **Shirasawa, T.,** Richardson, A., Van Remmen, H. MnSOD reduction results in elevated oxidative stress and decreased mitochondrial function but does not affect muscle mass loss during aging. Aging Cell, 2011 Jun;10(3):493-505. PMID: 21385310.
12. **Lustgarten, M.S.**, Fielding, R.A. Assessment of analytical methods used to measure changes in body composition in the elderly and recommendations for their use in phase II clinical trials. Journal of Nutrition, Health and Aging, 2011 May;15(5):368-375. PMID: 21528163.
13. Bhattacharya, A., **Lustgarten, M.S.**, Shi, Y., Liu, Y., Perez, V.I., Pulliam, D., Jernigan, A., Van Remmen, H.Increased mitochondrial matrix directed superoxide production by fatty acid hydroperoxides in skeletal muscle mitochondria. Free Radical Biology and Medicine, 2011 Mar;50(5): 592-601. PMID: 21172427.
14. Zhang, Y., Zhang, H.M., Shi, Y., **Lustgarten, M.S**., Li, Y., Qi, W., Zhang, B.X., Van Remmen, H. Loss of manganese superoxide dismutase leads to abnormal growth and signal transduction in mouse embryonic fibroblasts. Free Radical Biology and Medicine*,* 2010 Nov;49(8):1255-1262. PMID: 20638473.
15. Jang, Y.C., **Lustgarten, M.S.**, Liu, Y., Muller, F.L., Bhattacharya, A., Liang, H., Salmon, A.B., Brooks, S.V., Larkin, L., Hayworth, C.R., Richardson, A., Van Remmen, H. Increased superoxide in vivo accelerates age-associated muscle atrophy through mitochondrial dysfunction and neuromuscular junction degeneration. FASEB J., 2010 May;24(5):1376-1390. PMID: 20040516.
16. **Lustgarten, M.S.**, Jang, Y.C., Liu, Y., Muller, F.L., Qi, W., Steinhelper, M., Brooks, S.V., Larkin, L., Shimizu, T., **Shirasawa, T., McManus, L.**, Bhattacharya, A., Richardson, A., Van Remmen, H. Conditional knockout of MnSOD targeted to type IIB skeletal muscle increases oxidative stress and is sufficient to alter aerobic exercise capacity. American Journal of Physiology: Cell Physiology, 2009 Dec;297(6):C1520-1532. PMID: 19776389.
17. Jang, Y.C., Perez, V.I., Song, W., **Lustgarten, M.S.**, Salmon, A.B., Mele, J., Qi, W., Liu, Y., Chaudhuri, A., Liang, H., Ikeno, Y., Epstein, C., Van Remmen, H., and Richardson, A. Overexpression of Mn superoxide dismutase does not increase life span in mice. Journals of Gerontology Series A: Medical Sciences, 2009 Nov;64(11):1114-1125. PMID: 19633237.
18. [Muller, F.L., Liu, Y., Abdul-Ghani, M.A., **Lustgarten, M.S.**, Bhattacharya, A., Jang, Y.C., Van Remmen. H.](http://www.ncbi.nlm.nih.gov/pubmed/17916065?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum) High rates of superoxide production in skeletal-muscle mitochondria respiring on both complex I- and complex II-linked substrates. Biochemical Journal, 2008 Jan;409(2):491-499. PMID: 17916065.
19. Muller, F.L., **Lustgarten, M.S.**, Jang, Y.M., Richardson, A., Van Remmen, H. Trends in oxidative aging theories. Free Radical Biology and Medicine, 2007 Aug;43(4):477-503. PMID: 17640558.

**PUBLICATIONS (Book Chapter)**

Chapter 8, “An Unbiased Appraisal of the Free Radical Theory of Aging” 2010

**Lustgarten, M.S.**, Muller, F.L., and Van Remmen, H. in The Handbook

of the Biology of Aging, 7th edition, Academic Press.

**HONORS AND AWARDS**

*Vernon R. Young* International Award for Amino Acid Research 2015

*TedxTufts* Oral Presentation, “A Personalized Approach For Optimal Health” 2015

*Hamish N. Munro* Award for Excellence in Post-Doctoral Research 2014

*Accepted Poster*, Experimental Biology Conference 2013

*Accepted Poster*, MIT Sports Analytics Conference 2011

*Vernon Bishop Travel Award* , Department of Physiology, UTHSCSA 2008

*Accepted Oral Presentation*, American Physiological Society at

Experimental Biology Conference 2008

*Student Presenter*, American Aging Association Conference 2007

*Travel Award*, American Aging Association Conference 2007

# *Pre-Doctoral Research Award*, American College of Sports Medicine 2007

**REFERENCES**

Simin N. Meydani. Vice Provost for Research, Tufts University. Center Director, Senior Scientist and Professor in the Nutrition and Immunology Laboratory at the Tufts University HNRCA. [Simin.Meydani@tufts.edu](mailto:Simin.Meydani@tufts.edu), (617) 556-3129.

Roger A. Fielding. Professor of Nutrition, Professor of Medicine, Senior Scientist at the Nutrition,

Exercise Physiology and Sarcopenia Laboratory at the Tufts University HNRCA. [Roger.Fielding@Tufts.edu](mailto:Roger.Fielding@Tufts.edu), (617) 556-3016.

Arlan Richardson. Professor of Geriatric Medicine, University of Oklahoma Health Science Center, Oklahoma City VA Medical Center. [Arlan-Richardson@ouhsc.edu](mailto:Arlan-Richardson@ouhsc.edu), (405) 271-7622.

Holly Van Remmen. Free Radical Biology and Aging Research Program, Oklahoma Medical Research Foundation; Senior VA Research Scientist, Oklahoma City VA Medical Center. [Holly-VanRemmen@omrf.org](mailto:Holly-VanRemmen@omrf.org), (405) 271-2520.