University of Louisiana at Lafayette

College of Education
Faculty Curriculum Vitae Information

Shuichi Sato, Ph.D.

Title Department Office Number Extension Email Address	Assistant Professor Kinesiology Bourgeois Hall 134-A 482-5641 s.sato@louisiana.edu
Education	Ph.D., Applied Physiology, University of South Carolina MS, Exercise Science, University of Southern Mississippi MS, Chemistry, Sophia University BS, Athletic Training, University of Southern Mississippi BS, Chemistry, Sophia University
Teaching Philosophy	As a teacher I aim to provide my students with the analytical skills useful in exercise science, including the ability to find out up-to-date information, understand that information, and make a constructive decision based on their analysis of issues. I believe logic and independent learning are particularly important and I hope they will serve my students in whatever career path they choose in the future.
Bio	Dr. Sato is currently an assistant professor in Kinesiology/Exercise Science at the University of Louisiana at Lafayette. Dr. Sato began to investigate skeletal muscle atrophy/hypertrophy due to external stimuli such as exercise, chronic disease, hormonal change and injury at the University of South Carolina for his Ph.D. and had additional research training at the University of Louisville School of Medicine as post-doctoral research associate.
Courses Taught	KNES 303 – Physiology of Exercise KNES 304 – Physiology of Exercise Lab KNES 507 – Bioenergetics KNES 509 – Organization and Management of Exercise and Activity Programs KNES 510 – Research Methods in Kinesiology KNES 512 – Muscle physiology
Research Interests	My research interests lie in the field of skeletal muscle biology to examine its plasticity due to aging, cancer cachexia, and exercise. I attempt to elucidate the mechanisms by molecular/cell biology techniques in vitro and in vivo.
Advising	Average of 60-70 undergraduate advisee's per semester.
Publications	Recent 5 years 1. Bohnert KR, Gallot YS, **Sato S**, Xiong G, Hindi SM, Kumar A. **Inhibition of ER stress and unfolding protein response**

pathways causes skeletal muscle wasting during cancer cachexia. FASEB J. 2016 May 20.

2. Hardee JP, Mangum J, Gao S, **Sato S**, Hetzler KL, Puppa MH, Fix D, and Carson JA. **Effect of cachexia severity on eccentric contraction-induced myofiber growth in tumor-bearing mice.** J Appl Physiol (1985). 2016 Jan 1;120(1):29-37. doi: 10.1152/japplphysiol.00416.2015.

3. Ogura Y, Hindi SM, **Sato S**, Xiong G, and Kumar A. **TAK1 is a critical regulator of satellite stem cell homeostasis and skeletal muscle repair**. Nat Commun. 2015 Dec 9;6:10123. doi: 10.1038/ncomms10123.

4. **Sato S**. Ogura Y, Tajrishi MM, and Kumar A**. Elevated levels of TWEAK in skeletal muscle promote visceral obesity, insulin resistance, and metabolic dysfunction**. FASEB J. 2015 Mar;29(3):988-1002.

5. Hetzler KL, Hardee JP, Puppa MH, Narsale AA, **Sato S**, Davis JM, Carson JA. **Sex differences in the relationship of IL-6 signaling to cancer cachexia progression**. Biochim Biophys Acta. 2015 May;1852(5):816-25.

6. Ogura Y, Tajrishi MM, **Sato S**, Hindi SM, and Kumar A. **Therapeutic potential of matrix metalloproteinases in muscular dystrophy**. Front. Cell Dev. Biol., 01 April 2014 | doi: 10.3389/fcell.2014.00011.

7. Tajrishi MM, **Sato S (Equal contribution)**, Shin J, and Kumar A. **The TWEAK-Fn14 signaling axis mediates age-associated fiber atrophy, inflammation, and interstitial fibrosis in skeletal muscle of mice.** Biochem Biophys Res Commun. 2014 Mar 26. pii: S0006-291X(14)00533-6. doi: 10.1016/j.bbrc.2014.03.084.

8. **Sato S**, Ogura Y and Kumar A. **TWEAK/Fn14 signaling axis mediates skeletal muscle atrophy and metabolic dysfunction**. Front. Immunol. 5:18. doi: 10.3389/fimmu.2014.00018.

9. Hindi SM, **Sato S**, Choi Y, Kumar A. **Distinct roles of TRAF6 at early and late stages of muscle pathology in the mdx model of Duchenne muscular dystrophy**. Hum Mol Genet. 2014 Mar 15;23(6):1492-505.

10. **Sato S**, Ogura Y, Mishra V, Shin J, Bhatnagar S, Hill BG, Kumar A. **TWEAK promotes exercise intolerance by**

	decreasing skeletal muscle oxidative phosphorylation capacity. Skelet Muscle. 2013 Jul 8;3(1):18. doi: 10.1186/2044-5040-3-18. 11. White JP, Puppa MJ, Gao S, **Sato S**, Welle SL, and Carson JA. **Muscle mTORC1 suppression by IL-6 during cancer cachexia: a role for AMPK**. Am J Physiol Endocrinol Metab. 2013 May 15;304(10):E1042-52. doi: 10.1152/ajpendo.00410.2012. Epub 2013 Mar 26. 12. Lima M, **Sato S**, Enos RT, Baynes JW, and Carson JA. **Development of an UPLC mass spectrometry method for measurement of myofibrillar protein synthesis: application to analysis of murine muscles during cancer cachexia.** J Appl Physiol. 2013 Mar 15;114(6):824-8. doi: 10.1152/japplphysiol.01141.2012. Epub 2013 Jan 17. 13. White JP, Gao S, Puppa MJ, **Sato S,** Welle SL, and Carson JA**. Testosterone regulation of Akt/mTORC1/FoxO3a signaling in skeletal muscle.** Mol Cell Endocrinol. 2013 Jan 30;365(2):174-86. doi: 10.1016/j.mce.2012.10.019. Epub 2012 Oct 29. 14. White JP, **Sato S**, Puppa MJ, Baynes JW, Kostek, MC, Matesic LE and Carson JA. **IL-6 regulation of muscle mitochondrial biogenesis and fission/fusion dynamics during the progression of cancer cachexia**. Skeletal Muscle. 2012 Jul 6;2:14. doi: 10.1186/2044-5040-2-14. 15. Puppa MJ, White JP, Velasquez KT, Baltgalvis KA, Sato S, Baynes JW, and Carson JA. **The Effect of Exercise on IL-6-induced Cachexia in the *Apc*$^{Min/+}$ mouse**. J Cachexia Sarcopenia Muscle. 2012
Presentations	Recent 5 years 1. **Sato S.** Hindi SM, Xiong G, Kumar A. Skeletal muscle-specific deletion of TAK1 activates AMPK and autophagy in mice. The Integrative Biology of Exercise VII, Phoenix, AZ (2016). 2. **Sato S**, Hindi SM, Tajrishi MM Xiong G, Kumar A. TAK1 is a key regulator of skeletal muscle maintenance in mice. National ACSM's Annual Meeting and World Congresses, Boston, MA (2016) 3. Bohnert K, **Sato S**, Xiong G, and Kumar A. Unfolded protein response pathways mediates skeletal muscle wasting in mouse models of cancer cachexia. The 2015 Midwest membrane trafficking and signaling symposium.

Louisville, KY (2015).

4. **Sato S**, Ogura Y, and Kumar A. Skeletal muscle-specific transgenic overexpression of TWEAK causes metabolic abnormalities and obesity in mice. The Muscle Microenvironment: A Niche for the Next Generation of Biomedical Scientists. Columbus, OH (2014).

5. Hetzler KL, **Sato S**, Narsale AA, Puppa MJ, and Carson JA. The effect of sex on IL-6 regulation of cancer cachexia progression in the Apcmin/+ mouse. Experimental Biology. San Diego, CA (2014).

6. Hindi SM, **Sato S**, Tajrishi MM, Mishra V, Ogura Y, and Kumar A. Reciprocal interaction between TWEAK-FN14 system and PGC-1α regulates skeletal muscle atrophy program. EMBO workshop-molecular mechanisms of muscle growth and wasting in health and disease. Ascona, Switzerland (2013).

7. Hindi SM, **Sato S**, and Kumar A. Distinct roles of TRAF6 at early and late stages of disease progression in the mdx model of Duchenne muscular dystrophy. Cardiovascular Forum, Louisville, KY (2013).

8. **Sato S,** Hetzler KL, Puppa MJ, Gao S, and Carson JA. The effect of acute and repeated eccentric muscle contractions on cachectic muscle anabolic signaling in the female mouse. Southeast ACSM annual meeting, Greenville, SC (2013).

9. **Sato S,** Puppa MJ, Gao S, and Carson JA. The effect of muscle contraction on cachectic muscle mTOR signaling and protein synthesis in ApcMin/+ mouse. APS Intersociety Meeting: Integrative Biology of Exercise, Westiminster, CO (2012).

10. **Sato S**, Gao S, Puppa MJ, Narsale AA, Aartun JD, and Carson JA. The effect of resistance training on muscle maintenance in the ApcMin/+ mice. Advances in Skeletal Muscle Biology in Health and Disease, Gainesville, FL (2012).

11. Puppa MJ, White JP, **Sato S**, and Carson JA. IL-6 signaling regulates muscle FIS1 expression during the progression of cachexia. Advances in Skeletal Muscle Biology in Health and Disease, Gainesville, FL (2012).

	12. Hardee JP, Velázquez KT, Puppa MJ, Aartun JD, Narsale AA, **Sato S**, Davis JM , and Carson JA. The effect of quercetin supplementation on volitional fatigue and skeletal muscle mass retention during cancer cachexia. Annual Meeting of the Southeast Chapter of the American College of Sports Medicine, Jacksonville, FL (2012). 13. Puppa MJ, Narsale AA, Velazquez KT, **Sato S**, White JP, and Carson JA. The effect of exercise training on muscle energy status in IL-6 induced cachexia. Annual Meeting of the Southeast Chapter of the American College of Sports Medicine, Jacksonville, FL (2012).
Grants	Summer Research Award, UL Lafayette, 2016
Conferences Attended	See above
Professional Memberships	American Physiological Society (APS) American College of Sports Medicine (ASCM) National Athletic Training Association (NATA)
Awards	Rising Star Award, UL Lafayette (2016) Research!Louisville, 1st place in Postdoctoral Fellow Award (2014) Norman J. Arnold Doctoral Student Fellowship (2012)
Additional Skills	Certified Athletic Trainer (ATC) Fluent in Japanese
Dissertation	The effect of sex and exercise training during the progression of cancer cachexia in the Apcmin/+ mouse, Adviser, James Carson, Ph.D. Professor
Other Professional Experience	Sales Representative, Tandem Computers Japan Ltd. (1996-1999)
Graduate Committees	Served as Chair of 1 committee