CURRICULUM VITAE

Oh Sung Kwon, Ph.D.
Assistant Professor
Department of Kinesiology
University of Connecticut
ohsung.kwon@uconn.edu

TITLE: Tenure-Track Assistant Professor of Kinesiology, University of Connecticut

CITIZONSHIP: Republic of Korea (South Korea), U.S. permanent resident

CURRENT ADDRESS AND PHONE NUMBER

- Address (Office) : 2095 Hillside Road, U-1110, Room 220
  Department of Kinesiology
  University of Connecticut
  Storrs, CT 06269
- Contact Number : (860)-486-1120
- E-mail : ohsung.kwon@uconn.edu

EDUCATION

Post Doc	2018	Utah Vascular Research Laboratory (Advisor : Russell S. Richardson) University of Utah, Salt Lake City, UT
Post Doc	2015	Physical Therapy & Diabetes and Metabolism (Advisor : Micah Drummond) University of Utah, Salt Lake City, UT
Ph.D.	2013	Exercise Physiology (Advisor : Scott K. Powers) University of Florida, Gainesville, FL
M.S.	2009	Exercise Physiology (Advisor : P. Darrell Neufer) East Carolina University, Greenville, NC
M.S.	2002	Exercise Physiology Seoul National University, Seoul, South Korea
B.A.	2000	Physical Education Seoul National University, Seoul, South Korea

ACADEMIC POSITIONS HELD

2019 – Present	Assistant Professor Department of Kinesiology, College of Agriculture, Health and Natural Resources, University of Connecticut, Storrs, CT
2016 – 2018	Research Associate University of Utah (Division of Geriatrics) Utah Vascular Research Lab, VA Medical Center, Salt Lake City, UT
2015 – 2016	Post Doctoral Fellow University of Utah (Division of Geriatrics) Utah Vascular Research Lab, VA Medical Center, Salt Lake City, UT
2014 – 2015	Post Doctoral Fellow Dept. of Physical Therapy, College of Health, University of Utah, Salt Lake City, UT
2009 – 2013	Teaching and Research Assistant Dept. of Applied Physiology and Kinesiology, College of Health and Human Performance, University of Florida, Gainesville, FL
2007 – 2009	Research Assistant Dept. of Exercise and Sport Science, College of Health and Human Performance, East Carolina University, Greenville, NC
2006 – 2007	Research Assistant Laboratory of Molecular Cell Biology, Asan Institute for Life Science, Seoul, South Korea
2006 – 2007	Lecturer Dept. of Physical Education, Seoul National University, Seoul, South Korea
2002 – 2003	Lecturer Dept. of Physical Education, Dongwon University, Seoul, South Korea
2000 – 2002	Research and Teaching Assistant Dept. of Physical Education, Seoul National University, Seoul, South Korea
1998 – 2000	Research Staff and Assistant Laboratory of Molecular Cell Biology Asan Institute for Life Science, Seoul, South Korea

TEACHING EXPERIENCE

2023	KINS 4500 Exercise Physiology I KINS 6450 Muscle Physiology in Sport and Exercise Department of Kinesiology

	University of Connecticut, Storrs, CT
2022	KINS 4500 Exercise Physiology I KINS 6450 Muscle Physiology in Sport and Exercise Department of Kinesiology University of Connecticut, Storrs, CT
2021	KINS 4500 Exercise Physiology I KINS 6450 Muscle Physiology in Sport and Exercise Department of Kinesiology University of Connecticut, Storrs, CT
2020	KINS 4500 Exercise Physiology I KINS 6450 Exercise Endocrinology Department of Kinesiology University of Connecticut, Storrs, CT
2019	KINS 4500 Exercise Physiology I Department of Kinesiology University of Connecticut, Storrs, CT
2009 – 2013	APK 2105 Human Physiology Laboratory Department of Applied Physiology and Kinesiology, University of Florida, Gainesville, FL
2006 – 2007	PHY 7199 Exercise Physiology Department of Physical Education, Seoul National University, Seoul, South Korea
2003 – 2004	Exercise Physiology, Track & Field, Beginning Skiing and Advanced Swimming Department of Physical Education, Dongwon University, Seoul, South Korea
2000 – 2002	Exercise Physiology Laboratory, Track & Field, Beginning Skiing and Advanced Swimming Department of Physical Education, Seoul National University, Seoul, South Korea

AWARDS / HONORS

2020	UConn Pre-K Scholar Career Development Award, University of Connecticut Health, Farmington, CT
2017	The Best Oral Presentation 4th Annual Research Retreat in Center for Aging Institute, University of Utah, Salt Lake City, UT
2015	The Best Oral Presentation Korean Physiological Society, Busan, Korea
2015	Post Doctoral Fellow Travel Grant

	University of Utah, Salt Lake City, UT
2015	Advanced Fellowship in Geriatrics Veterans Administration, Salt Lake City, UT
2013	Graduate School Travel Award University of Florida, Gainesville, FL
2012	Graduate School Travel Award University of Florida, Gainesville, FL
2011	Graduate School Travel Award University of Florida, Gainesville, FL
2009	Norma Leavitt endowed scholarship Dept. of Applied Physiology and kinesiology, University of Florida
2009	Grinter scholarship Dept. of Applied Physiology and Kinesiology, University of Florida
2008	Graduate School Travel Award East Carolina University, Greenville, NC
2007 – 2009	Graduate Student Scholarship East Carolina University, Greenville, NC
2000 – 2002	Seoul National University, Department of Physical Education, Outstanding Exercise Science Student Scholarship Recipient
1996 – 2000	Seoul National University, Department of Physical Education, Outstanding Physical Education Student Scholarship Recipient

MEMBERSHIP IN PROFESSIONAL ACTIVITIES

2007 – Present	American College of Sports Medicine (ACSM)
2009 – Present	American Physiological Society

Editorial Board Member:

- Korean Alliance for Health, Physical Education, Recreation, and Dance.
- Korean Sport Exercise Physiology
- Exercise Science
- The Journal of Human Physiology
- Antioxidants
- Frontiers in Physiology

Guest Editor:

- Frontiers in Physiology

Invited Manuscript Reviewer:

- Acta Physiologica
- Journal of Physiology
- Journal of Applied Physiology
- American Journal of Physiology
- Journal Menopause
- Heliyon
- Journal of the American Geriatrics Society
- International Physiology
- Pediatric Exercise Science
- Medicine and Science in Sports and Exercise
- Scandinavian Journal of Medicine and Science in Sports

RESEARCH : PUBLICATION

A. Thesis/Dissertation Title

Oh Sung Kwon (2013) AT1 Receptor Blocker Attenuates Mechanical Ventilation-induced Atrophy and Oxidative Stress in the Diaphragm Muscle.
University of Florida, Gainesville, FL

Oh Sung Kwon (2009) Effect of Acute Exercise or Fasting on Mitochondrial Function and High Fat Diet-induced Insulin Resistance.
East Carolina University, Greenville, NC

Oh Sung Kwon (2002) The Comparative Analysis of Electromyogram on Athletes and Non-athletes in Crouching Start Movement.
Seoul National University, Seoul, South Korea

B. Refereed Journal Articles Published

1. Noh SG, Ahn A, Davi SM, White M, Lepley LK, and **Kwon OS***. Time-Dependent Alterations in Autophagy and Mitophagy in Quadriceps after Non-Invasive Anterior Cruciate Ligament Injury. **(*Corresponding author)** *Frontiers in Physiology*, 2024 Impact factor: 4.0 In Press.

2. Mangone L, Parker BA, Schmelzer R, White CM, **Kwon OS*** and Thompson PD. Skeletal Muscle Mitochondrial Capacity in Patients with Statin-Associated Muscle Symptoms (SAMS). **(*Corresponding author)** *Open Heart*, 2024 Feb 22;11(1) [PMID:38388189] Impact factor: 2.7 In Press.

3. Mangone L, **Kwon OS**, Johnson B, Wu Y, and Pescatello L. The Role of Exercise in Statin-Associated Muscle Symptoms Outcomes: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *Mayo Clinical Proceedings:Innovations, Quality & Outcomes* , 2024 Feb 17; 8(2):131-142, [PMID:38384718] Impact factor: 8.9 In Press.

4. Ratchford S, Broxterman RM, La Salle DT, Kwon OS, Hopkins P, Richardson RS, and Trinity JD. Obesity does not alter vascular function and handgrip exercise hemodynamics in middle-aged patients with hypertension. *American Journal of Physiology- Regulatory Integrative Comp Physiology,* 2023 Oct 16. [PMID:37842741] Impact factor: 3.532

5. **Kwon OS**, Tamura Y, Kim YH. Editorial: New Insights into the Role of Mitochondria in Muscle

Patholphysiology. *Frontiers in Physiology*. 2023 Feb 7;14:1151120 [PMID:36824473] Impact factor: 4.134

6. **Kwon OS**, Decker ST, Zhao J, Hoidal JR, Heuckstadt T, Sanders KA, Richardson RS, and Layec G. The Receptor for Advanced Glycation End Products (RAGE) is involved in Mitochondrial Function and Cigarette Smoke-Induced Oxidative Stress. *Free Radical Biology and Medicine*, 2023 Feb 1;195:261-269 [PMID:36586455] Impact factor: 8.101

7. **Kwon OS,** Noh SG, Park SH, Andtbacka RHI, Hyngstrom JR, and Richardson RS. Aging and Endothelium-mediated Vascular Dysfunction: The Role of the NADPH Oxidases. *Journal of Physiology*, 2023 Feb;601(3):451-467 [PMID:36416565] Impact factor: 6.228

8. Craig J, Hart C, Layec G, **Kwon OS**, Richardson RS, and Trinity JD. Impaired hemodynamic response to exercise in patients with peripheral artery disease: Evidence of a link to inflammation and oxidative stress. *American Journal of Physiology- Regulatory Integrative Comp Physiology,* 2022 Nov 1;323(5):R710-R719 [PMID:36154490] Impact factor: 3.532

9. Arends CJ, Wilson LH, Estrella A, **Kwon OS**, Weinstein DA, and Lee YM. A mouse model of glycogen storage disease type IX-beta: A role for Phkb in glycogenolysis. *International Journal of Molecular Sciences,* 2022 Sep 1;23(1):9944 [PMID:36077341] Impact factor: 5.542

10. Weavil JC, **Kwon OS**, Hughen RW, Zhang J, Light AR, and Amman M. Gene and protein expression of molecular receptors mediating the exercise pressor reflex in the dorsal root ganglion of normotensive and hypertensive rats. *American Journal of Physiology- Regulatory Integrative Comp Physiology,* 2022 Aug 1;323(2):R221-R226, [PMID: 35608265] Impact factor: 3.619

11. Broxterman RM, La Salle DT, Zhao J, Reese VR, **Kwon OS**, Richardson RS, and Trinity JD. Dietary nitrate supplementation and small muscle mass exercise hemodynamics in patients with essential hypertension. *Journal of Applied Physiology,* 2022 Aug 1;133(2):506-516 [PMID: 35834624] Impact factor: 3.351

12. Cho JM*, Park SK*, **Kwon OS***, Bharath LP, Bean T, Richardson RS, Pires K, Babu PVA, Boudina S, Graham TE, and Symons JD. Activating P2Y1 receptors improves function in arteries with repressed autophagy. *Cardiovascular Research,* 2022 April 14 [PMID: 35420120] **(*Co-First author)** Impact factor: 8.168

13. Groot HJ, Broxterman RM, Gifford JR, Garten RS, Rossman MJ, Jarrett CL, **Kwon OS**, Hydren JR, and Richardson RS. Reliability of the passive leg movement assessment of vascular function in men. *Experimental Physiology,* 2022 April 5 [PMID: 35294784] Impact factor: 2.969

14. Davi SM, Ahn A, White TA, Butterfield TA, **Kwon OS***, Lepley LK*. Long-lasting impairments in quadriceps mitochondrial health, muscle size, and phenotypic composition are present after non-invasive anterior cruciate ligament injury. *Frontiers in Physiology*, 2022 Jan 28;13 **(*Co-corresponding author)** [PMID: 35153832] Impact factor: 4.134

15. Shankar TS, Ramadurai DKA, Steinjorst K, Sommakia S, Badolia R, Krokidi AT, Calder D, Navankasattusas S, Sander P, **Kwon OS**, Aravamudhan A, Ling J, Dendorfer A, Xiee C, Kwon O, Cheng EHY, Whitehead KJ, Gudermann T, Richardson RS, Sachse FB, Schredelseker J, Spitzer KW, Chaudhuri D, and Drakos SG. Cardiac-specific deletion of voltage dependent anion channel 2 leads to dilated cardiomyopathy by altering calcium homeostasis. *Nature Communication*, 2021 Jul28;12(1):4583 [PMID:

34321484] Impact factor: 14.919

16. Landay A, Bartley JM, Banerjee D, Hargis G, Haynes L, Keshavarzian A, Kuo CL, **Kwon OS**, Li S, Li S, Oh J, Ozbolat IT, Ucar D, Xu M, Yao X, Untmaz D, and Kuchel GA. Network Topology of Biological Aging and Geroscience-Guided Approaches to COVID-19, *Frontiers in Aging*, 2021 July;2:695218 [PMID: 35128530] Impact factor: 4.504

17. Decker ST*, **Kwon OS***, Zhao Jia, Hoidal JR, Heuckstadt T, Sanders KA, and Layec G. Skeletal muscle mitochondrial adaptations induced by long-term cigarette smoke exposure. *American Journal of Physiology – Endocrinology and Metabolism,* 2021 Jul 1;321(1):E80-E89 [PMID: 34121449] **(*Co-first author)** Impact factor: 4.209

18. Trinity JD*, **Kwon OS***, Broxterman RM, Gifford JR, Kithas AC, Hydren JR, Jarrett C, Shield K, Bisconti A, Park SH, Craig J, Nelson AD, Morgan DE, Jessop J, Bledsoe A, and Richardson RS. The role of the endothelium in the hyperemic response to passive leg movement: looking beyond nitric oxide. *American Journal of Physiology - Heart and Circulatory Physiology*, 2021 Feb 1;320(2):H668-678 [PMID: 33306447] **(*Co-first author)** Impact factor: 3.864

19. Montalvo RN, Doerr V, **Kwon OS**, Talbert EE, Yoo JK, Hwang MH, Nguyen B, Christou DD, Kavazis AN, and Smuder AJ. Protection Against Doxorubicin-Induced Cardiac Dysfunction is Not Maintained Following Prolonged Autophagy Inhibition. *International Journal of Molecular Sciences*, 2020 Oct 30;21(21):8105 [PMID: 33143122] Impact factor: 4.556

20. Kithas AC, Broxterman RM, Trinity JD, Gifford JR, **Kwon OS**, Hydren JR, Nelson AD, Jessop JE, Bledsoe A, Morgan DE, and Richardson RS. Nitric oxide synthase inhibition with N(G)-monomethyl-L-arginine: Determining the window of effect in the human vasculature. *Nitric Oxide*, 2020 Nov 1;104-105:51-60. [PMID: 32979497] Impact factor: 3.31

21. Smuder AJ, Roberts BM, Wiggs MP, **Kwon OS**, Yoo JK, Christou DD, Fuller DD, Szeto HH, and Judge AR. Pharmacological targeting of mitochondrial function and reactive oxygen species production prevents colon 26 cancer-induced cardiorespiratory muscle weakness. *Oncotarget*, 2020 Sep 22;11(38):3502-3514. [PMID: 33014286] Impact factor: 3.71

22. Berg OK, **Kwon OS**, Hureau TJ, Clifton HL, Thurston TS, Le Fur Y, Jeong EK, Trinity JD, Richardson RS, Wang E, and Layec G. Skeletal muscle mitochondrial adaptations to maximal strength training in older adults. *Journal of Gerontology A Biol Sci Medi Sci*. 2020 Nov 13;75(12):2269-2277 [PMID: 32253421] Impact factor: 4.711

23. Park SH*, **Kwon OS***, Park SY, Weavil JC, Hydren JR, Andtbacka RHI, Hyngstrom JR, and Richardson RS. Vasodilatory and vascular mitochondrial respiratory function with advancing age: evidence of a free radically medicated link in the human vasculature. **(*Co-first author)** *American Journal of Physiology-Regulatory Integrative Comp Physiology*, 2020 April 1;318(4):R701-711 [PMID: 32022597] Impact factor: 3.569

24. Doerr V, Montalvo RN, **Kwon OS**, Talbert EE, Hain BA, Houston FE, and Smuder AJ. Prevention of doxorubicin-induced autophagy attenuates oxidative stress and skeletal muscle dysfunction. *Antioxidants (Basel)*, 2020 Mar 23;9(3):263 [PMID: 32210013] Impact factor: 4.52

25. Ratchford SM, Broxterman BM, La Salle DT, **Kwon OS**, Park SY, Hopkins PN, Richardson RS, and Trinity JD. Salt restriction lowers blood pressure at rest and during exercise without altering peripheral

hemodynamics in hypertensive individuals. *American Journal of Physiology - Heart and Circulation Physiology*. 2019 Dec 1;317(6):H1194-H1202 [PMID: 31584837] Impact factor: 3.569

26. Smuder AJ, Morton AB, Hall SE, Wiggs MP, Ahn B, Wawrzyniak NR, Sollanek KJ, Min K, **Kwon OS**, Nelson WB, and Powers SK. Effects of exercise preconditioning and HSP72 on diaphragm muscle function during mechanical ventilation. *Journal of Cachexia, Sarcopenia Muscle*. 2019 Aug;10(4):767-781. [PMID: 30972953] Impact factor: 12.51

27. Broxterman RM, Wittman MA, Trinity JD, Groot HJ, Rossman MJ, Park SY, Malenfant S, Gifford JR, **Kwon OS**, Park SH, Jarrett CL, Shields KL, Hydren JR, Bisconti AV, Owan T, Abraham A, Tandar A, Lui CY, Smith BR, and Richardson RS. A strong relationship between vascular function in the coronary and brachial arteries: A clinical coming of age for the updated flow-mediated dilation test? *Hypertension*, 2019 Jul;74(1):208-215 [PMID: 31277096] Impact factor: 6.857

28. Hydren JR, Broxterman RM, Trinity JD, Gifford JR, **Kwon OS**, Kithas AC, and Richardson RS. Delineating the age-related attenuation of vascular function: Evidence supporting the efficacy of the single passive leg movement technique. *Journal of Applied Physiology,* 2019 Jun 1;126(6):1525-1532 [PMID: 30946637] Impact factor: 3.351

29. **Kwon OS,** Andtbacka RHI, Hyngstrom JR, and Richardson RS. Regulation of Endothelial Function in Human Skeletal Muscle Arteries: Role of Adropin. *Journal of Physiology*, 2019 Apr;597(7):1791-1804 [PMID: 30690728] Impact factor: 5.037

30. Park SH*, **Kwon OS***, Andtbacka RHI, Hyngstrom JR, and Richardson RS. Vascular Mitochondrial Respiratory Function: the Impact of Advancing Age. **(*Co-first author)** *AJP-Heart and Circulatory Physiology*, 2018 Dec; 1;315(6): H1660-1669 [PMID: 30192630] Impact factor: 3.569

31. Berg OK, **Kwon OS**, Hureau T, Cliffton H, Thurston T, Fur YL, Jeong EK, Trinity JD, Wang E, and Layec G. Maximal strength training increases muscle force generating capacity and the anaerobic ATP synthesis flux without altering the cost of contraction in elderly. *Experimental Gerontology*, 2018 Oct; 1;111:154-161 [PMID: 30031838] Impact factor: 3.533

32. Hart CR, Layec G, Trinity JD, **Kwon OS**, Zhao J, Reese VR, Gifford JR and Richardson RS. Increased skeletal muscle mitochondrial free radical production in peripheral arterial disease despite preserved mitochondrial respiratory capacity. *Experimental Physiology*, 2018 Jun; 103(6):838-850 [PMID: 29604234] Impact factor: 2.921

33. Gifford JR, Trinity JD, **Kwon OS**, Layec G, Garten RS, Park SY, Nelson AD, and Richardson RS. Altered skeletal muscle mitochondrial phenotype in COPD: Disease versus disuse. *J of Applied Physiology*, 2018 Apr 1;124(4):1045-1053 [PMID: 29357496] Impact factor: 3.351

34. Park SY*, **Kwon OS*†,** Andtbacka RHI, Hyngstrom JR, Reese V, and Richardson RS. Age-related endothelial dysfunction in human skeletal muscle feed arteries: the role of free radicals derived from mitochondria in the vasculature. **(*Co-first author and †corresponding author)** *Acta Physiologica,* 2018 Jan 1; 222(1):1-12 [PMID: 28493603] Impact factor: 5.93

35. Broxterman RM, Trinity JD, Gifford JR, **Kwon OS**, Kithas AC, Hydren JR, Nelson AD, Morgan DE, Jessop J, Bledsoe A, and Richardson RS. Single passive leg movement assessment of vascular function: The contribution of nitric oxide. *J of Applied Physiology,* 2017 Dec 1; 123:1468-1476 [PMID: 28860173] Impact factor: 3.351

36. Ives SJ, Park SY, **Kwon OS**, Gifford JR, Hyngstrom JR, Andtbacka RH and Richardson RS. TRPV1 channels in human skeletal muscle feed arteries: implications for vascular function. *Experimental Physiol,* 2017 Sep 1; 102(9):1245-1258 [PMID: 28681979] Impact factor: 2.55

37. Layec G, Hart CR, Trinity JD, **Kwon OS**, Rossman MJ, Broxterman RM, Le Fur Y, Jeong EK and Richardson RS. Oxygen delivery and the restoration of the muscle energetic balance following exercise: Implications for delayed muscle recovery in patients with COPD. *Am J Physiol Endocrinol Metab*, 2017 July 1; 313(1):E94-104 [PMID: 28292763] Impact factor: 4.142

38. McKenzie AI, Briggs RA, Borrows KM, Nelson DS, **Kwon OS**, Higgins TF, Marcus RL and Drummond MJ. A pilot study examining the impact of exercise training on skeletal muscle genes related to the TLR signaling pathway in older adults following hip fracture. *J of Applied Physiol*. 2017 Jan 1;122(1):68-75 [PMID: 27789770] Impact factor: 3.351

39. **Kwon OS**, Nelson D, Borrows K, O'Connell RM and Drummond MJ. Intramyocellular ceramides and skeletal muscle mitochondrial respiration are partially regulated by toll-like receptor 4 during hindlimb unloading. *Am J Physiol Regul. Integr. and Comp*, 2016 Nov 1;311(5):R879-R887. [PMID: 27581814] Impact factor: 3.168

40. Talbert EE, Smuder AJ, **Kwon OS**, Sollanek KJ, Wiggs MP and Powers SK. Blockage of the Ryanodine Receptor via Azumolene Does Not Prevent Mechanical Ventilation- Induced Diaphragm Atrophy. *PLoS One*. 2016 Feb5;11(2): e0148161 [PMID: 26849371] Impact factor: 3.534

41. Smuder AJ, Gonzalez-Rothi EJ, **Kwon OS**, Morton AB, Sollanek KJ, Powers SK, Fuller DD. Cervical spinal cord injury exacerbates ventilator-induced diaphragm dysfunction. *J of Applied Physiol*. 2016 Jan 15;120(2):166-77. [PMID: 26472866] Impact factor: 3.351

42. Park SY, Son WM, and **Kwon OS**. Effects of whole body vibration training on body composition, skeletal muscle strength, and cardiovascular health. *J of Exercise Rehabilitation*. 2015 Dec 31; 11(6):289-295. [PMID: 26730378]

43. **Kwon OS**, Smuder AJ, Talbert EE, Wiggs MP, Hall SE, Sollanek KJ, Morton A, Toklu HZ, Tumer N, and Powers SK. AT1 receptor blocker losartan protects against mechanical ventilation-induced diaphragmatic dysfunction. *J Appl Physiol*. 2015 Nov 15;119(10):1033-41. [PMID: 26359481] Impact factor: 3.351

44. Tanner RE, Brunker LB, Agergaard J, Barrows K, Briggs RA, **Kwon OS**, Young LM, Hopkins PN, Volpi E, Marcus RL, LaStayo PC, Drummond MJ. Age-related differences in lean mass, protein synthesis and skeletal muscle markers of proteolysis after bed rest and exercise rehabilitation. *Journal of Physiology* 2015 Sept;593(18): 4259-73. [PMID: 26173027] Impact factor: 4.544

45. **Kwon OS**, Tanner RE, Barrows K, Runtsch M, Symons JD, Jalili T, Bikman BT, McClain DA, O'Connell RM, and Drummond MJ. MyD88 regulates physical inactivity-induced skeletal muscle inflammation, ceramide biosynthesis signaling and glucose intolerance. *American Journal of Physiololgy-Endocrinol Metab*, 2015 Jul 1;309(1): E11-21. [PMID: 25968578] Impact factor: 4.142

46. Min K, **Kwon OS**, Smuder AJ, Wiggs MP, Sollanek KJ, Christou DD, Yoo JK, Hwang MH, Szeto HH, Kavazis A and Powers SK. Increased mitochondrial emission of reactive oxygen species and calpain activation are required for doxorubicin-induced cardiac and skeletal muscle myopathy. *Journal of Physiology,* 2015 Apr 15;593(8):2017-36. [PMID: 25643692] Impact factor: 4.544

47. Smith IJ, Godinez GL, Singh BK, McCaughey KM, Alcantara RR, Gururaja T, Ho MS, Nguyen HN, Friera AM, White KA, McLaughlin JR, Hansen D, Romero JM, Baltgalvis KA, Claypool MD, Li W, Lang W, Yam GC, Gelman MS, Ding R, Yung SL, Creger DP, Chen Y, Singh R, Smuder AJ, Wiggs MP, **Kwon**

Kwon OS, Sollanek KJ, Powers SK, Masuda ES, Taylor VC, Payan DG, Kinoshita T, Kinsella TM. Inhibition of Janus kinase signaling during controlled mechanical ventilation prevents ventilation-induced diaphragm dysfunction. *FASEB J*. 2014 July;28(7): 2790-803 [PMID: 24671708] Impact factor: 5.704

48. Toklu HZ, **Kwon OS,** Sakarya Y, Powers SK, Llinas K, Kirichenko N, Solanek KJ, Wiggs MP, Smuder AJ, Talbert EE, Scarpace PJ, Tumer N. The effects of enalapril and losartan on mechanical ventilation induced sympathoadrenal activation and oxidative stress. *Journal of Surgical Res.* 2014 May 15;188(2):510-6. [PMID: 24630519] Impact factor: 2.123

49. Talbert EE, Smuder AJ, Min K, **Kwon OS**, Powers SK. Immobilization- induced activation of key proteolytic systems in skeletal muscles is prevented by a mitochondria-targeted antioxidant. *Journal of Applied Physiology*. 2013 Aug 15;115(4):529-38. [PMID: 23766499] Impact factor: 3.434

50. Talbert EE, Smuder AJ, Min K, **Kwon OS**, Powers SK. Calpain and capase-3 play required roles in immobilization-induced limb muscle atrophy. *J Appl Physiol*. 2013 Mar 15;114(10):1482-9. [PMID: 23471945] Impact factor: 3.434

51. Smuder AJ, Min K, Hudson MB, Kavazis AN, **Kwon OS**, Nelson WB, Powers SK. Endurance exercise attenuates ventilator-induced diaphragm dysfunction. *Journal of Applied Physiology.* 2012 Feb;112(3):501-10. [PMID: 22074717] Impact factor: 3.484

52. Min K, Smuder AJ, **Kwon OS**, Kavazis AN, Szeto HH, Powers SK. Mitochondrial-targeted antioxidants protect skeletal muscle against immobilization-induced muscle atrophy. *Journal of Applied Physiology*. 2011 Nov;111(5):1459-66. [PMID: 21817113] Impact factor: 3.754

53. Powers SK, Min K, **Kwon OS.** Ventilator-induced Diaphragmatic Dysfunction. *Sportology*. Juntendo Univ. Japan. 2011

54. Park JY, Kim MJ, Jung ST, Jun TW, **Kwon OS**, Jin YS. The effect of antioxidant vitamins supplementation on exercise-induced acute phase response of T lymphocyte and NK cell. *The Korean Journal of Physical Education*,1998, Vol.37, No.4, pp 380-390

55. **Kwon OS**, Sung BJ, Baek HH. The comparative analysis of electromyogram on athletes and non-athletes in crouching start movement. *Korean Journal of Physical Education*, 2002, Vol.41, No.4, pp 581-589.

C. Refereed Journal Articles under Review

Kawaida, M., **Kwon OS**, Ahn, A., Reiter, A. S., & Reed, S. A. Effects of astaxanthin on deconditioning and reconditioning in polo ponies.

D. Journal Articles under Preparation

Noh SG, Ahn A, Wang L, Xu M, and **Kwon OS**. Targeting p21-highly-expressing Senescent Cells Enhances Skeletal Muscle Function through Mitochondria and Reactive Oxygen Species.

Kwon OS, Layec G, Broxterman BM, Gifford JR, Park SH, Shields KL, and Richardson RS. Vascular dysfunction in COPD: The role of mitochondrial-derived oxidative stress.

Kwon OS, Andtbacka RHI, Hyngstrom JR, and Richardson RS. Human Skeletal Muscle Feed Artery Function:

Role of the Advanced Glycation End-Products Receptor (RAGE).

Kwon OS, Berg OK, Hureau T, Thurston T, Fur YL, Jeong EK, Trinity JD, Wang E, and Layec G. Maximal strength training attenuates skeletal muscle atrophy through Akt-mTOR-p70S6K and Calpain and Caspase 3 pathways in sedentary elderly.

Kwon OS, Trinity JD, Gifford JR, Broxterman RM, Kithas AC, Hydren JR, Nelson AD, Morgan DE, Jessop J, Bledsoe A, and Richardson RS. Knee-extension training induced changes in serum adropin level are associated with enhanced passive leg movement-induced vasodilation in middle and older adults.

RESEARCH : PRESENTATION

A. Invited Presentations

1. ACSM Annual Conference Symposium, San Diego, CA: Statin-Associated Muscle Symptoms and Exercise, June 4th, 2022

2. Department of Kinesiology Graduate Seminar, School of Public Health and Health Science, University of Massachusetts, Amherst, MA: Mitochondria in Health, Aging, and Diseases, November 4th, 2019

3. Department Seminar of Molecular and Cell Biology, College of Liberal Arts and Sciences, University of Connecticut, Storrs, CT: Mitochondria in Skeletal Muscle and Vascular Health, Aging, and Diseases, October 22nd, 2019

4. Department of Nutritional Sciences, College of Agriculture, Health, and Natural Resources, University of Connecticut, Storrs, CT: Mitochondria in Health, Aging, and Diseases – The Impact of Skeletal Muscle and Vascular Function, February, 2019.

5. Department of Pathology, College of Medicine, University of Utah, Salt Lake City: Vascular Dysfunction and COPD – The Role of Mitochondrial-derived Oxidative Stress, April, 2018.

6. Department of Internal Medicine, College of Medicine, University of Utah, Salt Lake City: Mitochondria in Health, Aging, and Diseases – The Impact on Skeletal Muscle and Vascular Function, November, 2017.

7. 5th Annual Research Retreat in Center on Aging Institute, University of Utah, Salt Lake City: Regulation of Endothelial Function in Human Skeletal Muscle Feed Arteries – The Role of Adropin, April, 2017.

8. Department of Pathology, College of Medicine, University of Utah, Salt Lake City: The Lack of RAGE Attenuates Smoking-induced Vascular Dysfunction, February, 2017.

9. 67th Annual Meeting in Korean Physiological Society, Busan, Korea: The effect of mitochondria-targeted antioxidant (MitoQ) on the age-related impairment in vasodilatory function in human skeletal muscle feed arteries, November, 2016.

10. 4th Annual Research Retreat in Center on Aging Institute, University of Utah, Salt Lake City: MyD88 is a critical mediator of physical inactivity-induced skeletal muscle inflammation, ceramide biosynthesis

and glucose intolerance, April, 2016.

11. 40th SEACSM highlighted session, SEACSM Annual Meeting, Jacksonville, FL, The Experimental Continuum : Answering complex physiological questions, February, 2012.

B. Referred Presentations with Abstracts Published in Academic Journals

1. **Kwon OS**, Targeting p21-highly-expressing Senescent Cells Prevent Vascular Dysfunction induced by High-Fat Diet (OAIC Annual Meeting 2023)

2. **Kwon OS**, Noh SG, Wang L, and Xu M. Targeting p21-highly-expressing Senescent Cells Prevent Vascular Dysfunction induced by High-Fat Diet (American Physiology Society Summit 2023)

3. Noh SG, Ahram A, Davi SM, Lepley LK and **Kwon OS**. Time-Dependent Alterations in Autophagy and Mitophagy in Quadriceps after Non-Invasive Anterior Cruciate Ligament Injury (Advances in Skeletal Muscle Biology in Health and Disease 2023)

4. Noh SG, Ahram A, Wang L, Xu M and **Kwon OS**. Targeting p21-highly-expressing Senescent Cells Enhances Skeletal Muscle Function through Mitochondria Function and Reactive Oxygen Species (Experimental Biology 2022)

5. Ahram A, Davi SM, White MS, Lepley LK and **Kwon OS**. The Role of Mitophagy in Quadriceps Atrophy after Non-Invasive Anterior Cruciate Ligament Injury (Experimental Biology 2022)

6. Mangone L, Taylor B, White C, Thompson P and **Kwon OS**. Skeletal Muscle Mitochondria Capacity in Patients with Statin-Associated Symptoms (SAMS) (Experimental Biology 2022)

7. Cho JM, Park SK, **Kwon OS,** La Salle TD, Cerbie J, Fermolye CC, Morgan D, Nelson A, Bledsoe AD, Bharath L, Tandar M, Kunapuli SP, Richardson RS, Babu PVA, Boudina S, Mookherjee S, Kishore BK, Wang F, Yang T, Boudina S, Trinity J, and Symons JD. Activating P2Y1 receptors improves function in arteries with repressed autophagy (Experimental Biology 2022)

8. **Kwon OS**, Davi SM, White MS, Lepley LK. The Role of Mitochondrial-derived Reactive Oxygen Species After Non-Invasive Anterior Cruciate Ligament Injury. (Experimental Biology 2020)

9. Layec G, Thurston TS, Decker ST, Huecksteadt T, Hoidal JR, Sanders K, and **Kwon OS**. Effects of A Mitochondria Targeted Antioxidant in Skeletal Muscle Mitochondrial Function with Cigarette Smoke Exposure and Chronic Obstructive Pulmonary Disease. (Experimental Biology 2020).

10. Craig JC, Hart CR, Layec G, **Kwon OS**, Richardson RS, Trinity JD. Inflammation and the Cardiovascular Responses to Exercise in Patients with Peripheral Artery Disease. (Experimental Biology 2020).

11. Davi SM, White MS, **Kwon OS**, and Lepley LK. The Role of Mitochondrial Dysfunction and Redox Disturbances After Non-Invasive Anterior Cruciate Ligament Injury. (American College of Sports Medicine Annual Meeting, 2020)

12. Davi SM, White MS, **Kwon OS**, and Lepley LK. Preclinical Model of ACL Injury Reveals the Acute Time Course of Mitochondrial Dysfunction in the Vastus Lateralis. (National Athletic Trainers' Association Annual Meeting, 2020)

13. Decker ST, Kwon OS, Ratchford SM, Hueckstead T, Hoidal JR, Sanders K, Layec G. Oxidative Stress Induced By Long-Term Cigarette Smoke Exposure Does Not Alter Mitochondrial Respiration in Skeletal Muscle of C57BL6 Mice. (Keystone Symposium on the Biology of Exercise, 2020)

14. **Kwon OS**, Layec G, Broxterman BM, Gifford JR, Park SH, Shields KL, and Richardson RS. Vascular dysfunction in COPD: The role of mitochondrial-derived oxidative stress. (Experimental Biology 2019)

15. Weavil JC, **Kwon OS**, Hughen RW, Zhang J, Richardson RS, Light AR, and Amann M. Gene and protein expression of exercise pressor reflex-related molecular receptors in dorsal root ganglion of spontaneous-hypertensive and normotensive rats. (Experimental Biology 2019)

16. Ratchford SM, Broxterman RM, La Salle DT, **Kwon OS**, Richardson RS, and Trinity JD. Impact of Salt Restriction on Central and Peripheral Hemodynamics During Exercise in Essential Hypertension: A Systematic Investigation. (Experimental Biology 2019)

17. Park SH, **Kwon OS,** Park SY, Weavil JC, Andtbacka RH, Hyngstrom JR, and Richardson RS. Vasodilatory and metabolic capacity with advancing age: evidence of interdependence in the human vasculature (ACSM 2019)

18. Decker S, **Kwon OS**, Thurston TS, Fur YL, Jeong EK, and Layec G. Tetrahydrobiopterin on limb blood flow and muscle metabolism in patients with COPD (International Society for Magnetic Resonance in Medicine 27th Annual Meeting 2019)

19. Layec G, Decker S, , Thurston T, Fur YL, Trinity JD, Jeong EK, **Kwon OS**. Beneficial effects of tetrahydrobiopterin on intracellular PO2 and skeletal muscle metabolic demand in patients with COPD (Advanced in Skeletal Muscle Biology in Health and Disease Conference, 2019)

20. Decker S, **Kwon OS**, Ratchford SM, Hueckstreadt T, Hoidal J, Sanders K, and Layec G. Knockout of the receptor for advanced glycation end products (RAGE) increases skeletal muscle mitochondrial content and alters mitochondrial function. (Advanced in Skeletal Muscle Biology in Health and Disease Conference, 2019)

21. **Kwon OS,** Andtbacka RH, Hyngstrom JR, and Richardson RS. NOX2 contributes to aging-induced endothelial dysfunction in human skeletal muscle feed arteries: Focus on the linkage between NADPH oxidase and protein kinase G (PKG) (Experimental Biology 2018)

22. **Kwon OS,** Cho JM, Park SK, Richardson RS, Babu PVA, Boudina S, and Symons JD. Arterial dysfunction displayed by old mice with repressed endothelial cell autophagy is rescued by pharmacological activation of purinergic 2Y1 receptors (Experimental Biology 2018)

23. Smuder AJ, **Kwon OS**, Hain B, Houston F, and Talbot EE. Autophagy promotes cancer chemotherapy-induced oxidative stress and skeletal muscle dysfunction. (Experimental Biology 2018)

24. Park SH, **Kwon OS,** Park SY, Weavil JC, Andtbacka RH, Hyngstrom JR, and Richardson RS. Mitochondrial respiratory function in the vasculature with advancing age: Examining the link to vasodilatory dysfunction (Experimental Biology 2018)

25. Layec G, Decker S, **Kwon OS**, Thurston T, Fur YL, Trinity JD, Jeong EK. Beneficial effects of tetrahydrobiopterin on intracellular PO2 and skeletal muscle metabolic demand in patients with COPD (Experimental Biology 2018)

26. Shields KL, Broxterman RM, **Kwon OS**, Park SH, Jarrett CL, Wray DW, and Richardson RS. Decline in conduit artery function across the healthy human adult lifespan: Influence of successful aging. (Experimental Biology 2018)

27. Trinity JD, Broxterman RM, Gifford JR, **Kwon OS**, Hydren JR, Kithas AC, Nelson AD, Morgan DE, Jessop JE, Bledsoe A, and Richardson RS. Mechanisms of age-related compensatory vasodilation: Insight from passive leg movement. (Experimental Biology 2018)

28. Hydren JR, Broxterman RM, Trinity JD, Gifford JR, **Kwon OS**, Kithas AC, and Richardson RS. Delineating the age-related attenuation of vascular function: Evidence supporting the efficacy of single passive leg movement. (Experimental Biology 2018)

29. La Salle DT, Broxterman RM, **Kwon OS**, Ratchford SM, Richardson RS, and Trinity JD. Blood pressure and vascular function in hypertensive individuals: Partitioning cause and effect. (Experimental Biology 2018)

30. Decker S, **Kwon OS**, Thurston T, Le Fur Y, Jeong EK, and Layec G. Effects of tetrahydrobiopterin on limb blood flow and muscle metabolism in patients with COPD. (ACSM 2018)

31. Kithas AC, Broxterman RM, Trinity JD, Gifford JR, **Kwon OS**, Hydren JR, Nelson AD, Jessop JE, Bledsoe A, Morgan DE, and Richardson RS. Determining the window of effect in the human vasculature for the nitric oxide synthase inhibitor N(G)-monomethyl-L-arginine (L-NMMA). (ACSM 2017)

32. Groot HJ, Broxterman RM, Garten RS, Rossman MJ, Gifford JR, **Kwon OS**, Hydren JR, and Richardson RS. Reliability of the passive leg movement assessment of vascular function. (ACSM 2017)

33. **Kwon OS,** Bharath LP, Cho J, Park S, Bean T, Richardson RS, Pires K, Babu PVA, Boudina S, Graham TE, and Symons JD. Evidence for Defective P2Y1 Receptor-mediated Vasodilation in Old Mice. (Center on Aging Research Retreat, University of Utah 2017)

34. **Kwon OS,** Andtbacka RH, Hyngstrom JR, and Richardson RS. Vasodilatory Function in Human Skeletal Muscle Feed Arteries with Advancing Age: Role of Adropin (Center on Aging Research Retreat, University of Utah 2017)

35. **Kwon OS,** Andtbacka RH, Hyngstrom JR, and Richardson RS. Vasodilatory Function in Human Skeletal Muscle Feed Arteries with Advancing Age: Role of Adropin (Experimental Biology 2017)

36. Park SH, **Kwon OS**, Andtbacka RH, Hyngstrom JR, and Richardson RS. Human Skeletal Muscle Feed Artery Function: Role of the Advanced Glycation End-Products Receptor (RAGE) (Experimental Biology 2017)

37. **Kwon OS,** Park SY, Andtbacka RH, Hyngstrom JR, Reese V, and Richardson RS. The effect of mitochondria-targeted antioxidant (MitoQ) on the age-related impairment in vasodilatory function in human skeletal muscle feed arteries (ACSM 2016)

38. **Kwon OS,** Park SY, and Richardson RS. The effect of mitochondria-targeted antioxidant (MitoQ) on the age-related impairment in vasodilatory function in human skeletal muscle feed arteries (Annual meeting of Korean Physiological Society 2015)

39. **Kwon OS**, Barrow K, and Drummond MJ. MyD88 regulates physical inactivity-induced inflammation, ceramide biosynthesis signaling and glucose intolerance (ACSM 2015)

40. **Kwon OS**, Tanner RE, Barrow K, Marah R, Symons JD, Jalili T, Bikman BT, McClain DA, O'Connell RM, and Drummond MJ. MyD88 is a critical mediator of physical inactivity-induced skeletal muscle inflammation, ceramide biosynthesis and glucose intolerance (Center on Aging Research Retreat, University of Utah 2015)

41. Sollanek KJ, Smuder AJ, Wiggs MP, **Kwon OS**, and Powers SK. Loss of training-induced protection against ventilator-induced diaphragm dysfunction after cessation of exercise. (ACSM 2014)

42. Min K, **Kwon OS**, Smuder AJ, Wiggs MP, Sollanek KJ, Christou DD, Yoo JK, Szeto HH, Kavazis AN, and Powers SK. Increased mitochondrial ROS emission and calpain activation are required for doxorubicin-induced cardiac and skeletal muscle myopathy (FASEB 2014)
43. **Kwon OS**, Smuder AJ, Sollanek KJ, Wiggs MP, Talbert EE, and Powers SK. AT1 receptor blocker attenuates mechanical ventilation-induced diaphragm muscle atrophy and oxidative stress (FASEB 2013)

44. Talbert EE, Smuder AJ, Min K, and **Kwon OS**, Szeto HH, and Powers SK. Role of mitochondrial reactive oxygen species in casting-induced skeletal muscle atrophy (ASMBHD 2012)

45. Talbert EE, Smuder AJ, and **Kwon OS**, Min K, Szeto HH, and Powers SK. A mitochondria-targeted antioxidant protects against activation of autophagy and the proteasome system during disuse atrophy (Cancer Cachexia Conference, 2012)

46. Smuder AJ, Min K, Hudson MB, Kavazis AN, and **Kwon OS**, Nelson WB, and Powers SK. Endurance exercise attenuates ventilator-induced diaphragm dysfunction (FASEB 2011)

47. Talbert EE, Smuder AJ, Min K, and **Kwon OS**, and Powers SK. Inhibition of calpain or caspase-3 protects against immobilization-induced muscle atrophy (FASEB 2012)

48. Min K, Smuder AJ, **Kwon OS**, Kavazis AN, Szeto HH, and Powers SK. Mitochondrial-targeted antioxidants attenuate immobilization-induced skeletal muscle atrophy. (FASEB 2010)

49. Min K, Smuder AJ, **Kwon OS**, Kavazis AN, Szeto HH, and Powers SK. Mitochondrial ROS production is required for disuse. (ACSM 2010)

RESEARCH : GRANTS

A. Research Support

Current External Grant Support

- NIH K01-KAG080164A (PI- Kwon, Oh Sung) 5/01/2023 – 4/30/2028
  The Mito-Frail Trial: Effects of MitoQ on Vasodilation, Mobility and Cognitive Performance in Frail Older Adults
  Role: Principal Investigator
  Total Award Amount (including Indirect Costs): $675,940

- CONS-Hatch Capacity Grant (PI-Kwon, Oh Sung) 10/01/2023-09/30/2026
  National Institute of Food and Agriculture (NIFA)
  Effects of Black Elderberry Supplementation on Physical Inactivity-induced Reactive Oxygen Species (ROS) and Endothelial Dysfunction
  Role: Principal Investigator
  Total Award Amount (including Indirect Costs): $60,000

- NIH 1R01AR081235-1 (PI- Lepley, Lindsey) 8/31/2022 – 8/30/2026
  Translational strategies for optimizing musculoskeletal recovery after ACL injury
  Role: Co-Investigator
  Total Award Amount (including Indirect Costs): $1,295,372

- Patterson Trust Mentored Research Award (PI- Kwon, Oh Sung) 1/31/2022 – 1/30/2024
  The Mito-Frail Trial: Effects of MitoQ on Vasodilation, Mobility and Cognitive Performance in Frail Older Adults
  Role: Principal Investigator
  Total Award Amount (including Indirect Costs): $99,359

- P30 AG067988 (Multiple PIs) 7/01/2020 – 6/30/2025
  NIA; Claude D. Pepper Older Americans Independence Center at UConn (UConn OAIC)
  Role: Co-Investigator and Pilot Study Leader
  Total Award Amount (including Indirect Costs): $1,464,144

- DOD/Army/Army Medical Research (PI-Casa, Doug) 10/01/2020-09/30/2023
  Enhancing Lethality of Female Warfighters by Increasing Resiliency to Repetitive Days of Intense Exercise in the Heat
  Role: Co-Investigator
  Total Award Amount (including Indirect Costs): $1,610,000

- CONS01037-Hatch Capacity Grant (PI-Kwon, Oh Sung) 10/01/2020-09/30/2024
  National Institute of Food and Agriculture (NIFA)
  Curcumin as a nutraceutical treatment for statin-associated muscle symptoms (SAMS)
  Role: Principal Investigator
  Total Award Amount (including Indirect Costs): $59,372

Current Internal Grant Support

- UConn InCHIP's Faculty Seed Grant (PI-Kwon, Oh Sung)
  Translational strategies for optimizing musculoskeletal recovery after ACL injury
  Role: Principal Investigator
  Total Award Amount (including Indirect Costs): $25,000

- UConn CAHNR Faculty Seed Grant (PI-Kwon, Oh Sung)
  Evaluation of Gut Bacterial Glycine Lipids on Vascular Function
  Role: Principal Investigator
  Total Award Amount (including Indirect Costs): $15,000

- UConn InCHIP's Grant Development Summer Stipend Program (2021 & 2022). (PI-Kwon, Oh Sung)
  The role of autophagy and mitophagy in immunosenescence.
  Role: Principal Investigator
  Total Award Amount (including Indirect Costs): $5,000

Completed Research Support

- 1T32HL139451 - NIH Ruth L. Kirschstein National Research Service Award (NRSA) Institutional Training Grant (T32)
  07/01/2018-07/31/2019
  The role of mitochondrial-derived reactive oxygen species (ROS) in the vascular and physical function of patients with chronic obstructive pulmonary disease (COPD)
  Goal: To identify the role of mitochondrial-derived ROS, we will utilize a mitochondrial-targeted antioxidant, MitoQ, which may be able to restore peripheral functional capacity and improve the quality of life for patients with COPD.

- E1697-R - VA Merit Grant (PI-Richardson, Russell) 07/01/2017-06/30/2022
  Vascular endothelial function: A potential therapeutic target in Alzheimer's Disease
  Goal: the role of vascular function in the progression of AD and elucidate the potential link between peripheral and cerebral nitric oxide bioavailability in this pathology.
  Role: Co-PI's

- E1697-R - VA Merit Grant (PI-Richardson, Russell) 07/01/2015-06/30/2020
  Passive Limb Movement: A Tool to Assess Vascular Health and Guide Rehabilitation
  Goal: examine the mechanisms underlying the novel tool of passive limb movement in the assessment of vascular health across the lifespan.
  Role: Postdoctoral Fellow

- R01DK074825-01 (PI-Neufer, Darrell P) 02/16/2009-08/31/2009
  Goal: The Effect of Acute Exercise on Insulin Resistance in High-fat Diet Rat.
  Role: Research Scholar

- R01DK073488-01 (PI-Neufer, Darrell P) 09/11/2007-05/31/2009
  Goal: Mitochondrial bioenergetics and insulin resistance.
  Role: Research Scholar

- R01HL072789 (PI-Powers, Scott K) 09/01/2009-09/31/2010
  Goal: Mitochondrial Reactive Oxygen Species Emission and Immobilization-induced Muscle Atrophy.
  Role: Research Scholar

- R01HL087839-04 (PI- Powers, Scott K) 09/01/2009-12/01/2013
  Goal: Mechanical Ventilation, Oxidative Stress, and Diaphragmatic Atrophy.
  Role: Research Scholar

B. Research Application

- NIH R21MH133175-01 (PI- Diniz, Breno) 12/01/2023 – 11/30/2025
  Evaluation of Immunometabolic Abnormalities in Older Adults with Major Depression and Frailty.
  Role: Co-PI
  Total Award Amount (including Indirect Costs): $275,846

- USDA Grant (PI- Reed, Sarah) 01/05/2024 – 01/04/2027
  Mitochondrial function and methylation: Potential mechanisms for poor growth in sheep.

Role: Co-PI
Total Award Amount (including Indirect Costs): $650,000

C. Submitted Grants Not Funded

- USDA SEED Grant (PI-Kwon, Oh Sung) 10/01/2021-09/30/2023
  National Institute of Food and Agriculture (NIFA)
  Effects of Black Elderberry Supplementation on Physical Inactivity-induced Reactive Oxygen Species (ROS) and Endothelial Dysfunction
  Role: Principal Investigator
  Total Award Amount (including Indirect Costs): $200,000

- NIH R21 (PI- Lee, Young Mok) 6/01/2022 – 5/31/2024
  Modulation of hepatic lipid metabolism and alleviate symptoms of Glycogen Storage Disease Type Ia by inhibition of glycogenolysis.
  Role: Co-Investigator
  Total Award Amount (including Indirect Costs): $275,846

- Pilot Exploratory Project Grants (PI- Kwon, Oh Sung) 6/01/2022 – 5/31/2024
  Role of Mitochondrial-Derived Reactive Oxygen Species in Vasodilation: Baseline studies and opportunities for future interventions seeking to improve physical and cognitive function
  Role: Principal Investigator
  Total Award Amount (including Indirect Costs): $200,000

- Glenn/AFAR Translational Research (PI- Kwon, Oh Sung) 5/1/2022 – 6/30/2024
  Title: Targeting senescent cells in aged skeletal muscle during the onset of insulin resistance caused by physical inactivity
  Role: Principal Investigator
  Total Award Amount (including Indirect Costs): $200,000

- Patterson Trust Mentored Research Award (PI- Kwon, Oh Sung) 1/31/2021 – 1/30/2023
  Title: Effects of Nicotinamide Riboside Supplementation on Mobility and Cognitive Performance in Frail Older Adults
  Role: Principal Investigator
  Total Award Amount (including Indirect Costs): $100,000

- Patterson Trust Mentored Research Award (PI- Kwon, Oh Sung) 1/31/2020 – 1/30/2022
  Title: Use of human peripheral blood cells to explore impact of aging and chronic diseases on mitochondrial biology
  Role: Principal Investigator
  Total Award Amount (including Indirect Costs): $100,000

- Research Excellence Program Award (PI- Kwon, Oh Sung) 5/1/2020 – 6/30/2021
  Title: Use of human peripheral blood cells to explore immunosenescence and age-related alterations in autophagy and mitophagy
  Role: Principal Investigator
  Total Award Amount (including Indirect Costs): $50,000

- Glenn/AFAR Translational Research (PI- Kwon, Oh Sung) 5/1/2019 – 6/30/2021

Title: The role of TLR4/MYD88 signaling in aged skeletal muscle during the onset of insulin resistance caused by short-term physical inactivity
Role: Principal Investigator
Total Award Amount (including Indirect Costs): $200,000

- Irene Diamond Fund/AFAR Postdoctoral Transition Awards in Aging
  Title: Short-term inactivity and vascular inflammation in the elderly: The role of TLR4/MYD88 signaling
  Role: Principal Investigator
  Total Award Amount (including Indirect Costs): $300,000

- Flight Attendant Medical Research Institute Fellow Grant
  Title: Combating the vascular effects of secondhand smoke: Novel interventions targeting free radicals
  Role: Principal Investigator
  Total Award Amount (including Indirect Costs): $200,000

MENTORING

Doctoral Students

Committee Chair

Steven Davi, Ph.D. 2021. Currently a Research Associate in West Point
Laura Mangone, MS. 4th year Ph.D student
Sung Gi Noh, MS. 3rd year Ph.D student

Committee Member

Zachary Macdonald, M.S. 4th year Ph.D Student in Kinesiology
Charles John Arends, M.S. 3rd year Ph.D Student in UConn Health
Jeb Struder, Completed Ph.D. in 2023. Currently a postdoctoral fellow in University of North Carolina
Yu Kawaida, Completed Ph.D. in 2023. Currently a postdoctoral fellow in University of Florida
Sean Langan, M.S. 3rd year Ph.D Student in Kinesiology

Master's Students

Committee Chair

Ahram Ahn, Completed M.S. in 2022. Currently a doctoral student in University of Miami
Siyun Kim, 1st year Master student

Committee Member

Jacob Bowie, Completed M.S. in 2020. Currently a doctoral student in University of Connecticut
Keiona Khen, Completed M.S. in 2021. Currently a doctoral student in Penn State University

Undergraduate Students with Honors Thesis Project

Thesis Director

Maria Guerrero, Department of Biological Science. Currently a Medical School student in University of Connecticut Health
Oh Sung Kwon, *Curriculum Vitae*