

Matthew M. Robinson

Assistant Professor | Kinesiology
School of Biological and Population Health Sciences
College of Public Health and Human Sciences
Oregon State University, Corvallis, OR 97331

Office: 118F Milam Hall
Email: matthew.robinson@oregonstate.edu
Phone: (541) 737-1126
Lab: health.oregonstate.edu/tmrl

A. EDUCATION AND EMPLOYMENT INFORMATION

Employment Information

Assistant Professor Kinesiology School of Biological and Population Health Sciences College of Public Health and Human Sciences Oregon State University, Corvallis, OR	2016-Present
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Education and Training

Research Associate	Division of Endocrinology, Diabetes, Metabolism and Nutrition Mayo Clinic, Rochester, MN Mentor: K. Sreekumaran Nair, M.D., Ph.D.	2015-2016
Postdoctoral Fellow	Division of Endocrinology, Diabetes, Metabolism and Nutrition Mayo Clinic, Rochester, MN Mentor: K. Sreekumaran Nair, M.D., Ph.D.	2011-2015
Ph.D.	Human Bioenergetics Colorado State University, Fort Collins, CO Mentor: Benjamin F. Miller, Ph.D.	2007-2011
M.S.	Health and Exercise Science – Exercise and Nutrition Colorado State University, Fort Collins, CO Mentor: Tracy L. Nelson, Ph.D., M.P.H.	2005-2007
B.S.	Health and Exercise Science – Sports Medicine Colorado State University, Fort Collins, CO	1999-2004

Certifications

2007- Current	Advanced Cardiovascular Life Support (ACLS) Provider American Heart Association
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Professional Development

2007- current	Advanced Cardiovascular Life Support Renewal American Heart Association <i>Renewal course every 2 years for ACLS certification</i>
2008	Isotope Tracers in Metabolic Research National Institutes of Health <i>Interactive 5-day course in isotope tracer methodology for metabolic research</i>
2011	NIA Summer Institute National Institute of Aging <i>Interactive 5-day workshop for post-doc and junior faculty in aging research</i>

- 2011 Sterile Compounding | Mayo Clinic
Training in pharmacy techniques for intravenous infusion preparation
- 2014 Grant Writer's Seminar and Workshop | Mayo Clinic
Interactive 1-day session followed by assisted grant proposal development
- 2015 Responsible Conduct in Research | Mayo Clinic
Interactive 10-week course (1-hour per week) for topics of research conduct
- 2015 Preparation of Scientific Manuscripts Workshop | Mayo Clinic
Interactive 1-day session on writing and reviewing publications
- 2015 Bioinformatics for Protein Quantification | American Society for Mass Spectrometry
Interactive 2-day workshop on bioinformatics theory and application to proteomics
- 2016 Glucose Clamping in Conscious Mice | Vanderbilt University
Hands on 5-day workshop of mouse surgical techniques
- 2016 Grant Writer's Seminar and Workshop | Oregon State University
Interactive 1-day session followed by assisted grant proposal development
- 2017 Workshop on High Resolution O2k-FluorRespirometry | Oroboros Instruments
Comprehensive 5-day course on mitochondrial measurements using O2k instruments
- 2018 Targeted Proteomics Course | Buck Institute
5-day workshop for theory and application of quantitative proteomics
- 2018 Design Studio | Oregon Health & Science University
Interactive session for grant preparation
- 2019 NIDDK K-Awardees Workshop| NIH
Interactive sessions on career development for NIDDK Awardees

Professional Memberships

American Society for Mass Spectrometry (2015-2017)
 American College of Sports Medicine
 American Diabetes Association
 American Physiological Society

B. TEACHING, ADVISING AND OTHER ASSIGNMENTS

Credit Courses – Oregon State University

<u>Term</u>	<u>Course</u>	<u>Credits</u>	<u>Role</u>	<u>Enrollment</u>
2016-Fall	KIN 324 Exercise Physiology	4	Co-Instructor	79
2016-Fall	KIN 533 Energetics and Biochemistry of Exercise	3	Co-Instructor	6
2017-Fall	KIN 434 Applied Muscle Physiology	3	Instructor	38
2018-Winter	KIN 434 Applied Muscle Physiology	3	Instructor	41
2018-Fall	KIN 434 Applied Muscle Physiology	3	Instructor	40
2019-Winter	KIN 434 Applied Muscle Physiology	3	Instructor	33

Independent Study – Oregon State University

<u>Term</u>	<u>Course</u>	<u>Student</u>	<u>Credits</u>
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2016-Fall	KIN 603 Thesis	Harrison Stierwalt	5
2017-Winter	KIN 601 Research and Scholarship	Harrison Stierwalt	6
2017-Winter	KIN 603 Thesis	Harrison Stierwalt	1
2017-Spring	KIN 603 Thesis	Harrison Stierwalt	4
2017-Fall	KIN 603 Thesis	Harrison Stierwalt	5
2017-Fall	KIN 401 Research and Scholarship	Emily Burney	3
2017-Fall	KIN 401 Research and Scholarship	Bergen Sather	6
2018-Fall	KIN 603 Thesis	Harrison Stierwalt	8
2019-Winter	KIN 603 Thesis	Harrison Stierwalt	12
2019-Winter	KIN 306 Projects	Blake Nelson	1
2019-Winter	BB 401 Undergraduate Research	Isabel Brink	1

Curriculum Development

2016	Co-created all new course materials for KIN 533 Energetics and Biochemistry, including enhanced focus on reductionist human research study design and interpretation.
2017	Created all new course materials for KIN 434 Applied Muscle Physiology, updated lecture material including greater emphasis on application of primary literature in muscle physiology.

Students and Trainees

Ph.D. Committee Chair or Co-Chair*

<u>Student</u>	<u>Program</u>	<u>Year</u>
Sarah Ehrlicher*	Nutrition	2016-Present
Harrison Stierwalt*	Kinesiology	2016-Present
Erin McGowan	Kinesiology	2019-Present
Phil Batterson	Kinesiology	2019-Present

Ph.D. Committee Member

<u>Student</u>	<u>Program</u>	<u>Year</u>
Melinda Spooner	Nutrition	2018-Present
Rosa Keller	Nutrition	2018-Present
Alexa Pullicin	Food Science and Technology	2018-Present

M.S. Committee Member

<u>Student</u>	<u>Program</u>	<u>Year</u>
Cameron Jones	Kinesiology	2018-Present

Undergraduate Honors Thesis Committee Chair or Co-Chair*

<u>Student</u>	<u>Program</u>	<u>Year</u>
Bergen Sather*	Biology and Public Health	2015-18 (graduated)
Emily Burney*	Public Health	2016-18 (graduated)
Isabel Brinck*	Biochemistry and Biophysics	2018-Present
Victoria Boechler	Kinesiology	2019-Present
Catherine Du	Biological Health Sciences	2019

Other Undergraduate Mentorship or Co-Mentorship*

<u>Student</u>	<u>Program</u>	<u>Year</u>
Bergen Sather*	Undergraduate Research Awards Program (URAP)	2016
Bergen Sather*	Undergraduate Research, Innovation, Scholarship and Creativity Award (URISC)	2016
Bergen Sather*	Undergraduate Research Awards Program (URAP)	2017

Emily Burney*	Undergraduate Research Awards Program (URAP)	2017
Bergen Sather*	Summer Undergraduate Research Experience (SURE)	2017
Emily Burney*	Undergraduate Research, Innovation, Scholarship and Creativity Award (URISC)	2017-18
Ryan Wong*	Undergraduate Research Assistant	2017-18
Emily Burney*	DeLoach Work Scholarship	2018
Alysha Everett*	Undergraduate Research Assistant	2018
Bailey Sahnov*	Undergraduate Research Assistant	2018
Blake Nelson*	Undergraduate Research Assistant	2018-19
Jackson Brim-Edwards*	Undergraduate Research Assistant	2018-Present
Catherine Du*	Undergraduate Research, Scholarship, and the Arts (URSA Engage)	2018
Victoria Boechler*	Undergraduate Research, Scholarship, and the Arts (URSA Engage)	2018-Present
Jason Hashimoto*	Undergraduate Research, Scholarship, and the Arts (URSA Engage)	2018
Jacqueline Oropeza-Castro*	Undergraduate Research Assistant	2018-Present

Visiting Scholar Mentorship

<u>Student</u>	<u>Program</u>	<u>Year</u>
Félix Alberto Morales-Palomo	Universidad de Castilla-La Mancha	2018

Student Evaluation

Course	Term	Year	Number of Evaluations/ Enrollment	Question 1* (Course/OSU)	Question 2 (Course/OSU)
KIN 324	Fall	2016	55 / 82	5.4 / 5.0	4.9 / 5.3
KIN 533	Fall	2016	4 / 6	5.5 / 5.0	5.5 / 5.3
KIN 434	Fall	2017	16 / 38	4.7 / 5.1	4.8 / 5.3
KIN 434	Winter	2018	17 / 41	5.7 / 5.0	5.9 / 5.3
KIN 434	Fall	2018	10 / 40	5.3 / 5.1	5.3 / 5.4

*Median scores for Question 1: "This course as a whole was..." and Question 2: "The instructor's contribution to the course was..." with ratings of "1=very poor, 2=poor, 3=fair, 4= good, 5=very good and 6=excellent"

C. SCHOLARSHIP AND CREATIVE ACTIVITY

Authorship Notations

¹Contributed to hypothesis and/or study design

²Collected and/or analyzed data

³Interpreted data

⁴Critical review and revision of manuscript

⁵Primary author of manuscript

⁶Senior author of manuscript

Advisee Notations

*Graduate student advisee at Oregon State University

**Undergraduate student advisee at Oregon State University

Refereed Journal Articles

1. **Robinson MM**^{1,2,3,4,5}, Sather BK**, Burney ET**, Ehrlicher SE*, Stierwalt HD*, Franco MC, Newsom SA. Robust Intrinsic differences in mitochondrial respiration and H₂O₂ emission between L6 and C2C12 cells. *Am J Physiol Cell Physiol*. 2019 May 15. [Epub ahead of print].
2. Stierwalt HD*, Ehrlicher SE*, Bergman BC, **Robinson MM**^{1,2,3,4}, Newsom SA. Insulin-stimulated Rac1-GTP binding is not impaired by palmitate treatment in L6 myotubes. *Physiol Rep*. 2018 Dec;6(24):e13956.
3. Ehrlicher SE*, Stierwalt HD*, Newsom SA, **Robinson MM**^{1,2,3,4,6}. Skeletal muscle autophagy remains responsive to hyperinsulinemia and hyperglycemia at higher plasma insulin concentrations in insulin-resistant mice. *Physiol Rep*. 2018 Jul;6(14):e13810.
4. Dasari S, Newsom SA, Ehrlicher SE*, Stierwalt HD*, **Robinson MM**^{1,2,3,4,6}. Remodeling of skeletal muscle mitochondrial proteome with high-fat diet involves greater changes to β -oxidation than electron transfer proteins in mice. *Am J Physiol Endocrinol Metab*. 2018 Oct 1; 315 (4): E425-E434.
5. **Robinson MM**^{1,2,3,4,5}, Low VJ, Nair KS. Increased Brain Glucose Uptake Following 12 Weeks of Aerobic High-intensity Interval Training in Young and Older Adults. *J Clin Endocrinol Metab*. 2018 Jan 1;103(1):221-227.
6. Newsom SA, Miller BF, Hamilton KL, Ehrlicher SE*, Stierwalt HD*, **Robinson MM**^{1,2,3,4,6}. Long-term rates of mitochondrial protein synthesis are increased in mouse skeletal muscle with high fat feeding regardless of insulin sensitizing treatment. *Am J Physiol Endocrinol Metab*. 2017 Jul 11:ajpendo.00144.2017. doi: 10.1152/ajpendo.00144.2017.
7. Lalia AZ, Dasari S, **Robinson MM**^{2,3,4}, Abid H, Morse DM, Klaus KA, Lanza IR. Influence of omega-3 fatty acids on skeletal muscle protein metabolism and mitochondrial bioenergetics in older adults. *Aging (Albany NY)*. 2017 Apr;9(4):1096-1129.
8. **Robinson MM**^{1,2,3,4,5}, Dasari S, Konopka AR, Johnson ML, Manjunatha S, Esponda RR, Carter RE, Lanza IR, Nair KS. Enhanced Protein Translation Underlies Improved Metabolic and Physical Adaptations to Different Exercise Training Modes in Young and Old Humans. *Cell Metabolism*. 2017 Mar 7;25(3):581-592.
-Manuscript recognized in Best of Cell Metabolism 2017 and featured on CNN, New York Times and radio shows.-
9. O'Neill BT, Lee KY, Klaus K, Softic S, Krumpoch MT, Fentz J, Stanford KI, **Robinson MM**^{2,3,4}, Cai W, Kleinridders A, Pereira RO, Hirshman MF, Abel ED, Accili D, Goodyear LJ, Nair KS, Kahn CR. Insulin and IGF-1 receptors regulate FoxO-mediated signaling in muscle proteostasis. *J Clin Invest*. 2016 Sep 1;126(9):3433-46.
10. **Robinson MM**^{1,2,3,4,5}, Dasari S, Karakelides H, Bergen HR 3rd, Nair KS. Release of skeletal muscle peptide fragments identifies individual proteins degraded during insulin deprivation in type 1 diabetic humans and mice. *Am J Physiol Endocrinol Metab*. 2016 Sep 1;311(3):E628-37.
-Manuscript was recognized in APSselect Sept 2016-
11. Konopka AR, Esponda RR, **Robinson MM**^{2,3,4}, Johnson ML, Carter RE, Schiavon M, Cobelli C, Wondisford FE, Lanza IR, Nair KS. Hyperglucagonemia Mitigates the Effect of Metformin on Glucose Production in Prediabetes. *Cell Reports*. 2016 May 17;15(7):1394-400.
12. Lalia AZ, Dasari S, Johnson ML, **Robinson MM**^{2,3,4}, Konopka AR, Distelmaier K, Port JD, Glavin MT, Esponda RR, Nair KS, Lanza IR. Predictors of whole-body insulin sensitivity across ages and adiposity in adult humans. *Journal of Clinical Endocrinology and Metabolism*. 2016 Feb;101(2):626-34.
13. Johnson ML, Distelmaier K, Lanza IR, Irving BA, **Robinson MM**^{2,3,4}, Konopka AR, Shulman GI, Nair KS. Mechanism by which caloric restriction improves insulin sensitivity in sedentary obese adults. *Diabetes*. 2016 Jan;65(1):74-84.

14. Jedrychowski MP, Wrann CD, Paulo JA, Gerber KK, Szpyt J, **Robinson MM**^{2,3,4}, Nair KS, Gygi SP, Spiegelman BM. Detection and Quantitation of Circulating Human Irisin by Tandem Mass Spectrometry. *Cell Metabolism*. 2015 Oct 6;22(4):734-40.
15. Konopka AR, Asante A, Lanza IR, **Robinson MM**^{2,3,4}, Johnson ML, Man CD, Cobelli C, Amols MH, Irving BA, Nair KS. Defects in mitochondrial efficiency and H₂O₂ emissions in obese women are restored to a lean phenotype with aerobic exercise training. *Diabetes*. 2015 Jun;64(6):2104-15.
16. Johnson ML, Irving BA, Lanza IR, Vendelbo MH, Konopka AR, **Robinson MM**^{2,3,4}, Henderson GC, Klaus KK, Morse DM, Heppelmann C, Bergen HR III, Dasari D, Schimke JM, Jakaitis DR and Nair KS. Differential effect of endurance training on mitochondrial protein damage, degradation and acetylation in the context of aging. *J Gerontol A Biol Sci Med Sci*. 2015 Nov;70(11):1386-93.
17. **Robinson MM**^{1,2,3,4,5}, Soop M, Sohn TS, Morse DM, Schimke JM, Klaus KA, and Nair KS. High insulin combined with essential amino acids stimulates skeletal muscle mitochondrial protein synthesis while decreasing insulin sensitivity in healthy humans. *Journal of Clinical Endocrinology and Metabolism*. 2014 Dec;99(12):E2574-83s.
18. Johnson ML, **Robinson MM**^{2,3,4}, Nair KS. Skeletal muscle aging and the mitochondrion. *Trends Endocrinol Metab*. 2013 May;24(5):247-56.
19. Lanza IR, Zabielski P, Klaus KA, Morse DM, Heppelmann CJ, Bergen HR 3rd, Dasari S, Walrand S, Short KR, Johnson ML, **Robinson MM**^{2,3,4}, Schimke JM, Jakaitis DR, Asmann YW, Sun Z, Nair KS. Chronic Caloric Restriction Preserves Mitochondrial Function in Senescence without Increasing Mitochondrial Biogenesis. *Cell Metabolism*. 2012 Dec 5;16(6):777-88.
20. Miller BF, **Robinson MM**^{2,3,4}, Reuland DJ, Drake JC, Peelor FF 3rd, Bruss MD, Hellerstein MK and Hamilton KL. Calorie restriction does not increase short-term or long-term protein synthesis. *Journal of Gerontol Biological Science Medical Science*. 2013 May;68(5):530-8.
21. Barazzoni R, Short KR, Asmann Y, Coenen-Schimke JM, **Robinson MM**^{2,3,4}, and Nair KS. Insulin fails to enhance mTOR phosphorylation, mitochondrial protein synthesis and ATP production in human skeletal muscle without amino acid replacement. *American Journal of Physiology Endocrinology Metabolism*. 2012 Nov 1;303(9):E1117-25.
22. Irving BA, **Robinson MM**^{2,3,4} and Nair KS. Age effect on myocellular remodeling: Response to exercise and nutrition in humans. *Ageing Research Reviews*. 2012 Jul;11(3):374-89.
23. Miller BF, **Robinson MM**^{2,3,4}, Bruss MD, Hellerstein MK and Hamilton KL. A comprehensive assessment of mitochondrial protein synthesis and cellular proliferation with age and caloric restriction. *Aging Cell*. 11: 150–161, 2012.
24. **Robinson MM**^{1,2,3,4,5}, Bell C, Peelor FF 3rd and Miller BF. β -adrenergic receptor blockade blunts post-exercise skeletal muscle mitochondrial protein synthesis rates in humans. *American Journal of Physiology-Regulatory Integrative Comparative Physiology*. 301: R327-34, 2011.
25. **Robinson MM**^{1,2,3,4,5}, Turner SM, Hellerstein MK, Hamilton KL and Miller BF. Long-term synthesis rates of skeletal muscle DNA and protein are higher during aerobic training in older humans than in sedentary young subjects but are not altered by protein supplementation. *The Journal of the Federation of American Societies for Experimental Biology*. 25(9):3240-9, 2011.
26. Miller BF, Ellis D, **Robinson MM**^{2,3,4}, Rivera JD, Kjaer M, and Langberg H. Measurement of skeletal muscle collagen breakdown by microdialysis. *Scandinavian Journal of Medicine and Science in Sports*. 21(6):e1-8, 2011.
27. **Robinson MM**^{1,2,3,4,5}, Richards JC, Hickey MS, Moore DR, Phillips SM, Bell C, and Miller BF. Acute β -adrenergic stimulation does not alter mitochondrial protein synthesis or markers of mitochondrial

biogenesis in adult men. American Journal of Physiology-Regulatory Integrative Comparative Physiology. 298: R25-33, 2010.

28. **Robinson MM**^{1,2,3,4,5}, Hamilton KL, and Miller BF. The interactions of some commonly consumed drugs with mitochondrial adaptations to exercise. Journal of Applied Physiology. 107(1):8-16, 2009.
29. Jacobs RA, Donovan EL, and **Robinson MM**^{1,2,3,4}. Parallels of snipe hunting and ROS research: the challenges of studying ROS and redox signaling in response to exercise. Journal of Physiology. 587(Pt 5):927-8, 2009.
30. Clark ML, Peel JL, Burch JB, Nelson TL, **Robinson MM**^{2,3,4}, Conway S, Bachand AM, and Reynolds SJ. Impact of improved cookstoves on indoor air pollution and adverse health effects among Honduran women. International Journal of Environmental Health Research. 19(5):357-368 2009.

Books Chapters

1. Miller BF and **Robinson MM**. "Metabolism, Protein." In: Encyclopedia of Exercise Medicine in Health and Disease. Edited by Mooren FC and Skinner JS. Springer, New York. 1st Edition 2012.
2. Miller BF and **Robinson MM**. Chapter 9: "Assessment of Protein Status in Athletes." In Nutritional assessment of athletes. Edited by Driskell JA and Wolinsky I. Boca Raton: CRC Press. 2nd Edition 2011.

Manuscripts in Review

1. Gnaiger E, et al. Mitochondrial respiratory states and rates. MitoFit Preprint Archives. 2019.
Doi: 10.26124/mitofit:190001.v2
A joint position manuscript to harmonize mitochondrial terminology in preprint server prior to journal submission (anticipated Cell Metabolism).

Presented Abstracts

1. Stierwalt HD*, Ehrlicher SE, **Robinson MM** and Newsom SA. Regulation of skeletal muscle long chain acyl-coenzyme A synthetases by diet and exercise. American College of Sports Medicine Northwest Annual Meeting – 2019
-Received best poster award-
2. Stierwalt HD*, Bergman BC, Ehrlicher SE*, **Robinson MM** and Newsom SA. Transient activation of skeletal muscle Rac1 in obesity-related insulin resistance. American Diabetes Association Scientific Sessions – 2018
3. Ehrlicher SE*, Stierwalt HD*, Newsom SA and **Robinson MM**. Mitochondrial function in high fat fed and exercise trained mice unable to induce autophagy. American Diabetes Association Scientific Sessions – 2018
4. Stierwalt HD*, Ehrlicher SE*, **Robinson MM** and Newsom SA. Post-exercise insulin sensitivity is unrelated to metabolic flexibility or fat oxidation capacity in lean humans. Integrative Physiology of Exercise – 2018
5. Stierwalt HD*, Bergman BC, **Robinson MM** and Newsom SA. Regulation of skeletal muscle Rac1 by lipids in obesity-related insulin resistance. American College of Sports Medicine Northwest Annual Meeting – 2018
-Received best poster award-
6. Ehrlicher SE*, S Dasari, Newsom SA and **Robinson MM**. Skeletal muscle mitochondrial remodeling and autophagy activation in high fat fed and exercise trained mice. American College of Sports Medicine Northwest Annual Meeting – 2018

7. Stierwalt HD*, Newsom SA and **Robinson MM**. High fat diet-induced insulin resistance is not associated with impaired mitochondrial respiration or increased H₂O₂ emission in mouse skeletal muscle. American Diabetes Association Scientific Sessions – 2017
8. Ehrlicher SE*, Newsom SA and **Robinson MM**. Long-term rates of skeletal muscle mitochondrial protein synthesis are increased with high fat feeding but not changed with insulin sensitizing treatment in mice. American Diabetes Association Scientific Sessions – 2017
9. Sather BK**, Ehrlicher SE*, Stierwalt HD*, **Robinson MM** and Newsom SA. Impaired cytoskeletal signaling as a mechanism of skeletal muscle insulin resistance. Oregon State University Celebration of Undergraduate Excellence – 2017
10. Burney ER**, Sather BK**, Ehrlicher SE*, Stierwalt HD*, Newsom SA and **Robinson MM**. Skeletal muscle autophagy remains responsive to insulin despite the development of insulin resistance. Oregon State University Celebration of Undergraduate Excellence – 2017
11. Stierwalt HD*, Bergman BC, **Robinson MM** and Newsom SA. Identifying lipids as regulators of skeletal muscle Rac1 using targeted lipidomics. Mayo Metabolomics Symposium – 2017
12. Ehrlicher SE*, S Dasari, Newsom SA and **Robinson MM**. Intact autophagy signaling and remodeling of the mitochondrial proteome towards enhanced lipid metabolism in skeletal muscle of high fat fed mice. Mayo Metabolomics Symposium – 2017
13. Sather BK**, Ehrlicher SE*, Burney ER**, **Robinson MM** and Newsom SA. Characterizing and comparing cellular respiration and mitochondrial metabolism in C2C12 and L6 myoblasts. Oregon State University College of Science Awards – 2017
14. **Robinson MM**, Konopka AR, Johnson ML, Shankarappa M, Esponda RR, Lanza IR and K. Sreekumaran Nair. Insulin Sensitivity and Mitochondrial Respiration following 12 Weeks of High-Intensity Aerobic Interval, Resistance, or Combined Training in 18- to 30-Year-Old Humans. 2015 Annual Meeting for the American Diabetes Association.
15. **Robinson MM**, Konopka AR, Jakaitis DR and KS Nair. Short-term insulin deprivation activates skeletal muscle autophagy but not proteasome activity in streptozotocin diabetic mice. Presented at 2014 Annual Meeting for the American Diabetes Association.
16. **Robinson MM**, Klaus KA, Morse DM and KS Nair. Decreased Insulin Sensitivity During Essential Amino Acid Infusion Does Not Change Skeletal Muscle Protein Synthesis in Healthy Adults. Presented at 2013 Annual Meeting for the American Diabetes Association.
17. **Robinson MM**, Turner SM, Hamilton KH, and BF Miller. Skeletal Muscle DNA and Mixed Muscle Protein Synthesis Rates with Endurance Training in Aging Humans. Presented at the National Meeting for the American College of Sports Medicine and Winter Meeting for the Rocky Mountain Chapter of the American College of Sports Medicine, 2011.
18. **Robinson MM**, Turner SM, Hellerstein MK and BF Miller. D₂O consumption to determine muscle protein synthesis rates in response to post-exercise nutrition in adults. Presented at the Winter Meeting for the Rocky Mountain Chapter of the American College of Sports Medicine, 2010.
19. **Robinson MM**, Turner SM, Hellerstein MK and BF Miller. D₂O consumption to determine muscle protein synthesis rates in response to post-exercise nutrition in adults. Presented at the Colorado State University Research Colloquium on Healthy Aging, 2009.
20. **Robinson MM**, Bell C, Richards JC, Voyles WF and Miller BF. β -adrenergic and whole body protein turnover. Presented at the Annual Meeting of the American College of Sports Medicine, 2009.

21. **Robinson MM**, Richards JC, Bell C, and Miller BF. β -adrenergic stimulation does not increase transcription of genes involved in mitochondrial biogenesis in humans. Presented at the Winter Meeting for the Rocky Mountain Chapter of the American College of Sports Medicine, 2009.
22. **Robinson MM**, Ellis D, Langberg H, Kjaer MJ, and Miller BF. Effect of acute resistance exercise on collagen breakdown in human skeletal muscle using microdialysis. Presented at the Winter Meeting for the Rocky Mountain Chapter of the American College of Sports Medicine, 2008.
23. **Robinson MM**, Stevens JR, Hickey MS, and Nelson TL. The Effect of Omega-3 Fatty Acid Supplementation on a Novel Marker of Inflammation In Healthy Adults. Presented at the Winter Meeting for the Rocky Mountain Chapter of the American College of Sports Medicine, 2007.
24. **Robinson MM**, Stevens JR, Hickey MS, and Nelson TL. Long Term Dietary Omega-3 Fatty Acid Intake Does Not Change Soluble Interleukin-6 Receptor In Healthy Adults. Presented at the Winter Meeting for the Rocky Mountain Chapter of the American College of Sports Medicine, 2006.

Invited Presentations

1. "Mitochondrial protein adaptations to obesity and exercise" Nemours Lectures on Pediatric Research, Nemours Children's Specialty Care, Jacksonville, FL, Sept 2019.
2. "High-fat diet and exercise on skeletal muscle mitochondria: What's the stronger influence for adaptations?" Nutrition Graduate Seminar, Oregon State University, Corvallis, OR, April 2019.
3. "Impact of exercise and insulin resistance on the mitochondrial proteome." College of Public Health and Human Sciences Seminar, Oregon State University, Corvallis, OR, Feb 2018.
4. "Skeletal muscle mitochondrial adaptations to exercise and obesity: What do we know and why do we care?" Nutrition Graduate Seminar, Oregon State University, Corvallis, OR, May 2018.
5. "Regulation of the mitochondrial proteome with exercise and insulin resistance." College of Pharmacy Seminar, Oregon State University, Corvallis OR, May 2018.
6. "Transcriptional and translational regulation of metabolic benefits of exercise." NW American College of Sports Medicine Winter Conference, Bend, OR, Feb 2018.
7. "Transcriptional and translational regulation of metabolic benefits of exercise." European Association for the Study of Diabetes Annual Conference, Portugal, Sept 2017.
8. "Translational regulation of metabolic adaptations to exercise with aging" European Initiative for Exercise is Medicine Annual Conference, Portugal, Sept 2017.
9. "Mitochondria, exercise and insulin resistance: Who's on first?" Nutrition Graduate Seminar, Oregon State University, Corvallis, OR, April 2016.
10. "Amino acid kinetics using stable isotope tracers." Presented at Mayo Clinic Metabolomics Symposium, Mayo Clinic, Rochester MN, Oct 2016.
11. "Dissociation between training gains in insulin sensitivity and mitochondrial respiration following 12-weeks of high-intensity aerobic interval, resistance, or combined training in 18-30 and 65-80 year old humans." Presented at Mayo Clinic-Karolinska Institutet 21th Annual Meeting, Karolinska Insitutet, Stockholm Sweden, Sept 2015.
12. "Insulin Sensitivity and Mitochondrial Respiration Following 12-weeks of High-Intensity Aerobic Interval, Resistance, or Combined Training in 18-30 Year Old Humans." Presented at Minnesota Diabetes Research Meeting, Mayo Clinic, Rochester MN, May 2015.

13. "Short-term insulin deprivation activates skeletal muscle autophagy but not proteasome activity in streptozotocin diabetic mice." Presented at Mayo Clinic-Karolinska Institutet 20th Annual Meeting, Mayo Clinic, Rochester, MN, Sept 2014.
14. "Short-term insulin deprivation activates skeletal muscle autophagy but not proteasome activity in streptozotocin diabetic mice." Presented at Minnesota Diabetes Research Meeting, Mayo Clinic, May 2014.
15. "Synthesis of Muscle Protein Sub-fractions with Insulin and Essential Amino Acids." Presented at Endocrine Research Unit Seminar, Mayo Clinic, Rochester, MN, March 2014.
16. "Molecular Regulation of Skeletal Muscle Protein in Response to an Aerobic, Resistance or Combined Exercise Program." Presented at Molecular Basis of Proteins in Human Health and Performance Symposium, Iowa State University Ames IA, May 2013.
17. "Skeletal Muscle Protein Turnover in Response to Insulin and Amino Acids." Presented at Endocrine Research Unit Seminar, Mayo Clinic, Rochester, MN, April 2013.
18. "Application of D2O labeling in aging research." Presented at Aging Research Seminar Series, University of Minnesota Medical School, MN, Sept 2010.
19. "D2O consumption to determine muscle protein synthesis rates in response to post-exercise nutrition in adults". Presented at the Winter Meeting for the Rocky Mountain Chapter of the American College of Sports Medicine, Golden, CO 2010.
20. "How can we assess and slow muscle loss with age?" Presentation on the use of labeled water to measure long-term synthesis processes for the Annual Meeting for Grant Makers in Aging, Denver, CO 2009.
21. "What else can we measure? An exercise physiologist's toolbox." Lectures on methodology presented for HES405 Exercise Testing and Instrumentation at Colorado State University, Fort Collins.
22. "Effect of acute resistance exercise on collagen breakdown in human skeletal muscle using microdialysis" Presented at the Winter Meeting for the Rocky Mountain Chapter of the American College of Sports Medicine, Estes Park, CO Feb 2008.
23. "The Effect of Omega-3 Fatty Acid Supplementation on a Novel Marker of Inflammation In Healthy Adults." Presented at the 2007 Epidemiological Exchange, Denver, CO, 2007.

Media Appearances

Print/Online

1. New York Times: The Best Exercise for Aging Muscles
Gretchen Reynold. NBC. Posted: Mar 23 2017
2. CBC News: 'Get out of your comfort zone:' Interval training benefits extend to aging
Amina Zafar. CBC News. Posted: Mar 09, 2017
3. CNN: Interval training exercise could be a fountain of youth (March 2017)
Susan Scutti. CNN. Posted Mar 8 2017
4. Optimizing Mitochondrial Production
Science Daily. Mar 7 2017.
5. Age Stronger: Age Reversal – Doing What's Difficult.
Michael Gardner. Age Stronger. Posted Mar 2017.

Radio

6. Canadian Broadcast Corporation: Quirks and Quarks (March 2017)
7. KVMR Radio: Best of Health (April 2017)

Grant Funding

Current

K01 DK103829 (PI: Robinson) 04/2015-04-2020
NIH/NIDDK Career Development Award
Title: *Regulation of the mitochondrial proteome by autophagy during insulin resistance*
Purpose: Career development award for mitochondrial proteome remodeling.
Role: Principal Investigator
Direct Funds: \$532,866

Industry Partner Research Award (PI: Lim) 12/2018-06/2021
Title: *Sensory mechanisms underlying preabsorptive glycemic responses*
Purpose: The goal of this collaborative project is to identify mechanisms responsible for the cephalic-phase insulin response following starch ingestion.
Role: Consultant
Direct Funds: \$418,075

John. C. Erkkila, M.D. Endowment for Health and Human Performance 07/2019-06/20
(PI: Robinson/Newsom)
Title: *Use of exercise to restore mitochondrial protein turnover in obesity*
Purpose: To identify impairments in mitochondrial protein turnover as a consequence of obesity that can be reversed by exercise activity.
Role: Co-Principal Investigator
Direct Funds: \$22,500

Pending

R03 DK121022 – A1 (PI: Robinson) Submitted 03/2019
NIH/NIDDK
Title: *Targeted Remodeling of the mitochondrial proteome with exercise and insulin resistance*
Purpose: To determine impact of obesity and exercise on mitochondrial protein abundance and function.
Role: Principal Investigator
Requested funds: \$218,506

Medical Research Foundation New Investigator Grant (PI: Robinson) Submitted 5/2019
Title: *Regulation of mitochondrial ETF with obesity and exercise training*
Purpose: To determine regulation of lipid oxidation by mitochondrial ETF due to exercise and obesity.
Role: Principal Investigator
Requested Funds: \$40,000

Research Equipment Reserve Fund (PI: Franco) Submitted 03/2019
Oregon State University
Title: *XFe Analyzer*
Purpose: Collaborative equipment grant for mitochondrial respiration system.
Role: Supporter
Requested Funds: \$137,152

Completed

John. C. Erkkila, M.D. Endowment for Health and Human Performance 07/2017-06/2018
(PI: Newsom/Robinson)
Title: *Use of Exercise to Understand and Reverse Obesity-related Insulin Resistance*
Purpose: To investigate mechanisms of exercise improvements to skeletal muscle insulin signaling in humans.
Role: Co-Principal Investigator

Direct Funds: \$25,000

Collins Medical Trust Medical Research Grant (PI: Newsom/Robinson) 11/2016-11/2017
Title: *Novel and reversible mechanisms of skeletal muscle insulin resistance in human obesity*
Purpose: To identify impairments in insulin-stimulated cytoskeletal remodeling in skeletal muscle of obese humans and to determine whether a single session of exercise is sufficient to reverse these impairments.
Role: Co-Principal Investigator
Total Funds: \$30,000

Research Equipment Reserve Fund (PI: Iwaniec) 05/2017
Oregon State University
Title: *Promethian Metabolic Phenotyping System*
Purpose: Collaborative equipment grant for mouse metabolic system.
Role: Supporter
Requested Funds: \$150,093

Research Award (PI Robinson/Newsom) 10/2016
Cambridge Isotope Laboratories
Purpose: Provides funding to purchase isotope for research.
Role: Co-Principal Investigator
Funds: \$2500

Stephenson Family Fellowship 07/2013-04/2014
Private funding to Mayo Clinic
Purpose: Provide stipend for post-doctoral fellows in endocrinology research.
Role: Postdoctoral Fellow (Research)
Funds: Stipend

T32 DK007352 (PI: Eberhardt) 06/2011-06/2013
NIH/NIDDK
Training Grant Endocrinology, Diabetes, Metabolism and Nutrition
Purpose: Post-doctoral fellowship support.
Role: Postdoctoral Fellow (Research)
Funds: Stipend

Doctoral Student Grant (PI: Robinson) 06/2010-06/2011
Gatorade Sports Science Institute
Nutritionally Stimulated Mitochondrial Biogenesis Following Exercise
Purpose: To investigate post-exercise nutrition and formation of new mitochondria
Role: PI (Doctoral student)
Funds: \$3000

Not Funded – Submitted at Oregon State University

R01 (PI : Kioussi/Stevens) Submitted 10/2018
NIH
Title: *Identification of gene regulatory networks of myogenic and adipogenic cells in metabolic syndrome*
Purpose: Determine interplay of myogenic transcription factors and susceptibility to metabolic syndrome
Role: Co-Investigator

R03 DK121022 (PI: Robinson) Submitted 05/2018
NIH/NIDDK
Title: *Targeted Remodeling of the mitochondrial proteome with exercise and insulin resistance*
Purpose: To determine impact of obesity and exercise on mitochondrial protein abundance and function.
Role: Principal Investigator
Requested funds: \$220,500

Joint Interdisciplinary Research Grant Program (PI: Robinson/Maier) Submitted 05/2018
Division of Health Sciences and Linus Pauling Institute
Title: *Isotope tracer methods for the analysis of in-vivo synthetic molecules*
Purpose: To establish new collaborative research of isotope tracers at OSU
Role: Co-Principal Investigator
Requested Funds: \$40,000

Collins Medical Trust Medical Research Grant (PI: Robinson/Newsom) Submitted 12/2018
Title: *Exercise as an approach to reverse suppression of mitochondrial protein breakdown in obesity*
Purpose: To identify impairments in mitochondrial protein turnover as a consequence of obesity that can be reversed by exercise activity.
Role: Co-Principal Investigator
Requested Funds: \$30,000

Nomination for Pew Scholars Program in the Biomedical Sciences (PI: Robinson) Submitted 06/2018
Title: *Remodeling of the mitochondrial proteome with obesity*
Purpose: To identify modifications of mitochondrial proteins contributing to insulin resistance.
Role: Principal Investigator

Medical Research Foundation New Investigator Grant (PI: Robinson) Resubmitted 11/2018
Title: *Exercise-induction of autophagy and remodeling of the intramuscular lipid pool with obesity*
Purpose: To identify contribution of autophagy to intramuscular lipid abundance with exercise and obesity.
Role: Principal Investigator
Requested Funds: \$40,000

Medical Research Foundation New Investigator Grant (PI: Robinson) Resubmitted 08/2018
Title: *Exercise-induction of autophagy and remodeling of the intramuscular lipid pool with obesity*
Purpose: To identify contribution of autophagy to intramuscular lipid abundance with exercise and obesity.
Role: Principal Investigator
Requested Funds: \$40,000

Medical Research Foundation New Investigator Grant (PI: Robinson) Submitted 05/2018
Title: *Exercise-induction of autophagy and remodeling of the intramuscular lipid pool with obesity*
Purpose: To identify contribution of autophagy to intramuscular lipid abundance with exercise and obesity.
Role: Principal Investigator
Requested Funds: \$40,000

D. SERVICE

Program, School and College

- | | |
|------|---|
| 2017 | Committee Member Academic Advisor Search
<i>Evaluated candidates to fill advisor position in Office of Student Success</i> |
| 2018 | Host Laboratory CPHHS Undergraduate Research Program
<i>Provided 2-part research learning opportunity for undergraduate students</i> |
| 2019 | Committee Member Internal Oversight Committee for Orbitrap Lumos
<i>Provide guidance and evaluation of mass-spectrometry core equipment</i> |
| 2019 | Undergraduate Scholarship Reviewer CPHHS Scholarship Committee
<i>Review scholarship applications and submit recommendations for awards.</i> |

University

2018 LARC Advisory Committee Member | Laboratory Animal Resource Center
Provide guidance and evaluation of mouse research to attending veterinarian.

Profession

Regular Reviewer for Professional Journals

Journal of Applied Physiology (Editorial Advisory Board 2017-Current)

Ad hoc Reviewer for Professional Journals

American Journal of Physiology: Endocrinology and Metabolism
American Journal of Physiology: Heart and Circulatory Physiology
Diabetes
European Journal of Sport Science
Experimental Gerontology
Experimental Physiology
FASEB Journal
Frontiers in Physiology
Journal of Cellular Physiology
Journal of Gerontology: Biological Sciences
Journal of Nutrition
Metabolic Syndrome and Related Disorders
Obesity
Physiology and Behavior
PLOS One

Regular Reviewer for Granting Agencies

2017-current Mayo Clinic Regional Metabolomics Research Core

Ad hoc Reviewer for Granting Agencies

2017 Washington University Diabetes Research Center
2017 American Egg Board's Nutrition Center

Other Professional Service

2017 Research Symposium Chair | European Diabetes Association
Chaired "Impact of exercise on metabolism" session at the annual EASD meeting in Lison, Portugal

2018 Poster Presentation Judge | American College of Sports Medicine Northwest
Evaluated doctoral student research poster presentations at the annual meeting in Bend, OR

2019 Poster & Oral Presentation Judge | American College of Sports Medicine Northwest
Evaluated doctoral student research oral and poster presentations at the annual meeting in Bend, OR

E. AWARDS

2015	Mayo/Karolinksa Insitutet Annual Meeting Travel Award
2015	American Diabetes Association Focus on the Fellows Award
2011	Summer Institute on Aging Research National Institute of Aging
2011	Graduate Student Writing Award American Kinesiology Association
2010	1 st Place Student Oral Abstract Contest Rocky Mountain Chapter of the American College of Sports
2010	American Physiological Society, Carolyn tum Suden/Francis A. Hellebrandt Professional Opportunity Award
2009	Fellow, Grantmakers in Aging, Travel Award for Annual Conference and presentation invitation
2009	3 rd Place Healthy Aging Scientific Poster Contest Colorado State University Research Colloquium
2009	American Physiological Society, Travel Award for Professional Skills Course: Writing and Reviewing for Scientific Journals.
2008	1 st Place Student Oral Abstract Contest Rocky Mountain Chapter of the American College of Sports
2007	5 th Place Student Abstract Contest Rocky Mountain Chapter of the American College of Sport
2007	2 nd Place Oral Abstract Contest Epidemiological Exchange
2003	Dean's List for College of Applied Human Sciences