Zachary S. Clayton, Ph.D.

PERSONAL STATEMENT

I am an Assistant Professor of Medicine with research concentrations in cardio-oncology (the crosstalk between cancer, cancer treatments, aging and the cardiovascular system) and women's health. I direct a laboratory within the Division of Geriatric Medicine, and I am a member of the IMAGE (Investigations in Metabolism, Aging, Gender and Exercise) Group, the Ludeman Family Center for Women's Health Research, the Colorado NORC (Nutrition and Obesity Research Center) and the Colorado Cancer Center. My laboratory employs preclinical-to-clinical translational experimental approaches to answer research questions, spanning from cell models to rodent models, to studies in human participants. I have been continuously NIH-funded since 2020 and I have received pilot grant funding through the CU Cancer Center, the Ludeman Family Center for Women's Health Research, the Colorado SCORE (Scientific Center of Research Excellence in women's health), and the Colorado Clinical Translational Sciences Institute.

CURRENT POSITION

Assistant Professor May 2024 to present
Division of Geriatric Medicine, University of Colorado School of Medicine

Graduate Faculty November 2024 to present
Integrated Physiology, University of Colorado School of Medicine

Assistant Professor Adjunct November 2024 to present
Department of Integrative Physiology, University of Colorado Boulder

CONTACT INFORMATION

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EDUCATION

San Diego State University, San Diego, CA
B.S., Nutrition and Dietetics May 2012

San Diego State University, San Diego, CA
M.S., Nutritional Sciences
M.S., Exercise Physiology December 2013

University of Oregon, Eugene, OR
Ph.D., Human Physiology June 2018

ACADEMIC APPOINTMENTS

Undergraduate Research Assistant 2010-2012
San Diego State University School of Exercise and Nutritional Sciences, San Diego, CA

Graduate Research Assistant 2012-2013
San Diego State University School of Exercise and Nutritional Sciences, San Diego, CA

Graduate Research Assistant 2014-2018
University of Oregon Department of Human Physiology, Eugene, OR

Postdoctoral Research Fellow 2018-2022
University of Colorado Boulder Department of Integrative Physiology, Boulder, CO

Assistant Research Professor 2022-2024
University of Colorado Boulder Department of Integrative Physiology, Boulder, CO

Assistant Laboratory Director 2022-2024
Integrative Physiology of Aging Laboratory, University of Colorado Boulder, Department of Integrative Physiology, Boulder, CO

Assistant Professor 2024-Present
Division of Geriatric Medicine, University of Colorado Anschutz Medical Campus School of Medicine

Adjunct Assistant Professor 2024-Present
Integrative Physiology of Aging Laboratory, University of Colorado Boulder, Department of Integrative Physiology, Boulder, CO

HONORS AND AWARDS

Kasch-Boyer Endowed Scholarship in Exercise and Nutritional Sciences, San Diego State University 2013

Campbell Poster Award Finalist. American Physiological Society. Endocrinology and Metabolism Section, Experimental Biology. Boston, MA 2015

Eugene and Clarissa Evonuk Memorial Graduate Fellowship in Environmental, Cardiovascular, or Stress Physiology. Department of Human Physiology, University of Oregon 2016

Food Studies Graduate Research Grant. University of Oregon 2016

International Union of Physiological Sciences (IUPS) travel award from the American Physiological Society of the 38th annual IUPS Congress, Rio de Janeiro, Brazil 2017

American Physiological Society Select manuscript award. Clayton et al. "Short-term thermoneutral housing alters glucose metabolism and markers of adipose tissue browning in response to a high fat diet in lean mice." 2018

American Physiological Society, Cardiovascular Section, Outstanding Postdoctoral Trainee, 1st place. 2020

American Physiological Society, Cardiovascular Section, Research Recognition Award. 2021

North American Artery society, Career Development Award Lecture. 1st place. 2024

Ludeman Family Center for Women's Health Research Early-Career Research Award 2024

	American Physiological Society Select manuscript award. Bernaldo de Quiros et al. "The bottlenose dolphin (Tursiops truncates): A novel model for studying healthy Arterial aging."	2024
	Best of *Hypertension* (American Heart Association) paper in basic science. "Cellular senescence contributes to large elastic artery stiffening and endothelial dysfunction with aging: Amelioration with senolytic treatment"	2024
	Journal of Applied Physiology Early Career Editorial Program Fellow	2024
	Aging Cell Top 10 Most Cited and Top 10 Most Read Papers of 2024 "Intermittent Supplementation with Fisetin Improves Arterial Function in Old Mice by Decreasing Cellular Senescence"	2025
	University of Colorado Anschutz Medical Campus, Department of Medicine, Rising Star Award	2025
INVITED NATIONAL PRESENTATIONS	**Northwest Biology Instructor's Organization, Eugene, OR.** Title: Do feedback delivery methods improve future writing performance?	2016
	Washington State University, Department of Kinesiology graduate seminar series. Title: Translational studies of vascular aging – targeting the hallmarks of aging to achieve optimal function.	2021
	Journal of Physiology – Virtual Journal Club. Title: Lifelong voluntary aerobic exercise prevents age- and Western-diet induced vascular dysfunction, mitochondrial oxidative stress, and inflammation in mice.	2021
	Medical College of Wisconsin, Cardio-Oncology seminar series. Title: Vascular dysfunction with the common anthracycline chemotherapeutic agent doxorubicin: Determining underlying mechanisms to inform future therapeutic strategies.	2021
	Experimental Biology, Philadelphia, PA. Emerging Topics in the Microcirculation. Title: Accelerated vascular aging induced by the common chemotherapeutic agent doxorubicin: Understanding underlying mechanisms to inform future therapeutic strategies.	2022
	Experimental Biology, Philadelphia, PA. Physiologists in Industry Committee symposium. Title: Basic mechanisms (potential therapeutic targets) of anthracycline chemotherapy-mediated vascular dysfunction.	2022
	Boston University School of Medicine's Whitaker Cardiovascular Institute Seminar Series. Title: Targeting cellular senescence to improve vascular aging.	2022

	University of Utah Nora Eccles Harrison Cardiovascular Research and Training Institute Seminar Series. Title: Accelerated vascular aging induced by common chemotherapeutic agent: Understanding underlying mechanisms to inform future therapeutic strategies.	2023
	North American Artery annual meeting. Title: Translational studies of early vascular aging induced by chemotherapy treatment: Elucidating underlying mechanisms to inform future clinical therapies.	2024
	Arteriosclerosis, Thrombosis & Vascular Biology (American Heart Association). Vascular Discovery: From Genes to Medicine 2024 Scientific Sessions. Session Title: Cardio-oncology: the Role of the Vasculature.	2024
	American Physiological Society's Environmental and Exercise Section's Trainee Committee Workshop on "Crafting a Research Statement, CV, and Teaching Philosophy". Role: Panelist.	2025
	American Physiological Society's Women in Physiology Committee's Career and Professional Development Networking Workshop. Role: Panelist.	2025
	American Heart Association Basic Cardiovascular Council Early Career Committee Seminar on "The Usage of -Omics Techniques in Research". Title: Leveraging -Omics Techniques to Study the Physiology of Aging.	2025
INVITED INTERNATIONAL PRESENTATIONS	**International Union of Physiological Sciences (IUPS), 38th annual IUPS Congress.** Title: The use of team-based learning and rubrics to guide student feedback.	2017
	World Congress in Microcirculation. Symposium on anti-cancer treatments and endothelial dysfunction: mechanisms and clinical implications. Title: Accelerated vascular aging induced by common chemotherapeutic agents: Understanding underlying mechanisms to inform future therapeutic strategies.	2023
	Global Cardio-oncology Summit. Symposium on Cancer Therapies, Inflammation and Vascular Dysfunction Title: Doxorubicin Chemotherapy Induced Vascular Damage and Senolytics.	2024
INVITED INTRAMURAL PRESENTATIONS	**University of Colorado Boulder, Department of Integrative Physiology Colloquium Series.** Title: Cellular senescence: A novel therapeutic target to improve vascular function with aging.	2023
	University of Colorado Anschutz Medical Campus, Nutrition & Obesity Research Center & Cancer Center workshop on Cancer Metabolism. Title: Targeting cellular senescence with dietary strategies to improve vascular function following doxorubicin chemotherapy treatment.	2023

	Rocky Mountain Geriatrics Conference and Community Research Symposium. Title: Today's cancer patient is tomorrow's cardiovascular patient – Getting to the heART(ery) of the matter.	2024
	University of Colorado Cancer Center's Molecular and Cellular Oncology Program annual retreat. Title: Translational studies of cancer- and chemotherapy-related vascular aging: Using mechanistic approaches to inform future therapeutic strategies	2024
	University of Colorado Anschutz Medical Campus, Department of Medicine, Integrated Physiology Graduate Program seminar series. Title: Early vascular aging with common cancer therapeutics: Understanding underlying mechanisms to inform future therapeutic strategies	2024
	University of Colorado Anschutz Division of Geriatric Medicine and VA Eastern Colorado GRECC Grand Rounds. Title: Today's cancer patient is tomorrow's cardiovascular patient – Getting to the heART(ery) of the matter.	2024
	Ludeman Family Center for Women's Health Research, Featured Scientist at the Ludeman Center's Annual Scientific Council	2025
	University of Colorado Anschutz Division of Geriatric Medicine and VA Eastern Colorado GRECC Grand Rounds. Title: Breast cancer and premature vascular aging: Current understanding and putative therapeutic strategies.	2025
	University of Colorado Anschutz Medical Campus Integrated Physiology Graduate Program Retreat. Title: The Clayton Lab – Understanding the influence of cancer and chemotherapy on large artery health	2025
INVITED CONFERENCE ABSTRACT PRESENTATIONS	**Experimental Biology**, Orlando, FL. Title: Primary prevention of Age- and western diet-associated vascular endothelial dysfunction by Voluntary aerobic exercise in mice: Role of mitochondrial oxidative stress	2019
	Experimental Biology, virtual meeting. Title: The commonly used Anthracycline chemotherapy drug doxorubicin impairs vascular Endothelial function via stimulation of mitochondrial superoxide.	2020
	Experimental Biology, virtual meeting. Title: Apigenin restores endothelial function by ameliorating oxidative stress, prevents foam cell formation, reverses aortic stiffening, and mitigates vascular inflammation with aging.	2021
	North American Artery, Iowa City, IW. Title: The natural senolytic fisetin protects against doxorubicin chemotherapy-induced endothelial cell senescence and arterial dysfunction in mice.	2023

PEER REVIEWED ORIGINAL RESEARCH MANUSCRIPTS

2015

1. **Clayton ZS,** Hobb K, Schelechi M, Hernandez LM, Barber A, Petrisko Y, Hooshmand S, Kern M. Influence of resistance training combined with daily consumption of an egg-based or bagel-based breakfast on risk factors for chronic diseases in healthy untrained individuals. *Journal of the American College of Nutrition.* 2015; Mar 18:1-7. doi:10.1080/07315724.2014.946622.

2016

2. **Clayton ZS**, Wilds GP, Mangum JE, Hocker AD, Dawson S. Do targeted written comments and rubric method of delivery affect performance on future human physiology lab reports? *Advances in Physiology Education*. 2016; Sep 40(3):359-364. doi: 10.1152/advan.00009.2016.

2018

3. **Clayton ZS,** McCurdy CE. Short-term thermoneutral housing alters glucose metabolism and markers of adipose tissue browning in response to a high fat diet in lean mice. *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology*. 2018; Oct 1; 315(4):R627-R637. doi: 10.1152/ajpregu.00364.2017.

2019

4. **Clayton ZS,** Fusco E, Kass L, Carpenter J, Hooshmand S, Hong MY, Kern M. Snack selection influences glucose metabolism, antioxidant capacity and cholesterol in healthy overweight adults: A randomized parallel arm trial. *Nutrition Research*. 2019; May; 65:89-98. doi: 10.1016/j.nutres.2019.03.002.

5. Ely BR, **Clayton ZS,** McCurdy CE, Pfeiffer J, Needham KW, Comrada LN, Minson CT. Heat therapy improves glucose tolerance and adipose tissue insulin signaling in obese women with polycystic ovary syndrome. *American Journal of Physiology: Endocrinology and Metabolism*. 2019; Jul 1;317(1):E172-182. doi: 10.1152/ajpendo.00549.2018.

6. Rochester E, Wickman BE, Bell A, Simecka C, **Clayton ZS**, Hakkak R, Hooshmand S. A diet containing high- versus low-daidzein does not affect bone density and osteogenic gene expression in the obese Zucker rat model. *Food and Function.* 2019; 16; 10(10):6851-6857. doi: 10.1039/c9fo1292c.

2020

7. **Clayton ZS**, Hozman A, Braden B, Kern M. The effect of post-exercise oral glutamine supplementation on a subsequent cycling time to exhaustion test: A randomized double-blind placebo-controlled crossover trial. *International Journal of Applied Exercise Physiology*. 2020; 9(7):6-12.

8. Al-Tamimi AM, Petrisko M, Hong MY, Rezende L, **Clayton ZS**, Kern M. Honey does not adversely impact blood lipids of adult men and women: a randomized cross-over trial. *Nutrition Research*. 2020; 74:87-95. doi: 10.1016/j.nutres.2019.11.012.

9. Petrisko M, Kloss R, Bradley P, Birrenkott E, Spindler A, **Clayton ZS**, Kern M. Biochemical, anthropometric, and physiological responses to carbohydrate-restricted diets versus a low-fat diet in obese adults: a randomized crossover trial. *Journal of Medicinal Food*. 2020; 23(3):206-214. doi: 10.1089/jmf.2019.0266.

10. **Clayton ZS**, Brunt VE, Hutton DA, VanDongen NS, D'Alessandro A, Reisz JA, Ziemba BP, Seals DR. Doxorubicin-induced oxidative stress and endothelial dysfunction in conduit arteries is prevented by mitochondrial-specific antioxidant treatment. *Journal of the American College of Cardiology: CardioOncology.* 2020; 2(3): 475-488. doi: 10.1016/j.jaccao.2020.06.010.
Accompanying editorial: Sawyer DB. *Journal of the American College of Cardiology: CardioOncology*. 2020; 2(3): 489-490.

11. Gioscia-Ryan RA, **Clayton ZS**, Fleenor BS, Eng JS, Johnson LC, Rossman MJ, Zigler MC, Evans TD, Seals DR. Late-life voluntary wheel running reverses age-related aortic stiffness in mice: a translational model for studying mechanisms of exercise-mediated arterial de-stiffening. *Geroscience.* 2020; 43(1):423-432. doi: 10.1007/s11357-020-00212-1.

2021

12. Gioscia-Ryan RA*, **Clayton ZS***, Zigler MC, Richey JJ, Cuevas LM, Rossman MJ, Battson ML, Ziemba BP, Hutton DA, VanDongen NS, Seals DR. Lifelong voluntary aerobic exercise prevents age- and Western diet-induced vascular dysfunction, mitochondrial oxidative stress, and inflammation in mice. *Journal of Physiology*. 2021; 599(3): 911-925. doi: 10.1113/JP280607. *Co-first authors.

13. **Clayton ZS**, Brunt VE, Hutton DA, Casso AG, Ziemba BP, Melov S, Campisi J, Seals DR. Tumor necrosis factor alpha-mediated inflammation and remodeling of the extracellular matrix underlies aortic stiffening induced by the common chemotherapeutic agent doxorubicin. *Hypertension*. 2021; 77(5):1581-1590. doi: 10.1161/HYPERTENSIONAHA.120.16759.

14. **Clayton ZS**, Hauffe L, Liu C, Kern M, Hong MY, Brasser SM, Hooshmand S. Chronic ethanol consumption does not reduce true bone density in male Wistar rats. *Alcohol*. 2021; 93:17-23. doi: 10.1016/j.alcohol.2021.02.003.

15. Brunt VE, Casso AG, Gioscia-Ryan RA, Sapinsley ZJ, Ziemba BP, **Clayton ZS**, Bazzoni AE, VanDongen NS, Richey JJ, Hutton DA, Zigler MC, Nielson AP, Davy KP, Seals DR. The gut microbiome-derived metabolite trimethylamine N-oxide induces aortic stiffening and increases systolic blood pressure with aging in mice and humans. *Hypertension*. 2021; 78(2): 499-511. doi: 10.1161/HYPERTENSIONAHA.120.16895.

16. Cavalier AN*, **Clayton ZS***, Hutton DA, Wahl D, Reisz JA, Melov S, Campisi J, Seals DR, LaRocca TJ. Accelerated aging of the brain transcriptome by the common chemotherapeutic doxorubicin. *Experimental Gerontology.* 2021; 152:111451. doi: 10.1016/j.exger.2021.111451. *Co-first authors.

17. **Clayton ZS**, Hutton DA, Brunt VE, VanDongen NS, Ziemba BP, Casso AG, Greenberg NT, Mercer AN, Rossman MJ, Campisi J, Melov S, Seals DR. Apigenin restores endothelial function by ameliorating oxidative stress, reverses aortic stiffening, and mitigates vascular inflammation with aging. *American Journal of Physiology: Heart and Circulatory Physiology.* 2021; 321(1):H185-H196. doi: 10.1152/ajpheart.00118.2021.

2022

18. **Clayton ZS**, Gioscia-Ryan RA, Justice JN, Lubieniecki KL, Hutton DA, Rossman MJ, Zigler MC, Seals DR. Lifelong physical activity attenuates age- and Western-style diet-related declines in physical function and adverse changes in skeletal muscle mass and inflammation. *Experimental Gerontology.* 2022; 157:111632. doi: 10.1016/j.exger.2021.111632.

19. Burnsed-Torres ML, Wichmann TK, **Clayton ZS**, Hahn ME. Comparison of the Gauntlet Test with standard laboratory measures of aerobic fitness. *Journal of Strength Conditioning Research*. 2022; 36(2):386-391. doi: 10.1519/JSC. 0000000000003452.

20. Limbad C, Doi R, McGirr J, Ciotlos S, Perez K, **Clayton ZS**, Daya R, Seals DR, Campisi J, Melov S. Senolysis induced by 25-hydroxycholesterol targets CRYAB in multiple cell types. *iScience*. 2022; 25(2):103848. doi: 10.1016/j.isci.2022.103848.

21. Stone M, **Clayton ZS**, Buono MJ, Kern M. Exercise intensity influences plasma and sweat and amino acid concentrations: A crossover trial. *Journal of Sports Medicine and Physical Fitness*. 2022; 62(4):525-530. doi: 10.23736/S0022-4707.21.12134-6.

22. Casso AG, VanDongen NS, Gioscia-Ryan RA, **Clayton ZS**, Greenberg NT, Ziemba BP, Hutton DA, Nielson AP, Davy KP, Seals DR, Brunt VE. Initiation of 3,3-Dimethyl-1-butanol at midlife prevents endothelial dysfunction and attenuates in vivo aortic stiffening with ageing in mice. *Journal of Physiology*. 2022; 600(21):4633-4651. doi: 10.1113/JP283581.

2023

23. Wickman BE, **Clayton ZS**, Rochester E, Kern M, Hong MY, Liu C, Hooshmand S. Dietary intake of pistachios or mixed nuts results in higher systemic antioxidant capacity with minimal effects on bone in adolescent male rats. *Journal of Nutritional Science*. 2023; 12:e11. doi: 10.1017/jns.2022.121.

24. Casso AG, Venkatasubramanian R, Zigler MC, Lindquist AJ, Mahoney SA, Greenberg NT, VanDongen NS, Ludwig KR, Moreau KL, Seals DR, **Clayton ZS**. Female C57Bl/6N mice are a viable model of aortic aging in women. *American Journal of Physiology: Heart and Circulatory Physiology*. 2023; 324(6):H893-H904. doi: 10.1152/ajpheart.00120.2023.

25. **Clayton ZS**, Rossman MJ, Mahoney SA, Venkatasubramanian R, Maurer GS, Hutton DA, VanDongen NS, Greenberg NT, Casso AG, Ludwig KR,

Brunt VE, LaRocca TJ, Melov S, Campisi J, Seals DR. Cellular senescence contributes to large elastic artery stiffening and endothelial dysfunction with aging: Amelioration with senolytic treatment. *Hypertension.* 2023; 80:2072-2087. doi: 10.1161/HYPERTENSIONAHA.123.21392.

2024

26. Mahoney SA, Venkatasubramanian R, Darrah MA, VanDongen NS, Greenberg NT, Casso AG, Brunt VE, Melov S, Campisi J, Seals DR, Rossman MJ, **Clayton ZS**. Intermittent supplementation with fisetin improves arterial function in old mice by decreasing cellular senescence. *Aging Cell*. 2024; 23(3):e14060. doi: 10.1111/acel.14060.

27. Cavalier AN, **Clayton ZS**, Wahl D, Hutton DA, McEntee CM, Seals DR, LaRocca TJ. Protective effects of apigenin on cognitive function and the brain transcriptome with aging. *Mechanisms of Ageing and Development.* 2024; 217:111889. doi: 10.1016/j.mad.2023.111889.

28. Murray KO, Maurer GS, Gioscia-Ryan RA, Zigler MC, Ludwig KR, D'Alessandro A, Reisz JA, Rossman MJ, Seals DR, **Clayton ZS**. The plasma metabolome is associated with preservation of physiological function following lifelong aerobic exercise. *Geroscience*. 2024; 46(3):3311-3324. doi: 10.1007/s11357-024-01062-x.

29. Mahoney SA, VanDongen NS, Greenberg NT, Venkatasubramanian R, Rossman MJ, Widlansky ME, Brunt VE, Bernaldo de Quiros Y, Seals DR, **Clayton ZS**. Role of the circulating milieu in age-related arterial dysfunction: a novel ex vivo approach. *American Journal of Physiology: Heart and Circulatory Physiology*. 2024; 326(5): H1279-1290. doi: 10.1152/ajpheart.00014.2024.

30. Longtine AG, Greenberg NT, Gonzalez A, Lindquist A, VanDongen NS, Mahoney SA, Rahman G, **Clayton ZS**, Ziemba BP, Ludwig KR, Widlansky ME, Knight R, Seals DR, Brunt VE. Oral supplementation with short-chain fatty acid acetate ameliorates age-related arterial dysfunction in mice. *Aging Biology*, 2:e20240033, 2024. doi: 10.59368/agingbio20240033.

31. Bernaldo de Quiros Y, Mahoney SA, VanDongen NS, Greenberg NT, Venkatasubramanian R, Bossart G, **Clayton ZS**, Fernandez A, Seals DR. Bottlenose dolphins: Protection from circulating milieu-induced endothelial dysfunction with aging. *American Journal of Physiology: Heart and Circulatory Physiology*. 2024; 327(3):H660-H665. doi: 10.1152/ajpheart.00464.2024.

32. Bernaldo de Quiros Y, Arregui M, Arbelo M, Castro-Alonso A, Camara N, **Clayton ZS**, Consoli FMA, Fahlman A, Palomino-Schatzlein M, Puig-Lozano R, Rivero MA, Sierra E, Suarez-Santana CM, Tejedor M, Fernandez A. Allocation and use of body energy reservoirs in striped dolphins and Blainville's beaked whales: feed-forward cycle in negative energetic balance. *Marine Mammal Science.* 2024; e13200. doi: 10.1111/mms.13200.

2025

33. Darrah MA, Longtine AG, Greenberg NT, Mahoney SA, Venkatasubramanain R, VanDongen NS, Reisz JA, D'Alessandro D, Seals DR, Bernaldo de Quiros Miranda Y, **Clayton ZS**. The influence of a human macronutrient-matched diet on phenotypes in old mice. *Geroscience*. 2025; 47(2):2293-2308. doi: 10.1007/s11357-024-01423-6.

34. Singh P, Venktasubramanian R, Mahoney SA, Darrah MA, Ludwig KR, Zhang A, Kaneshiro K, Najera LE, Wimer L, Shanmugam MM, Morazan E, Trujillo M, Galligan J, Sarpong R, Seals DR, Kapahi P, **Clayton ZS**. Methylglyoxal-induced glycation stress promotes aortic stiffening: Putative mechanistic roles of oxidative stress and cellular senescence. *bioRxiv*. doi: 10.1101/2025.01.06.631561. Updated citation. *Aging (Albany NY)*. 2025; 17(11):2717-2743. doi: 10.18632/aging.206335.

35. Venkatasubramanian R, Mahoney SA, Hutton DA, VanDongen NS, Brunt VE, Greenberg NT, Longtine AG, Brandt L, Beyer AM, Melov S, Campisi J, Rossman MJ, Seals DR, **Clayton ZS**. Cellular senescence mediates doxorubicin chemotherapy-induced vascular endothelial dysfunction: translational evidence of prevention with senolytic treatment. *Am J Physiol: Heart and Circ Physiol*. 2025; 329(6):H1672-H1683. doi: 10.1152/ajpheart.00712.2025.
Accompanying editorial: Fleenor BS & Adil MS. *Am J Physiol: Heart and Circ Physiol.* 330(2):H367-H369.

36. Mahoney SA, Darrah MA, Venkatasubramanian R, Ciotlos S, Rossman MJ, Campisi J, Seals DR, Melov S, **Clayton ZS**. Late life supplementation of 25-hydroxycholesterol reduces aortic stiffness and cellular senescence in mice. *Aging Cell*. 2025; 24(8):e70118. doi: 10.1111/acel.70118.

37. Murray KO, Mahoney SA, Ludwig KR, Miyamto-Ditmon JH, VanDongen NS, Bankskota N, Herman AB, Seals DR, Mankowski RT, Rossman MJ, **Clayton ZS**. Intermittent supplementation with fisetin improves physical function and decreases cellular senescence in skeletal muscle with aging: A comparison to genetic clearance of senescent cells and synthetic senolytic approaches. *Aging Cell.* 2025; 24(8):e70114. doi: 10.1111/acel.70114

38. Venkatasubramanian R, Darrah MA, Mahoney SA, Hutton DA, Maurer GS, Ludwig KR, VanDongen NS, Greengerg NT, Longtine AG, Brunt VE, Singh P, Galligan JJ, Trujillo MN, Kapahi P, Melov S, Rossman MJ, Seals DR, **Clayton ZS**. Cellular Senescence Mediates Doxorubicin Chemotherapy-Induced Aortic Stiffening: Role of Glycation Stress. *Hypertension*. 2025; 82(10):1767-1777. doi: 10.1161/HYPERTENSIONAHA.125.25408

2026

39. Darvish S, Murray KO, Mahoney SA, VanDongen NS, Zigler MC, Flickinger MA, Craighead DH, Reisz JA, D'Alessandro A, **Clayton ZS**, Moreau KL, Seals DR, Rossman MJ. Late-onset menopause attenuates aortic stiffness in the postmenopausal period. *Hypertension.* 2026. In Press.

doi:10.1161/HYPERTENSIONAHA.125.26346.

40. Murray KO, Gioscia-Ryan RA, Justice JN, Santos-Parker JR, Bipsham N, Hutton DA, Miyamoto-Ditmon J, **Clayton ZS**, Chonchol M, Seals DR, Rossman MJ. Translational studies of chronic supplementation with a mitochondria-targeted antioxidant to improve physical function with aging. *Journal of Physiology.* In Press.

41. Greenberg NT, Longtine AG, Gonzalez A, VanDongen NS, Burnsed-Torres ML, Lubieniecki KL, Bernaldo de Quiros Y, Rossman MJ, Ziemba BP, **Clayton ZS**, You Z, Chonchol M, Knight R, Davy KP, Gioscia-Ryan RA, Seals DR, Brunt VE. Changes in the gut microbiome with healthy aging modulate arterial function in humans and mice. *American Journal of Physiology: Heart and Circulatory Physiology*. In Revision.

42. Izaias J, Sales A, Ono B, Rodrigues T, Silva G, Pentagna P, Albuquerque A, Folchini F, Consolim-Colombo F, Irigoyen M, Gonzales Rodrigues, Negrao C, Testa L, Rocha N, Nobrega A, Rocha H, Teixeira G, Miyaguti N, Silva A, Porcari A, Craighead D, **Clayton ZS**, Ludwig KR, Rossman MJ, Seals DR, Moll-Bernardes R, Sales A. Sympathetic neural activation and exercise intolerance in breast cancer survivors. *Journal of the American Heart Association,* In Press.

43. Mahoney SA, Mazan-Mamczarz K, Tsitsipatis D, VanDongen NS, Henry-Smith C, Okereke AN, Munk R, Darvish S, Murray KO, De S, Gorospe M, Seals DR, Rossman MJ, Herman AB, **Clayton ZS**. Senolytic treatment with fisetin reverses age-related endothelial dysfunction partially mediated by SASP factor CXCL12. *bioRxiv*. 2025. doi: 10.1101/2025.08.13.670216. In revision, *Aging Cell*.

SYSTEMATIC REVIEWS & META-ANALYSES

2019

1. Sajadi Hezaveh Z, Khalighi Sikaroudi M, Vafa MR, **Clayton ZS**, Soltani S. Effect of egg consumption on inflammatory markers: A systematic review and meta-analysis of randomized controlled trials. *Journal of Science Food and Agriculture*. 2019; 99(15):6663-6670. doi: 10.1002/jsfa.9903.

2020

2. Kolahdouz-Mohammadi R, Malekahmadi M, **Clayton ZS**, Sadat SZ, Pahlavani N, Sikaroudi MK, Soltani S. Effect of egg consumption on blood pressure: A systematic review and meta-analysis of randomized clinical trials. *Current Hypertension Reports*. 2020; 29; 22(3):24. doi: 10.1007/s11906-020-1029-5.

3. Khaligi Sikaroudi M, Soltani S, Kolahdouz-Mohammad R, **Clayton ZS**, Fernandez ML, Varse F, Shidfar F. The responses of different dosages of egg consumption on blood lipid profile: An updated systematic review and meta-analysis of randomized clinical trials. *Journal of Food Biochemistry*. 2020; 44(8):e13263. doi: 10.1111/jfbc.13263.

2021

4. Khalighi Sikaroudi M, Saraf-Bank S, **Clayton ZS**, Soltani S. A positive effect of egg consumption on macular pigment and healthy vision: a systematic review and meta-analysis of clinical trials. *Journal of Science Food and Agriculture*. 2021; 101(10):4003-4009. doi: 10.1002/jsfa.11109.

5. Kolahdouz-Mohammadi R, Soltani S, **Clayton ZS**, Salehi-Abargouei A. Sodium status is associated with type 2 diabetes mellitus: A systematic review and meta-analysis of observational studies. *European Journal of Nutrition*. 2021; 60(7):3543-3565. doi: 10.1007/s00394-021-02595-z.

2022

6. Malekahmadi M, Pahlavani N, Firouzi S, **Clayton ZS**, Shariful Islam SM, Rezaei SN. Effect of enteral immunomodulatory nutrition formula on mortality and critical care parameters in critically ill patients: A systematic review with meta-analysis. *Nursing in Critical Care*. 2022; 27(6):838-848. doi: 10.1111/nicc.12687.

2023

7. Soltani S, Sharifi-Zahabi E, Sangsefidi ZS, Vasmehjani AA, Meshkini F, **Clayton ZS**, Abdollahi S. The effect of resveratrol supplementation on biomarkers of liver health: A systematic review and meta-analysis of randomized controlled trials. *Phytotherapy Research*. 2023; 37(3):1153-1166. doi: 10.1002/ptr.7719.

8. Soltani S, Ashoori M, Dehghani F, Meshkini F, **Clayton ZS**, Abdollahi S. Effects of probiotics/synbiotics supplementation on body weight in patients with diabetes: A systematic review and meta-analysis of randomized controlled trials. *BMC Endocrine Disorders*. 2023; 23(1):86. doi: 10.1186/s12902-023-01338-x.

9. Ashoori M, Soltani S, Kolahdouz-Mohammadi R, Moghtaderi F, **Clayton ZS**, Abdollahi S. The effect of whole grape products on blood pressure and vascular function: A systematic review and meta-analysis of randomized clinical trials. *Nutrition, Metabolism and Cardiovascular Diseases*. 2023; 33(10):1836-1848. doi: 10.1016/j.numecd.2023.05.001.

10. Malekahmadi M, Pahlavani N, Heshmati J, **Clayton ZS**, Beigmohammadi MT, Navashenaq JG, Alavi-Naeini A. Effect of propolis supplementation on oxidative stress markers: A systematic review of randomized clinical trials. *Journal of Herbal Medicine.* 2023; 40:100679. doi: 10.1016/jhermed.2023.100679.

11. Putera HD, Doewes RI, Shalaby MN, Ramirez-Coronel AA, **Clayton ZS**, Abdelbasset WK, Murtzaev SS, Jalil AT, Rahimi P, Nattagh-Eshtivani E, Malekahmadi M, Pahlavani N. The effects of conjugated linoleic acid on inflammation, oxidative stress, body composition and physical performance: A comprehensive review of putative molecular mechanisms. *Nutrition and Metabolism (Lond)*. 2023; 20(1):35. doi: 10.1186/s12986-023-00758-9.

PEER REVIEWED REVIEW ARTICLES, COMMENTARIES & EDITORIALS

2017

1. **Clayton ZS,** Fusco E, Kern M. Egg consumption and heart health: A review. *Nutrition*. 2017; May 37:79-85. doi: 10.1016/j.nut.2016.12.014.

2. Ely BR, **Clayton ZS**, McCurdy CE, Pfeiffer J, Minson CT. Meta-inflammation and cardiometabolic disease in obesity: Can heat therapy help? *Temperature*. 2017; Nov 10;5(1):9-21. doi: 10.1080/23328940.2017.1384089.

2019

3. Frye J, **Clayton ZS**. Physical inactivity-induced insulin resistance: could alterations to the vasculature be to blame? *Journal of Physiology*. 2019; 597(2):375-376. doi: 10.1113/JP278347.

4. Hutton DA, **Clayton ZS.** Physical activity-related suppression of cancer growth: Is a transient increase in cytokine production required for tumor angiogenesis? *Journal of Physiology*. 2019; 597(16):4137-4138. doi: 10.1113/JP278347.

2020

5. Hutton DA, Cavalier AN, **Clayton ZS**. Cerebrovascular reactivity: a new frontier for measuring cognitive health in models of accelerated ageing? *Journal of Physiology*. 2020; 598(16):3323-3325. doi: 10.1113/JP279949.

2021

6. Mahoney SA, Ikoba AP, Rossman MJ, **Clayton ZS**. WAT do you NO? Addressing obesity-related cardiometabolic dysfunction. *Journal of Physiology*. 2021; 599(8):2137-2139. doi: 10.1113/JP281276.

7. Meshkini F, Soltani S, **Clayton ZS**, Abdollahi S. Letter to the editor on the article, "The effect of vitamin D on fibroblast growth factor 23: a systematic review and meta-analysis of randomized controlled trials". *European Journal of Clinical Nutrition*. 2021; 75(6):988-989. doi: 10.1038/s41430-021-00903.

2022

8. Venkatasubramanian R, Mahoney SA, **Clayton ZS**. Could angiotensin-II induced T-cell senescence exacerbate age-related vascular dysfunction. *Journal of Physiology*. 2022; 600(8):1821-1823. doi: 1113/JP282581.

9. Firouzi S, Pahlavani N, Navashenaq JG, **Clayton ZS**, Beigmohammadi MT, Malekahmadi M. The effect of vitamin C and Zn supplementation on the immune system and clinical outcomes in COVID-19 patients. *Clinical Nutrition Open Science.* 2022; 44:144-154. doi: 10.1016/j.nutos.2022.06.006.

10. Maurer GS and **Clayton ZS**. Favourable alterations in adipose remodelling induced by exercise training without weight loss: exploring the role of microvascular endothelial function. *Journal of Physiology*. 2022; 600(16):3647-3650. doi: 10.1113/JP283091.

2023

11. Ely BR, **Clayton ZS**, Minson CT. The effect of hot water immersion on glucose tolerance: Differences between acute and chronic exposures. *Temperature*. 2023; 10:4, 402-403. doi: 10.1080/23328940.2023.2190727.

2024

12. Wahl D and **Clayton ZS**. Peripheral vascular dysfunction and the aging brain. *Aging (Albany NY)*. 2024; 16(10):9280-9302. doi: 10.18632/aging.205877.

13. Craighead DH, **Clayton ZS**. "When does it end?" Continuing to align career goals and work-life balance after graduate training. *Journal of Applied Physiology*. 2024; 137(4):1057. doi: 10.1152/japplphysiol.00703.2024

14. Darrah MA, Darvish S, Mahoney SA, Murray KO, Ludwig KR, Venkatasubramanian R, You Z, Khosla S, Chonchol M, **Clayton ZS**, Rossman MJ. Targeting cellular senescence with fisetin for improving vascular function in older adults: A study protocol for a randomized, placebo-controlled clinical trial. *BMJ Trials.* In Revision.

INVITED PEER REVIEWED REVIEW ARTICLES & EDITORIALS

2020

1. Rossman MJ*, Gioscia-Ryan RA*, **Clayton ZS**, Murphy MP, Seals DR. Targeting mitochondrial fitness as a strategy for healthy vascular aging. *Clinical Science (Lond)*. 2020; 134(12): 1491-1519. doi: 10.1042/CS20190559. *Co-first authors

2021

2. **Clayton ZS**, Hutton DA, Mahoney SA, Seals DR. Anthracycline chemotherapy-mediated vascular dysfunction as a model of accelerated vascular aging. *Aging and Cancer*. 2021; 2(1-2):45-69.

2022

3. **Clayton ZS**, Craighead DH, Darvish S, Coppock M, Ludwig KR, Brunt VE, Seals DR, Rossman MJ. Promoting healthy cardiovascular aging: emerging topics. *Journal of Cardiovascular Aging*. 2022; 2:43. doi: 10.20517/jca.2022.27.

4. **Clayton ZS**, Ade CJ, Dieli-Conwright CM, Mathelier HM. A bench to bedside perspective on anthracycline chemotherapy-mediated cardiovascular dysfunction: Challenges and opportunities. A symposium review. *Journal of Applied Physiology*. 2022; 600(8):1821-1823. doi: 10.1152/japplphysiol.00471.2022.

2023

5. Murray KO, Mahoney SA, Venkatasubramanian R, Seals DR, **Clayton ZS**. Aging, aerobic exercise, and cardiovascular health: Barriers, alternative strategies, and future directions. *Experimental Gerontology*. 2023; 173:112105. doi: 10.1016/j.exger.2023.112105.

6. Wahl D and **Clayton ZS**. Editorial: Nutrition and metabolic aging. *Frontiers in Nutrition.* 2023; 10:1191958. doi: 10.3389/fnut.2023.1191958.

7. Maurer GC and **Clayton ZS**. Anthracycline chemotherapy, vascular dysfunction, and cognitive impairment: burgeoning topics and future directions. *Future Cardiology.* 2023; 19(11):547-566. doi: 10.2217/fca-2022-0086. **Special Issue: Rising Stars in Cardio-Oncology**.

2024

8. Moreau KL, **Clayton ZS**, DuBose LE, Rosenberry R, Seals DR. Effects of regular aerobic exercise on vascular function with aging: Does sex matter? *American Journal of Physiology: Heart and Circulatory Physiology*. 2024; 326(1):H123-H137. doi: 10.1152/ajpheart.00392.2023.

9. **Clayton ZS** and Murray KO. Aerobic exercise and obesity-related insulin resistance: Using molecular patterns to inform individualized prescription. *Journal of Clinical Endocrinology and Metabolism.* In Press. doi: 10.1210/clinem/dgae076.

10. Darvish S, Mahoney SA, Venkatasubramanian R, Rossman MJ, **Clayton ZS***, Murray KO*. Socioeconomic status as a potential mediator of arterial aging in marginalized ethnic and racial groups: Current understandings and future directions. *Journal of Applied Physiology.* 2024; 137(1):194-222. doi: 10.1152/japplphysiol.00188.2024. *Co-corresponding authors

2025

11. Nguyen BL, **Clayton ZS**. Aerobic exercise and heart failure with reduced ejection fraction: Consideration of sex and biological age. *JACC: Advances*. 2025; 4(4):101658. doi: 10.1016/j.jacadv.2025.101658.

12. **Clayton ZS**, Moreau KL. X's, Y's and Vascular Ties: Exploring the role of sex chromosomes in arterial stiffness and vascular aging. *Am J Physiol: Heart and Circ Physiol.* 2025. doi: 10.1152/ajpheart.00130.2025.

13. Mahoney SA, Bloom SI, Seals DR, Donato AJ, Rossman MJ, **Clayton ZS**. Mechanisms of cellular senescence-induced vascular aging: Evidence of senotherapeutic strategies. *J Cardiovascular Aging*. 2025; 5:6. doi: 10.20517/jca.2024.31

14. **Clayton ZS**, Nguyen BL, Venkatasubramanian R, Kabos R. Fighting time: Aerobic exercise to combat premature vascular aging following breast cancer chemotherapy treatment. *Ex Sports Sci Rev*. 2025; 53(4):187-194. doi: 10.1249/JES.0000000000000370.

15. **Clayton ZS**, Kehmeier MN, Rosenberry R, Larson EA, Debray A, Cheng S, Moreau KL. Arteries and hearts in motion: Sex differences in exercise-mediated protection against atherosclerotic cardiovascular disease risk. *Current Atherosclerosis Reports.* 27(1):56. doi: 10.1007/s11883-025-01300-3

16. Bell CF and **Clayton ZS**. Novel Biomarkers in Cardio-Oncology: From Promise to Practice Through Prospective Study. *Am J Physiol: Heart and Circ Physiol.* 2025; 329(1): H210-H212. doi: 10.1152/ajpheart.00338.2025.

EXTRAMURAL GRANTS

Principle Investigator Awards

L-glutamine supplementation: Ergogenic potential and its effect on plasma glutamine throughout repeated bouts of exercise. Funding Agency: Gatorade Sports Science Institute's Student Grant Program. Amount: $3,500. [Role: PI]. — 2013

Excessive vascular inflammation: a target for the treatment of doxorubicin-induced aortic stiffening. Funding agency: National Institute of Diabetes, Digestive and Kidney Diseases. T32 Postdoctoral Fellowship (DK007135) — 2018-2020

Mitochondrial oxidative stress: a target for treatment of doxorubicin- associated vascular endothelial function. Funding agency: National Institutes of Health; National Heart Lung and Blood Institute. F32 Postdoctoral Fellowship (HL151022). Amount: $64,926/year. [Role: PI]. — 2021-2022

Translational studies of cellular senescence as a regulator of doxorubicin-mediated arterial dysfunction. Funding agency: National Institutes of Health; National Heart Lung and Blood Institute. K99 Pathway to Independence Award (HL159241). Amount: $174,960/year [Role: PI]. — 2022-2024

Translational studies of cellular senescence as a regulator of doxorubicin-mediated arterial dysfunction. Funding agency: National Institutes of Health; National Heart Lung and Blood Institute. R00 (HL159241). Amount: $249,000/year [Role: PI]. — 2024-2027

Co-Investigator Awards

Administrative supplement to R01-AG055822 Funding Agency: National Institutes of Health Office of Dietary Supplements. (PI: Seals DR). Amount: $100,000. [Role: Co-I]. — 2019-2020

Seals DR & **Clayton ZS**. The marmoset as a model of large elastic artery stiffening with human aging. Funding Agency: National Institute on Aging, University of Texas San Antonio Nathan Shock Center. [Role: Co-I]. — 2021

Using chip cytometry-based digital spatial profiling to elucidate — 2021

	novel mechanisms underlying aortic stiffening with aging. Funding Agency: National Institute on Aging, University of Southern California and The Buck Institute for Research on Aging Nathan Shock Center. (PI: Seals DR) Amount: $15,000. (Role: Co-I).	
	Administrative supplement to R01-AG055822 Funding Agency: National Institutes of Health Office of Dietary Supplements. (PI: Seals DR). Amount: $100,000. [Role: Co-I].	2021-2022
	Targeting cellular senescence to prevent accelerated vascular aging induced by the common chemotherapeutic agent doxorubicin. Funding agency: National Institute on Aging. R21 Exploratory/ Development Research Grant (AG078408). (PI: Seals DR). Amount: $275,000. [Role: Co-I].	2022-2025
	Molecular Transducers and Regulators of Physical Activity Consortium – Colorado Clinical Center. Funding Agency: National Institute on Aging. U01 Research Project Cooperative Agreement (AR071124). (PI: Kohrt WM). Amount: $3,011,058. [Role: Co-I]	2024-2025
INTRAMURAL GRANTS	Colorado Clinical Translational Sciences Institute, Clinical Translational Research Center Microgrant. Amount: $30,000. [Role: PI]	2024-2027
	Ludeman Family Center on Women's Health Research Pilot Grant Amount: $25,000 [Role: PI]	2024-2026
	Colorado's Scientific Center on Research Excellence in Women's Health Research Pilot Grant. Amount: $25,000 [Role: PI]	2024-2026
	Colorado Cancer Center's Molecular and Cellular Oncology Program Pilot Grant. Amount: $50,000 [Role: PI]	2024-2026

MENTORING HISTORY & MENTEE AWARDS

David A. Hutton, MS (University of Colorado [CU] Boulder) 2019-2021

- Junior/day-to-day mentor for Post-Baccalaureate and MS studies (2019-2021)
- CU Boulder Undergraduate Research Opportunities Program Individual Fellowship awardee (2019)
- CU Boulder, Department of Integrative Physiology Undergraduate Research Symposium, Best Poster Finalist (2019)
- American Physiological Society's Caroline tum Suden/Frances Hellebrandt Professional Development Award (2020)
- CU Boulder, Department of Integrative Physiology Graduate Student Travel Award (2020)
- American Physiological Society's Translational Physiology Showcase, Best Oral Presentation (2021)
- MS Project: Oral supplementation with the flavone apigenin reverses age-related arterial dysfunction by normalizing oxidative stress and inflammation
- Current Position: Medical Student, Virginia Commonwealth University

Anthony Sun, BS (CO School of Mines) 2019-2021

- Day-to-day undergraduate research mentor at CU Boulder
- Current Position: PhD Student at UC San Francisco (Bioinformatics)

Ravinandan Venkatasubramanian, MS (CU Boulder) 2021-2023
- Junior/day-to-day mentor for MS studies (2021-2023)
- American Physiological Society's Cellular and Molecular Physiology Research Recognition Award (2023)
- CU Boulder's Beverly Sears and Cynthia H. Schultz Graduate Student Research Grant (2023)
- North American Artery society, 2nd place oral abstract presentation award (2024)
- MS Project: Senolytic administration following doxorubicin chemotherapy prevents large elastic artery stiffening and endothelial dysfunction
- Current Position: Senior Clinical Research Professional, CU Anschutz Medical Campus

Grace Maurer, MS (CU Boulder) 2021-2023
- Junior/day-to-day mentor for MS studies (2021-2023)
- MS Project: The plasma metabolome is associated with preservation of physiological function following lifelong aerobic exercise in mice
- Current Position: PhD Candidate, University of Iowa

Mary A. Darrah, MS (CU Boulder) 2022-2025
- Junior/day-to-day mentor for Undergraduate and MS studies (2022-2025)
- CU Boulder, Department of Integrative Physiology Undergraduate Research Symposium, Best Presentation (2022)
- CU Boulder Undergraduate Research Opportunities Program Individual Fellowship awardee (2022)
- American Physiological Society's Barbara A. Horowitz and John M. Horowitz Outstanding Undergraduate Abstract Award Recipient (2022)
- American Physiological Society's Barbara A. Horowitz and John M. Horowitz Excellence in Undergraduate Research Award Recipient (2023)
- American Physiological Society's Cardiovascular Section's Abstract of Distinction (2023)
- CU Boulder, Department of Integrative Physiology Undergraduate Research Symposium, Best Overall Poster (2023)
- American Physiological Society's Cellular and Molecular Physiology Section Research Recognition Award (2024)
- American Physiological Society's Cellular and Molecular Physiology Section Abstract of Distinction (2024)
- MS Project: The influence of a human macronutrient-matched diet on phenotypes in old mice
- Current Position: MS student, CU Boulder

Sophia A. Mahoney, PhD 2020-2025
- Junior/day-to-day mentor for MS and PhD studies (2020-2025)
- NIH Diversity Supplement Awardee (2020-2022)
- American Physiological Society's Martin Frank Diversity Travel Award (2021)
- American Physiological Society's Porter Physiology Development Fellowship Awardee (2022-2023). *Declined*

- CU's NIH Integrative Physiology of Aging T32 Awardee (2022-2023). *Declined*
- NIH Ruth L. Kirchstein Predoctoral Individual National Research Service Award to Promote Diversity in Health-Related Research Awardee (2022-2025)
- CU Boulder Graduate Travel Award (2023) x 2
- American Physiological Society's Martin Frank Diversity Travel Award (2023)
- American Physiological Society's Environmental and Exercise Physiology Section's Gatorade Sports Science Institute's Predoctoral Research Award (2023)
- American Physiological Society's Cardiovascular Section's Research Recognition Award (2024)
- CU Boulder Graduate Travel Award (2024)
- American Aging Association Early Career Scholar Award (2025)
- American Physiological Society Physiological Genomics trainee abstract presentation 2nd place award
- MS Project: Fisetin suppresses vascular cell senescence and improves arterial function with aging
- Dissertation: The role of cellular senescence and the senescence-associated secretory phenotype in vascular aging: Amelioration by the natural senolytic fisetin
- Current Position: Postdoctoral Fellow, Stanford University

Rebecca Yohanes, BS (CU Boulder) 2023
- Undergraduate research mentor (2023)
- CU Boulder Undergraduate Biological Sciences Initiative Award (2023)
- Current Position: Medical Assistant at a Dermatology Clinic

Taylor Johnson, BS (CU Boulder) 2023-2024
- Undergraduate research mentor (2023-2024)
- Department of Integrative Physiology, Undergraduate Research Award (2024)
- Current Position: Medical school applicant

Branden L. Nguyen, PhD (CU Anschutz Medical Campus) 2024-Present
- Postdoctoral Mentor (2024-Present)
- CU's NIH Integrative Physiology of Aging T32 Awardee (Role: Postdoctoral and Co-Mentor)
- CU Anschutz Medical Campus' Postdoctoral Travel Award (2025)
- American Physiological Society's Cardiovascular Section's Research Recognition Award (2025)
- NIH Loan Repayment Program Award (Role: Primary Mentor)

Suzann Kafer, BS (CU Anschutz Medical Campus) 2024-Present
- Dissertation Committee member

Lucas Guerrero (Colorado State University) 2024-Present
- Undergraduate thesis committee member; Thesis: The Influence of Testosterone on Neuroinflammation

Christopher Clements, BS (CU Anschutz Medical Campus) 2025

- CU Anschutz Medical Campus, Integrated Physiology PhD Program, Rotation Student

Jacob Anna, MS (CU Anschutz Medical Campus) 2025
- CU Anschutz Medical Campus, Integrated Physiology PhD Program, Rotation Student

Kevin Murray, PhD (CU Boulder) 2025
- NIH K01 award consulting mentor

Sara Sherman, PhD 2025
- NIH T32 Postdoctoral Fellowship content expert on vascular aging

PUBLISHED CONFERENCE ABSTRACTS

2012

1. Hernandez L, Hobb K, **Clayton ZS**, Schelechi M, Petrisko Y, Hooshmand S, Kern M. The effects of consuming egg based versus bagel-based breakfasts combined with resistance training on body composition and muscular strength. *FASEB J*. 2012; 26(S1). doi: 10.1096/fasebj.26.1_supplement.1142.55.
2. Hobb K, **Clayton ZS**, Hernandez L, Schelechi M, Petrisko Y, Hooshmand S, Kern M. Influence of resistance exercise training combined with daily consumption of an egg- based breakfast on lipid concentrations and blood pressure. *FASEB J*. 2012; 26(S1). doi: 10.1096/fasebj.26.1_supplement.1015.12.

2013

3. Kern M, Hobb K, **Clayton ZS**, Schelechi M, Hernandez LM, Barber A, Petrisko Y, Hooshmand S, Nemoseck T. Resistance training improves blood pressure regardless of daily breakfast composition. *FASEB J*. 2013; 27(S1). doi: 10.1096/fasebj.27.1_supplement.632.7.

2014

4. Reiter B, **Clayton ZS**, Fusco E, Kass L, Carpenter J, Hooshmand S, Hong MY, Kern M. Dried plum snacking influences nutrient intake in individuals with metabolic syndrome, prediabetes, and overweight. *FASEB J*. 2014; 28(S1). doi: 10.1096/fasebj.28.1_supplement.1040.1.
5. Fusco E, **Clayton ZS**, Kass L, Carpenter J, Hooshmand S, Hong MY, Kern M. Carbohydrate-rich snacks influence plasma glucose, insulin and ghrelin responses in overweight adults. *FASEB J*. 2014; 28(S1). doi: 10.1096/fasebj.28.1_supplement.1039.5.
6. **Clayton ZS**, Fusco E, Kass L, Carpenter J, Hooshmand S, Hong MY, Kern M. Type of snack influences body composition and glycemia in overweight humans. *FASEB J*. 2014; 28(S1). doi: 10.1096/fasebj.28.1_supplement.640.1.
7. **Clayton ZS**, Fusco E, Kass L, Carpenter J, Hooshmand S, Hong MY, Kern M. Snacking influences adipokine concentration independent of body composition and inflammation in overweight humans. *FASEB J*.

2014; 28(S1). doi: 10.1096/fasebj.28.1_supplement.1039.2.

2015

8. **Clayton ZS**, Hetrick B, McCurdy CE. Adipose tissue p50α/p55α may drive acute high fat diet induced insulin resistance. *FASEB J*. 2015; 29(S1). doi: 10.1096/fasebj.29.1_supplement.995.6.

2017

9. Ely BR, Francisco MA, Larson EA, Comrada LN, **Clayton ZS**, McCurdy CE, Minson CT. Chronic passive heat exposure decreases sympathetic activity and improves metabolic health in women with Polycystic Ovary Syndrome. *Int J Ex Sci: Conference Proceedings.* 2017; 8(5).

10. **Clayton ZS**, McCurdy CE. Housing temperature alters glucose metabolism in response to short term overfeeding in lean mice. *FASEB J*. 2017; 31(S1). doi: 10.1096/fasebj.31.1_supplement.1014.22.

11. **Clayton ZS**, Hozman A, Braden B, Kern M. L-glutamine enhances plasma glutamine and maintains concentrations of alanine and arginine following high intensity cycling. *Medicine and Science in Sports and Exercise*. 2017; 49(5S).

2018

12. **Clayton ZS,** McCurdy CE. Inducible heterozygous knockout of Pik3r1 in adipocytes reverses glucose intolerance and enhances adipocyte insulin signaling in obese mice. *FASEB J*. 2018; 32(S1). doi: 10.1096/fasebj.2018.32.1_supplement.719.16.

13. **Clayton ZS**, McCurdy CE. Adipocyte overexpression of p55alpha subunit of PI3K improves systemic glucose metabolism in lean mice. *Diabetes*. 2018; 67(Supplement_1). doi: 10.2337/db18-1787-P.

2019

14. **Clayton ZS**, Gioscia-Ryan RA, Rossman MJ, Richey JJ, Cuevas LM, Battson ML, Zigler MC, Seals DR. Primary prevention of age- and western diet-associated vascular endothelial dysfunction by voluntary aerobic exercise in mice: Role of mitochondrial oxidative stress. *FASEB J*. 2019; 33(S1). doi: 10.1096/fasebj.2019.33_supplement.696.20.

15. **Clayton ZS**, Gioscia-Ryan RA, Justice JN, Lubieniecki KL, Rossman MJ, Zigler MC, Seals DR. Lifetime exercise attenuates age- and western diet-related declines in physical function in mice. *Innovation in Aging*. 2019; 3(S1). doi: 10.1093/geroni/igz038.391.

2020

16. Casso AG, VanDongen NS, Ziemba BP, Greenberg NT, Nguyen KH, **Clayton ZS**, Zigler MC, Seals DR, Brunt VE. Initiation of the gut microbiome targeted compound 3,3-Dimethyl-1-Butanol at Mid-life prevents age-related vascular dysfunction. *FASEB J*. 2020; 34(S1). doi: 10.1096/fasebj.2020.34.s1.05452.

17. Greenberg NT, VanDongen NS, Gioscia-Ryan RA, Casso AG, Zigler MC, **Clayton ZS**, Ziemba BP, Nguyen KH, Hutton DA, Seals DR, Brunt VE. Vascular endothelial dysfunction induced by a western-style diet can be transferred via fecal microbiota transplant in mice. *FASEB J*. 2020; 34(S1). doi: 10.1096/fasebj.2020.34.s1.07405.
18. **Clayton ZS**, Brunt VE, Hutton DA, Ziemba BP, Seals DR. The commonly used anthracycline chemotherapy drug doxorubicin impairs vascular endothelial function via stimulation of mitochondrial superoxide. *FASEB J*. 2020; 34(S1). doi: 10.1096/fasebj.2020.34.s1.02708.
19. Hutton DA, Brunt VE, Casso AG, Ziemba BP, Seals DR, **Clayton ZS**. Increased large elastic artery stiffening with the anthracycline chemotherapy drug doxorubicin: potential role of excess mitochondrial superoxide. *FASEB J*. 2020; 34(S1). doi: 10.1096/fasebj.2020.34.s1.04407.
20. Cavalier AN, **Clayton ZS**, Wahl D, Seals DR, LaRocca TJ. The effects of chemotherapeutic agents and a mitochondrial antioxidant on the brain transcriptome and cognitive function. *FASEB J*. 2020; 34(S1). doi: 10.1096/fasebj.2020.34.s1.09524.

2021

21. Cavalier AN, **Clayton ZS**, Hutton DA, McEntee CM, Seals DR, LaRocca TJ. Protective effects of apigenin on cognitive function and the brain transcriptome in old mice. *Innovation in Aging*. 2021; 5(S1). doi: 10.1093/geroni/igab046.2567.
22. Greenberg NT, VanDongen NS, Gioscia-Ryan RA, Casso AG, Hutton DA, **Clayton ZS**, Seals DR, Brunt VE. Age-related aortic stiffness can be transferred and ameliorated via fecal microbiota transplant in mice. *Innovation in Aging*. 2021; 5(S1). doi: 10.1093/geroni/igab046.3017.
23. **Clayton ZS**, Hutton DA, Brunt VE, VanDongen NS, Ziemba BP, Casso AG, Greenberg NT, Rossman MJ, Campisi J, Melov S, Seals DR. Apigenin restores endothelial function by ameliorating oxidative stress, prevents foam cell formation, reverses aortic stiffening, and mitigates vascular inflammation with aging. *FASEB J*. 2021; 35(S1). doi: 10.1096/fasebj.2021.35.S1.02221.
24. Hutton DA, Brunt VE, Mahoney SA, Casso AG, Greenberg NT, VanDongen NS, Ziemba BP, Nguyen KH, Melov S, Campisi J, Seals DR, **Clayton ZS**. Cellular senescence mediates doxorubicin-induced arterial dysfunction via activation of mitochondrial oxidative stress and the mammalian target of rapamycin. *FASEB J*. 2021; 35(S1). doi: 10.1096/fasebj.2021.35.S1.00283.
25. Mahoney SA, Hutton DA, Rossman MJ, Brunt VE, VanDongen NS, Casso AG, Greenberg NT, Ziemba BP, Melov S, Campisi J, Seals DR, **Clayton ZS**. Late-life treatment with the senolytic ABT-263 reverses

aortic stiffening and improves endothelial function with aging. *FASEB J*. 2021; 35(S1). doi: 10.1096/fasebj.2021.35.S1.02642.

26. Casso AG, VanDongen NS, Greenberg NT, **Clayton ZS**, Hutton DA, Zigler MC, Seals DR. Brunt VE. The gut microbiome targeted compound 3,3-Dimethyl-1-butanol attenuates in vivo aortic stiffening with aging. *FASEB J*. 2021; 35(S1). doi: 10.1096/fasebj.2021.35.S1.05374.

2022

27. **Clayton ZS**, Hutton DA, Mahoney SA, Brunt VE, Casso AG, Greenberg NT, Melov S, Campisi J, Seals DR. Cellular senescence mediates accelerated vascular aging induced by doxorubicin treatment. Keystone Symposia, Cancer: Aging in the Driver's Seat, 2022.

28. Mahoney SA, Rossman MJ, Venkatasubramanian R, Casso AG, Greenberg NT, VanDongen NS, Brunt VE, Melov S, Campisi J, Seals DR, **Clayton ZS**. Fisetin supplementation reduces arterial stiffness by suppressing vascular cellular senescence in old mice. Masoro-Barshop Conference on Aging, 2022.

29. Mahoney SA, Venkatasubramanian R, Rossman MJ, VanDongen NS, Brunt VE, Casso AG, Greenberg NT, Melov S, Campisi J, Seals DR, **Clayton ZS**. Fisetin supplementation improves age-related vascular endothelial function by suppressing cellular senescence and mitochondrial oxidative stress. *FASEB J*. 2022; 36(S1). doi: 10.1096/fasebj.2022.36.S1.R1931.

30. Venkatasubramanian R, Mahoney SA, Rossman MJ, Hutton DA, Brunt VE, VanDongen NS, Casso AG, Greenberg NT, Bernaldo be Quiros Y, Melov S, Campisi J, Seals DR, **Clayton ZS**. Cellular senescence and the associated secretory phenotype contribute to age-related vascular dysfunction. *FASEB J*. 2022; 36(S1). doi: 10.1096/fasebj.2022.36.S1.R2053.

2023

31. Izaias J, Bernardes R, Ono, B, Diego F, Sales A, Moniz C, Mota M, Salemi VM, Rossman MJ, Craighead DH, **Clayton ZS**, Bortolotto L, Irigoyen MC, Colombo F, Seals DR, Kluser A. Sympathetic neural overactivity, endothelial dysfunction, aortic stiffening, and diminished exercise capacity in breast cancer survivors treated with doxorubicin and trastuzumab-based chemotherapy. American Heart Association's annual Scientific Sessions 2023.

32. **Clayton ZS**, Rossman MJ, Venkatasubramanian R, Mahoney SA, Maurer GS, VanDongen NS, Ludwig KR, Seals DR. The natural senolytic fisetin protects against doxorubicin chemotherapy-induced endothelial cell senescence and arterial dysfunction in mice. North American Artery annual meeting 2023.

33. Bernaldo de Quiros Y, Murray KO, Ludwig KR, Hutton DA, Seals DR, **Clayton ZS**. Late-life oral supplementation with apigenin mitigates loss of skeletal muscle strength and mass, exercise intolerance, and frailty with aging in mice. *Physiology*. 2023; 38(S1): 5732888. doi: 10.1152/physiol.2023.38.S1.5732888.

34. Mahoney SA, Ciotlos S, Darrah MA, Venkatasubramanian R, Rossman MJ, Campisi J, Seals DR, Melov S, **Clayton ZS**. 25-hydroxycholesterol reduces aortic cellular senescence and stiffness in old mice. *Physiology*. 2023; 38(S1): 5711505. doi: 10.1152/physiol.2023.38.S1.5711505.

35. Venkatasubramanian R, Mahoney SA, Maurer GS, Darrah MA, Ludwig KR, VanDongen NS, Rossman MJ, Brunt VE, Campisi J, Seals DR, **Clayton ZS**. Senolytic administration following doxorubicin chemotherapy prevents large elastic artery stiffening and endothelial dysfunction. *Physiology*. 2023; 38(S1): 5733334. doi: 10.1152/physiol.2023.38.S1.5733334.

36. VanDongen NS, Mahoney SA, Bernaldo de Quiros Y, Greenberg NT, Hutton DA, Widlansky ME, Seals DR, Brunt VE, **Clayton ZS**. Circulating factors from old mice directly induce endothelial dysfunction and aortic stiffening in young mouse arteries: A novel ex vivo experimental approach. *Physiology*. 2023; 38(S1): 5733334. doi: 10.1152/physiol.2023.38.S1.5733334.

37. Maurer GS, Murray KO, Giosica-Ryan RA, Justice JN, Zigler MC, D'Alessandro A, Reisz JA, Rossman MJ, Seals DR, **Clayton ZS**. Lifelong voluntary aerobic exercise-mediated preservation of physical function is related to changes in the plasma metabolome in aged mice. *Physiology*. 2023; 38(S1): 5730321. doi: 10.1152/physiol.2023.38.S1.5730321.

38. Darrah MA, Venkatasubramanian R, Mahoney SA, Ludwig KR, Hutton DA, Brunt VE, Rossman MJ, Campisi J, Seals DR, **Clayton ZS**. Cellular senescence mediates doxorubicin chemotherapy-induced aortic stiffening via circulating factors. *Physiology*. 2023; 38(S1): 5733994. doi: 10.1152/physiol.2023.38.S1.5733994.

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40. Dwivedi N, Stone BA, **Clayton ZS**, Chonchol M, Gitomer B, Hopp K, Brunt VE. Mitochondria-targeted antioxidant therapy ameliorates arterial dysfunction in a mouse model of autosomal dominant polycystic kidney disease. *Journal of the American Society of Nephrology*. 2024; 35 (10S).

41. Bernaldo de Quiros Y, Mahoney SA, VanDongen NS, Greenberg NT, Venkatasubramanian R, Bossart G, **Clayton ZS**, Fernandez A, Seals DR.

The circulating milieu of bottlenose dolphins (*Tursiops truncatus*) may hold the key to preventing arterial aging. 35th European Cetacean Society conference.

42. Murray KO, Rossman MJ, Mahoney SA, Greenberg NT, Seals DR, Mankowski RT, **Clayton ZS**. The natural flavonoid senolytic fisetin mitigates age-related changes in frailty, grip strength, and the skeletal muscle transcriptome in old mice. *Physiology.* 2024; 39:S1.

43. Mahoney SA, VanDongen NS, Greenberg NT, Venkatasubramanian R, Craighead DH, Rossman MJ, Widlansky ME, Seals DR, Brunt VE, Bernaldo de Quiros Y, **Clayton ZS**. The circulating milieu mediates arterial dysfunction with aging: Protection by habitual aerobic exercise. *Physiology.* 2024; 39:S1.

44. Darrah MA, Mahoney SA, Venkatasubramanian R, VanDongen NS, Ludwig KR, Rossman MJ, Seals DR, **Clayton ZS**. Intermittent oral supplementation with fisetin improves arterial function in doxorubicin chemotherapy-treated mice by suppressing cellular senescence. *Physiology.* 2024; 39:S1.

45. Bernaldo de Quiros Y, Mahoney SA, VanDongen NS, Greenberg NT, Venkatasubramanian R, Bossart G, **Clayton ZS**, Fernandez A, Seals DR. The bottlenose dolphin (*Tursiops truncates*): A novel model for studying healthy vascular aging. *Physiology.* 2024; 39:S1.

2025

46. Mahoney SA, Mazan-Mamczarz K, Tsitsipatis D, VanDongen NS, Rossman MJ, Seals DR, Herman AB, **Clayton ZS**. Fisetin supplementation targets senescent endothelial cells in old mice and prevents plasma-induced endothelial dysfunction with aging. *Physiology.* 2025; 40:S1.

47. Murray KO, Mahoney SA, Ludwig KR, VanDongen NS, Miyamoto-Ditmon J, Rossman MJ, Seals DR, **Clayton ZS**. Habitual physical activity preserves the circulating milieu to mitigate age-related aortic stiffening: the potential role of extracellular vesicles. *Physiology.* 2025; 40:S1.

48. Nguyen BL, Novinger L, Moreau KL, **Clayton ZS**. The influence of breast cancer chemotherapy treatment on cardiovascular disease risk factors in premenopausal women. *Physiology.* 2025; 40:S1.

49. Bertazzo J, Mungaray S, Nguyen BL, **Clayton ZS**, Bell CF. Murine colon cancer models exhibit vascular remodeling, arterial stiffness, and physiologic dysfunction. *Circulation* 152.Suppl_3 (2025): A4362944-A4362944.

50. Iyer G, Smith G, Many G, Clark N, Jin C, Hernandez SM, Thalacker-Mercer A, Houmard J, Bergman B, Nie J, Espinoza S, Trappe S, Sparks L, **Clayton ZS**, Zhang Z, Sealfon S, Coen P, Katz D, Goodpaster B, Keshishian H, Burant C. Integrated Multi-omics Analysis of Skeletal

Muscle in Response to a Bout of Resistance or Endurance Exercise. *Circulation* 152.Suppl_3 (2025): A4367452-A4367452.

INSITUTIONAL SERVICE	Institutional Animal Care and Use Committee, Graduate Student Voting Member, University of Oregon.	2014-2017
	Public outreach presentation, Boulder Community Health. Title: Interventions for Improving Vascular Aging	2021
	CU Anschutz, Ad Hoc Reviewer for Pre-K Grant Program	2024
	CU Anschutz, Ad Hoc Reviewer for Cancer Innovation Pilot Grant Program	2024
	CU Anschutz, Scientific Advisory and Review Committee. Ad Hoc Grant Reviewer for Human Subject Research Protocols	2024-Present
	CU Anschutz; Department of Medicine; Early Stage Investigator Task Force (1 of 7 selected members)	2025-Present
	CU Cancer Center Susan G. Komen Career Transition Awards. Ad Hoc Reviewer	2025
	CU Cancer Research Training and Education Coordination Awards. Ad Hoc Reviewer	2025
	CU Physician Scientist Training Program interview committee.	2025
	CU Anschutz Department of Medicine Research Day. Abstract Guest Reviewer.	2026
	Colorado Clinical Sciences Institute K12 Scholars Program – Panelist for discussion on "negotiations" with current scholars	2026
NATIONAL SERVICE	Wellness co-editor SCAN's *PULSE*, SCAN (Sports Cardiovascular and Wellness Nutrition) Dietetic Practice Group, Academy of Nutrition and Dietetics.	2014-2018
	Ad Hoc Peer Reviewer for Scientific Journals	2017-Present
	***A**cta Haematologica; Advanced Biology; Advances in Nutrition: An International Review Journal; Aging; Aging Cell; Aging and Disease; Aging Research Reviews; Alzheimer's & Dementia: Translational Research & Clinical Interventions; American Journal of Cardiovascular Drugs; American Journal of Physiology: Cell Physiology; American Journal of Physiology: Heart & Circulatory Physiology; American Journal of Physiology: Regulatory, Integrative and Comparative Physiology; Annals of Translational Medicine; Antioxidants; Applied Sciences; Arteriosclerosis, Thrombosis, and Vascular Biology; **B**iochemical and Biophysical Research Communications; Biology; Biomedicines; Biomolecules; Brain & Behavior; Breast Cancer; British Journal of Nutrition; **C**alcified Tissue International; Cancer Medicine; Cardiovascular*	

Diabetology; Cardiovascular Research; Circulation; Circulation Research; Clinical Epidemiology; Clinical & Experimental Hypertension; Clinical Interventions in Aging; Clinical Nutrition; Clinical Nutrition ESPEN; Clinical Physiology and Functional Imaging; Clinical Practice & Epidemiology in Mental Health; Clinical & Experimental Hypertension; Clinical & Translational Medicine; Complementary Therapies in Medicine; Current Hypertension Reviews; Current Medicinal Chemistry; Current Medical Imaging; Current Molecular Medicine; Current Nutrition and Food Science; Current Pharmaceutical Design; ***D****ata; Diabetes, Metabolic Syndrome & Obesity; Diagnostics; Diseases;* ***E****uropean Journal of Applied Physiology; Exercise and Sport Sciences Reviews; Experimental Gerontology; Experimental & Molecular Pathology; Experimental Neurology; Experimental Physiology; Expert Review of Endocrinology & Metabolism; Exploration of Targeted Anti-tumor Therapy;* ***F****oods; Food & Function; Frontiers in Aging; Frontiers in Aging Neuroscience; Frontiers in Animal Science; Frontiers in Cardiovascular Medicine; Frontiers in Clinical Diabetes & Healthcare; Frontiers in Endocrinology; Frontiers in Public Health; Frontiers in Nutrition; Frontiers in Pharmacology; Frontiers in Physiology; Future Science OA;* ***G****eroscience;* ***H****eart; Health Science Reports; Heliyon; Hematology;* ***i****Science; IJC Heart & Vasculature; Immunity, Inflammation & Disease; ImmunoTargets and Therapy; International Journal of Environmental Research and Public Health; International Journal of Food Properties; International Journal of Molecular Sciences; International Journal of Sports Medicine;* ***J****ournal of Addiction, Psychiatry and Mental Health; Journal of the American College of Cardiology: Advances; Journal of the American College of Cardiology: CardioOncology; Journal of the American College of Nutrition; Journal of the American Heart Association; Journal of Applied & Basic Nutritional Sciences; Journal of Applied Physiology; Journal of Autonomous Intelligence; Journal of Biochemical & Molecular Toxicity; Journal of Cardiovascular Development & Disease; Journal of Clinical Endocrinology & Metabolism; Journal of Clinical Medicine; Journal of Exercise Science & Fitness; Journal of Food Biochemistry; Journal of Food Science; Journal of Food Science and Nutrition Therapy; Journal of Health Sciences; Journal of Human Nutrition and Dietetics; Journal of Inflammation Research; Journal of Immunopathology and Pharmacology; Journal of Men's Health; Journal of Neuroscience & Neurological Disorders; Journal of Obesity and Diabetes; Journal of Personalized Medicine; Journal of Pharmaceutical & Biomedical Analysis; Journal of Physiology; Journal of Science in Sport and Exercise; Journal of Sport and Health Science; JoVE;* ***L****ife; Life Sciences; Lipids in Health & Disease;* ***M****echanisms of Aging and Development; Metabolites; Microorganisms; Military Medical Research;* ***N****ature Aging; Nature Reviews Cardiology; Nutrients; Nutrition; Nutrition and Diabetes; Nutrition, Metabolism & Cardiovascular Diseases; Nutrition Research; Nutrition Reviews;* ***O****besity; Obesity and Weight Loss; OBM Neurobiology;* ***P****eer J; Pharmaceuticals; Pharmacogenomics & Personalized Medicine; Pharmacy; Physiological Reports; Physiological Reviews; Phytotherapy Research; PLOS ONE; Prostaglandins & Other Lipid Mediators;* ***S****cience Advances; Seminars in Cancer Biology; Sports; Supportive Care in Cancer; Surgeries;* ***T****ranslational Neuroscience; Therapeutic Advances in Endocrinology and Metabolism;* ***V****ascular Health and Risk Management*

Cardiovascular editor SCAN's *PULSE*, SCAN Dietetic Practice Group, Academy of Nutrition and Dietetics 2018-2021

San Diego State University, Aztec Mentor Program. The goal of this program is for San Diego State University alumni to provide mentorship to current San Diego State University graduate students.	2018-2023
Co-chair of the American Physiological Society's Cardiovascular Section Outstanding Postdoctoral Trainee oral presentation session, Experimental Biology annual meeting.	2021
Guest editor. *Frontiers in Nutrition.* Call for manuscripts on the topic of "Nutrition and Metabolic Aging"	2022
Chair of the American Physiological Society's Physiologist in Industry Committee sponsored symposium, "A Bench to Bedside Perspective on Anthracycline Chemotherapy-mediated Vascular Dysfunction: Challenges and Opportunities". Experimental Biology annual meeting	2022
Early Career Reviewer Program, Cellular Mechanisms of Aging and Development (CMAD) Study Section, Center for Scientific Review, National Institutes of Health.	2023
Editorial board member. *Journal of Applied Physiology*	2023-Present
North American Artery Early Investigator Committee, Founding Member	2023-2024
North American Artery Early Investigator Committee, Trainee Outreach Coordinator	2023-2024
North American Artery, Programming Committee Member	2024-Present
North American Artery, Annual Meeting Programming Chair	2024-Present
Junior editorial board member. *Journal of Cardiovascular Aging*	2024-Present
Editorial board member. *American Journal of Physiology: Heart and Circulatory Physiology*	2024-Present
Swiss Heart Foundation, Ad Hoc Grant Reviewer	2024
Chair of the symposium, "A multidisciplinary view on chemotherapy-Related physiological dysfunction." American Physiological Society Summit	2024
American Physiological Society, Environmental and Exercise Physiology Mentor on the Go Program. American Physiological Society Summit. Role: Mentor	2024-2025
Boston Area Diabetes Endocrinology Research Centers grant program. Ad Hoc Reviewer	2025
National Institutes of Health, National Center for Advancing	2025

	Translational Sciences, Reviewer on Special Emphasis Panel	
	San Antonio Claude D. Pepper Older Americans Independence Center Pilot and Exploratory Studies Core Awards. Ad Hoc Reviewer.	2025
	Veteran's Affairs Investigators, Scientific Review and Management Scientific Review Group, Subcommittee on Career Development Awards (RRD9). Ad Hoc Reviewer.	2025
	Delaware CTR ACCEL Funding Opportunity for Clinical and Translational Pilot Grants Program. Ad Hoc Reviewer.	2025
	American Heart Association Fellowship Clinical 1 Committee. Ad Hoc Reviewer.	2025
	North American Artery annual meeting, Programming Committee Member & Co-Chair	2025
	American Physiological Society Summit annual meeting, Mentoring on the Go program. Role: Mentor	2025
	Guest Editor, *Artery*, Call for papers on "Trends and advances in artery research 2025: North American Artery (NAA)"	2025-Present
	Swiss National Science Foundation. Ad Hoc Reviewer.	2025
	Veteran Affairs Investigators, Scientific Review and Management Scientific Review Group, Career Development Award Program. Ad Hoc Reviewer	2026
	National Institutes of Health Special Emphasis Panel/Scientific Review Group on Cardiovascular Sciences – ZRF1 RCCS-Q. Ad Hoc Reviewer.	2026
	American Physiological Society, Porter Professional Development Fellowship award review committee. Ad Hoc Reviewer.	2026
TEACHING EXPERIENCE	**Guest Lecturer,** San Diego State University, *School of Exercise and Nutritional Sciences*, Rehabilitative Laboratory Fitness Clinic for Corrective Physical Education (ENS 388). Topic: Water, body fluid balance, and hydration.	2012
	Laboratory Instructor, San Diego State University. *School of Exercise and Nutritional Sciences*. Exercise Physiology Laboratory (ENS 304L). Topic: Fundamentals of Exercise Physiology.	2013
	Guest Lecturer, San Diego State University, *School of Exercise and Nutritional Sciences*, Nutrition for Athletes (NUTR 312). Topic: Vitamins, Minerals and Performance	2013
	Graduate Teaching Fellow, Laboratory Advisor, University of Oregon, *Department of Human Physiology*, Human Physiology I (HPHY 324). Topic: Skeletal Muscle Contractile Properties and Human	2014-2017

Sensory Mechanisms.

Graduate Teaching Fellow, Laboratory Advisor, University of Oregon, *Department of Human Physiology*, Human Physiology II (HPHY 324). Topic: Cardiovascular, Respiratory and Immune System Physiology. 2015-2017

Guest Lecturer, University of Oregon, *Department of Human Physiology*, Human Physiology II (HPHY 324). Topic: Obesity, Inflammation, and Insulin Resistance. 2015-2018

Guest Lecturer, University of Oregon, *Department of Human Physiology*, Physiology of Obesity (HPHY 422/522). Topic: Overview of Adipose Tissue- Development and Role in Metabolic Disease. 2016

Graduate Teaching Fellow, University of Oregon, *Department of Human Physiology,* Metabolism and Nutrition (HPHY 375). Topic: Digestive system. Vitamin, mineral and macronutrient metabolism. 2018

Graduate Teaching Fellow, University of Oregon, *Department of Human Physiology*, Medical Terminology (HPHY HPHY). Topic: Basic Medical Terminology. 2018

Guest Lecturer, San Diego State University, *School of Exercise and Nutritional Sciences*, Graduate course in Geriatric Nutrition (Nutr 608). Topic: The role of nutrition in age-related reductions in vascular, metabolic, and motor function. 2018

Co-instructor, University of Colorado Boulder, *Department of Integrative Physiology*, Graduate course in The Physiology of Aging (IPHY 6010). 2018

Guest Lecturer, San Diego State University, *School of Exercise and Nutritional Sciences*, Graduate course in Geriatric Nutrition (Nutr 608). Topic: The role of nutrition and exercise in age-related reductions in vascular endothelial function. 2019

Guest Lecturer, University of Colorado Boulder, *Department of Integrative Physiology*, Hybrid BS/MS course in The Physiology of Aging (IPHY 3590). 2019

Guest Lecturer, San Diego State University, *School of Exercise and Nutritional Sciences*, Graduate course in Geriatric Nutrition (Nutr 608). Topic: The role of nutrition and voluntary aerobic exercise in age-related arterial dysfunction. 2020

Co-instructor, University of Colorado Boulder, *Department of Integrative Physiology*, Graduate Colloquium course (IPHY 5100). 2021

Guest Lecturer, San Diego State University, *School of Exercise and Nutritional Sciences*, Graduate course in Geriatric Nutrition (Nutr 608). Topic: The role of nutrition and voluntary aerobic exercise in age-related 2021

arterial and motor dysfunction.

Guest Lecturer, San Diego State University, *School of Exercise and Nutritional Sciences*, Graduate course in Geriatric Nutrition (Nutr 608). Topic: Exercise-inspired nutritional interventions to improve cardiovascular health with aging. 2022

Co-instructor. University of Colorado Boulder. *Department of Integrative Physiology*. Graduate course in Professional Skills for the Research Scientist (IPHY 6830). 2023

Guest Lecturer, San Diego State University, *School of Exercise and Nutritional Sciences*, Graduate course in Geriatric Nutrition (Nutr 608). Topic: Cellular senescence-targeted dietary interventions for improving cardiovascular health with aging. 2023

Guest Lecturer, San Diego State University, *School of Exercise and Nutritional Sciences*, Graduate course in Geriatric Nutrition (Nutr 608). Topic: Cellular senescence-targeted dietary interventions for improving cardiovascular health with aging. 2024

Guest Lecturer, University of Colorado Anschutz Medical Campus, Integrated Physiology PhD Program, Comprehensive Physiology (IPHY 7800). Topic: Lifespan Physiology. 2025

Guest Lecturer, University of Colorado Boulder, Department of Integrative Physiology, Graduate course in Professional Skills for the Research Scientist (IPHY 6830). Topics: Selecting a postdoctoral Fellowship & working at a research-intensive institution. 2025

Guest Lecturer, San Diego State University, *School of Exercise and Nutritional Sciences*, Graduate course in Geriatric Nutrition (Nutr 608). Topic: Cellular senescence-targeted dietary interventions for improving cardiovascular health with aging. 2025

Discussion Group Leader, University of Colorado Anschutz Medical Campus, Responsible Conduct of Research (BMSC 7811) 2025