Chad C. Carroll, PhD

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Department of Health and Kinesiology
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SUMMARY

- Twenty years of academic experience post-completion of Ph.D.
- Sixteen years of post-fellowship experience as an independent researcher.
- Twenty-five years of experience with clinical research studies.
- Sixteen years of experience as an educator
  - Medical school level and undergraduate endocrinology, thermoregulation, diabetes and glucose regulation, energy metabolism, skeletal muscle physiology, tendon physiology and pathology, cardiovascular physiology, and exercise physiology.
- Extensive experience with development and administration of course (up to 300 students per course).
- ***Leadership Roles***
  - 2022-present, Graduate Program Director, Department of Health and Kinesiology, Purdue University
  - 2022-present, Section Member-at-Large, Orthopaedic Research Society Tendon Section
  - 2013-2016, Institutional Review Board Chair, Midwestern University
  - 2010-2016, Course Director, Human Physiology, Midwestern University
- Extensive experience overseeing human clinical studies and studies with rodents from development through publication.
- Experienced in clinical study development, team management, budget management, grant writing, manuscript writing and publication.
- Extensive knowledge of tendon physiology and pathology.
- Experienced presenter adept at presenting complex material in easily understandable manner.
- Fifty-five peer-reviewed publications.

RESEARCH PROGRAM

Dr. Carroll's academic work has molded an overall portfolio of research, teaching, and service around a central theme of tendon biology. The long-term goal of Dr. Carroll's research is to determine the mechanisms contributing to poor tendon health and discover approaches for normalizing tendon function. Tendon pathology (tendinopathies) affects 1 out of every 4 Americans, with particularly high rates in persons with diabetes. Tendinopathies lead to reduced quality of life and considerable economic burden. Dr. Carroll's multi-faceted research portfolio has projects focused on endogenous circulating mediators of tendon pathology. These mediators include advanced glycation end-products (AGEs, which are elevated in persons with diabetes) and hormones such as estrogen. His work also focuses on nutritional interventions and how their combination with exercise can modify tendon health. Dr. Carroll's work spans the translational spectrum – from molecular biology experiments to test disease mechanisms to human clinical trials to test treatment efficacy. He is currently supported by external grants from the National Institutes of Health. He has recently held clinical trial support from the National Cattleman's Beef Association; internal grants from the Showalter Trust, the Indiana University Center for Diabetes and Metabolic Diseases, the Center for Aging and the Life Course, and the Indiana CTSI. Dr. Carroll has disseminated his research through both written and oral mediums. He has published 55 peer-reviewed manuscripts and given numerous poster/podium/invited presentations at national meetings. His publications have been cited over 2439 times, indicating that his peers find this work advancing the field.

EDUCATION AND TRAINING

2004-2008, Post-Doctoral Fellow
Human Physiology, Human Performance Laboratory, Ball State University, Muncie, IN
Mentor: Todd A. Trappe, PhD

2001-2004, Ph.D.
Physiology & Biophysics, University of Arkansas for Medical Sciences, Little Rock
Dissertation: Human Soleus and Vastus Lateralis Muscle Protein Metabolism with an Amino Acid Infusion

1999-2001, M.S.
Exercise Physiology, Ball State University, Muncie, IN
Thesis: Skeletal Muscle Characteristics of Individuals with Multiple Sclerosis

1994-1999, B.S.
Exercise Science, Lake Superior State University, Sault Ste. Marie, MI

ACADEMIC APPOINTMENTS AND POSITIONS

08/2022-present, Associate Professor with Tenure, Department of Health and Kinesiology
Purdue University, West Lafayette, IN

07/2022-present, Director of Graduate Studies, Department of Health and Kinesiology
Purdue University, West Lafayette, IN

2017-present, Faculty Associate, Center on Aging and the Life Course
Purdue University, West Lafayette, IN

07/2016-08/2022, Assistant Professor, Department of Health and Kinesiology
Purdue University, West Lafayette, IN

08/2012-07/2016, Associate Professor of Physiology with Tenure
Midwestern University, Glendale, AZ

07/2008-08/2012, Assistant Professor of Physiology
Midwestern University, Glendale, AZ

2004-2008, Post-Doctoral Fellow, Human Performance Laboratory
Ball State University, Muncie, IN

RECENT AWARDS and HONORS

2022	Dr. Carroll was highlighted in the December 2022 issue of Tendon Times published by the Orthopaedic Research Society. https://oasis-prod01-unlayer.s3.amazonaws.com/_generated/pdf/1674611006128-n4zXkBViEoLjvjc6.pdf
2022	Research study “Effect of incorporating lean beef into a protein-rich diet during resistance training program on skeletal muscle and connective tissue strength and quality in older women” was a featured article in the Center for Aging and the Life Course newsletter.
2021	Award for Exceptional Teaching and Instructional Support during the COVID-19 Pandemic, Purdue University
2019	Department of Health and Kinesiology, Graduate Teaching Excellence Award, Purdue University
2010-2015	NIH Loan Repayment Recipient

RECENT PROFESSIONAL DEVELOPMENT

2024	Attended virtual workshop “Identifying and Interrupting Microaggressions”
2023	American Kinesiology Leadership Workshop: Social Justice and Equity Imperatives: A Call to Action, San Diego, CA.
2022	Attended virtual workshop “Critical Conversations for DEI: Ageism”
2022	American Kinesiology Association Leadership Workshop and Graduate Education Preworkshop

Two-day workshop covering topics including DEI, graduate student health, recruitment, and retention, and current and future issues in academic leadership.

2021 Participated in Purdue University's National Science Foundation I-Corp 5-week course "Introduction to Customer Discovery".

2018 Completed "Big Data Training for Translational Omics Research Bootcamp" at Purdue University. This was a week-long program held for 12 hours per day providing a detailed overview of RNA sequencing and other high output methods.

PEER-REVIEWED PUBLICATIONS

*Indicates primary author(s), superscript numbers indicate co-author(s) mentored by the candidate: [u]undergraduate, [g]graduate student, [p]postdoctoral scientist. Times cited information from Google Scholar.

Citations as of 01/26/2024
Citations: 2439
h-index: 24
i10-index: 43

1. Patel, SH[g], Campbell, NWC[g], Emenim, CE[u], Farino, DO[u], Damen, FW[g], Rispoli, JV, Goergen, CJ, Haus, JM, Sabbaghi, A, and **Carroll*, CC**. Patellar tendon biomechanical and morphologic properties and their relationship to serum clinical variables in persons with pre-diabetes and type 2 diabetes. Journal of Orthopedic Research. In Press, Jan 27th, 2024. Impact Factor: 2.8
2. Reidy*, PT, Borack, MS, Dickinson, JM, **Carroll, CC**, Burd, NA, Drummond, MJ, Fry, CS, Lambert, BS, Gundermann, DM, Glynn, EL, Markofski, MM, Timmerman, KL, Moro, T, Volpi, E. Trappe, SW, Trappe, TA, Harber, MP, and Rasmussen*, BB. Post-absorptive muscle protein synthesis is higher in outpatients as compared to inpatients. Journal of Muscle Research and Cell Motility. Am J Physiol Endocrinol Metab. 2023 Aug 1;325(2): E113-E118.
3. Connolly*[g], G, Hudson, JL, Bergia, RE, Davis, EM, Hartmann, AS, Zhu, W, **Carroll, CC**, Campbell*, WW. Effects of Consuming Ounce-Equivalent Portions of Animal- Versus Plant-Based Protein Foods, as Defined by the Dietary Guidelines for Americans on Essential Amino Acids Bioavailability in Young and Older Adults: Cross-Over Randomized Controlled Trials. Nutrients. 2023 Jun 25;15(13): 2870.
4. Campbell[g], NWC, Patel[g], SH, Ferrandi[g], P, Couture[g], S, Farino[u], DO, Stout, J, Sabbaghi, A, and **Carroll*, CC**. Impact of essential amino acid intake, resistance exercise, and aging on the concentration of Achilles peritendinous amino acids and procollagen Iα1 in humans. Amino Acids. 2023 Jun;55(6): 777-787. Impact Factor: 3.5
5. Wiggs, WP, Yang, L, Shimkus, KL, Colleen, IO, Lima, F, Macias, BR, Shirazi-Fard, Y, Greene, ES, Hord, JM, Braby, LA, **Carroll, CC**, Lawler, JM, Bloomfield, SA, and Fluckey, JD. Combined effects of heavy ion exposure and simulated Lunar gravity on skeletal muscle. Life Sciences in Space Research. Life Sci Space Res (Amst). 2023 37:39-49. Impact Factor: 2.73
6. Patel[g], SH and **Carroll, CC*.** Impact of elevated serum advanced glycation end products and exercise on intact and injured murine tendons. Connect Tissue Res. 2023 Mar;64(2):161-174. Impact Factor: 3.342
7. Patel[g], SH, Mendias, CL, and **Carroll*, CC.** Descriptive transcriptome analysis of tendon-derived fibroblasts following in-vitro exposure to advanced glycation end products. PLoS One. 2022 July 17(7), e0271770. Cited: 3, Impact Factor: 3.752
8. Serrano*, N, Tran, L, Hoffman, N, Roust, LR, Filippis, E, **Carroll, CC**, Patel[g], SH, Kras, KA, Buras, B, and Katsanos*, CS. Lack of increase in muscle mitochondrial protein synthesis during the course of aerobic exercise and its recovery in the fasting state irrespective of obesity. Front Physiol. 2021 Aug, Article 702742. Cited: 5, Impact Factor: 4.134
9. Mazo[g], CE, D'Lugos[g], AC, Sweeney, K, Haus, JM, Angadi, SS, **Carroll, CC**, and Dickinson*, JM. The effects of acute aerobic and resistance exercise on mTOR signaling and autophagy markers in human skeletal muscle. European Journal of Applied Physiology. 2021 121(10), 2913-2924 2021 July 1. Cited: 10, Impact Factor: 2.620
10. **Carroll*, CC**, Patel[g], SH, Chemelewski[u], K, and Curtis, D. Acute onset Achilles tendon pain and swelling treated with an amniotic fluid-derived allograft: A case study. Journal of the American Podiatric Medical Association. 2021 Feb 1;111(1). Cited: 2, Impact Factor: 0.574

11. **Carroll*, CC**, Patel[g], SH, Simmons[g], J, Gorden, B, Olson[g], JF, Chemelewski[u], K, Saw[u], SK, Hale, TM, Howden, R, and Sabbaghi, A. Impact of genistein supplementation on tendon functional properties and gene expression in estrogen deficient rats. Journal of Medical Foods 2020 23(12), 1266-1274. Cited: 4, Impact Factor: 2.020

12. Patel[g*], SH, Yue, F, Saw[u], SK, Fogith, R, Cannon, JR, Shannahan, J, Kuang, S, Sabbaghi, A, and **Carroll*, CC**. Advanced Glycation End-Products Modulate Mitochondrial Function and Proliferative Capacity in Tendon Derived Fibroblasts. Scientific Reports. 2019 Aug 30;9(1):12614. PMID: 31471548 Cited: 25, Impact Factor: 4.122

13. Vines, K, Rongzi L, Thangiah G, Broderick, TL, **Carroll, CC**, and Jeganathan*, R. Nerve growth factor receptor TrkA signaling in streptozotocin-induced type 1 diabetes rat brain. Biochemical and Biophysical Research Communications. 2019 Jul 5;514(4):1285-1289. Cited: 6, Impact Factor: 2.705

14. D'Lugos[g]*, AC, Fry, CS, Ormsby, JS, Sweeney, KR, Hale, TM, Gonzales, RJ, Angadi, SS, **Carroll, CC**, Dickinson*, JM. Chronic doxorubicin administration impacts satellite cell and capillary abundance in a muscle specific manner. Physiological Reports. 2019 Apr;7(7):e14052. Cited: 12, Impact Factor: 2.103

15. Shimkus,* KL, Shirazi-Fard, Y, Wiggs, MP, Ullah, ST, Pohlenz, C, Gatlin, III DM, **Carroll, CC**, Hogan, HA, and Fluckey,*JD. Responses of skeletal muscle size and anabolism are reproducible with multiple periods of unloading/reloading. Journal of Applied Physiology. (1985). 2018 Nov 1;125(5):1456-1467. Cited: 17, Impact Factor: 3.056

16. Tran*, L, Kras, KA, Hoffman, N, Ravichandran, J., Dickinson, JM, D'Lugos[g], AC, **Carroll, CC**, Patel[g], SH, Mandarino, LJ, Roust, L, and Katsanos*, CS. Lower fasted-state but greater change in plasma amino acid-induced rise in muscle protein synthesis in people with obesity. Obesity (Silver Spring). 2018 Jul;26(7):1179-1187. Cited: 22, Impact Factor: 3.969

17. Patel[g*], SH, Sabbaghi, A, and **Carroll*, CC**. Streptozotocin-induced diabetes alters mRNA expression of ECM regulators in rat patellar tendon. Connective Tissue Research. 2018 May 10:1-11. Cited: 12, Impact Factor: 2.167

18. Dickinson*, JM, D'Lugos[g], AC, Naymik, M, De Both, M, Siniard, A, Wolfe, A, Curtis, D, Gaesser, GA, Huentelman*, MJ and **Carroll*, CC**. Transcriptome response of human skeletal muscle to divergent exercise stimuli. Journal of Applied Physiology. 2018 Jun 1;124(6):1529-1540. Cited: 65, Impact Factor: 3.056

19. D'Lugos*[g], AC, Patel[g], SH, Ormsby, JC, Curtis, DP, Fry, CS, **Carroll*, CC**, and Dickinson*, JM. Prior acetaminophen (paracetamol) consumption delays the early anabolic response of human skeletal muscle to resistance exercise. Journal of Applied Physiology. 2018 Apr 1;124(4):1012-1024. Cited: 19, Impact Factor: 3.056

20. Kras*, KA, Hoffman, N, Roust, LR, Patel[g], SH, **Carroll, CC**, and Katsanos*, CS. Plasma amino acids stimulate uncoupled respiration of muscle subsarcolemmal mitochondria in lean but not obese humans. Journal of Clinical Endocrinology and Metabolism. 2017 Dec 1;102(12):4515-4525. Cited: 9, Impact Factor: 4.181

21. Dickinson*, JM, D'Lugos[g], AC, Mahmood, TM, Ormsby, J, Salvo, L, Dedmon[g], WL, Patel[g], SH, Katsma[u], MS, Gonzales, RJ, Hale, TM, **Carroll*, CC**, Angadi*, SS. Exercise protects skeletal muscle during chronic doxorubicin administration. Medicine Science in Sport and Exercise. 2017 Dec;49(12):2394-2403. Cited: 22, Impact Factor: 4.478

22. Patel[g*], SH, D'Lugos[g], AC, Eldon[u], ER, Curtis, D, Dickinson, JM, and **Carroll*, CC**. Impact of acetaminophen consumption and resistance exercise on extracellular matrix gene expression in human skeletal muscle. American Journal of Physiology Regulatory Integrative and Comparative Physiology. 2017 2017 Jul 1;313(1):R44-R50. Cited: 11, Impact Factor: 3.261

23. Katsma, MS[u], Patel[g], SH, Eldon[u], ER, Arthur, KA, Shimkus, KL, Fluckey, JD, and **Carroll*, CC**. The influence of chronic IL-6 exposure, in vivo, on rat Achilles tendon extracellular matrix. Cytokine, 2017 May;93:10-14. Cited: 11, Impact Factor: 3.488

24. Astill[g], BD, Katsma[u], MS, Cauthon[u], DJ, Greenlee[u], J, Murphy[u], M, Curtis, D, and **Carroll*, CC**. Sex-based difference in Achilles tendon release of matrix metalloproteinases and growth factors after acute resistance exercise. Journal of Applied Physiology. 2017 Feb 1;122(2):361-367. Cited: 22, Impact Factor: 3.056

25. Potter, RM, Huynh[g], RT, Volper[g], BD, Arthur, KA D'Lugos[g], A, Sørensen, MA, Magnusson, SP, Dickinson, JM, Hale, TM, and **Carroll*, CC**. The impact of TGF-β inhibition during acute exercise on Achilles tendon extracellular matrix. American Journal of Physiology Regulatory Integrative and Comparative Physiology l. 2017 Jan 1;312(1):R157-R164. Cited: 19, Impact Factor: 3.261

26. Tran*, L, Hanavan, PD, Campbell, LE, De Filippis, E, Lake, DF, Coletta, DK, Roust, LR, Mandarino, LJ, **Carroll, CC**, Katsanos*, CS. Prolonged Exposure of Primary Human Muscle Cells to Plasma Fatty Acids Associated with Obese Phenotype Induces Persistent Suppression of Muscle Mitochondrial ATP Synthase β Subunit. PLOS One. 2016 Aug 17;11(8). Cited: 17, Impact Factor: 2.776

27. Everman*, S, Meyer, C, Tran, L, Hoffman, N, **Carroll, CC**, Dedmon[g], WL, and Katsanos*, CS Insulin does not Stimulate Muscle Protein Synthesis during Increased Plasma Branched-chain Amino Acids Alone but Decreases Whole-body Proteolysis in Humans. American Journal of Physiology Endocrinology and Metabolism. 2016 Oct 1;311(4): E671-E677. Cited: 27, Impact Factor: 4.181

28. Trappe*, TA, Ratchford, SM, Brower, BE, Liu, SZ, Lavin, KM, **Carroll, CC**, Jemiolo, B and Trappe, SW. COX inhibitor influence on skeletal muscle fiber size and metabolic adaptations to resistance exercise in older adults. Journal of Gerontology. Series A Biological Sciences and Medical Sciences. 2016; 71(10): 1289-1294. Cited: 41, Impact Factor: 4.711

29. **Carroll*, CC**. Analgesic drugs alter connective tissue remodeling and mechanical properties. Exercise Sports Science Reviews. Invited Review. 44(1):29-36, 2016. Cited: 13, Impact Factor: 4.25.

30. Volper[g], BD, Huynh[g], RT, Arthur, KA, Noone, J, Gordon, BD, Zacherle, EW, Munoz, E, Sorensen, MA, Broderick, TL, Magnusson, SP, Howden, R, Hale TM, and **Carroll*, CC**. The influence of acute and chronic streptozotocin-induced diabetes on rat tendon extracellular matrix and mechanical properties. American Journal of Physiology Regulatory Integrative and Comparative Physiology. 309(9): R1135-43, 2015. Cited: 30, Impact Factor: 3.261

31. Everman*, S, Meyer, C, Mandarino, LJ, **Carroll, CC**, and Katsanos*, CS. Acute exposure to increased plasma branched-chain amino acids does not alter the sensitivity to insulin-stimulated plasma glucose disposal in young healthy subjects. PLOS ONE. 10(3): e0120049, 2015. Cited: 20, Impact Factor: 2.776

32. **Carroll*, CC**, Martineau[u], K, Corbell, K, Huynh[g], RT, Volper[g], BD, and Broderick, TL. The effect of chronic treadmill exercise and acetaminophen on collagen and cross-linking in rat skeletal muscle and heart. American Journal of Physiology Regulatory Integrative and Comparative Physiology. 308: R294-R299, 2015. Cited: 21, Impact Factor: 3.261

33. Gump[g], BS, McMullan[g], DR, Cauthon[u], DJ, Whitt[g], JA, Del Mundo, JD, Letham[u], T, Kim, PJ, Friedlander, G, Pingel, J, Langberg, H, and **Carroll*, CC**. Short-term acetaminophen consumption enhances the increase in Achilles peritendinous IL-6 production after treadmill exercise in humans. Journal of Applied Physiology. 115: 929-936, 2013. Cited: 29, Impact Factor: 3.056

34. **Carroll*, CC**, O'Conner, DT, Steinmeyer, R, Del Mundo, JD, McMullan, DR[g], Whitt, JA[g], Ramos, JE[u], and Gonzales, RJ The influence of acute resistance exercise on human skeletal muscle cyclooxygenase activity and protein content. American Journal of Physiology Regulatory Integrative and Comparative Physiology. 305(1): R24-30, 2013. Cited: 32, Impact Factor: 3.261

35. Trappe*, TA, Standley, RA, Jemiolo, B, **Carroll, CC**, and Trappe SW. Prostaglandin and myokine involvement in the cyclooxygenase-inhibiting drug enhancement of skeletal muscle adaptations to resistance exercise in older adults. American Journal of Physiology Regulatory Integrative and Comparative Physiology. 304(3): R198-205, 2013. Cited: 67, Impact Factor: 3.261

36. Biwer*, L. Broderick, T., Xu, H., **Carroll, CC**, and Hale*, T. Protection against L-NAME induced reduction in cardiac output persists even after cessation of angiotensin-converting enzyme inhibitor treatment. Acta Physiologica (Oxf). 207(1): 156-65, 2013. Cited: 18, Impact Factor: 5.868

37. Ramos[u], JE, Al-Nakkash, L, Peterson, A, Gump[g], B, Djandjoulia, T, Moore[u], S, Broderick, T, and **Carroll*, CC**. The soy isoflavone genistein inhibits the reduction in Achilles tendon collagen content induced by ovariectomy in rats. Scand J Med Sci Sports. 22(5): e108-14, 2012. Cited: 17, Impact Factor: 3.631

38. **Carroll*, CC**, Whitt[g], JA, Peterson, A, Gump[g], B, Tedeschi, J, and Broderick, TL. The influence of acetaminophen and exercise on rat Achilles tendon structural properties. American Journal of Physiology Regulatory Integrative and Comparative Physiology 302(8): R990-5, 2012. Cited: 25, Impact Factor: 3.261

39. **Carroll*, CC**, Dickinson, JM, LeMoine, JK, Haus, JM, Weinheimer, EM, Hollon, CJ, Aagaard. P, Magnusson, SP, and Trappe*, TA. Influence of acetaminophen and ibuprofen on in vivo patellar tendon adaptations to knee extensor resistance exercise in older adults. Journal of Applied Physiology. 111(2): 508-15, 2011. Cited: 61, Impact Factor: 3.056

40. Trappe*, TA, **Carroll*, CC**, Dickinson, JM, LeMoine, JK, Haus, JM, Weinheimer, EM, and Hollon, CJ. Influence of acetaminophen and ibuprofen on skeletal muscle adaptations to resistance exercise in older adults. American Journal of Physiology Regulatory Integrative and Comparative Physiology 300: R655-R662, 2011. Cited: 240, Impact Factor: 3.261

41. Burd*, NA, Dickinson, JM, LeMoine, JK, **Carroll, CC**, Haus, JM, Jemiolo, B, Trappe, SW, Hughes, GM, Sanders Jr., C, and Trappe*, TA. Effect of cyclooxygenase-2 inhibitor on postexercise muscle protein synthesis in humans. American Journal of Physiology, 298: E354-E361, 2010. Cited: 79, Impact Factor: 3.261

42. Sullivan*, BE, **Carroll*, CC**, Jemiolo, B, Trappe, SW, Magnusson, SP, Døssing, S, Kjær, M, and Trappe*, TA. Effect of acute resistance exercise and sex on human patellar tendon structural and regulatory mRNA expression. Journal of Applied Physiology. 106(2): 468-475, 2009. Cited: 84, Impact Factor: 3.056

43. **Carroll*, CC**, Dickinson, JM, Haus, JM, Lee, GA, Hollon, CJ, Aagaard, P, Magnusson, SP, and Trappe*, TA. The influence of aging on the in vivo properties of human patellar tendon. Journal of Applied Physiology. 105(6): 1907-1915, 2008. Cited: 184, Impact Factor: 3.056

44. Trappe*, TA, **Carroll*, CC**, Jemiolo, B, Trappe, SW, Dossing, S, Kjaer, M, and Magnusson, SP Cyclooxygenase mRNA expression in human patellar tendon at rest and after exercise. American Journal of Physiology Regulatory Integrative and Comparative Physiology. 294(1): R192-9, 2008. Cited: 17, Impact Factor: 3.261

45. Haus*, JM, Carrithers, JA, **Carroll, CC**, Tesch, PA, and Trappe*, TA. Contractile and connective tissue protein content in human skeletal muscle: Effects of 35 and 90 days of simulated microgravity and exercise countermeasures. American Journal of Physiology Regulatory Integrative and Comparative Physiology. 293: R1722-7, 2007. Cited: 78, Impact Factor: 3.261

46. Weinheimer*, EM, Jemiolo, B, **Carroll, CC**, Harber, MP, Haus, JM, Burd, NA, LeMoine, JK, Trappe, SW, and Trappe*, TA. Resistance exercise and cyclooxygenase (COX) expression in human skeletal muscle: implications for COX-inhibiting drugs and protein synthesis. American Journal of Physiology Regulatory Integrative and Comparative Physiology. 292: R2241-48, 2007. Cited: 88, Impact Factor: 3.261

47. Carrithers*, JA, **Carroll, CC**, Coker, RH, Sullivan, DH, and Trappe*, TA. Concurrent aerobic and resistance exercise does not reduce the anabolic response to resistance exercise: implications for exercise countermeasures for space crews. Aviation Space Environmental Medicine. 78(5): 457-62, 2007. Cited: 47, Impact Factor: 0.889

48. Haus*, J, Miller, B, **Carroll, CC**, Weinheimer, E, Trappe*, T. The effect of strenuous aerobic exercise on skeletal muscle myofibrillar proteolysis in humans. Scandinavian Journal of Medicine and Science in Sports. 17(3): 260-6, 2007. Cited: 23, Impact Factor: 3.631

49. **Carroll*, CC** and Trappe*, TA. Personal digital video: a method to monitor drug regimen adherence during human clinical investigations. Clinical Experimental Pharmacology and Physiology. 33(12): 1125-7, 2006. Cited: 9, Impact Factor: 2.336

50. **Carroll*, CC**, Gallagher, PM, Seidle, ME, and Trappe*, SW. Skeletal muscle characteristics of individuals with multiple sclerosis. Archives of Physical Medicine and Rehabilitation. 86(2): 224-9, 2005. Cited: 108, Impact Factor: 2.697

51. **Carroll*, CC**, Fluckey, JD, Williams, RH, Sullivan, DH, and Trappe*, TA. Human Soleus and Vastus Lateralis Muscle Protein Metabolism with an Amino Acid Infusion. American Journal of Physiology Endocrinology and Metabolism. 288(3): E479-85, 2005. Cited: 79, Impact Factor: 4.181

52. Dennis*, RA, Trappe, TA, Simpson, P, **Carroll, CC**, Huang, BE, Nagarajan, R, Bearden, E, Gurley, C, Duff, GW, Evans, WJ, Kornman, K, and Peterson*, CA. Interleukin-1 single nucleotide polymorphisms are associated with the inflammatory response in muscle to acute resistance exercise in young men. Journal of Physiology. 560(Pt 3): 617-26, 2004. Cited: 81, Impact Factor: 4.950

53. **Carroll*, CC**, Carrithers, JA, and Trappe*, TA. Contractile protein concentrations in human single muscle fibers. Journal of Muscle Research and Cell Motility. 25: 55-59, 2004. Cited: 24, Impact Factor: 1.702

54. Trappe*, S, Godard, M, Gallagher, P, **Carroll, CC**, Rowden, G, and Porter, D. Resistance training improves single muscle fiber contractile function in older women. American Journal of Physiology Cell. 281(2): C398-406, 2001. Cited: 238, Impact Factor: 3.760

55. Williamson*, DL, Gallagher, PM, **Carroll, CC**, Raue, U, and Trappe*, SW. Reduction in hybrid single muscle fiber proportions with resistance training in humans. Journal of Applied Physiology. 91(5): 1955-61, 2001. Cited: 191, Impact Factor: 3.056

BOOK CHAPTERS

Carroll, C.C. and Lambert, C.P. Multiple Sclerosis. In: *Clinical Exercise Physiology* (2nd Ed.), Edited by: Ehrman, J.K., Gordon, P.M., Visich, P.S., and Keteyian, S.J. Human Kinetics, 2009, p. 543-554.

MANUSCRIPTS UNDER REVIEW

Carroll, CC*, Campbell, NWC[g], Lewis, RL[u], Preston, SE[u], Garrett, CM[u], Winstone, HM[u], Barker, AC[g], Vanos, JM[u], Stouder, LS[u], Reyes, C[g], Fortino, M[u], Goergen, CJ, Hass, ZJ, and Campbell, WW. The impact of incorporating lean beef into a protein-rich diet on skeletal muscle and tendon adaptations to resistance training in older adult women. Journal of Nutrition. Preparing revisions.

Garvin, AM, Floyd, DB, Bailey, AC, Lindsey, ML, **Carroll, CC**, and Hale, TM*. Transient Angiotensin Converting Enzyme Inhibition Confers Sex-Specific Protection Against Angiotensin II-Induced Cardiac Remodeling.

PODIUM CONFERENCE PRESENTATIONS

1. Serum advanced glycation end-products as mediators of tendon complications with diabetes. Presented as part of a symposium "*Metabolic Dysfunction in Tendon Disease"* at the Orthopedic Research Society Annual Meeting. Long Beach, CA, 2024.
2. Keeping our tendons healthy with age. Center for Aging and the Life Course Fall Symposium, Purdue University, 2023
3. Serum advanced glycation end-products: A novel mechanism of poor tendon healing in diabetes. 7th Annual Center for Diabetes and Metabolic Diseases, Indiana University School of Medicine, Symposium, 2021.
4. Advanced Glycation End-Product Induced Mitochondrial Dysfunction in Tenocytes. International Scientific Tendinopathy Symposium, Groningen, Netherlands, 2018.
5. Invited Symposium. Can Nutritional Interventions Impact Tendon Health? American College of Sports Medicine, Annual Meeting, 2018.
6. Invited Symposium. Molecular Adaptation of Tendon to Exercise and Chronic Disease. American College of Sports Medicine, Annual Meeting, 2016.
7. Carroll, C.C. and Kovacevic, D (Dual Presenters). Evaluation of an amniotic fluid-derived human allograft for rotator cuff repair augmentation in a chronic, massive rotator cuff tear model. American Orthopaedic Society for Sports Medicine, 2015.
8. The effect of TGF-β receptor inhibition and acute exercise on rat Achilles tendon structural properties. Advances in tendon research: from bench to bedside, London, England, 2015.
9. Invited Symposium. Reducing Tendon Problems with Aging. Southwest ACSM Annual Meeting, 2014. Costa Mesa, CA.
10. The effect of Acetaminophen and Exercise on the Achilles Tendon in Wistar Rats. Arizona Physiological Society, Annual Meeting, 2010.
11. The effect of acetaminophen and exercise on IL-6 levels in human Achilles peritendinous tissue. Arizona Physiological Society, Annual Meeting, 2010.
12. Cyclooxygenase Enzyme Activation in Human Skeletal Muscle After Acute Resistance Exercise. Arizona Physiological Society Annual Meeting, 2009.

INVITED LECTURES

1. Invited Guest Lecture, Indiana University Purdue University Indianapolis, Department of Biomedical Engineering, 2019.
2. Studies regarding the impact of analgesics, estrogen-deficiency, and diabetes on tendon outcomes. Grand Rounds, Hospital of Special Surgery, New York, NY. 2018
3. Tendon adaptations with loss estrogen and genistein supplementation. University of North Caroline at Charlotte, 2015.

ONGOING FUNDING SUPPORT

Agency/Mechanism: 1 R01 AR081967-01
Title of Grant: *Serum Advanced Glycation End-Products as Mediators of Tendon Degeneration with Diabetes*
Duration of Funding: 09/25/2023-07/31/2028
Total Amount of Award: $3,066,018
Role: Principal Investigator

Agency/Mechanism: 1109Bravo LLC (subcontract), Department of the Air Force, United States of America/STTR Phase II
Title of Grant: *Optimizing the human machine and warfighter performance*
Duration of Funding: 06/01/2023-07/31/2024
Total Amount of Award: sub-contract with Purdue University, $225,000
Role: Sub-contract, Co-I

Agency/Mechanism: US Department of Agriculture/Hatch Project
Title of Grant: *Optimizing Musculoskeletal Health*
Duration of Funding: 10/01/2021-09/30/2026
Total Amount of Award: N/A, salary support funded through Purdue University
Role: Principal Investigator

PENDING FUNDING SUPPORT

Agency/Mechanism: 1 R01 AR083423-01
Title of Grant: *Mechanisms Underlying Poor Tendon Healing in Diabetes*
Duration of Funding: 09/01/2023-08/31/2028
Total Amount of Award: $3,248,212
Role: PI
Status: Percentile 34%, Priority Score 44, Planning resubmission

Agency/Mechanism: 1 R01 AG086494-01
Title of Grant: *In Vivo Tendon Properties Across the Lifespan of Women*
Duration of Funding: 04/01/2024-03/31/2029
Total Amount of Award: $2,339,052
Role: PI
Status: Percentile 38%, Priority Score 45, Planning resubmission

PAST/COMPLETED FUNDING SUPPORT

Agency/Mechanism: National Cattlemen's Beef Association
Title of Grant: *Effect of incorporating lean beef into a protein-rich diet during resistance training program on skeletal muscle and connective tissue strength and quality in older women*
Duration of Funding: 03/01/2020 – 08/31/2023
Total Amount of Award: $324,442
Role: Principal Investigator

Agency/Mechanism: Center for Diabetes and Metabolic Diseases Indiana University School of Medicine-Pilot and Feasibility Grant
Title of Grant: *Mechanisms Underlying Poor Tendon Healing with Diabetes*
Duration of Funding: 07/01/2021-05/31/2023
Total Amount of Award: $50,000
Role: Principal Investigator

Agency/Mechanism: Showalter Research Trust
Title of Grant: *Mechanisms underlying tendon dysfunction associated with diabetes*
Duration of Funding: 07/01/2019-06/01/2022
Total Amount of Award: $75,000
Role: PI

Agency/Mechanism: Purdue University HHS Summer 2021 Research Renewal Award
Title of Grant: *Mechanisms Underlying Poor Tendon Healing with Diabetes*
Duration of Funding: 07/01/2021-06/30/2022
Total Amount of Award: $9,552
Role: PI

Agency/Mechanism: Center for Aging and the Life Course Faculty Research Development Award
Title of Grant: *Impact of Menopause on In Vivo Tendon Properties*
Duration of Funding: 07/01/2021-06/30/2022
Total Amount of Award: $9,500
Role: PI

Agency/Mechanism: 2021-22 COVID-19 Research Disruption Fund, Purdue University
Title of Grant: Effect of incorporating lean beef into a protein-rich diet during a resistance training program on skeletal muscle and connective tissue strength and quality in older women
Duration of Funding: 10/01/2021-04/30/2022
Total Amount of Award: $25,000
Role: PI

Agency/Mechanism: American Shoulder and Elbow Surgeons
Title of Grant: *Evaluation of an amniotic fluid-derived allograft for rotator cuff repair augmentation in a chronic, massive rotator cuff tear model in rats*
Duration of funding: 01/01/2016-12/31/2016
Total Amount of Award: $20,000
Role: Co-Investigator

Agency/Mechanism: NIH/NCCIH
Title of Grant: *Novel effects of genistein on tendon remodeling in a model of estrogen-deficiency*
Duration of Funding: 12/01/2015 – 04/01/2016, Grant would not transfer to Purdue University, Grant closed after four months.
Total Amount of Award: $468,639
Role: PI

Agency/Mechanism: American College of Foot and Ankle Surgeons
Title of Grant: *The Physiological Response to Surgical Microdebridement in Patients with Achilles Tendinopathy*
Duration of Funding: 2008 Clinical and Scientific Research Grant Application
Total Amount of Award: $19,400
Role: Co-Investigator

Agency/Mechanism: Midwestern University College of Health Sciences Incentive Award
Title of Grant: *Is an altered metabolic response to tendon loading (e.g. via obesity and/or exercise) a predisposing factor to the development of tendinosis? A pilot study*
Duration of Funding: 07/01/2009-06/31/2010
Total Amount of Award: $5,000
Role: PI

Agency/Mechanism: Midwestern University College of Health Sciences
Title of Grant: Support for Graduate Student Research
Duration of Funding: 9 awards from 2009-2016
Total Amount of Award: $5,000 per award, total $45,000
Role: PI

Agency/Mechanism: Midwestern University, Basic Sciences
Title of Grant: Annual Competitive Research Support
Duration of Funding: 7 awards from 2009-2016
Total Amount of Award: $5,000 per award, total $35,000
Role: PI

Agency/Mechanism: Midwestern University
Title of Grant: Funds to Purchase Agilent GC/MS
Duration of Funding: N/A
Total Amount of Award: $50,000
Role: PI

Agency/Mechanism: Midwestern University
Title of Grant: Funds to Purchase Gas Sterilizer
Duration of Funding: N/A
Total Amount of Award: $10,000
Role: PI

Agency/Mechanism: Midwestern University
Title of Grant: Funds to Purchase HPLC Detector
Duration of Funding: N/A
Total Amount of Award: $10,000
Role: PI

Agency/Mechanism: Midwestern University
Title of Grant: Funds to Purchase Speed Vac Sample Concentrator
Duration of Funding: N/A
Total Amount of Award: $25,000
Role: PI

Agency/Mechanism: American Physiological Society
Title of Grant: *Analgesics, Exercise & Tendon Adaptations in the Elderly*
Duration of Funding: 10/01/07-9/30/08
Total Amount of Award: $42,000
Role: PI, Postdoctoral Initiative Award

FUNDED STUDENT GRANTS

Agency/Mechanism: American College of Sports Medicine, ACSM Foundation Research Grant
Title of Grant: *Moderate Treadmill Exercise to Improve Tendon Healing in Diabetes*
Duration of Funding: 07/01/2019-06/01/2020
Total Amount of Award: $4966
Role: Mentor for Shivam H. Patel

Agency/Mechanism: National Institute of Health, F31 AR073647-01
Title of Grant: *Diabetes, advanced glycation, and tendinopathy*
Duration of Funding: 05/01/2018-04/31/2021
Total Amount of Award: $132,132
Role: Mentor for Shivam H. Patel

Agency/Mechanism: American Podiatric Medical Students' Association Research Grant
Title of Grant: *The influence of acetaminophen on tendon metabolism at rest and after exercise in humans*
Duration of Funding: 2009-2010
Total Amount of Award: $1000
Role: Mentor for DJ Cauthon

CONFERENCE PROCEEDINGS/ABSTRACTS

Poster Presentations

1. Gutierrez, E, Reyes, C, Johnson, T, Campbell, NWC, Vanos, JM, Loges, ZA, Dyment, N, and **Carroll, CC.** Impact of RAGE inhibitor administration on tendon biomechanical properties in a mouse model of type 2 diabetes. Orthopedic Research Society Annual Meeting. Long Beach, CA, 2024.
2. Cottingham, H, Reyes, C, Campbell, NWC, Johnson, T, Vanos, JM, Loges, ZA, Dyment, N, and **Carroll, CC.** Impact of serum advanced glycation end-products and RAGE inhibitor administration on patellar tendon healing in a mouse model. Orthopedic Research Society Annual Meeting. Long Beach, CA, 2024.

3. Campbell, NWC, Preston, SE, Lewis, RL, Garrett, CM, Winestone, HM, Barker, A, Reyes, C, Stouder, LS, Vanos, JM, Campbell, WW, and **Carroll, CC.** Effect of increased dietary protein intake and source on resistance training-induced changes in skeletal muscle and patellar tendon properties in older women. Orthopedic Research Society Annual Meeting. Long Beach, CA, 2024.

4. Campbell, NWC, Preston, SE, Lewis, RL, Winestone, HM, Reyes, C, Garrett, CM, Stouder, LS, Vanos, JM, Campbell, WW, and **Carroll, CC**. Effect of dietary protein quantity and source on resistance training-induced changes in skeletal muscle strength, size, and quality in older women. American Society of Nutrition Annual Meeting, Boston, MA, 2023.

5. Garrett, CM, Campbell, NWC, Preston, SE, Lewis, RL, Winestone, HM, Reyes, C, Stouder, LS, Vanos, JM, Campbell, WW, and **Carroll, CC**. Effects of dietary protein quantity and source on cardiometabolic disease risk factors in postmenopausal women performing resistance training. Purdue University Spring 2023 Undergraduate Research Symposium.

6. Winestone, HM, Campbell, NWC, Barker, AC, and **Carroll, CC**. Patellar tendon morphology in young and older adult women. Purdue University Spring 2023 Undergraduate Research Symposium.

7. Preston, SE, Campbell, NWC, Lewis, RL, Winestone, HM, Reyes, C, Garrett, CM, Stouder, LS, Vanos, JM, Campbell, WW, and **Carroll, CC**. Effect of resistance training and dietary protein modification on skeletal muscle mass and strength in older adult women. Purdue University Spring 2023 Undergraduate Research Symposium.

8. Lewis, RL, Campbell, NWC, Preston, SE, Garret, CM, Winestone, HM, Barker, AC, Reyes, C, Stouder, LS, Vanos, JM, Campbell, WW, and **Carroll, CC**. Effect of resistance training and dietary protein modification on skeletal muscle fat content in older adult women. Purdue University Spring 2023 Undergraduate Research Symposium.

9. Campbell[g], NWC**,** Cottingham[u], H, Kargl[g], C, **Carroll, CC.** Treatment of Healthy Tendon-Derived Cells with Serum from Rats with Streptozotocin-Induced Diabetes Impairs Cell Proliferation, Migration, and Metabolic Activity. Orthopedic Research Society Annual Meeting. Dallas, TX, 2023.

10. Patel, SH[g], Campbell[g], NWC, Emenim[u], CE, Farino[u], DO, Rispoli, JV, Goergen, CJ, Haus, JM, Sabbaghi, A, and **Carroll, CC.** Relationship between patellar tendon biomechanical and morphologic properties to serum clinical variables in persons with pre-diabetes and type 2 diabetes. Orthopedic Research Society Annual Meeting. Dallas, TX, 2023.

11. **Carroll, CC**, Patel, SH, Campbell, WC, Emenim, CE, Farino, DO, Rispoli, JV, Goergen, CJ, Haus, JM, and Sabbaghi, A. Can *in vivo* tendon morphology and biomechanical properties be predicted from serum factors in people with pre-diabetes and type 2 diabetes? 2022 ORS Tendon Section Conference, Philadelphia, PA.

12. Campbell, WC, Ferrandi, P, Patel, SH, Couture, S, Farino, Stout, J, Sabbaghi, A and **Carroll, C.C.** Impact of essential amino acid intake, resistance exercise, and aging on Achilles peritendinous amino acid concentrations and collagen synthesis. 2022 ORS Tendon Section Conference, Philadelphia, PA.

13. Woods, DB, Nunez, W, Garvin, A, **Carroll, CC**, and Hale, TH. Sex-Selective Effects of Transient ACE Inhibition on Angiotensin II- Stimulated Fibrogenic Responses. Experimental Biology, 2022.

14. Patel[g], SH and **Carroll, CC**. Evaluation of Tendon Healing in a Mouse Model of Elevated Serum Advanced Glycation End Products Following Tendon Injury. Orthopedic Research Society Annual Meeting, 2022.

15. Patel[g], SH, Hettinger, ZR, Foguth, R, Yue, F, Kuang, S, Cannon, JR, Shannahan, J, and **Carroll, CC**. Advanced Glycation End-Products Impair Mitochondrial Function and Cell Proliferation in Rat Achilles Tenocytes. 2019 NHLBI Mitochondrial Biology Symposium on Mitochondrial Networks and Energetics. NIH, Bethesda, MD. September 2019.

16. Serrano, N, D'Lugos[g], AC, Ormsby, JC, Thomas, MT, Marvasti, FF, **Carroll, CC**, Gaesser, GA, and Dickinson, JM. Relationships among skeletal muscle satellite cells, capillarization, and VO_{2peak} in older adults. Newport Beach, CA. Southwest ACSM Annual Meeting, 2019.

17. **Carroll, CC**, Patel[g], SH, Gordon, BDH, and Howden, R. Genistein treatment alters Achilles tendon gene expression and improves tail fascicle mechanical properties in estrogen-deficient rats. ORS Tendon Section 2018 Conference Discovery to Delivery in Tendon Research: Team Approaches. Portland, OR.

18. Patel[g], SH, Hettinger[g], ZR, Foguth, R, Yue, F, Kuang, S, Cannon, JR, Shannahan, J, and **Carroll, CC.** Advanced Glycation End-Products Impair Mitochondrial Function and Cell Proliferation in Rat Achilles Tenocytes ORS Tendon Section 2018 Conference Discovery to Delivery in Tendon Research: Team Approaches. Portland, OR. Selected as finalist for trainee award.

19. Patel[g], SH, Ferrandi[g], PJ, Hettinger[g], ZR, Foguth, R. Yue, F, Kuang, S, Cannon, JR, Shannahan, S, and **Carroll, CC**. Advanced Glycation End-Products Impair Mitochondrial Function and Cell Proliferation in Rat Achilles Tenocytes. Purdue Health and Human Sciences Research Day, October 2018. West Lafayette, IN.

20. Patel[g], SH, Ferrandi[g], PJ, Hettinger[g], ZR, Foguth, R. Yue, F, Kuang, S, Cannon, JR, Shannahan, S, **Carroll, CC.** Advanced Glycation End-Products Impair Mitochondrial Function and Cell Proliferation in Rat Achilles Tenocytes. Indiana Center for Musculoskeletal Health, Annual Scientific Retreat, Indianapolis, IN, September 2018.

21. Ferrandi[g], P, Patel[g], SH, Simmons[g], J, and **Carroll, CC.** The Impact of Amino Acid Consumption on Resistance Exercise-Mediated Tendon Adaptations in Young Adult Females, Integrative Physiology of Exercise, San Diego, CA, 2018.

22. Dickinson, JM, D'Lugos[g], AC, Thomas, NT, Naymik, M, Marvasti, FF, **Carroll, CC**, and Huentelman, MJ. Skeletal Muscle Transcriptome Response to Acute Interval and Continuous Exercise in Older Adults. Integrative Physiology of Exercise, San Diego, CA, 2018.

23. **Carroll, CC**, Patel[g], SH, Gordon, BDH, and Howden, R. Preservation of Tendon Fascicle Failure Stress in Ovariectomized Rats Following Phystoestrogen Treatment: A Possible Role for Tenomodulin. International Scientific Tendinopathy Symposium, Groningen, Netherlands, 2018.

24. Patel[g], SH, Ferrandi[g], PJ, Hettinger, ZR, Foguth, R. Yue, F, Kuang, S, Cannon, JR, Shannahan, S, **Carroll, CC**. Advanced Glycation End-Products Impair Mitochondrial Function and Cell Proliferation in Rat Achilles Tenocytes. Center for Diabetes and Metabolic Diseases, Annual Symposium, Indianapolis, IN, August 2018.

25. Patel[g], SH, Olson[g], JF, Gordon, BDH, Howden, R, **Carroll, CC**. Genistein Treatment Alters Achilles Tendon Collagen Gene Expression and Improves Tail Fascicle Mechanical Properties in Estrogen Deficient Rats. Orthopedic Research Society Annual Meeting, 2018. New Orleans, LA.

26. Patel[g], SH, Sabbagi, A, **Carroll, CC**. Streptozotocin-Induced Diabetes Disrupts mRNA Expression of Tendon Regulators but Minimally Alters COX-2 Related mRNA Expression in Rat Patellar Tendon. Orthopedic Research Society Annual Meeting, 2018. New Orleans, LA.

27. Kovacevic, D, Suriani, RJ, Saad, MA, Patel[g], SH, Tommasini, SM, Mendias, CL, **Carroll, CC**, and Blaine, TA. Human Amniotic Membrane Improves Healing in a Chronic, Massive Rotator Cuff Repair Model. Orthopedic Research Society Annual Meeting, 2018. New Orleans, LA.

28. Patel[g], SH, Sabbaghi, A, and **Carroll, CC**. Streptozotocin-Induced Diabetes Disrupts mRNA Expression of Tendon Regulators but Minimally Alters COX-2 Related mRNA Expression in Rat Patellar Tendon. Health and Human Sciences Fall Research Day, Purdue University, November 2017.

29. Palermo[u], N, Patel[g], SH, **Carroll, CC**. Influence of Acetaminophen and Exercise on Extracellular Matrix Related Gene Expression in Rat Skeletal Muscle. Health and Human Sciences Fall Research Day, Purdue University, November 2017.

30. Patel[g], SH, Sabbaghi, A, and **Carroll, CC**. Streptozotocin-Induced Diabetes Disrupts mRNA Expression of Tendon Regulators but Minimally Alters COX-2 Related mRNA Expression in Rat Patellar Tendon. Indiana Center for Musculoskeletal Health, Annual Scientific Retreat, Indianapolis, IN, September 2017.

31. Patel[g], SH, Olson[g], JF, Gordon, BDH, Hale, TM, Howden, R, and **Carroll, CC**. Genistein treatment alters Achilles tendon collagen gene expression and improves tail fascicle mechanical properties in estrogen deficient rats. Indiana Center for Musculoskeletal Health, Annual Scientific Retreat, Indianapolis, IN, September 2017.

32. Patel[g], SH, Sabbaghi, A, and **Carroll, CC**. Streptozotocin-Induced Diabetes Alters mRNA Expression of ECM Regulators in Rat Patellar Tendon. Orthopaedic Research Society, Midwest Musculoskeletal Workshop, St. Louis, MO, July 2017. *Selected as finalist for Best Poster Award.

33. Dickinson, JM., D'Lugos[g], AC, Naymik, M., De Both, M., Siniard, A., Wolfe, A., Curtis, D., Gasser, GA., Huentelman, MJ, and **Carroll, CC**. Transcriptional Signatures of Human Skeletal Muscle in Response to Aerobic and Resistance Exercise. American College of Sports Medicine Annual Meeting, Denver, CO, 2017.

34. D'Lugos, AC, Patel[g], SH, Ormsby, JC, Mahmood, TN, Curtis, DP, Fry, CS, Gasser, GA, **Carroll, CC**, and Dickinson, JM. The Impact of Acetaminophen Consumption on mTOR Signaling in Human Skeletal Muscle Following Resistance Exercise. American College of Sports Medicine Annual Meeting, Denver, CO, 2017.

35. Patel[g], SH, Olson[g], JF, Gordon, BDH, Hale, TM, Howden, R, and **Carroll, CC**. Genistein treatment alters Achilles tendon collagen gene expression and improves tail fascicle mechanical properties in estrogen deficient rats. Purdue University Health and Disease: Science, Technology, Culture, and Policy, March 2017. [*]Poster awarded first place in the 'Prevention and Wellness' category.

36. Patel[g], SH, Katsma[u], MS, Eldon[u], E, Arthur, KA, Shimkus, KL, Fluckey, JD, and **Carroll, CC**. The influence of chronic IL-6 exposure, in vivo, on rat Achilles tendon extracellular matrix. Orthopedic Research Society Annual Meeting, 2017. San Diego, CA.

37. D'Lugos[g], AC, Fry, C, Patel[g], SH, **Carroll, CC**, and Dickinson, JM. Acetaminophen consumption alters the signaling and intracellular localization of mTOR in human skeletal muscle following resistance exercise. Cell Symposia, Gothenburg, Sweden, May 2017.

38. D'Lugos[g], AC, Cosgrave[u], C, Dedmon[g], WL, Astill[g], BD, Patel[g], SH, Katsma[u], MS, Gonzales, RJ, Hale, TM, **Carroll, CC**, Angadi, SS, and Dickinson, JM. High Intensity Exercise Preserves Myocellular Size Throughout Doxorubicin. Integrative Biology of Exercise, Phoenix, AZ, 2016.

39. Vijayavel, N, Raman, P., So, M., Dickinson, JM, **Carroll, CC**, Angadi, S, and Gonzales, R. Doxorubicin Attenuates Proinflammatory Mediator Expression in Brain and Pial Arteries from Ovariectomized Female Rats Following High Intensity Exercise. Integrative Biology of Exercise, Phoenix, AZ, 2016.

40. Dickinson, JM, D'Lugos[g], AC, Mahmood, TN, Salvo, L, Cosgrave[g], C, Dedmon[g], WL, Astill[g], BD, Patel[g], SH, Katsma[u], M, Gonzales, RJ, Hale, TM, Angadi, SS, and **Carroll, CC**. High Intensity Exercise Preserves Skeletal Muscle mTOR Signaling During Doxorubicin Treatment in Ovariectomized Female Rats. Integrative Biology of Exercise, Phoenix, AZ, 2016.

41. Patel[g], SH, D'Lugos[g], AC, Eldon[u], ER, Curtis, D, Dickinson, JM, and **Carroll, CC**. Impact of acetaminophen consumption and resistance exercise on extracellular matrix gene expression in human skeletal muscle. Integrative Biology of Exercise, Phoenix, AZ, 2016.

42. Jarrett, CL, D'Lugos[g], AC, Mahmood, T., Gonzales, RJ, Hale, TM, **Carroll, CC**, Dickinson, JM, and Angadi, SS. Associations Between Antioxidant Enzymes in Cardiomyocytes and Skeletal Muscle During Doxorubicin Treatment. Integrative Biology of Exercise, Phoenix, AZ, 2016.

43. Khokar B, Perez O, D'Lugos[g] AC, **Carroll, CC**, Gonzales RJ, Sweazea KL, Dickinson JM, Angadi SS, Hale TM. Impact of High Intensity Interval Training on Doxorubicin-Induced Pathological Cardiac Remodeling in Female Sprague Dawley Rats. Arizona Physiological Society Annual Meeting, 2016.

44. Awwad, I, D'Lugos[g], AC, **Carroll, CC**, Gonzales, RJ, Sweazea, KL, Dickinson, JM, Angadi, SS, Hale, TM. Exercise Preconditioning as a Means to Protect Against Doxorubicin-Induced Renal Injury. Arizona Physiological Society Annual Meeting, 2016.

45. Perez O, Khokar B, Abidali H, D'Lugos[g] A, Dickinson J, Angadi S, **Carroll, CC**, Hale TM. Impact of High Intensity Interval Training on Doxorubicin-Induced Cardiotoxicity in Female Sprague Dawley Rats. Arizona Physiological Society Annual Meeting, 2016.

46. O'Neill LM, Mayek RE, Jarrett CL, Crawford M, D'Lugos[g] A, **Carroll, CC**, Angadi SS, Gonzales R, Hale TM, Dickinson JM, and Sweazea KL. High-Intensity Exercise Preconditioning Prevents Downregulation of Enos Expression in The Aorta Following Doxorubicin Treatment. Arizona Physiological Society Annual Meeting, 2016.

47. Tran, L, Langlais, P, De Filippis, EA, Benjamin, T, Roust, LR, **Carroll, CC**, Mandarino, LJ, and Katsanos, C. Multifactorial Regulation of Skeletal Muscle β-F1-ATPase in Human Obesity. American Diabetes Association, 2016.

48. D'Lugos[g], AC, Patel[g], SH, Eldon[u], E, **Carroll, CC**, and Dickinson, JM. The impact of acetaminophen consumption prior to resistance exercise on the initial myogenic gene response in human skeletal muscle. Experimental Biology, 2016.

49. O'Neill LM, Jarrett CL, Crawford M, **Carroll, CC**, Hale TM, Dickinson JM, Angadi SS, Sweazea KL. High-intensity Preliminary Training to Mitigate Cardiovascular Damage Caused by the Chemotherapeutic Agent Doxorubicin. Experimental Biology, 2016.

50. Jarrett CL, D'Lugos[g] AC, Mahmood T, Gonzales RJ, Hale TM, **Carroll, CC**, Dickinson JM, Angadi SS. Effect of high intensity exercise preconditioning and training on antioxidant enzymes in cardiomyocytes during doxorubicin treatment. Experimental Biology, 2016.

51. O'Neill L, Jarrett CL, Crawford M, **Carroll, CC**, Hale T, Dickinson JM, Angadi SS, Sweazea KL. Evaluation of The Vasoprotective Effects of High-Intensity Exercise Prior To Antrhacycline Chemotherapy. Arizona Physiological Society Annual Meeting, 2015.

52. Mahmood, T, D'Lugos[g], AC, Cosgrave[u], C, Dedmon[g], WL, Astill[g], BD, Patel[g], SH, Katsma[u], M, Gonzalez, R, Hale, T, **Carroll, CC**, Angadi, SS, and Dickinson, JM. Exercise Preconditioning As A Strategy To Protect Skeletal Muscle From Complications Of Doxorubicin Treatment. Arizona Physiological Society Annual Meeting, 2015.

53. Hoffman, N, Tran L, **Carroll, CC**, Patel[g], SH, Eldon[u], E, Katsanos, CS. Plasma Free Fatty Acid and Amino Acid Responses to Glucose-Induced Insulinemia in Insulin-Resistant Subjects. Arizona Physiological Society Annual Meeting, 2015.

54. Katsanos CS, Tran L, Hoffman N, Dedmon[g], WL, and **Carroll CC**. Effects of Increased Plasma Branched-Chain Amino Acids and Insulin on Muscle Protein Metabolism. Arizona Physiological Society Annual Meeting, 2015.

55. De Leon, N, Tran, L, **Carroll, CC**, Hoffman, N, Katsanos, CS. Does an Increase In Plasma Amino Acid Concentrations Stimulate Skeletal Muscle Protein Synthesis In Obese Humans? Arizona Physiological Society Annual Meeting, 2015.

56. Vijayavel, N, Raman, P, Kerrigan, C, Echeverria, J, Dickinson, JM, Hale, TM, **Carroll, CC**, Angadi, SS, and Gonzales, R. Doxorubicin Reduces Proinflammatory Mediator Expression in Brain and Pial Arteries from Ovariectomized Female Rats. Arizona Physiological Society Annual Meeting, 2015.

57. Jeganathan, JR, Thangiah, G, **Carroll, CC**, and Broderick, TL. TrkA receptor in streptozotocin-induced diabetic rat brain. American Diabetes Association, Annual Meeting, 2015.

58. Gonzales, RJ, Raman, P, Vijayavel, N, Kerrigan, C, Echeverria, J, Dickinson, JM, Hale, TM, **Carroll, CC**, and Angadi, S. Doxorubicin Reduces Proinflammatory Mediator Expression in Brain and Pial Arteries from Ovariectomized Female Rats. American Physiological Society: Cardiovascular, Renal and Metabolic Diseases: Physiology and Gender, 2015.

59. **Carroll, CC**, Astill[g], BD, Arthur, KA, Katsma[u], MS, and Curtis, D. Sex-based differences in Achilles tendon release of matrix metalloproteinases and growth factors after acute resistance exercise. Advances in tendon research: from bench to bedside, London, England, September 2015.

60. Katsma[u], MS, Corbell, KA, and **Carroll, CC**. The effect of chronic IL-6 exposure on rat tendon structural properties, in vivo. ACSM Integrative Physiology of Exercise, 2014.

61. **Carroll, CC**, Katsma[u], MS, Corbell, KA, and Cauthon[u], DJ. Influence of resistance exercise on human Achilles tendon release of matrix metalloproteinases and growth factors. ACSM Integrative Physiology of Exercise, 2014.

62. Katsma[u], MS, Corbell, KA, and **Carroll, CC**. The effect of chronic IL-6 exposure on rat tendon structural properties, in vivo. Annual Meeting Arizona Physiological Society, 2014.

63. Corbell, KA, Katsma[u], MS, Cauthon[u], DJ, and **Carroll, CC**. Influence of resistance exercise on human Achilles tendon release of matrix metalloproteinases and growth factors. Annual Meeting Arizona Physiological Society, 2014

64. Huynh[g], RT, Volper[g], BD, Corbell, KA, Hale, TM, and **Carroll, CC**. The effect of TGF-β receptor inhibition and acute exercise on rat Achilles tendon structural properties. ACSM Integrative Physiology of Exercise, 2014.

65. Volper[g], BD, Huynh[g], RT, Corbell, KA, Howden, R, Magnusson, SP, Broderick, TL, Hale, TM, and **Carroll, CC**. The influence of hyperglycemia on the mechanical and structural properties of rat tendon *in vivo*. Annual Meeting Arizona Physiological Society, 2014.

66. Huynh[g], RT, Volper[g], BD, Corbell, KA, Hale, TM, and **Carroll, CC**. The effect of TGF-β receptor inhibition and acute exercise on rat Achilles tendon structural properties. Annual Meeting Arizona Physiological Society, 2014.

67. Ratchford, S, Brower, B, Liu, S, **Carroll, CC**, Trappe, S, Trappe, T. Fiber-type specific COX-inhibiting drug enhancement of skeletal muscle hypertrophy with resistance training in older individuals. ACSM Integrative Physiology of Exercise, 2014.

68. Graham, Z, **Carroll, CC,** Broderick, TL, Gallagher, P. Increases in protein expression of the alpha7beta1 integrin pathway following 8 weeks of acetaminophen administration in the rat soleus. Experimental Biology, 2014.

69. Potter, R, Desai, P, Nielsen, C, Corbell, K, Mellon, C, Danishyar, A, Gatti, F, Grinberg, A, Kumar, R, **Carroll, CC**, Carlson, CG. Short and long-term effects of ActRIIB receptor ligand trapping agents on muscle mass and downstream signaling in dystrophic (mdx) limb and respiratory musculature. Experimental Biology, 2014.

70. Corbell, K, Martineau[u], K, Broderick, TL, Al-Nakkash, L, and **Carroll, CC**. The influence of ovariectomy and genistein on estrogen receptor content and activation in rat achilles tendon. Annual Meeting Arizona Physiological Society, 2013.

71. Greenlee[u], J, Murphy[u], M, Corbell, K, Langberg, H, **Carroll, CC**. Acetaminophen and exercise increase matrix metalloproteinase levels in Achilles peritendinous tissue in humans. Annual Meeting Arizona Physiological Society, 2013.

72. Huynh[g], R, Volper[g], B, Corbell, K, Martineau[u], K, Broderick, TL, and **Carroll, CC**. Differences in collagen formation and anabolic signaling in tendon and skeletal muscle after chronic exercise training in the rat. Annual Meeting Arizona Physiological Society, 2013.

73. Martineau[u], K, Corbell, K, Broderick, TL, Al-Nakkash, L, and **Carroll, CC**. Achilles tendon estrogen receptor signaling after ovariectomy and genistein treatment in rats. American Osteopathic Academy of Orthopedics, Annual Meeting, 2013. Second Place Poster Presentation.

74. Martineau[u], K, Corbell, K, Volper[g], B, Huynh[g], R, Broderick, TL, and **Carroll, CC.** Tissue specific effects of 8-weeks of daily treadmill exercise on collagen and cross-linking in male Wistar rats. American Osteopathic Academy of Orthopedics, Annual Meeting, 2013. First Place Poster Presentation.

75. Martineau[u], K, Corbell, K, Broderick, TL, Al-Nakkash, L, and **Carroll, CC**. Achilles tendon estrogen receptor content after ovariectomy and genistein treatment. Annual Meeting Arizona Physiological Society, 2012.

76. **Carroll, CC**, Peterson, A, and Broderick, TL. Tissue specific effects of acetaminophen and treadmill exercise on collagen content in male Wistar rats. Integrative Biology of Exercise, 2012.

77. **Carroll, CC**, Steinmeyer, R, O'Connor, D, and Gonzales, RJ. The activity of cyclooxygenase-1 and -2 in human skeletal muscle is elevated after acute resistance exercise independent of cyclooxygenase-1 and -2 protein content. Integrative Biology of Exercise, 2012.

78. Graham, Z, **Carroll, CC**, Broderick, TL, Gallagher, PM. Acetaminophen has no effect on integrin signaling following 5-weeks of treadmill exercise in rat soleus muscle. Integrative Biology of Exercise, 2012.

79. Standley, RA, Jemiolo, B, **Carroll, CC**, Trappe, SW, and Trappe, TA. Cyclooxygenase-inhibiting drug effects on skeletal muscle exercise adaptations in older adults: Potential mechanisms of action. American College of Sports Medicine Annual Meeting, 2012.

80. Whitt[g], JA, Tedeschi, J, Gump[g], B, McMullan[g], DR, Del Mundo, J, Moore[u], S, Broderick, TL, and **Carroll, CC**.The influence of acetaminophen and exercise on rat Achilles tendon structural properties. Experimental Biology, 2011.

81. Moore[u], S, Gump[g], B, Tedeschi, J, Peterson, A, Kim, PJ, Broderick, T and **Carroll, CC.** The effect of hyperglycemia on Achilles tendon structural properties in the rat. Experimental Biology, 2011.

82. Ramos[u], JE, Gump[g], B., Djandjoulia, T, Tedeschi, J, Batia, L, Whitt[g], J, Moore[u], MS, Broderick, TL, Al-Nakkash, L, and **Carroll, CC**. Genistein promotes collagen-sparing in the Achilles tendon of oophorectomized rats. Experimental Biology, 2011.

83. Gump[g], B, McMullan[g], D, Cauthon[u], D, Moore[u], MS, Whitt[g], JA, Tedeschi, J, Del Mundo, J, Letham[u], T, Friedlander, G, Kim, PJ, Pingel, J, Langberg, H, and **Carroll, CC**. The effect of acetaminopheon on postexercise IL-6 levels in human Achilles peritendinous tissue. Experimental Biology, 2011.

84. Whitt[g], JA, Tedeschi, J, Gump[g], B, McMullan[g], D, Del Mundo, J, Moore[u], MS, Broderick, TL, and **Carroll, CC**. The influence of acetaminophen and exercise on rat Achilles tendon structural properties. Experimental Biology, 2011.

85. Trappe, TA, Konopka, AR, **Carroll, CC**, Dickinson, JM, Trappe, SW, and Harber, MP. Aerobic vs. Resistance Exercise for Combating Sarcopenia in Older Individuals: A Case Study. American College of Sports Medicine Annual Meeting, 2011.

86. Sullivan, BE, Lee, JD, Carroll, CC, Dickinson, JM, LeMoine, JK, Haus, JM, Weinheimer, EM, Hollon, CJ, and Trappe, TA. Muscle cyclooxygenase enzyme content with resistance training and cyclooxygenase inhibitor consumption in the elderly. American College of Sports Medicine Annual Meeting, 2010.

87. Lee, JD, Sullivan, BE, **Carroll, CC**, Dickinson, JM, LeMoine, JK, Haus, JM, Weinheimer, EM, Hollon, CJ, and Trappe, TA. Muscle composition with resistance training and cyclooxygenase inhibitor consumption in the elderly. American College of Sports Medicine Annual Meeting, 2010.

88. Whitt[g], JA, Tedeschi, J, McMullan[g], DR, Del Mundo, JD, Broderick, TL, and **Carroll, CC**. Acetaminophen consumption alters Achilles tendon collagen content in Wistar rats. Experimental Biology Annual Meeting, 2010.

89. Del Mundo, JD, Pierce, NB, McMullan[g], DR, Ramos[u], JE, Whitt[g], JA, Letham[u], T, Worden, K, and Carroll, CC. Cyclooxygenase enzyme activation in humans skeletal muscle after acute resistance exercise. Experimental Biology Annual Meeting, 2010

90. Dickinson, JM, **Carroll, CC**, Haus, JM, Lee, GA, Hollon, CJ, Aagaard, P, Magnusson, SP, and Trappe, TA. The influence of aging on the *in vivo* properties of human patellar tendon. Experimental Biology Annual Meeting, 2008.

91. Burd, NA, Dickinson, JM, LeMoine, JK, **Carroll, CC**, Haus, JM, Hughes, G, Sanders Jr., C, and Trappe, TA. Consumption of a COX-2 inhibitor stimulates muscle protein synthesis after resistance exercise in humans. Experimental Biology Annual Meeting, 2008.

92. **Carroll, CC**, Dickinson, JM, LeMoine, JK, Haus, JM, Weinheimer, EM, Hollon, CJ, and Trappe, TA. Ibuprofen and acetaminophen promote muscle hypertrophy and strength gains during resistance exercise in the elderly. Experimental Biology Annual Meeting, 2008.

93. **Carroll, CC**, Jemiolo, B, Trappe, SW, Døssing, S, Kjær, M, Magnusson, SP, and Trappe, TA. Cyclooxygenase mRNA expression in human patellar tendon at rest and after exercise. Experimental Biology Annual Meeting, 2008.

94. Sullivan, BE, **Carroll, CC**, Jemiolo, B, Trappe, SW and Trappe, TA. Influence of resistance exercise on human patellar tendon structural and regulatory gene expression**.** Experimental Biology Annual Meeting, 2008.

95. **Carroll, CC**, LeMoine, JK, Dickinson, JM, Haus, JM, Weinheimer, EM, Lee, JD, Sullivan, BE, Hollon, CJ, Trappe, TA. Influence of resistance training alone or combined with cyclooxygenase inhibitor consumption on skeletal muscle proteolysis in older humans. Integrative Biology of Exercise, 2008.

96. Dickinson, JM, Burd, NA, LeMoine, JK, **Carroll, CC**, Haus, JM, Jemiolo, B, Trappe, SW, Hughes, GH, Sanders, CE and Trappe, TA. Influence of a cyclooxygenase-2 inhibitor on cyclooxygenase mRNA expression after resistance exercise in humans: Implications for muscle protein synthesis. Integrative Biology of Exercise, 2008.

97. **Carroll, CC**, Dickinson, JM, Haus, JM, Lee, JD, Hollon, CJ, Aagaard, P, Magnusson, SP, and Trappe, TA. Acetaminophen but not ibuprofen consumption during 12-weeks of knee extensor resistance training alters *in vivo* patellar tendon properties in older humans. Integrative Biology of Exercise, 2008.

98. **Carroll, CC**, Dickinson, JM, Haus, JM, Lee, JD, Hollon, CJ, Aagaard, P, Magnusson, SP, and Trappe, TA. The influence of gender on patellar tendon mechanical properties and MRI determined intratendinous signal intensity. Experimental Biology Annual Meeting, 2007.

99. Carroll, CC and Trappe, TA. Personal digital video a method to monitor drug regimen adherence during human clinical investigations. Experimental Biology Annual Meeting, 2007.

100. Haus, JM, Miller, BF, **Carroll, CC**, Weinheimer, EM, Trappe, TA. The Effect of Strenuous Aerobic Exercise on Skeletal Muscle Myofibrillar Proteolysis in Humans Author Block American College of Sports Medicine Annual Meeting, 2006.

101. Carroll, CC, Fluckey, JD, Williams, RH, Sullivan, DH, Trappe, TA. Human Muscle Specific Protein Synthesis with Amino Acids. Experimental Biology Annual Meeting, 2005.

102. Trappe, TA, **Carroll, CC**, Alkner, B, Tesch, P. Skeletal muscle protein composition with 84 d of bedrest and resistance exercise. Experimental Biology Annual Meeting, 2004.

103. **Carroll, CC**, Alkner, B, Tesch, P, and Trappe, TA. Skeletal muscle myosin and actin concentrations are tightly regulated in response to atrophy and hypertrophy: observations from 91 mean and women. Experimental Biology Annual Meeting, 2004.

104. Carroll, CC, Carrithers, JA, and Trappe, TA. Contractile protein concentrations in human single muscle fibers. Experimental Biology Annual Meeting, 2003.

105. **Carroll, CC**, Gallagher, PM, Seidle, ME, and Trappe, SW. Single fiber myosin heavy chain distribution with multiple sclerosis. American College of Sports Medicine Annual Meeting, 2002.

106. **Carroll, CC**, Williams, R, Raue, U, Carrithers, JA, Hickner, RC, and Trappe, TA. Effects of age and resistance exercise on skeletal muscle interstitial $PGF_{2\alpha}$. Experimental Biology Annual Meeting, 2002.

TEACHING AND INSTRUCTIONAL EXPERIENCE

Purdue University

F/17, Sp/18, F/18	HK468: Advanced Exercise Physiology
Sp/18	HK590: Microdialysis Methods
Sp/17, F/19, Sp/20, Sp/21	HK590: Musculoskeletal Adaptations
Sp/19	HK496: Independent Undergraduate Research
Su/19, Su/20, F/20, Sp/21, Su/21, F/21, Sp/22, Su/22, F/22, Su/23, F/23	HK368: Exercise Physiology I
Sp/20	HK668: Seminar in Exercise Physiology
F/22, F23	HK601: PhD Seminar

Indiana University School of Medicine

December 2018

- Recorded one lecture on tendon physiology and pathology that is now available annualy to IU medical students.
- I also provided six lectures for endocrine physiology. Lectures were recorded and distributed statewide.

January 2020

- Provided eight endocrinology lectures including Hypothalamic Pituitary Axis, Adrenal Physiology and Pathophysiology, Clinical Perspectives on Adrenal Diseases, Thyroid Physiology, Calcium and Phosphorus Physiology and Clinical Disorders, and Diabetes Physiology/Pathology.
- Lectures were recorded and distrubuted statewide.

Midwestern Unviersity

2008-2016: Team Teaching

- I provided lectures on skeletal muscle physiology, endocrinology, cell physiology, and cardiovascular physiolology for mutiple courses and programs including Ostepathic Medicine, Podiatric Medicine, Physical Therapy, Physician Assistant, Nurse Anesthesia, Master of Biomedical Sciences, Dental Medicine, and Optometry.

2008-2016: Problem-Based Learning Sessions

- Participated in weekly problem-based learning sessions with first year podiatry and osteopathic medical students, 20 weeks per year.

2010-2016, Course Director: Human Physiology 1571 and 1582, two quarters per year (~320 students)

- Responsibilities: Organizing exams, course scheduling, and student mentoring to ensure student success for a class of 320 students. I worked with other faculty in the Physiology Department for the purpose of team teaching. Students included physical therapy, physician assistant, Master of Biomedical Sciences, and nurse anesthesia.
  - This role required coordinating with department chairs and team leaders in multiple academic programs.
- Accomplishments: Improved student satisfaction by ~25%

2012-2016, Module Leader for Dental Medicine: Endocrinology Section.

In this role, I was required to coordinate lecture and exam preparation for the endocrinology block of dental and optometry physiology including integration of anatomy, physiology, and pathology lectures from multiple faculty members across multiple departments.

GRADUTE STUDENT RESEACH MENTORING

Purdue University

Dissertation Committee Chair

1. Eric Gutierrez, Major, United State Army, Health and Kinesiology, Expected completion 2026.
2. Shivam H. Patel, Health and Kinesiology, 2020

Master's Thesis Committee Chair

1. Harrison Cottingham, Health and Kinesiology, Expected completion, 2025.
2. Gordon Smilanich, Health and Kinesiology, Expected completion, 2025.
3. Nathan Campbell, Health and Kinesiology, Expected completion, 2024.
4. Camila Reyes, Health and Kinesiology, 2023
5. Anna Barker, Health and Kinesiology, 2022
6. Samantha Couture, Health and Kinesiology, 2020
7. Jessica Simmons, Health and Kinesiology, 2019

Dissertation Committee Member

1. Zachary Davis, Biomedical Engineering, Expected completion, 2026

2. Gavin Connolly, Nutrition Sciences, 2023
3. Raymond Kim, Health and Kinesiology, 2019

Master's Thesis Committee Member

1. Ivan Andres Alonso Babadilla, Health and Kinesiology, Expected completion 2024.
2. Linda Adeyemo, Health and Kinesiology, Expected completion 2024.
3. Chris Kargl, Health and Kinesiology, 2018.
4. Zach Hettinger, Health and Kinesiology, 2018.
5. Brian Sulluvan, Health and Kinesiology, 2016.
6. Sheelagh Evans, Health and Kinesiology, 2017.

Arizona State University

Mentor

1. Andrew D'Lugos, Exercise Physiology, 2013-2016

Master's Thesis Committee Member

1. Cory Mazo, Exercise Physiology, 2019

Midwestern University

Master's Thesis Committee Chair

1. Jay F. Olson, Biomedical Sciences, 2017
2. Shivam H. Patel, Biomedical Sciences, 2016
3. W. Logan Dedmon, Biomedical Sciences, 2015
4. Broc Astill, Biomedical Sciences, 2015
5. Brent Volper, Biomedical Sciences, 2014
6. Richard Huynh, Biomedical Sciences, 2014
7. Brian Gump, Biomedical Sciences, 2011
8. Jamie Whitt, Biomedical Sciences, 2010
9. David McMullan, Biomedical Sciences, 2010

Master's Thesis Committee Member

1. Korie Burst, Biomedical Sciences, 2014
2. David Wilson, Biomedical Sciences, 2012

UNDERGRADUATE RESEARCH MENTORING

Purdue University

1. Aidan Hopwood, Biological Engineering, Spring 2024-present
2. Lauren Mitevski, Biochemistry, Spring 2024-present
3. DJ Kim, Health and Kinesiology, Spring 2024-present
4. Karine Paone, Health and Kinesiology, Spring 2023-present
5. Matthew Fortino, Biology, Spring 2023-present
6. Rebecca Lewis, Health and Kinesiology, Summer 2022-present

7. Lucas Strouder, Health and Kinesiology, Fall 2022-Spring 2023
8. Johnny Vanos, Health and Kinesiology, Fall 2022-Spring 2023
9. Chloe Garret, HHS Honors, Fall 2022-Spring 2023
10. Hannah Winestone, Health and Kinesiology, Summer and Fall 2022, Spring 2023
11. Sarah Preston, HHS Honors, Fall 2022/Spring 2023
12. Grace Memmo, Public Health, Spring 2021
13. Katlyn Bonnell, Health and Kinesiology, Spring 2021
14. Madison Jones, Public Health, Spring 2021
15. Makenna Paradis, Public Health, Spring 2021
16. Samantha Holesha, Health and Kinesiology, 2020-2022
17. Nikola Acin, Health and Kinesiology, 2021-2022
18. Harrison Cottingham, Health and Kinesiology, 2020-2021
19. Sukhmain Kaur, HHS Honors, 2019-2020
20. Dominic Farino, Health and Kinesiology, 2019-2021
21. Chinoso E. Emenim, Health and Kinesiology, 2018-2022
22. Kali Chememlewski, Biology, 2018-2019
23. Shannon Saw, Biology, 2018-2019
24. Nick Palmero, Biology, 2017

Midwestern University-Summer Osteopathic Medicine Summer Research Fellows

1. Erica Eldon, 2015
2. Mark Katsma, 2013
3. Mark Murphy, 2012
4. Jason Greenlee, 2012
5. Karl Martineau, 2011
6. M. Scott Moore, 2010
7. Jahir E. Ramos, 2009

Midwestern University-Other Programs

1. Tanya Letham, Physician Assistant, 2009
2. David Cauthan, Podiatric Medicine Research Fellow, 2009-2011

SERVICE

Service to the Department

Member, Department of Health and Kinesiology, Diverity, Equity, and Inclusion Committee, 2023-present

Chair, Open Rank Kinesiology Faculty Search Committee, 2022-2023

Member, Open Rank Kinesiology Faculty Search Committee, 2021-2022

Co-Chair, HK Cirriculum Committee, 2022-present

HK Honors Awards Committee, 2021-2022

Invited by pre-physical therapy students to particiapte in Physical Therapy Club Meeting, October 2019 to discuss

research and career options.

Health and Kinesiology Seminar Coordinator, 2017-2018. I worked with faculty in the department to bring in excellent speakers from a broad category of research areas.

Chair, Exercise Physiology Faculty Search Committee, Purdue University, Department of Health and Kinesiology, 2017-2018.

Service to the College

HHS Graduate Education Committee (GEPCC), 2022-present

Spring, 2021. I recorded a 25-minute instructional video on tendon health and aging for members of the Ismail Center

Applicant Interviewer for Arizona College of Osteopathic Medicine (AZCOM), 2008-2016

> Participated yearly in 5-6 half-day interviews of AZCOM applicants. Each day included 5-6, 30-minute face-to-face interviews with applicants. These interviews are a critical part of the acceptance process at Midwestern University

Arizona College of Medicine, Admissions Committee, 2012-2013: This committee met monthly to review applicants to the program and make admissions decisions.

Service to the University

Steering Committee, Center on Aging and the Life Course, Purdue University, 2021-2023

Mentored two students, Fall 2019 and one student Spring 2020 as part of the International Friendship Program

Poster Judge, Purdue University Undergraduate Research Day, 2017, 2023

Horizon Mentor, 2016-2019. Each year Dr. Carroll was assigned a freshman student. Who are the first of their family to attend a university. He met with the student regularly to discuss anything of interest to the student.

Institutional Review Board Member: 2009-2016, Committee Chair, 2013-2016

> Oversaw proper conduct and review of ~100 human subjects research protocols per year.
>
> Implemented multiple SOPs to reduce review time and improve quality of applications.
>
> Provided multiple seminars each year to train faculty and students.

AZCOM Admissions Committee, Midwestern University, 2012-2013

Physical Therapy Education Committee, 2011-2012

Admission Committee for Podiatric Medicine, 2011-2012: This committee met monthly to review applicants to the program and make admissions decisions.

College of Health Sciences Student Promotion and Graduation Committee, 2009-2010

Admissions Committee for Biomedical Science, 2009-2010: This committee met monthly to review applicants to the program and make admissions decisions.

Student Recruitment Activities

Applicant Reviewer, PULSe Outstanding Graduate Student in Research Award

Faculty Mentor Boiler Gold Rush

Applicant Reviewer for Interdepartmental Nutrition Program, 2017-present

Service to Professional Organizations

2023, Orthopaedic Research Society Annual Meeting, Symposium Organizer and Chair, Current Trends in the Treatment of Tendinopathy.

2022 and 2023, Orthopaedic Research Society Annual Meeting, Tendon Section Podium and Poster Judge

2022-present, Section Member-At-Large Orthopaedic Research Society Tendon Section Leadership Committee

2022, Abstract Reviewer, Orthopaedic Research Society Tendon Section Conference, Guiding the Future.

Abstract Reviewer, 2018-2024 Annual Meeting, reviewed and scored up to 50 abstracts per year. This work is an annual assignment as part of my contributions to the society. Our reviews ensure the quality of presentation at the annual society

meeting.

Community

Developed and delivered a presentation on energy metabolism to 4th-5th high-ability students at Klondike Elementary School, November 11th, 2019

Assistant Wrestling Coach, Klondike Middle School, 2022-present.

Assistant Track and Field Coach, Klondike Middle School, 2022-2023, Two Seasons

Consulting

Served on the Scientific Advisory Board for Applied Biologics LLC, Scottsdale, AZ 2015-2016

Provisional Patent Filing

Title: Non-Invasive Detection of Tendon Pathology
Application Number: 6338560
Attorney Docket Number:69516-01
Inventors: Chad C. Carroll, PhD and Shivam H. Patel, PhD

Ad Hoc Manuscript Reviewer

Aging Cell
Cytokine
Medicine Science in Sports and Exercise
Exercise and Sport Sciences Reviews
Journal of Applied Physiology
Scandinavian Journal of Medicine and Science in Sports
Journal of Anatomy
Experimental Physiology
Diabetes
Metabolism
Connective Tissue Research
Journal of Exercise Physiology,
Scientific Reports
International Journal of Sport Nutrition & Exercise Metabolism
Clinical Reviews in Bone and Mineral Metabolism
Nutrients
Clinical Diabetes
Journal of Diabetes Science and Technology
International Journal of Experimental Pathology
Calcified Tissue International

Grant Reviewing Activities

Grant Reviewer, Stanford Diabetes Research Center, Pilot and Feasibility Project, 2022

Grant Reviewer for the Natural Sciences and Engineering Research Council of Canada (NSERC) 2020 Discovery Grant Competition

Grant Reviewer for the M.J. Murdock Charitable Trust. The Murdock Trust seeks to enrich the quality of life in the Pacific Northwest by providing grants and enrichment programs to non-profit organization.

Grant Reviewer for Indiana CTSI “Research Use of Core Facilites” grant applications. November, 2019 and 2022.