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Department of Physical Therapy & Kinesiology
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EDUCATION

Ph.D. in Exercise Physiology, 2010

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN, Urbana, IL

M.S. in Exercise Physiology, 2005

JAMES MADISON UNIVERSITY, Harrisonburg, VA

B.S. in Exercise Physiology, 2003

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN, Urbana, IL

Minor: Human Nutrition

ACADEMIC POSITIONS/EMPLOYMENT

- 2023 **Associate Professor**, Department of Physical Therapy and Kinesiology, University of Massachusetts Lowell, Lowell, MA
- 2020 **Associate Professor**, Department of Kinesiology, Iowa State University, Ames, IA
Affiliate, Nutritional Sciences
Affiliate, Immunobiology Program
Affiliate, Molecular, Cellular and Developmental Biology Program
Affiliate, Genetics and Genomics
Affiliate, Neuroscience
- 2014-2020 **Assistant Professor**, Department of Kinesiology, Iowa State University, Ames, IA
- 2011-2014 **Postdoctoral Research Fellow**, Diabetes and Metabolism Research Unit, Boston University School of Medicine, Boston, MA; Advisor: Neil Ruderman, M.D., D.Phil.
- 2006-2010 **Graduate Research/Teaching Assistant**, Department of Kinesiology & Community Health, University of Illinois Urbana-Champaign, Urbana, IL; Advisor: Ellen Evans, Ph.D.
- 2005-2006 **Research Technician**, Section of Endocrinology and Metabolism, Department of Medicine, University of Illinois-Chicago College of Medicine, Chicago, IL
- 2003-2005 **Teaching and Research Assistant**, Human Performance Laboratory, Department of Kinesiology, James Madison University, Harrisonburg, VA
- 2002-2003 **Dietary Technician**, Provena Covenant Medical Center, Urbana, IL

HONORS AND AWARDS

- Alumni Lecturer, James Madison University, Department of Kinesiology (2018)
- Outstanding Alumnus Award, James Madison University, Department of Kinesiology (2013)
- Paul D. Doolen Graduate Scholarship for the Study of Aging, University of Illinois (2010)
- T.K. Cureton Physical Fitness Research Award, University of Illinois Department of Kinesiology and Community Health (2010)
- Roger Morse Outstanding Graduate Student Award, University of Illinois Department of Kinesiology and Community Health (2009)
- Roger Morse Most Promising Graduate Student Award, University of Illinois Department of Kinesiology and Community Health (2007)

List of Teachers Ranked as Excellent, University of Illinois (2007-2010)

RESEARCH ACTIVITIES

Manuscripts Published/In Press

g = graduate student; *u* = undergraduate student directly mentored on the project

1. Krishna S, **Valentine RJ**, Quindry JC, Selsby JT. The interaction of Duchenne muscular dystrophy and insulin resistance. *Exerc Sport Sci Rev*; *in press*.
2. Clark PJ, Buhr TJ, Reed CH^g, Wee OM, Lee JH^g, Yuan LL, Fleshner M, **Valentine RJ**. The persistence of stress-induced physical inactivity in rats: An investigation of central monoamine neurotransmitters and skeletal muscle oxidative stress. *Front Behav Neurosci*. 2023; 14:1169151.
3. Krishna S^g, Spaulding HR, Koltjes JE, Quindry JC, **Valentine RJ**, Selsby JT. Indicators of increased ER stress and UPR in aged D2-mdx and human dystrophic skeletal muscle. *Front Physiol*. 2023; 14:1152576.
4. Reed CH^g, Buhr TJ, Tystahl AC^u, Bauer EE, Clark PJ, **Valentine RJ**. Effects of voluntary wheel running and alcohol consumption on skeletal muscle signaling in female mice. *Alcohol*. 2022; 104:45-52. PMID: 35926812
5. Eo H^g, **Valentine RJ**. Saturated fatty acid-induced ER stress and insulin resistance are prevented by imoxin in C2C12 myotubes. *Front Physiol*. 2022; 13:842819. PMID: 35936891 PMCID: PMC9355746
6. Lefferts WK, Davis MM, **Valentine RJ**. Exercise is aging: a new perspective on the mechanisms behind exercise as preventive medicine against age-related chronic disease. *Front Physiol*. 2022; 13:866792. PMID: 36045751 PMCID: PMC9420936
7. Alley JR^g, **Valentine RJ**, Kohut ML. Mitochondrial mass of naïve T cells is associated with aerobic fitness and energy expenditure of active and inactive adults. *Med Sci Sports Exer*. 2022; 54(8):1288-99. PMID: 35389948
8. Summers CM^g, **Valentine RJ**. Two hours of heat stress induces MAP-Kinase signaling and autophagosome accumulation in C2C12 myotubes. *Cell Biochem Biophys*. 2022; 80(2):367-73. PMID: 35122618
9. Eo H^g, **Valentine RJ**. Imoxin inhibits tunicamycin-induced ER stress and restores insulin signaling in C2C12 myotubes. *Am J Physiol Cell Physiol*. 2021; 321(2):C221-9. PMID: 34077277
10. Bries AE, Webb JL, Vogel B, Carrillo C, Day TA, Kimber MJ, **Valentine RJ**, Rowling MJ, Clark S, Schalinske KL, McNeill EM. RNA sequencing reveals key metabolic pathways are modified by short-term whole egg consumption. *Front Nutr*. 2021; 8: 652192. PMID: 34041258 PMCID: PMC8141817
11. Buhr TJ, Reed CH^g, Shoeman A, Bauer EE, **Valentine RJ**, Clark PJ. The influence of moderate physical activity on mouse brain monoaminergic responses to binge-patterned alcohol ingestion. *Front Behav Neurosci*. 2021; 15:639790. PMID: 33716684 PMCID: PMC7947191
12. Shirazi BR^u, **Valentine RJ**, Lang JA. Reproducibility of novel indices of reactive hyperemia using laser speckle contrast imaging. *PLoS One*. 2021; 16(1): e0244795. PMID: 33412561 PMCID: PMC7790538
13. Webb JL, Bries AE, Vogel B, Carrillo C, Harvison L, Day TA, Kimber MJ, **Valentine RJ**, Rowling MJ, Clark S, McNeill E, Schalinske KL. Differential gene expression of Zucker Diabetic Fatty rats fed whole egg. *PLoS One*. 2020; 15(11): e0240885. PMID: 33141822 PMCID: PMC7608885

14. Eo H^g, Reed CH^g, **Valentine RJ**. Imoxin prevents dexamethasone-induced promotion of muscle-specific E3 ubiquitin ligases and stimulates anabolic signaling in C2C12 myotubes. *Biomed Pharmacother.* 2020; 128:110238. PMID: 32450522
15. Summers CM^g, **Valentine RJ**. Effects of heat on autophagy signaling in C2C12 myotubes. *Front Physiol.* 2020; 10: 1521. PMID: 31969827 PMCID: PMC6960406
16. Saande CJ^g, Steffes MA, Webb JL, **Valentine RJ**, Rowling MJ, Schalinske KL. Whole egg consumption impairs insulin sensitivity in rat model of obesity and type 2 diabetes. *Curr Dev Nutr.* 2019; 3(4): *Epub*. PMID: 31008440
17. Mammadova N, Kokemuller RD, Summers CM^g, He Q, Ding S, Baron T, Yu C, **Valentine RJ**, Sakaguchi DS, Kanthasamy AG, Greenlee JJ, Greenlee HW. Accelerated accumulation of retinal α -synuclein (pSer129) and tau, neuroinflammation and autophagic dysregulation in a seeded mouse model of Parkinson's disease. *Neurobiol Dis.* 2019; 121:1-16. PMID: 30218757
18. **Valentine RJ**, Jefferson MA, Kohut MK, Eo H^g. Imoxin attenuates LPS-induced inflammation and MuRF1 expression in mouse skeletal muscle. *Physiol Rep.* 2018; 6(23):e13941. PMID: 30548229
19. Fuller KNZ^g, **Valentine RJ**, Miranda ER, Kumar P, Prabhakar BS, Haus JM. A single high-fat meal alters soluble RAGE profiles and PBMC RAGE expression with no effect of prior aerobic exercise. *Physiol Rep.* 2018; 6(14):e13811. PMID: 30047241 PMCID: PMC6060105
20. Ganesan S, Summers CM^g, Pearce SC, Gabler NK, **Valentine RJ**, Baumgard LH, Rhoads RP, Selsby JT. Short-term heat stress altered metabolism and insulin signaling in skeletal muscle. *J Anim Sci*, 2018; 96(1):154-67. PMID: 29432553
21. Ganesan S, Summers C^g, Pearce S, Gabler N, **Valentine R**, Baumgard L, Rhoads R, Selsby J. Short term heat stress causes altered intracellular signaling in oxidative skeletal muscle. *J Anim Sci.* 2017; 95(6):2438-51. PMID: 28727070
22. Allen KM^g, Coughlan KA^g, Mahmood FN, **Valentine RJ**, Ruderman NB, Saha AK. The effects of troglitazone on AMPK in HepG2 cells. *Arch Biochem Biophys.* 2017; 623:49-57. PMID: 28526426
23. Fuller KNZ^g, Summers CM^g, **Valentine RJ**. Effect of prior aerobic exercise on high-fat meal-induced inflammation. *Metabolism.* 2017; 71:144-52. PMID: 28521867
24. Coughlan KA^g, **Valentine RJ**, Sudit BS^u, Allen K^g, Dagon Y, Kahn BB, Ruderman NB, Saha AK. PKD1 inhibits AMPK α 2 through phosphorylation of Ser⁴⁹¹ and impairs insulin signaling in skeletal muscle cells. *J Biol Chem.* 2016; 291(11):5664-75. PMID: 26797128
25. Koh GY, Derscheid RJ, Fuller KN^g, **Valentine RJ**, Leow SE, Reed L, Wisecup E, Schalinske KL, Rowling MJ. Circulating adiponectin concentrations are increased by dietary resistant starch and correlate with serum 25-hydroxycholecalciferol concentrations and kidney function in Zucker diabetic fatty rats. *Nutr Res.* 2016; 36(4): 311-9. PMID: 27001276
26. Coughlan KA^g, Balon TW, **Valentine RJ**, Petrocelli R, Schultz V, Brandon A, Cooney GJ, Kraegen EW, Ruderman NB, Saha AK. Nutrient excess and AMPK Downregulation in incubated skeletal muscle and muscle of glucose infused rats. *Plos One.* 2015; 10(5): e0127388. PMID: 25996822
27. **Valentine RJ**, Coughlan KA^g, Ido Y, Ruderman NB, Saha AK. Insulin inhibits AMPK activity and phosphorylates AMPK Ser^{485/491} through Akt in hepatocytes, myotubes and incubated rat skeletal muscle. *Arch Biochem Biophys.* 2014; 562:62-9. PMID: 25172224
28. Coughlan KA^g, **Valentine RJ**, Ruderman NB, Saha AK. AMPK Activation: A therapeutic target for Type 2 Diabetes? *Diabetes Metab Syndr Obes.* 2014; 7:241-53. PMID: 25018645 PMCID: PMC4075959

29. Xu XJ, **Valentine RJ**, Ruderman NB. AMP-activated protein kinase (AMPK): Does this master regulator of cellular energy state distinguish insulin sensitive from insulin resistant obesity? *Curr Obes Rep.* 2014; 3(2):248-55. PMID: 24891985
30. Ward CL, **Valentine RJ**, Evans EM. Greater effect of adiposity than physical activity or lean mass on physical function in community-dwelling older adults. *J Aging Phys Act.* 2014; 22(2):284-93. PMID: 23799829
31. Coughlan KA^g, **Valentine RJ**, Ruderman NB, Saha AK. Nutrient excess in AMPK downregulation and insulin resistance. *J Endocrinol Diab Obes.* 2013; 1(1):1008.
32. Baynard T, Vieira-Potter VJ, **Valentine RJ**, Woods JA. Exercise training effects on inflammatory gene expression in white adipose tissue of young mice. *Mediators Inflamm.* 2012; *Epub.* PMID: 23319832
PMCID: PMC3540918
33. Shin S, **Valentine RJ**, Evans EM, Sosnoff JJ. Lower extremity muscle quality and gait variability in older adults. *Age Ageing.* 2012; 41(5):595-9. PMID: 22417983
34. Evans EM, Mojtahedi MC, Thorpe MP, **Valentine RJ**, Kris-Etherton PM, Layman DK. Effects of protein intake and gender on body composition changes: a randomized clinical weight loss trial. *Nutr Metab.* 2012; 9(1):55-63. PMID 22691622
PMCID: PMC3407769
35. Nelson LE, **Valentine RJ**, Cacicedo JM, Gauthier MS, Ido Y, Ruderman NB. A novel inverse relationship between metformin-triggered AMPK-SIRT1 signaling and p53 protein abundance in high glucose exposed HepG2 cells. *Am J Physiol Cell Physiol.* 2012; 303(1):C4-C13. PMID: 22378745
PMCID: PMC3404529
36. Xu XJ, Gauthier MS, Hess DT, Apovian CM, Cacicedo JM, Gokce N, Farb M, **Valentine RJ**, Ruderman NB. Insulin sensitive and resistant obesity in humans: AMPK activity, oxidative stress, and depot-specific changes in gene expression in adipose tissue. *J Lipid Res.* 2012; 53(4):792-801. PMID: 22323564
PMCID: PMC3307656
37. **Valentine RJ**, Woods JA, McAuley E, Dantzer R, Evans EM. The associations of adiposity, physical activity and inflammation with fatigue in older adults. *Brain Behav Immun.* 2011; 25(7):1482-90. PMID: 21693185
38. Thorpe MP, **Valentine RJ**, Moulton CJ, Wagoner Johnson A, Evans EM, Layman DK. Breast tumors induced by N-methyl-N-nitrosourea are damaging to bone strength, structure and mineralization in the absence of metastasis in rats. *J Bone Min Res.* 2011; 26(4):769-76. PMID: 20939066
39. Parrett AL, **Valentine RJ**, Arngrímsson SÁ, Castelli DM, Evans EM. Adiposity and aerobic fitness influence metabolic syndrome risk in children. *Appl Physiol Nutr Metab.* 2011; 36(1):72-9. PMID: 21326380
40. Parrett AL, **Valentine RJ**, Arngrímsson SÁ, Castelli DM, Evans EM. Adiposity, activity, fitness and C-reactive protein in children. *Med Sci Sports Exer.* 2010; 42(11):1981-6. PMID: 20386340
41. Moulton CJ, **Valentine RJ**, Layman DK, Devkota S, Singletary KW, Wallig MA, Donovan SM. A high protein moderate carbohydrate diet fed at discrete meals reduces early progression of N-methyl-N-nitrosourea-induced breast tumorigenesis in rats. *Nutr Metab.* 2010; 10(7):1. PMID: 20148110
PMCID: PMC2819246
42. Mistic MM, **Valentine RJ**, Rosengren KS, Woods JA, Evans EM. Impact of training modality on strength and physical function in older adults. *Gerontology.* 2009; 55(4):411-6. PMID: 19590159
PMCID: PMC2820569

43. Mojtahedi MC, **Valentine RJ**, Evans EM. Body composition assessment in athletes with spinal cord injury: comparison of field methods with dual energy X-ray absorptiometry. *Spinal Cord*. 2009; 47(9):698-704. PMID: 19290014
44. Vieira VJ, **Valentine RJ**. Mitochondrial biogenesis in adipose tissue: can exercise make fat cells 'fit'? *J Physiol*. 2009; 587(14):3427-8. PMID: 19602637 PMCID: PMC2742270
45. **Valentine RJ**, Evans EM, Vieira VJ, Baynard T, Hu L, McAuley E, Woods JA. Sex differences in the relationship between obesity, C-reactive protein, physical activity, depression, sleep quality and fatigue in older adults. *Brain Behav Immun*. 2009; 23(5):643-8. PMID: 19133324
46. Vieira VJ, **Valentine RJ**, Wilund KR, Woods JA. Effects of diet and exercise on metabolic disturbances in high fat diet-fed mice. *Cytokine*. 2009; 46(3):339-45. PMID: 19362852 PMCID: PMC2743469
47. Vieira VJ, **Valentine RJ**, Wilund KR, Antao N, Baynard T, Woods JA. Effects of exercise and low-fat diet on adipose tissue inflammation and metabolic complications in obese mice. *Am J Physiol Endocrinol and Metab*. 2009; 296(5):E1164-71. PMID: 19276393 PMCID: PMC2681303
48. Vieira VJ, Hu L, **Valentine RJ**, McAuley E, Evans EM, Baynard T, Woods JA. Reductions in trunk fat predict cardiovascular exercise training-related reductions in C-reactive protein. *Brain Behav Immun*. 2009; 23(4):485-91. PMID: 19486651
49. **Valentine RJ**, Mistic MM, Rosengren KS, Woods JA, Evans EM. Sex impacts the relation between body composition and physical function in older adults. *Menopause*. 2009; 16(3):518-23. PMID: 19423997 PMCID: PMC2844341
50. Mojtahedi MC, Arngrimsson SA, **Valentine RJ**, Evans EM. Gender differences in body composition and the association of habitual physical activity with whole body and regional adiposity in individuals with spinal cord injury. *Int J Body Comp Res*. 2008; 6(2):43-50.
51. **Valentine RJ**, Vieira VJ, Woods JA, Evans EM. Stronger relationship between central adiposity and C-reactive protein in older women than men. *Menopause*. 2009; 16(1):84-9. PMID: 18791482
52. Kim K, **Valentine RJ**, Shin Y, Gong K. Associations of visceral adiposity and exercise participation with C-reactive protein, insulin resistance, and endothelial dysfunction in Korean healthy adults. *Metabolism*. 2008; 57(9):1181-9. PMID: 18702942
53. **Valentine RJ**, Saunders MJ, Todd MK, St. Laurent TG. Influence of carbohydrate-protein beverage on cycling endurance and indices of muscle disruption. *Int J Sports Nut Exerc Metab*. 2008; 18(4):363-78. PMID : 18708686
54. Heffernan KS, Vieira VJ, **Valentine RJ**. Microvascular function and ageing: L-arginine, tetrahydrobiopterin and the search for the fountain of vascular youth. *J Physiol*. 2008; 586(8):2041-2. PMID: 18325977 PMCID: PMC2465197
55. Mojtahedi MC, **Valentine RJ**, Arngrimsson SA, Wilund KR, Evans EM. The association between regional body composition and metabolic outcomes in athletes with spinal cord injury. *Spinal Cord*. 2008; 46:192-7. PMID: 17502877
56. **Valentine RJ**, Mistic MM, Kessinger RB, Mojtahedi MC, Evans EM. Location of body fat and body size impacts DXA soft tissue measures: a simulation study. *Eur J Clin Nutr*. 2008; 62:553-59. PMID: 17457339
57. Kim K, Lee S, **Valentine RJ**. Association of pro12Ala polymorphism in the peroxisome proliferative-activated receptor gamma2 gene with obesity and hypertension in Korean women. *J Nutr Sci Vitamin*. 2007; 53(3):239-46. PMID: 17874829

58. Vieira VJ, **Valentine RJ**, McAuley E, Evans EM, Woods JA. Independent relationship between heart rate recovery and CRP in older adults. *J Am Ger Soc.* 2007; 55(5):747-51. PMID: 17493195
59. Luque RM, Gahete MD, **Valentine RJ**, Kineman RD. Examination of the direct effects of metabolic factors on somatotrope function in a non-human primate model, *Papio anubis*. *J Mol Endocrinology.* 2006; 37(1):25-38. PMID: 16901921

Manuscripts in Review

Krishna S, Echevarria KG^g, Reed CH^g, Eo H^g, Wintzinger M, Quattrocelli M, **Valentine RJ**, Selsby JT. Consequences of diet-induced insulin resistance in mdx mice. *Am J Physiol-Reg; in revision August, 2023.*

Reed CH^g, Tystahl AC^u, Eo H^g, Buhr TJ, Bauer EE, Lee JH^g, Clark PJ, **Valentine RJ**. The interaction between acute stress and binge-patterned alcohol drinking on skeletal muscle protein synthesis in male mice. *J Appl Physiol; in review July, 2023.*

Book Chapter

Evans EM, Guest DD, **Valentine RJ**, O'Brien AE. Chapter 8: Healthy Lifestyles in Old Age: Integrating Physical Activity with Nutrition to Maintain a Healthy Body Composition and Prevent Disability, In: *ACSM's Exercise for Older Adults*; Ed. Chodzko-Zajko W; 2013.

Scholarly Presentations at Professional Meetings

Regional, National or International

1. Reed CH, Tystahl AC, Bauer EE, Eo H, Lee JH, Buhr TJ, Clark PJ, **Valentine RJ**. The effects of acute stress and repeated bouts of ethanol consumption on rates of muscle protein synthesis and related signaling in male mice. *American Physiology Summit 2023.*
2. Krishna S, Spaulding HR, Koltjes JE, Quindry JC, **Valentine RJ**, Selsby JT. Indicators of increased ER stress and unfolded protein response in aged D2-mdx and human dystrophic skeletal muscles. *Advances in Skeletal Muscle Biology in Health and Disease 2023.*
3. Krishna S, Montes C, Echevarria KG, Reed CH, Eo H, Walley JW, **Valentine RJ**, Selsby JT. Phosphoproteomics and reconstructed kinase signaling networks reveal unique consequences of diet-induced insulin resistance in dystrophic muscles. *New Directions in Biology and Disease of Skeletal Muscle Conference 2022 (oral presentation).*
4. Krishna S, Echevarria KG, Reed CH, Eo H, **Valentine RJ**, Selsby JT. Altered activation of inflammatory signaling with diet-induced insulin resistance in the dystrophic diaphragm. *Experimental Biology 2022.*
5. Krishna S, Echevarria KG, Reed CH, Eo H, **Valentine RJ**, Selsby JT. Diet induced insulin resistance in mdx mice. *New Directions in Biology and Disease of Skeletal Muscle Conference 2021.*
6. Reed CH, Bauer E, Clark PJ, **Valentine RJ**. The effects of severe psychological stress coupled with binge drinking on markers of skeletal muscle protein synthesis. *Experimental Biology 2021. FASEB Journal 35:S1, 2021*
7. Reed CH, Buhr T, Clark PJ, **Valentine RJ**. Binge drinking effects on markers of skeletal muscle protein synthesis and degradation. *Experimental Biology 2020. FASEB Journal 34:S1, 2020*
8. Eo H, **Valentine RJ**. Imoxin prevents dexamethasone-induced promotion of muscle-specific E3 ubiquitin ligases and stimulates anabolic signaling in C2C12 myotubes. *Experimental Biology 2020. FASEB Journal 34:S1, 2020*
9. Shirazi BR, **Valentine RJ**, Lang JA. Reproducibility of novel indices of reactive hyperemia using laser speckle contrast imaging. *Experimental Biology 2020. FASEB Journal 34:S1, 2020*

10. Alley JR, McGinness C, Borwick J, **Valentine RJ**, Kohut ML. Mitochondrial characteristics of adaptive immune cells associated with aerobic fitness. *ACSM 2020. Med Sci Sports Exer* 52(7S):16, 2020.
11. Huey KA, Temperly M, Conroy Z, Echevarria K, **Valentine RJ**. Effects of angiotensin receptor blockade on overload-induced muscle growth and function in mice. *ACSM 2020. Med Sci Sports Exer* 52(7S):907, 2020.
12. **Valentine RJ**, Summers CM. Effect of heat on autophagy and insulin signaling during nutrient excess. *Obesity*, November, 2019.
13. Eo H, **Valentine RJ**. Imoxin, a PKR inhibitor, ameliorates ER stress induced by palmitate or tunicamycin in C2C12 myotubes. *FASEB Journal* 33:868.22, 2019.
14. Alley JR, Darling R, Jefferson MJ, Wagner D, **Valentine RJ**, Wannemuehler MJ, Kohut MK. Acute exercise alters cell populations within lymph nodes draining exercising muscle. *Med Sci Sports Exer* 49(5S):459, 2017.
15. Summers CM, **Valentine RJ**. Heat treatment regulates autophagy in C2C12 myotubes (*oral presentation*). *Med Sci Sports Exer* 49(5S):499, 2017.
16. Jefferson MA, **Valentine RJ**, Kanthasamy A, Kohut ML. PKR as an early neuroinflammatory mediator in diet-induced obesity: implications for Parkinson's disease. *Keystone Symposia on Neuroinflammation: Concepts, characteristics, consequences*, 2017.
17. Summers CM, Fuller KNZ, **Valentine RJ**. The effect of an acute bout of exercise on markers of autophagy in the livers of diet-induced obese mice. *Integrative Biology of Exercise Conference*, 2016.
18. Fuller KNZ, Summers CM, **Valentine RJ**. Effect of a single bout of aerobic exercise on NF- κ B in peripheral blood mononuclear cells. *Med Sci Sports Exer* 48(5S):907, 2016.
19. Ganesan S, Pearce S, Summers C, Gabler N, **Valentine R**, Baumgard L, Rhoads R, Selsby J. Heat stress-induced insulin sensitivity in oxidative skeletal muscle. *FASEB Journal* 30:1290.5, 2016.
20. Ganesan S, Summers C, Pearce S, Gabler N, **Valentine R**, Baumgard L, Rhoads R, Selsby J. Impaired mitochondrial clearance contributes to heat stress-mediated muscle dysfunction. *FASEB Journal* 30:1290.6, 2016.
21. Coughlan KA, Sudit B, **Valentine RJ**, Ruderman NB, Saha AK. PKC μ activation inhibits AMPK through Ser485/491 phosphorylation and inhibits basal glucose uptake in C2C12 myotubes. *American Diabetes Association (A490)*, 2015.
22. Coughlan KA, **Valentine RJ**, Ruderman NB, Saha AK. Pharmacological PKC activation inhibits AMPK by phosphorylation at Ser485/491 in muscle and liver cells. *American Diabetes Association (A443)*, 2014.
23. Coughlan KA, Balon TW, **Valentine RJ**, Ruderman NB, Saha AK. Fatty acids mediate AMPK expression in skeletal muscle by a mechanism involving Protein Kinase C. *American Diabetes Association (A465)*, 2013.
24. **Valentine RJ**, Saha AK, Schultz V, Brandon AE, Kraegen EW, Ruderman NB. Hyperglycemia alters energy state to diminish AMPK and leads to reductions in SIRT1 and SIRT3 in rat liver. *FASEB SRC: AMPK and Beyond*, 2012.
25. Ward CL, O'Brien AE, Valentine RJ, Evans EM. Impact of body composition and physical activity on fatigue in older men and women. *World Congress on Active Ageing*, August 2012.

26. Straight CR, Ward CL, Mojtahedi M, **Valentine RJ**, Johnson MA, Evans EM. Vitamin D status is not associated with muscle mass or physical function in older adults. *Med Sci Sports Exer* 44(5S):820-1, 2012.
27. O'Brien AE, Hall K, **Valentine RJ**, Evans EM. Older adults performance-based physical function (PF) impacted directly by perceived PF and indirectly by PA. *Med Sci Sports Exer* 44(5S):99, 2012.
28. Straight CR, Ward CL, Das BM, **Valentine RJ**, Georgiadis J, Evans EM. Adiposity impacts physical function more than leg lean mass in community-dwelling older men and women. *Southeast American College of Sports Medicine*, 2012.
29. **Valentine RJ**, Nelson LE, Ix JH, Ruderman NB. Metformin prevents high-glucose induced fetuin A release from HepG2 cells. *Diabetes* 61S1(A461), 2012.
30. Xu XJ, Gauthier MS, Apovian CM, Gokce N, **Valentine RJ**, Ruderman NB. Differences in AMPK activity, oxidative stress and the expression of multiple genes characterize adipose tissue from obese insulin-sensitive and resistant patients undergoing bariatric surgery. *Obesity*, October, 2011.
31. Guest DD, Elavsky S, **Valentine RJ**, McAuley E, Evans EM. Self-reported fatigue levels in perimenopausal women are impacted by habitual physical activity and adiposity. *Society of Behavioral Medicine*, 2011.
32. **Valentine RJ**, Evans EM. The associations of adiposity, physical activity and inflammation with fatigue in older adults (oral presentation). *FASEB Journal* 25:337.1, 2011.
33. **Valentine RJ**, Evans EM, Obesity status and moderate-to-vigorous physical activity influence physical function in community-dwelling older adults. *Med Sci Sports Exer* 43(5):931-2, 2011.
34. Cady M, Woods JA, Baynard T, Wilund KR, **Valentine RJ**, Martin SA, Cortez F, Pence BD. Reduced adipose tissue hypoxia as a potential mechanism by which exercise and/or low fat diet reduces inflammation in obese mice. *Brain Behav Immunol.* 24(S1):S60, 2010.
35. Linden MA, Baynard T, Vieira VJ, **Valentine RJ**, Woods JA. Exercise increases gene expression of vascular endothelial growth factor (VEGF) in young mice on a high-fat diet. *Med Sci Sports Exer* 42(5):313, 2010.
36. Ward CL, **Valentine RJ**, Mallard DM, Evans EM. Racial differences in body composition and physical activity levels in college-age females. *Med Sci Sports Exer* 42(5):619, 2010.
37. Guest DD, **Valentine RJ**, Mojtahedi MM, Evans EM. Physical activity and adiposity influence fatigue in older women compared to their male counterparts. *Med Sci Sports Exer* 42(5):562, 2010.
38. **Valentine RJ**, Guest DD, McAuley E, Evans EM. Adiposity and physical activity influence physical function and fatigue in older women. *Med Sci Sports Exer* 42(5):565, 2010.
39. **Valentine RJ**, Parrett AL, Arngrímsson SÁ, Evans EM. Adiposity and physical activity impact systemic inflammation and metabolic disease risk in prepubescent children. *Obesity*, October, 2009.
40. **Valentine RJ**, Evans EM. Adiposity and physical activity influence physical function in older adults. *Obesity*, October, 2009.
41. Ward CL, **Valentine RJ**, Evans EM. Lean mass and fat mass effects on bone mineral density in older men. *Midwest American College of Sports Medicine*, 2009.
42. †Calvert HG, **Valentine RJ**, Evans EM. Influence of knee and ankle strength on unilateral balance in older women. *Midwest American College of Sports Medicine*, 2009 († awarded best undergraduate presentation).

43. Shin S, **Valentine RJ**, Evans EM, Sosnoff JJ. Lower extremity muscle strength and gait variability in older adults. *American Society of Biomechanics*, August, 2009.
44. Thorpe MP, **Valentine RJ**, Moulton CJ, Wagoner-Johnson A, Evans EM, Layman DK. Dietary protein holds positive and negative effects on bone health in rats. *FASEB Journal* 23:220.5, 2009.
45. Moulton CJ, **Valentine RJ**, Wallig M, Monaco M, Singletary K, Layman D. An elevated protein diet does not accelerate initiation and early progression of MNU-induced breast cancer tumors in rats. *FASEB Journal* 23:897.8, 2009.
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52. **Valentine RJ**, Blankenberger AM, Ebersole KT, Evans EM. Influence of ankle strength on gait function/physical performance in older adults. *Med Sci Sports Exer*, 41(5):369-370, 2009.
53. Vieira VJ, **Valentine RJ**, Woods JA. WAT gene expression of IL-1ra predicts hepatic steatosis in obese Balb/c mice and is reduced by behavioral intervention. *FASEB Journal* 22:685.3, 2008.
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55. Mojtahedi MC, Arngrímsson SA, **Valentine RJ**, Evans EM. Gender differences in whole body and regional body composition of athletes with spinal cord injury. *Med Sci Sports Exer* 40(5):S47, 2008.
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57. Mojtahedi MC, **Valentine RJ**, Arngrímsson SÁ, Evans EM. Intermuscular thigh fat mass and insulin sensitivity in athletes with spinal cord injury. *International Spinal Cord Society*, 2007.
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63. **Valentine RJ**, Vieira VJ, Evans EM, Woods JA. Central adiposity is a stronger predictor of CRP than aerobic fitness in healthy older adults. *Med Sci Sports Exer* 38(11): S43, 2006.
64. St. Laurent TG, Todd MK, Saunders MJ, **Valentine RJ**, Flohr JA. Carbohydrate-protein beverage improves muscle damage and function versus isocarbohydrate and isocaloric carbohydrate-only beverages. *Med Sci Sports Exer* 38(5): S340, 2006.
65. Saunders MJ, Todd MK, **Valentine RJ**, St. Laurent TG, Kane MD, Luden ND, Herrick JE. Inter-study examination of physiological variables associated with improved endurance performance with carbohydrate/protein administration. *Med Sci Sports Exer* 38(5): S113-S114, 2006.
66. **Valentine RJ**, St. Laurent TG, Saunders MJ, Todd MK, Flohr JA. Comparison of responses to exercise when consuming carbohydrate and carbohydrate/protein beverages. *Med Sci Sports Exer* 38(5): S341, 2006.
67. **Valentine RJ**, Saunders MJ. MRI Analysis of muscle activation during constant-load cycling of varying intensities and durations. *Med Sci Sports Exer* 37(5): S439-S440, 2005.

State and Local

1. Tystahl AC, Reed CH, Clark PJ, **Valentine RJ**. The effects of stress and binge-pattern drinking on markers of skeletal muscle protein synthesis and degradation. *ISU Symposium on Undergraduate Research (oral presentation)*, 2022.
2. Krishna S, Spaulding HR, Koltjes JE, Quindry JC, **Valentine RJ**, Selsby JT. Indicators of increased ER stress and UPR in aged D2-mdx and human dystrophic skeletal muscles. *Iowa Physiological Society Annual Meeting*, 2022.
3. *Echevarria K, Huey KA, Temperly M, Conroy Z, **Valentine RJ**. Effects of angiotensin receptor blockade on overload-induced muscle growth and function in mice. *Iowa Physiological Society Annual Meeting*, 2019. *Oral and poster
4. Shirazi BR, **Valentine RJ**, Lang JA. Reproducibility of novel indices of reactive hyperemia using laser speckle contrast imaging. *Iowa Physiological Society Annual Meeting*, 2019.
5. †Shirazi BR, **Valentine RJ**, Lang JA. Effects of acute BEMER treatment on muscle performance and cutaneous microvascular function. *Iowa Physiological Society Annual Meeting*, 2018. († 3rd place undergraduate poster).
6. Alley JR, Ross K, Narasimhan B, **Valentine RJ**, Kohut ML. Incorporation of metabolism-altering drugs in a nanoparticle-based vaccine increases effector memory T cell population. *Nanovaccine Institute*, 2018.
7. Guay E, **Valentine RJ**. Relationship between depressive symptoms and activities of daily living in older adults. *ISU Symposium on Undergraduate Research (oral presentation)*, 2018
8. Summers CM, Fuller KNZ, **Valentine RJ**. The effect of an acute bout of exercise on markers of autophagy in the livers of diet-induced obese mice. *Iowa Physiological Society Annual Meeting*, 2016.

Research Grants

Extramural (Received):

2023-2025: “The role of the microbiome in mediating the renal protective effects of whole oats in diabetic nephropathy”

Role: Co-Mentor (Carrillo CA, PI)

Funding Source: USDA AFRI Predoctoral Fellowship

2022-2024: “PKR as a therapeutic target for muscular dystrophy”

Role: PI (Selsby JT, Co-PI)

Funding Source: National Institute of Arthritis and Musculoskeletal and Skin Diseases (R21)

Total Costs: \$394,800

2022-2024: “Obesity as a modifier of disease progression caused by dystrophin deficiency”

Role: Co-I (Selsby JT, PI)

Funding Source: Muscular Dystrophy Association

Total Costs: \$300,000

2021-2023: “Using exercise to reset the endocannabinoid system and restore cardiometabolic health in adults with overweight/obesity”

Role: Co-I (Brellenthin AG, PI)

Funding Source: National Institute of Diabetes and Digestive and Kidney Diseases (R21)

Total Costs: \$404,264

2021-2024: “Modulation of the intrarenal renin-angiotensin system by resistant starch for the prevention of vitamin D insufficiency in diabetes”

Role: Co-PI (Rowling MJ, Co-PI)

Funding Source: National Institute of Food and Agriculture (AFRI)

Total Costs: \$500,000

2019: “Effects of angiotensin receptor blockade on overload-induced muscle growth and function in mice”

Role: Co-PI (Huey KA, Co-PI; Drake University)

Funding Source: Iowa Space Grant Collaborations Program

Total Costs: \$17,938 (\$12,228 to ISU)

2019-2020: “Mitochondrial changes in adaptive immune cells following exercise training”

Role: Co-Mentor (Alley JA, PI)

Funding Source: American College of Sports Medicine

Total Costs: \$5,000

2015-2016: “The effect of HMB supplementation on adipose tissue inflammation and metabolism”

Role: Co-PI (Rathmacher J, Co-PI)

Funding Source: Iowa Regents Innovation Fund; Metabolic Technologies, Inc.

Total Costs: \$75,000

Extramural (Pending):

2023-2026: “Mirabegron, a β_3 -adrenergic agonist, as a treatment for muscular dystrophy”

Role: PI (Selsby JT, Vieira-Potter VJ, Lefferts WK, Co-I)

Funding Source: Muscular Dystrophy Association

Total Costs: \$300,000

2023-2025: “ β_3 -adrenergic activation as a treatment for muscular dystrophy”

Role: PI (Selsby JT and Vieira-Potter VJ, Co-I)

Funding Source: National Institute of Arthritis and Musculoskeletal and Skin Diseases (R21)

Total Costs: \$413,000

2023-2025: “Proteomic analysis of central and peripheral factors contributing to stress-induced sedentary behavior”

Role: Co-PI (Clark PJ, Co-PI)

Funding Source: National Institute on Aging (R21)

Total Costs: \$430,000

Intramural (Received):

2021-2022: “The endocannabinoid system as a pathway to cardiometabolic health through exercise”

Role: Co-I (Brellenthin AG, PI)

Funding Source: Untenured Faculty Seed Grant, College of Human Sciences, Iowa State University

Total Direct Costs: \$10,000

2019-2021: “Turn up the heat: Effects on skeletal muscle autophagy”

Role: PI (Joshua Selsby, mentor)

Funding Source: Untenured Faculty Seed Grant, College of Human Sciences, Iowa State University

Total Direct Costs: \$9,998

2018-2020: “The impact of microRNAs from whole egg consumption in the diabetic rat”

Role: Co-I (Kevin Schalinske, PI)

Funding Source: Presidential Interdisciplinary Research Seed Grant Program, Iowa State University

Total Direct Costs: \$41,296

2018-2020: “The impact of microRNAs from whole egg consumption to reduce weight gain during the onset and progression of obesity”

Role: Co-I (Stephanie Clark, PI)

Funding Source: Intramural Collaborative Seed Grant, College of Human Sciences, Iowa State University

Total Direct Costs: \$24,983

2018: “Optimizing immuno-metabolic function to improve nanovaccine efficacy and nanoparticle-based therapeutics against influenza”

Role: Co-PI (Kohut, Co-PI)

Funding Source: Nanovaccine Institute, Iowa State University

Total Direct Costs: \$10,000

2017-2019: “Anti-inflammatory effects of nicotinamide riboside in older adults: mechanisms of action”

Role: PI

Funding Source: W.S. Martin Fund, Nutritional Science Council, Iowa State University

Total Direct Costs: \$10,000

2016-2018: “The neurophysiological consequences of acute stress on promoting a sedentary lifestyle”

Role: Co-PI (Peter Clark, Co-PI)

Funding Source: Intramural Collaborative Seed Grant, College of Human Sciences, Iowa State University

Total Direct Costs: \$25,000

2015-2017: “The role of PKR/NLRP3 signaling in obesity-associated neurodegeneration and neuroinflammation”

Role: Co-PI (Marian Kohut, Arthi Kanthasamy, and Manju Reddy, Co-PIs)

Funding Source: Intramural Collaborative Seed Grant, College of Human Sciences, Iowa State University

Total Direct Costs: \$25,000

2014-2016: “Prevention of Vitamin D Deficiency in Type 2 Diabetes by resistant starch-mediated inhibition of the intrarenal angiotensin system”

Role: Co-PI (Matthew Rowling and Rachel Derscheid, Co-PIs)

Funding Source: Intramural Collaborative Seed Grant, College of Human Sciences, Iowa State University

Total Direct Costs: \$25,000

Invited Research Presentations

Protein kinase R as a therapeutic target in skeletal muscle. University of Missouri, *Department of Nutrition and Exercise Physiology Seminar*, March 2023.

Protein kinase R as a therapeutic target in skeletal muscle: Relevance in obesity, aging, and disease. University of Massachusetts-Lowell, *Department of Physical Therapy and Kinesiology*, February 2023.

Nutrient excess and inflammation: The role of exercise. James Madison University, *Department of Kinesiology Alumni Lecture (webinar)*, November 2018.

Effects of a single bout of heat on autophagy and insulin signaling in skeletal muscle cells. Iowa Physiological Society, *Special Interest Session*, September 2018.

Regulation of AMPK by nutrient excess: Implications for the Metabolic Syndrome. University of Illinois-Chicago, *Integrative Physiology Seminar*, April 2017.

Insulin inhibits AMPK activity via phosphorylation of AMPK Ser485/491 through Akt in liver and muscle. Boston University, *Whitaker Cardiovascular Institute*, April 2014.

Activation of AMP-activated protein kinase prevents overnutrition-induced fetuin-A and protects against its deleterious metabolic consequences. Florida State University, *Department of Nutrition, Food, and Exercise Science*, March 2014.

Body composition influences on physical function: Muscle mass or adipose tissue as a bigger player? Iowa State University, *Department of Kinesiology*, March 2014.

Activation of AMP-activated protein kinase prevents nutrient-induced fetuin-A and protects against its deleterious metabolic consequences. University of North Carolina-Charlotte, *Department of Kinesiology*, February 2014.

AMPK activation prevents high-glucose induced fetuin-A release from HepG2 cells. Boston University, *Whitaker Cardiovascular Institute*, September 2012.

A novel inverse relationship between metformin-triggered AMPK-SIRT1 signaling and p53 in HepG2 cells. Boston University, *Whitaker Cardiovascular Institute*, December 2011.

Adiposity, activity and inflammation: Influence on fatigue and function. University of Georgia, *Department of Kinesiology*, March 2011.

Adiposity, activity and inflammation. University of Wisconsin-Madison, *Department of Biochemistry*, March 2011.

Adiposity, activity and inflammation: From man to mouse. Boston University, *Diabetes and Metabolism Research Unit*, February 2011.

Physical activity, obesity and inflammation. University of Washington, *Diabetes Institute*, December 2010.

Disordered body composition and physical function in older adults. University of Illinois at Urbana-Champaign, *Department of Kinesiology Seminar*, March 2009.

Body composition assessment across species: Validity of DXA for bone and soft tissue. University of Illinois at Urbana-Champaign, *Department of Kinesiology Seminar*, September 2007.

Influence of carbohydrate-protein beverage on cycling endurance and muscle damage. University of Illinois at Urbana-Champaign, *Department of Kinesiology Seminar*, October 2006.

TEACHING, MENTORING, and INSTRUCTIONAL ACTIVITIES

Instructional Experience

Iowa State University

Instructor, varies by semester

- KIN 358 – Physiology of Exercise (undergraduate) (Sp '16-'19)
- KIN 359 – Exercise Physiology Lab (undergraduate; supervising instructor) (Fa '19-22, Sp '21-23)
- KIN 462 – Medical Aspects of Exercise (undergraduate) (Fa '14-18, Sp '15-23)
- KIN 491 – Undergraduate Teaching Assistantship (supervising instructor) (Fa '19-22, Sp '20-22)
- KIN 505 – Research Laboratory Techniques in Exercise Physiology (graduate) (Fa '19-'22)
- KIN 550 – Advanced Physiology of Exercise I (graduate) (Fa '19-'22)
- KIN/NUTRS 553X – Molecular Physiology and Metabolism (graduate) (Sp '21)

Guest Lecturer

- AnS 670 – Molecular Biology of Muscle (graduate) (Fa '15, Sp '19)
- Syracuse University, EXE 505 – Current Literature in Exercise and Sport Science (graduate) (Fa '20)

University of Illinois at Urbana-Champaign

Instructor, Fall 2010

- KIN 452 – Clinical and Applied Exercise Physiology (undergraduate and graduate)

Teaching Assistant, Spring 2006-2010

- KIN 494 – Advanced Exercise Prescription (undergraduate and graduate)

Teaching Assistant, Fall 2009

- KIN 553 – Graduate Circulorespiratory Physiology (laboratory)

Teaching Assistant, Fall 2006-2010

- KIN 452 – Clinical and Applied Exercise Physiology (laboratory; undergraduate and graduate)

Graduate Assistant, Spring-Fall 2006

- KIN 386 – Practical Experiences – Lifetime Fitness Program

Teaching Assistant, Spring 2006

- KIN 352 – Bioenergetics of Movement (laboratory)

Teaching Assistant, Spring 2006

- KIN 150 – Bioscience of Human Movement (laboratory)

James Madison University

Teaching Assistant, Spring 2005, Spring 2004

- KIN 424 – Theories and Practices of Weight Management (laboratory; undergraduate and graduate)

Instructor, Fall 2004, Fall 2003

- KIN 421L – Exercise Testing and Prescription Laboratory

Teaching Assistant, Summer 2004

- KIN 202 – Biological Foundations of Kinesiology Laboratory

Intramural Educational Funding (Received):

2018-2019: “Enhancing student development through integration of technology and experiential learning”

Role: Project Lead (Lang and King, Co-proposers)

Funding Source: College of Human Sciences Computation Advisory Committee

Total Direct Costs: \$59,180

Graduate Student Committees

Completed (M.S.)

Quinn Keleher, Diet and Exercise, Iowa State University (Member)

“Associations between dairy consumption, cerebral blood flow, and cognitive function”

Olivia Wee, Diet and Exercise, Iowa State University (Member)

“The long-term consequences of exposure to adverse experience on muscle physiology”

Rachel Johnson, Diet and Exercise, Iowa State University (Member)

“Nonalcoholic fatty liver disease: Contributing factors, co-morbidities, and interventions through diet and exercise” (non-thesis)

Kenneth Echevarria, Kinesiology, Iowa State University (*Major Professor)

“Heat: A hormetin and zeitgeber in skeletal muscle through a thermodynamics lens” (non-thesis)

Currently Clinical/Domiciliary Dietitian, VA Medical Center

Mary Davis, Diet and Exercise, Iowa State University (Member)

“Exercise is aging: a new perspective on the mechanisms behind exercise as preventive medicine against age-related chronic disease” (non-thesis)

Isaac Schiff, Diet and Exercise, Iowa State University (* Major Professor), 2020

“The effects of nicotinamide riboside on postprandial oxidative stress and vascular function”

Currently Home Care Dietitian, Allina Health

Annette Contrady, Nutritional Science, Iowa State University (Member), 2020

“Physical activity needs, preferences, perceptions, and current practices of community residing older adults”

Corey Summers, Immunobiology / Kinesiology, Iowa State University (*Major Professor), 2018

“Impact of acute heat treatment on autophagy and insulin signaling in C2C12 myotubes”

Currently Technical Support Consultant, Bio-Rad Laboratories

Kelly Fuller, Nutritional Science, Iowa State University (*Major Professor), 2016

“Effects of prior aerobic exercise on high-fat meal-induced inflammation”

Currently Postdoctoral Fellow, University Colorado, Anschutz Medical Campus

Benjamin Nusbaum, Diet and Exercise, Iowa State University (Member), 2016

“Whole egg diets attenuate DNA hypomethylation due to disruption of methyl group metabolism in insulin dependent diabetes mellitus”

Olga Volodina, Genetics and Genomics, Iowa State University (Member), 2016

“Early chronology of heat stress-induced alterations in porcine skeletal muscle”

Completed (Ph.D.)

Swathy Krishna, Genetics and Genomics, Iowa State University (Member)

“Cellular dysfunctions caused by dystrophin deficiency and the interaction of diet-induced insulin resistance”

Brittany Larsen, Neuroscience, Iowa State University (Member)

“Adiposity and insulin resistance moderate the associations between neuroelectrophysiology, cognitive function, and affect regulation”

Ella Bauer, Nutritional Science / Neuroscience, Iowa State University (Member)

“The impact of stress, alcohol, and malnutrition on gut and brain monoaminergic profiles”

Hyeyoon Eo, Nutritional Science, Iowa State University (*Major Professor), 2021

“PKR in skeletal muscle: Effect of imoxin on muscle atrophy, ER stress, and insulin signaling pathway in C2C12 myotubes”

Currently Postdoctoral Fellow, Biomedical and Pharmaceutical Sciences, Kyung Hee University

Jessica Alley, Kinesiology / Immunobiology, Iowa State University (Member), 2021

“Modulation of adaptive immunity through acute exercise, metabolism-targeting pharmacological

agents, and chronic exercise training”

*** American Kinesiology Association Doctoral Scholar Award Recipient 2021**
Currently Research Specialist, UNC Lineberger Comprehensive Cancer Center

Jahyun Kim, Kinesiology, Iowa State University (Member), 2020

“Repeated remote ischemic preconditioning and cutaneous microvascular responses”

Cassandra Saande, Nutritional Science, Iowa State University (Member), 2019

“Impact of whole egg consumption on nutrient homeostasis in metabolic disease”

Currently Medical Writer, RTI Health Solutions

Hannah Spaulding, Molecular, Cellular and Developmental Biology, Iowa State University (Member), 2019

“Stimulation of PGC-1 α to attenuate Duchenne muscular dystrophy disease pathology and activate autophagy”

Matthew Jefferson, Neuroscience, Iowa State University (Member), 2018

“PKR as a conserved neuroinflammatory mediator under viral, bacterial, and metabolic challenge: A role in Parkinsonian pathogenesis?”

Currently Medical Science Liaison, argenx

Nathan Meier, Kinesiology, Iowa State University (Member), 2018

“Physical activity and sarcopenia in older adults”

In progress (M.S.)

Courtney Schaeffer, Kinesiology, Iowa State University (Member)

Gabriel Rummel, Diet and Exercise, Iowa State University (Member)

In progress (Ph.D.)

Carter Reed, Nutritional Science / Kinesiology, Iowa State University (*Major Professor)

*** American Kinesiology Association Doctoral Scholar Award Recipient 2023**

Ji Heun Lee, Kinesiology, Iowa State University (*Major Professor)

Kelsey Schwartz, Kinesiology, Iowa State University (Member)

Tori Rudolph, Genetics and Genomics, Iowa State University (Member)

Alicia Taylor, Nutritional Science, Iowa State University (Member)

Trevor Buhr, Neuroscience, Iowa State University (Member)

April Tingle, Immunobiology, Iowa State University (Member)

Claudia Carrillo, Nutritional Science, Iowa State University (Member)

Nozomu Tanaka, Kinesiology, Iowa State University (Member)

Supervised rotating interdepartmental students

Kelly Fuller, Nutritional Science, MS (Sp '15)

Corey Summers, Immunobiology, PhD (Sp '15)

Alicia Taylor, Nutritional Science, PhD (Fa '18)

Chih-Chung Lu, Nutritional Science, MS (Fa '20)

Claudia Carrillo, Nutritional Science, MS (Fa '21)

Jason Terrill, Neuroscience, PhD (Sp '23)

Supervised graduate independent study (KIN 590)

Maren Wolff, Nutritional Science, PhD (Fa '16)

Cassandra Saande, Nutritional Science, PhD (Fa '19)

Mary Davis, Diet and Exercise, MS (Sp '22)

Renee Alexander, Kinesiology, PhD (Fa '22)

Mingyue Zhang, Kinesiology, PhD (Sp '23)

Supervised Undergraduate Research Assistants (at ISU)

Student	Program	Semester	Notes
Rebecca Nikl	Diet/Ex	Su '15, Fa '15 , Sp '16	Volunteer URA Earned MS, Clinical Dietitian
Sarah Siegel	KIN	Sp '16, Su '16, Fa '16	Volunteer URA Physical Therapist
Amanda Wuttke	KIN	Sp '16, Su '16, Fa '16	Volunteer URA
Christopher Jenks	KIN 490	Sp '17	Nursing School
	Intern	Su '16	Biochemistry & Kinesiology major at UNC-Chapel Hill; summer intern Medical School – Indiana U
Emma Troyer	HON 290	Sp '17	Freshman honors program
Kenneth Echevarria	HON 290	Sp '17, Fa '18	Freshman honors program, George Washington Carver scholar
	490H	Sp '19, Fa '19	Honors project mentor
	URA	Su '19, Fa '19	Funded on NASA grant, and Rosenfeld Internship MS from ISU, Clinical Dietitian
Evelyne Guay	KIN	Fa '16-Fa '17	Volunteer URA
	KIN 490	Sp '18	ISU SoURCE oral presentation Dr. Gautt Postgraduate scholarship Medical School – U of Toronto
Laurel Smeins	URA	Su '18	Guiot Scholarship Medical School – U of Iowa
John Davis	HON 290	Sp '18	Freshman honors program
	KIN 290	Fa '18 - present	Biology student
	KIN 490H	Fa '20 - Sp '21	Honors project mentor Medical School – Kirksville
Jonathan Richardson	HON 290	Sp '18	Freshman honors program
	KIN 290	Fa '18 – Sp '20	Pre-Diet and Exercise student
	KIN 490	Sp '21	Food Science and Human Nutrition
Joseph Nuckolls	KIN	Sp '18 – Sp '21	Volunteer URA
Jake Nielsen	KIN	Sp '19 – Sp '21	Volunteer URA
Behnia Shirazi	HON	Su '18 – Sp '21	Honors, co-mentored with James Lang; 2020 Goldwater Scholarship
Maria Lea	BIOL	Fa '18 – Sp '21	Volunteer, co-mentored with James Lang; Medical Device Sales
Nicole Casey	HON	Sp '19 – Sp '21	Freshman honors program Dental School – Minnesota
Anna Tystahl	HON	Sp '19, Fa '19	Freshman honors program
		Sp '20 – Sp '22	Volunteer URA, Rosenfeld Internship Admit to Creighton – PA program
Samantha Ruhland	HON 290	Sp '20	Freshman honors program
Eric Ossian	URA	Fa '21 – Sp '22	Volunteer
Dana Feyen	URA	Sp '23	Exercise Science internship Admit to ISU – Higher Ed Program
Raina Henrichs	HON 290	Sp '23	Freshman honors program
Peyton Scott	HON 290	Sp '23	Freshman honors program

Bolded lines describe current positions of graduated students.

SERVICE ACTIVITIES

Memberships/Committees (External)

American College of Sports Medicine, member 2005 – present
American Physiological Society, member 2017, 2021 – present
Iowa Physiological Society, member 2016 – present
American Society for Nutrition, member 2017 – 2019
The Obesity Society – 2011, 2019

Professional Activities

Diabetes UK
Grant reviewer (2023)
American Physiological Society
Graduate Student Research Awards Committee – Endocrinology and Metabolism (2023)
American College of Sports Medicine
Student Awards Committee – Aging Interest Group (2023)
American Society for Nutrition
Graduate Student Research Awards Committee (2011, 2017)
Co-chair for the session “Lipid and fatty acid metabolism & transport” Experimental Biology (2017)
Iowa Physiological Society
Presentation / Poster judge (2016, 2018, 2020)
University of Illinois Paul D. Doolen Scholarship Selection Committee (2011)

Administrative Services to the University

University Service

Nominee, Participation in the OVPR Research and Innovation Roundtable (RIR) focused on Healthy Iowa (2023)
Invited seminar, Office of Research Ethics (2022)
Moderator, ISU Symposium on Undergraduate Research & Creative Expression (SoURCE) (2018, 2019, 2022, 2023); Judge (2016)
Judge, ISU Graduate and Professional Student Conference (2022, 2023)
Presented and led a midterm discussion group for the first-year honors program (2019)
Judge, ISU Three-minute Thesis (3MT) competition (2018)
Lead, New Student Orientation for incoming graduate students in the Interdepartmental Graduate Program in Nutritional Sciences (2017)
Reviewer, David R. Griffith Research Excellence Award (2017, 2018, 2020)
Recognizes nutrition graduate student research excellence
Reviewer, W.S. Martin Award, Nutritional Science Council (2021)
Reviewer, Bailey Research Career Development Award (2016, 2017)
Representative (invited), Iowa State University – University of Iowa meeting regarding collaboration in obesity and diabetes research and education, jointly hosted by each university’s Office of the Vice President for Research (2014).
Reviewer, University of Illinois Paul D. Doolen Scholarship Selection Committee (2011)

University Standing and Ad Hoc Committees

Member, Biotechnology Council (single selected member from CHS; 2020 to present)
Selected member, Diet and Exercise Advisory Committee (2019 to present)
Member, IACUC Committee (1 of 2 selected members from CHS; 2018 to present)
Chair, Admissions Committee, Interdepartmental Program in Nutritional Sciences (2016 to present)
Member (2015)

Selected member, Modern Views of Nutrition Seminar Committee (2017 to present)

Selected member, Advisory Committee, Interdepartmental Program in Nutritional Sciences (2016 to present)

College and Departmental Service

Invited workshop speaker, CHS webinar – What I learned about optimizing a pilot study – given to faculty and graduate students throughout the college (2022)

Member, CHS Faculty and Staff Awards Committee (2022 to present)

Commencement marshal for the CHS graduation (December 2014, 2021)

Project lead, undergraduate teaching lab development (2018 to 2019)

Participated in ‘Lab Night’ to promote our research to undergraduate students, Department of Kinesiology (2018, 2019)

Invited attendee, Cyclone Scholar-Athlete Banquet (April 2018)

Provided a lab tour and research overview to the **ISU Foundation Board of Directors** (June 2017)

Served on a panel for the CHS Honors Fair (November 2016)

Presented research for the **Dean’s Advisory Council** (October 2016)

Department Standing and Ad Hoc Committees

Chair (2022-2023) Faculty Search Committee, Department of Kinesiology, member (2016-2017)

Chair (2021 to present), Faculty and Staff Awards and Honors Committee, member (2020)

Member, Undergraduate Curriculum and Standards Committee (2020-2022)

Member, Computation Advisory Committee, Department of Kinesiology (2015-2020)

Selected member, Intro Course (KIN 252) Task Force, Department of Kinesiology (2018-2019)

Member, Undergraduate Student Scholarship Committee, Department of Kinesiology (2016-2018)

Journal Reviewer (Ad-Hoc)

Annals of Neurology, Antioxidants, Applied Physiology Nutrition and Metabolism, Biomolecules, BMC Complementary and Alternative Medicine, Brain Behavior and Immunity, British Journal of Nutrition, British Journal of Pharmacology, Calcified Tissue International, Cancers, Cells, Current Developments in Nutrition, Diabetes Research and Clinical Practice, Evidence-Based Complementary and Alternative Medicine, Food and Chemical Toxicology, Frontiers in Pharmacology, Frontiers in Physiology, International Journal of Biological Macromolecules, International Journal of Biological Macromolecules, International Journal of Environmental Research and Public Health, International Journal of Molecular Sciences, Journal of Aging and Physical Activity, Journal of Alternative and Complementary Medicine, Journal of the American Geriatrics Society, Journal of Applied Physiology, Journal of Bioenergetics and Biomembranes, Journal of Clinical Medicine, Journal of Diabetes Research, Journal of Functional Foods, Journal of Personalized Medicine, Journal of Thermal Biology, Journal of Women’s Health, Mediators of Inflammation, Microorganisms, Molecular Nutrition and Food Research, Molecules, Nutrients, Peptides, Pharmaceutics, Physiological Reports, Physiology and Behavior, PlosOne, Psychoneuroendocrinology

2019-present Associate Editor, Frontiers in Physiology

Public Service

Educational lecture to the Rotary Club of Urbana, Illinois, “Fatigue and Function in Older Adults” (2010)

Educational workshop for 1st year medical students, “Nutrition and Exercise for the M1 Year,” University of Illinois College of Medicine (2009)

Volunteer, All Generations Event, sponsored walk program (2009)

Graduate Director, Lifetime Fitness Program, Department of Kinesiology and Community Health, University of Illinois [service program for older adults] (2006)