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North Dakota State University
Health, Nutrition, & Exercise Sciences
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Education

PhD, Syracuse University (2013)
Concentration: Exercise Science and Science Education

MEd, Wayne State University (2005)
Concentration: Exercise Physiology

BA, Hope College (2003)
Majors: Exercise Science and Psychology

Professional Positions

Associate Professor (Present)
North Dakota State University, Department of Health, Nutrition, and Exercise Sciences, Fargo, ND

Assistant Professor (2013 - 2019)
North Dakota State University, Department of Health, Nutrition, and Exercise Sciences, Fargo, ND

Graduate Coordinator (2018-Present) North Dakota State University, Department of Health, Nutrition, and Exercise Sciences
Fargo, ND

Exercise Physiologist (2011 - 2013)
Wyle Science, Technology and Engineering Group, Exercise Physiology & Countermeasures Project, Contractor for National Aeronautics & Space Administration (NASA) Lyndon B. Johnson Space Center
Houston, TX

NASA-Graduate Student Research Program Student Fellow (2008 - 2011)
Syracuse University/NASA Johnson Space Center
Syracuse, NY/Houston, TX

Graduate Research and Teaching Assistant (2007 - 2008)
Syracuse University
Syracuse, NY

Graduate Teaching Assistant (2005 - 2007)
Michigan State University
East Lansing, MI

Graduate Teaching Assistant (2003 - 2005)
Wayne State University
Detroit,

RESEARCH AND CREATIVE ACTIVITIES

Journal Articles in Review/Press

McGrath, R., Johnson, N.R., Klawitter, L., Mahoney, S., Trautman, K., Carlson, C., Rockstad, E., **Hackney, K.** (In Review). What Exactly is Handgrip Strength Measuring? A Topical Review. *SAGE Open Medicine*.

McGrath, R., Stastny, S., Casperson, S., Jahns, L., Roemmich, J., **Hackney, K.** (in press). Daily Protein Intake and Distribution of Daily Protein Consumed Decreases Odds for Functional Disability in Older Americans. *Journal of Aging and Health*, 0898264319881864

Blake, M.S., Johnson, N.R., Trautman, K.A., Grier, J.W., Stastny, S.N., **Hackney, K.** (in press). A Multi-Ingredient Pre-Workout Supplement nor Caffeine Were Effective at Improving Markers of Blood Flow or Upper-Body Resistance Exercise Performance. *The International Journal of Exercise Science*.

Dicks, N., Kotarsky, C.J., Trautman, K.A., Barry, A.M., Keith, J.F., Mitchell, S., Byun, W., Stastny, S.N., **Hackney, K.** (in press). Full Contribution of Protein Intake and Concurrent Exercise to Skeletal Muscle Quality with Aging. *The Journal of Frailty & Aging*.

McGrath, R., Vincent, B.M., **Hackney, K.J.**, Snih, S., Graham, J., Thomas, L., Ehlers, D., Clark, B. (In Press). Aging Clin Exp Res. <https://doi.org/10.1007/s40520-019-01351-y>.

McGrath, R., Robinson-Lane, S., Cook, S., Clark, B., Herrmann, S., O'Connor, M., **Hackney, K.** (in press). Handgrip strength is associated with poorer cognitive functioning in aging americans. *Journal of Alzheimer's Disease*, 1-10.

Published Journal Articles

Hackney, K.J., Trautman, K.A., Johnson, N., McGrath, R., Stastny, S. (2019). Protein and Muscle Health During Aging: Benefits and Concerns Related to Animal-Based Protein. *Animal Frontiers*, 9(4), 12-17.

Mahoney, S., Dicks, N., Lyman, K., Christensen, B., **Hackney, K.** Acute Cardiovascular, Metabolic, and Muscular Responses to Blood Flow Restricted Rowing Exercise (2019). *Aerospace medicine and human performance*, 90(5), 440-446.

Streeter, D., Stone, K., Bennett, T.W., McIntosh, L., Grier, J.W., Stastny, S., & **Hackney, K.** (2019). Endothelial, cardiovascular, and performance responses to L-arginine intake and resistance exercise to fatigue. *International Journal of Exercise Science*, 12 (2), 701-713.

McGrath, R.; Erlandson, K., Vincent, B., **Hackney, K.**, Herrmann, S., & Clark, B (2019). Decreased Handgrip Strength is Associated With Impairments in Each Autonomous Living Task for Aging Adults in the United States. *The Journal of Frailty & Aging*. <https://doi.org/10.14283/jfa.2018.47>

Barry, A., Lyman, K., Dicks, N., Landin, K., McGeorge, C., **Hackney, K.**, & Walsk, T. (2019). Firefighters' Physical Activity and Waist Circumference as Predictors of VO2 max. *Journal of Occupational and Environmental Medicine* 61 (10), 849-853.

McGrath, R., Snih, A., Markides, K., **Hackney, K.J.**, Bailey, R., Peterson, M. (2018). The burden of functional disabilities for middle-aged and older adults in the United States. *The Journal of Nutrition, Health, Aging*. <https://doi.org/10.1007/s12603-018-1133-2>.

McGrath, R., Clark, B., Erlandson, K., Herrmann, S., Vincent, B., Hall, O., & **Hackney, K.** (2018). Impairments in Individual Autonomous Living Tasks and Time to Self-Care Disability in Middle-Aged and Older Adults. *Journal of the American Medical Directors Association* S1525-8610(18)30587-5. doi: 10.1016/j.jamda.2018.10.014. [Epub ahead of print].

Bond, C.W., **Hackney, K. J.**, Brown, S., & Noonan, B. (2018). Blood flow restricted resistance exercise as a post-orthopedic surgery rehabilitation modality: a review of venous thromboembolism risk. *Journal of Orthopaedic and Sports Physical Therapy*, 49 (1), 17-27.

Terbizan, D., Barry, A., Stone, K., Talaski, J., Bennett, **Hackney, K.** (2018). Compression Garments Do Not Improve Recovery From Plyometric Exercise. *Missouri Journal of Health, Physical Education, and Recreation*.

Hackney K., Brown, W. J., Stone, K., & Tennent, D. (2018). Blood flow restricted exercise and aging: Mitigating sarcopenia and enhancing clinical recovery. *Journal of Techniques in Orthopaedics*, 33, 98-105.

Dicks, N, Joe, T., **Hackney, K.**, & Pettitt, R.W. (2018). Validity of Critical Velocity Concept for Weighted Sprinting Performance, 11(4): 900-909. *International Journal of Exercise Science*.

Kotarsky, C. J., Christensen, B. K., Miller, J. S., & **Hackney, K.** (2018). Effect of progressive callisthenic push-up training on muscle strength and thickness. *Journal of Strength & Conditioning Research*, 32(3), 651-659.

Andrew T., Kotarsky, C., Bond, C., & **Hackney, K.** (2018). Occupational specific strength predicts astronaut-related task performance. *Aerospace Medicine and Human Performance*, 89(1)58-62. Scott, J., Martin, D., Ploutz-Snyder, R., Matz, T., Caine, T., Downs, M., **Hackney, K.**, Buxton, R., Ryder, J., & Ploutz-Snyder, L. (2017). Panoramic ultrasound: A novel and valid tool for monitoring change in muscle mass. *Journal of Cachexia, Sarcopenia, and Muscle*, 1-7.

Hackney, K., Olson, B. M., Schmidt, A. J., Nelson, A. H., & Zacharias, E. L. (2016). Acute muscular, metabolic, cardiovascular, and perceptual responses to low cuff pressure-small cuff width blood flow restricted exercise prescription. *Journal of Novel Physiotherapies*, 6(4), 1-6.

Hackney, K., Downs, M. E., & Ploutz-Snyder, L. L. (2016). Blood flow restricted exercise compared to high load resistance exercise during unloading. *Aerospace Medicine and Human Performance*, 87(8), 688-696.

Hackney, K., Scott, J. M., Hanson, A. M., English, K. L., Downs, M. E., & Ploutz-Snyder, L. L. (2015). The astronaut-athlete: Optimizing human performance in space. *The Journal of Strength & Conditioning Research*, 29(12), 3531–3545.

Downs, M. E., **Hackney, K.**, Martin, D., Caine, T. L., Cunningham, D., O'Connor, D. P., & Ploutz-Snyder, L. L. (2014). Acute vascular and cardiovascular responses to blood flow- restricted exercise. *Medicine & Science in Sports & Exercise*, 46(8), 1489–1497.

Ploutz-Snyder, L. L., Downs, M., Ryder, J., **Hackney, K.**, Scott, J., Buxton, R., Goetchius, E., & Crowell, B. (2014). Integrated resistance and aerobic exercise protects fitness during bed rest. *Medicine & Science in Sports & Exercise*, 46(2), 358–368.

Hackney, K. & English, K. L. (2014). Protein and essential amino acids to protect musculoskeletal health during spaceflight: Evidence of a paradox? *Life: Special Issue "Response of Terrestrial Life to Space Conditions"*, 4(3), 295–317.

Scott, J. M., **Hackney, K.**, Downs, M., Guined, J., Ploutz-Snyder, R., Fiedler, J., Cunningham, D., & Ploutz-Snyder, L. (2014). The metabolic cost of an integrated resistance, interval, and aerobic exercise program during 2 wk of bed rest. *Aviation, Space, and Environmental Medicine*, 85(6), 612–617.

English, K. L., **Hackney, K.**, Redd, E., De Witt, J. K., Ploutz-Snyder, R., & Ploutz-Snyder (2013). A ground-based comparison of the muscle atrophy research and exercise system (MARES) and a standard isokinetic dynamometer. *Acta Astronautica*, 92(1), 3-9.

Hackney, K., Kelleher, A. R., & Ploutz-Snyder, L. L. (2013). Amino acid-carbohydrate intake combined with multiple bouts of resistance exercise increases resting energy expenditure. *ISRN nutrition*, 2013. <http://dx.doi.org/10.5402/2013/948695>

Ryder, J. W., Buxton, R. E., Goetchius, E., Scott-Pandorf, M., **Hackney, K.**, Fiedler, J., Ploutz-Snyder, R. J., Bloomberg, J. J., & Ploutz-Snyder, L. L. (2013). Influence of muscle strength to weight ratio on functional task performance. *European Journal of Applied Physiology*, 113(4), 911–921.

Hackney, K., Everett, M., Scott, J. M., & Ploutz-Snyder, L. (2012). Blood flow restricted exercise in space. *Extreme Physiology & Medicine*, 1(1), 12.

Hackney, K., Cook, S. B., Fairchild, T., & Ploutz-Snyder, L. L. (2012). Skeletal muscle volume following dehydration induced by exercise and heat. *Extreme Physiology & Medicine*, 1(1), 1-3.

Hackney, K. & Ploutz-Snyder, L. (2012). Unilateral lower limb suspension: Integrative physiological knowledge from the past 20 years (1991–2011). *European Journal of Applied Physiology*, 112(1), 9–22.

Hackney, K., Cook, S. B., & Ploutz-Snyder, L. L. (2011). Nutrition and resistance exercise during reconditioning from unloading. *Aviation, Space, and Environmental Medicine*, 82(8), 805– 809.

Hackney, K., Kelleher, A. R., Fairchild, T. J., Keslay, S., & Ploutz-Snyder, L. L. (2010). The metabolic cost of reciprocal supersets vs. traditional resistance training in young, active males. *Journal of Strength and Conditioning Research*, 24(4), 1043-1051.

Hackney, K., Bruenger, A. J., & Lemmer, J. T. (2010). Timing protein intake increases energy expenditure 24 h after resistance training. *Medicine & Science in Sports & Exercise*, 42(5), 998–1003.

Hackney, K., Engels, H.J., & Gretebeck, R. J. (2008). Resting energy expenditure and delayed-onset muscle soreness after full-body resistance training with an eccentric concentration. *The Journal of Strength & Conditioning Research*, 22(5), 1602–1609.

Invited Reviews

Johnson, T., Trautman, K., Stastny, S., McGrath, R., & **Hackney, K.**, (2019). Beef consumption and functional performance in middle-aged and older adults: a systematic review. Contracted by the National Cattlemen's Beef Association.

Abstracts

Sawyer, B., Trautman, K., Kotarsky, C., Scheffert, R., Rockstad, E., Weber, J., Johnson, L., **Hackney, K.**, Byun, W., & Stastny, S. (accepted). Is total animal- or plant-based protein intake correlated with strength and endurance in middle-aged men and women? [Abstract]. *Journal of the Academy of Nutrition and Dietetics*.

Johnson, T., Trautman, K.A., Kotarsky, C.J., Dicks, N., **Hackney, K.** & Stastny, S. (2019). Differences in amino acid composition between various types of protein supplements. [Abstract]. *Journal of Frailty and Aging*.

Trautman, K.A., Kotarsky, C.J., Dicks, N., Sawyer, B., Mitchell, S., Stastny, S. & **Hackney, K.** (2019). The role of biological sex on nutritional habits and muscular health among middle-aged, healthy adults. [Abstract]. *Journal of Frailty and Aging*

Sherrard, A., Stone, K., Kotarsky, C., Dicks, N., Mitchell, S., Stastny, S., & **Hackney, K.** (2018). Comparison of subcutaneous adipose tissue in sedentary and active adults. [Abstract]. *Journal of the Academy of Nutrition and Dietetics*, 118(9), A85.

Stone, K.A., Kotarsky, C.J., Dicks, N.D., Streeter, D.M., Barry, A.M., Keith, J.F., Iverson, R., Stastny, S., David, S., Byun, W., Mitchell, S., & **Hackney, K.** (2018). Dietary protein intake and muscular health with aging: countermeasures for sarcopenia and dynapenia. [Abstract]. *Medicine and Science in Sports and Exercise* 49(5), 674.

Terbizan, D.J., David, S., Hackney, K.J., Stastny, S., Hilliard, E., Christensen, B., Rhee, Y., & Mitchell, S. (2018). Body fat differences between skinfold, impedance, and DEXA measurements. [Abstract]. *Medicine and Science in Sports and Exercise* 49(5), 755.

Hackney, K., Kotarsky, C.J., Stone, K.A., & Stastny, S. (2018). Panoramic ultrasound muscle cross-sectional area normalized to echo intensity as a marker for the loss of muscle quality with aging. [Abstract]. *Journal of Frailty and Aging*, 7(1), 172.

Hackney, K.J., Dicks, N.D., Stone, K.A., Kotarsky, C.J., Barry, A.M., Keith, J.F., Mitchell, S., Byun, W., & Stastny, S. (2018). Contribution of exercise, physical activity, and protein to functional cross-sectional area and intramuscular adipose tissue. [Abstract]. *Medicine and Science in Sports and Exercise* 49(5), 671.

Kotarsky, C.J., Stone, K.A., Iverson, R., Byun, W., **Hackney, K.**, and Stastny, S. (2018). Influence of grip strength, physical activity, and dietary protein intake on muscle strength and cross-sectional area in middle aged women [Abstract]. *Journal of Frailty and Aging*, 7(1), 155.

Christensen, B., Napoli, R., **Hackney, K.**, Miller, J., Murata, H. (2016). The effects of two different types of dynamic warm-up and static stretching on power and speed. *Proceedings of the 34th International Conference of Biomechanics in Sports, ISBS- Conference Proceedings Archive* 247-250. [Conference Proceeding].

Christensen, B., Napoli, R., **Hackney, K.**, Miller, J., Murata, H. (2016). The effects of two different types of dynamic warm-up and static stretching on power and speed. International Conference of Biomechanics in Sports annual meeting. [Conference Proceeding. Tsukuba, Japan. July 18th-22nd, 2016.

Christensen, B. K., Thielen, S. P., **Hackney, K.**, Moen, J.T. (2018). Suspended Weight Training During Squats: Does it Improve Balance More Than Traditional Squats? [Abstract] *Medicine & Science in Sports & Exercise*, 50(5S), 415.

Terbizan, D., David, S., **Hackney, K.**, Stastny, S., Hilliard, E., Christensen, B. Rhee, Y. Mitchel, S. Body Fat Differences Between Skinfold, Impedance, and DEXA Measurements. (2018). [Abstract]. *Medicine & Science in Sports & Exercise*. 50(5S), 262.

Hackney, K., Dicks, N., Stone, K., Kotarsky, C., Barry, A., Keith, J., Mitchell, S., Byun, W., Stastny, S. (2018). Contribution Of Exercise, Physical Activity, and Protein To Functional Cross-Sectional Area and Intramuscular Adipose Tissue. [Abstract]. *Medicine & Science in Sports & Exercise* 50(5S), 805.

Stone, K., Kotarsky, C., Dicks, N., Streeter, D., Barry, A., Keith, J., Iverson, R., Stastny, S., David, S., Byun, W., Mitchell, S., **Hackney, K.J.** (2018). Dietary Protein Intake and Muscular Health with Aging: Countermeasures for Sarcopenia and Dynapenia. *Medicine & Science in Sports & Exercise*, 50(5S), 809.

Barry, A., Dicks, N., Landin, K., Walch, T., **Hackney, K.J.**, Lyman, K. (2018). The Relationship Between Firefighters Physical Activity Levels and Cardiorespiratory Fitness *Medicine & Science in Sports & Exercise*, 50(5S), 499-500.

Hackney, K.J., Taylor, A., Kotarsky, C., Bond, C.W., & Ewert, D. (2017). Occupational Specific Strength Testing Enhances the Prediction of Astronaut Related Task Performance. *Medicine & Science in Sports & Exercise*. 49(5S), 287 [Abstract].

Stone, K.A., Lyman, K., Christensen, B., Brodersen, J., & **Hackney, K.J.** (2017). Facilitation of paraspinal muscles with Kinesio® tape during exercise countermeasures. *Medicine & Science in Sports & Exercise*, 49(5S), 290 [Abstract].

Kotarsky, C.J., Taylor, A., & **Hackney, K.J.** (2017). Metabolic and Cardiovascular Indicators of Intensity and Performance during Astronaut Related Test Battery. *Medicine & Science in Sports & Exercise*, 49(5S), 290 [Abstract].

Bennett, T., Talaski, J., Stone, K., Barry, A. M., **Hackney, K.J.**, & Terbizan, D. (2017). Use of compression garments for Recovery from plyometric exercise, *Medicine & Science in Sports & Exercise*, 49(5S), 1075 [Abstract].

Erickson, J., Wyatt, Z., Mahoney, S., **Hackney, K.J.**, Terbizan, D. (2016). High- Intensity Interval Training vs. Superset Training: A Comparison of Resistance Exercise Energy Expenditure. *Medicine & Science in Sports & Exercise*, 48(5S), 162 [Abstract].

Carlson, A., David, S., **Hackney, K.J.**, Reed, B. (2016). Relationships between motivation and performance on the Army Physical Fitness Test. *Medicine & Science in Sports & Exercise*,

48(5S), 304. [Abstract]

Olson, B., Schmidt, A., Zacharias, E., & **Hackney, K. J.** (2015). Compression at 140mmHg does not alter the metabolic or perceptual response to resistance exercise. *Medicine & Science in Sports & Exercise*, 47(5S), 940-941. [Abstract].

Schmidt, A., Olson, B., Zacharias, E., & **Hackney, K. J.** (2015). Low-intensity exercise with and without blood flow restriction increases muscle swelling and indicators of fatigue. *Medicine & Science in Sports & Exercise*, 47(5S), 442-443. [Abstract].

English K. L., Newby, N. J., **Hackney, K. J.**, De Witt, J. K., Beck, C., Rovenkamp, R., Rea, R., Ploutz-Snyder, L. L. (2014). Comparison of knee and ankle dynamometry between the X1 exoskeleton and biodex System 4. *Medicine & Science in Sports & Exercise*, (46). [Abstract].

Brooks, A., Grier, J., **Hackney, K.J.**, Ewert, D. (2016). Discovery-based learning: A microcosm of the emerging professional research environment [Abstract]. Council on Undergraduate Research. University of South Florida, Tampa, Florida. June 26-28, 2016.

Scott, J.M., **Hackney, K.J.**, Downs, M.E., Martin, D., Caine, T., Matz, T., Babcock, L., Goetchius, E. Buxton, R., Ryder, J & Ploutz-Snyder, L.L (2015). Panoramic Ultrasound Imaging for Quantification of Disuse-Induced Muscle Atrophy. [Abstract]. Human Research Program Investigators' Workshop: Integrative Pathways to Mars. Jan 13- 15th. Galveston, Texas.

Ploutz-Snyder, L., Downs, M., **Hackney, K.J.** (2018). The effects of blood flow-restricted exercise as a countermeasure against disuse atrophy. *European College of Sports Science* [Oral Presentation]. July 4th-7th 2018. Dublin, Ireland.

Hackney, K.J. (2015). Occlusion Training: Risk vs. Reward. Sanford Power Strength & Conditioning Clinic. April 17th. Ramada, Fargo, North Dakota. [Oral Presentation].

Hackney, K.J. (2014). What is an Acceptable Level of Microgravity Induced Deconditioning in the Astronaut? North Dakota NASA EPSCoR Annual Meeting, April 28th, R1, NDSU. [Oral Presentation].

Lyman, K.J., Christensen, B., **Hackney, K.J.**, Burkart, J., Joe, T., Stone, K. & Brodersen, J. (2017). Biomechanical analysis of hip angles during a back squat with and without Kinesio@Tape. [Poster]. Northland American College of Sports Medicine. St. Paul, Minnesota, April 7th, 2017.

McIntosh, L., Bennett, T.W., Streeter, D. Stone, K., Grier, J.W., & **Hackney, K.J.** (2017). Reliability of measuring heart rate variability using a Polar Bluetooth monitor and Kubios analysis software. [Poster]. Northland American College of Sports Medicine. St. Paul, Minnesota, April 7th, 2017.

Kotarsky, C.J., Stone, K.A., Streeter, D.M., Keith, J.F., Stastny, S.N., David, S., Mitchell, S., & **Hackney, K.J.** (2017). Influence of protein intake at three different time periods on leg muscle strength and area. [Poster]. Northland American College of Sports Medicine. St. Paul, Minnesota, April 7th, 2017.

Stone, K.A., Kotarsky, C.J., Streeter, D.M., Dicks, N.D., David, S, Mitchell, S., & **Hackney, K.J.** (2017). Muscular health with aging: differences in quadriceps size, strength, and quality between sedentary and active adults. [Poster]. Northland American College of Sports Medicine. St. Paul, Minnesota, April 7th, 2017.

Streeter, D. M., Bennett, T.W., McIntosh, L.E., Stastny, S., Ewert, D. L., & **Hackney, K.J** (2017). The acute effects of L-arginine supplementation on flow-mediated dilation after resistance training to fatigue. [Poster]. Northland American College of Sports Medicine. St. Paul, Minnesota, April 7th, 2017.

Hartze, G., Kotarsky, C.J., Schimek, R., **Hackney, K.J.**, & Stastny, S.N. (2017). Intra-reliability of image J processing of ultrasound derived cross-sectional area: upper leg subcutaneous fat. [Poster]. NDSU HDE 11th Annual Research Symposium.

Bennett, T.B., Talaski, J., Stone, K., Barry, A., **Hackney, K.J.**, Terbizan, D. (2017). Use of compression garments for recovery from plyometric exercise. [Poster]. Northland American College of Sports Medicine. St. Paul, Minnesota, April 7th, 2017.

Stone, K. A., Streeter, D. M., Kotarsky, C. J., Mitchell, S.L, David, S.L., & **Hackney, K.J.**, (2016). Intra- Reliability of ImageJ processing of MRI-derived cross-sectional area: Upper Leg. [Poster]. Northland American College of Sports Medicine Sprint tutorial. April, 01, 2016. St. Catherine University, St. Paul, MN.
Kotarsky, C.J., & **Hackney, K.J.**, (2016). Reliability of Measuring Muscle Thickness Using B-mode Ultrasound: Pectoralis Major. [Poster]. Northland American College of Sports Medicine Sprint tutorial. April, 01, 2016. St. Catherine University, St. Paul, MN.

Streeter, D. M., Stone, K. A., Kotarsky, C. J., Mitchell, S.L., David, S. L & **Hackney, K.J.** (2016). Intra- Reliability of ImageJ processing of MRI-derived cross-sectional area: Lower Leg. [Poster]. Northland American College of Sports Medicine Sprint tutorial. April, 01, 2016. St. Catherine University, St. Paul, MN.

Nelson, A., Olson, B., Schmidt, A., **Hackney, K.J.**, Zacharias, E. (2015). Blood flow restriction Exercise Induced Muscle Swelling is Not Enhanced With Low Cuff Pressure-Small Cuff Width Prescription. [Poster] *NDSU explore*. November 3rd, in the NDSU Memorial Union. Role- Data Collection, Data Analysis, Scientific Writing, and Editing.

Lyman, K. J., **Hackney, K.J.**, Christensen, B., Sletten, S. & Hanson, T. (2015, November). Kinesio taping® as a low-cost intervention to assist with quadriceps muscle recruitment during exercise countermeasures. Oral presentation at the 2015 Kinesio Taping Association International Research Symposium, Tokyo, Japan.

Lyman, K. J., **Hackney, K.J.**, Christensen, B., Sletten, S. & Hanson, T. (2015). Kinesio taping® as a low-cost intervention to assist with quadriceps muscle recruitment during exercise countermeasures. [Poster]. American Society for Gravitational and Space Research Conference, Alexandria, VA.

Asif, S., Iftikhar, A., Taylor, D., Wandler, J., Braaten, B., Ewert, D., & **Hackney, K.J.**, (2015). A Mobile Health System (mHealth) for Planetary Space Suit Application. [Poster]. April 22, 2015, ND EPSCoR, Holiday Inn, Fargo, North Dakota.

Taylor, D., Talaski, J., **Hackney, K.J.**, Asif, S., Iftikhar, A., Wandler, J., Braaten, B., Ewert, D., & Hackney, K. (2015). Occupational Related Fitness Testing For Future Space Missions. *[Poster]*. April 22, 2015, ND EPSCoR, Holiday Inn, Fargo, North Dakota.

Olson, B., Schmidt, A., Zacharias, E., & **Hackney, K.J.** (2014). Compression at 140mmHg Does Not Alter the Metabolic or Perceptual Response to Resistance Exercise, *[Poster]*. NDSU Explore, November 4, 2014, Memorial Union Ballroom, NDSU.

Schmidt, A., Olson, B., Zacharias, E., & **Hackney, K.J.** (2014). Low-Intensity Exercise With and Without Blood Flow Restriction Increases Muscle Swelling and Indicators of Fatigue, *[Poster]*. NDSU Explore, November 4, 2014, Memorial Union Ballroom, NDSU.

Taylor, D., Gagnon, B., Ewert, D., & **Hackney, K.J.** (2014). Human Forearm Blood Flow and Skin Thermal Conductivity due to Emotional Response during Acute Exercise, *[Poster]*. North Dakota ND EPSCoR/IDEA state conference: Innovations and Expressions. April, 29. Alerus Center, Grand Forks, North Dakota.

Schmidt, A., Olson, B., Zacharias, E., & **Hackney, K.J.** (2014). Change in Contraction Velocity and Skeletal Muscle Swelling during Compression Resistance Exercise, *[Poster]*. HDE Showcase. April 16th, 2014, Memorial Union, NDSU.

Olson, B., Schmidt, A., Zacharias, E., & **Hackney, K.J.** (2014). Association between whole blood lactate and the perceptual responses to compression exercise, *[Poster]*. HDE Showcase. April 16th, 2014, Memorial Union, NDSU.

Hackney, K.J. (2014). Monitoring and Enhancing Occupational Task Performance in Astronauts During Planetary Exploration *[Oral Presentation]*. HNES Research Colloquium, Bentson Bunker Fieldhouse, January 24

Hackney, K.J. (2014). Blood Flow Restricted Exercise: Fact or Fiction? (2014). *[Oral Presentation]*. HNES Research Colloquium, Bentson Bunker Fieldhouse, October 3.

Perticone, J. I., Matz, T., Caine, T., Martin, D. S., **Hackney, K.**, Ploutz-Snyder, L. L., & Scott, J. M. (2012). *Novel technique to standardize muscle ultrasound pennation angle acquisition and analysis*. NASA Human Research Program Workshop. Galveston, TX.

Scott, K. J., Arzeno, N., Caine, T., Martin, D. S., **Hackney, K.**, & Ploutz-Snyder, L. L. (2012). *Novel ultrasound assessment of dynamic muscle*. NASA Johnson Space Center IR&D. Houston, TX.

Scott, J. M., Martin, D. S., Cunningham, D., Matz, T., Scott-Pandorf, M., Caine, T., **Hackney, K.**, Arzeno, N., & Ploutz-Snyder, L. L. (2012). *Panoramic ultrasound cross-sectional area measurements for long duration space flight*. NASA Human Research Program Investigators' Workshop. Houston, TX.

Ploutz-Snyder, L. L., Ryder, J., Buxton, R., Redd, E., Scott-Pandorf, M., **Hackney, K.**, Fiedler, J., Ploutz-Snyder, R., & Bloomberg, J. (2012). *Thresholds of muscle strength below which function is impaired*. NASA Human Research Program Investigators' Workshop. Houston, TX.

Hackney, K., Everett, M., & Ploutz-Snyder, L. (2012). *Nutrition coupled with high-load traditional*

or low-load blood flow restricted exercise during human limb suspension (suppl 1 ed., vol. 9, pp. page 8). Journal of the International Society of Sports Nutrition. <http://www.jissn.com/content/9/S1/P8>.

Hackney, K., Everett, M. E., & Ploutz-Snyder, L. L. (2012). *Timing protein-carbohydrate intake with high-load or blood flow restricted exercise during unloading and loading*. NASA Human Research Program Workshop, Galveston, TX.

Hackney, K., English, K. L., Redd, E., De Witt, J. K., Ploutz-Snyder, R., & Synder, L. L. (2011). *A ground-based comparison of the muscle atrophy research and exercise system (MARES) and a standard isokinetic dynamometer*. Humans in Space Symposium. Houston, TX.

Ploutz-Snyder, L. L., Ryder, J., Buxton, R., Redd, E., Scott-Pandorf, M., **Hackney, K.**, Fiedler, J., & Bloomberg, J. (2011). *Novel analog for muscle deconditioning*. Experimental Biology. Washington DC.

Ploutz-Snyder, L. L., Ryder, J., **Hackney, K.**, Scott-Pandorf, M., Redd, E., Buxton, R., & Bloomberg, J. (2010). *Relationships among lower body strength, power and performance of functional tasks*. Joint Life Sciences Meeting 13-18. Trieste, Italy.

Ploutz-Snyder, L. L., Cook, S. B., Fairchild, T., **Hackney, K.**, Frechette, V., & Ploutz-Snyder, R. (2008). *Muscle volume decreases with whole body dehydration*. The Integrative Biology of Exercise—V. 4,6.

Grants, and Sponsored Research

Grants Awarded

Hackney, K., McGrath, R. (2019). Aging and Balance: Interactions between neuromuscular function and the lower visual field. NDSU Center for Visual and Cognitive Neuroscience (CVCN) Pilot Program. PI. McCourt. (P20 GM 103505/P20 GM114748). National Institute of General Medical Sciences, \$80,000.

Nawarathna, K., **Hackney, K.**, Stastny, S., (2019). Efficacy of micro RNA testing for identification of personalized weight management strategy in obese and overweight individuals. Sanford Health - North Dakota State University Collaborative Research Seed Grant Program. \$91,742.

McGrath, R & Hackney, K. (2019). The Grip Strength, Internet Activity, and Nutrition Trial: The GIANT Study. Sanford-NDSU Sanford Seed, \$80,000.

Hackney, K.J., Nawarathna, K., Stastny, S., Dorsam, G., & McGrath, R. (2018-2020). Optimizing Detection of Circulating MicroRNAs for Weight Management. HDE Seed Grant, \$3,350.

Hackney, K., Stastny, S., & McGrath, R. (2019). The impact of beef consumption on functional performance in middle-aged and older adults. National Cattlemen's Beef Association Beef Checkoff; \$26,106.

Hackney, K., Trautman, K., Stastny, S. (2018). Low intensity exercise and blended protein supplementation as a strategy for rapid muscle growth and strength gain in astronaut aged-participants. ND NASA EPSCoR, \$27150. Role- Principal Investigator.

Hackney, K. (2018). Acquisition of the Biodex Balance SD System to Facilitate Clinical/Translational Research Opportunities at North Dakota State University. Sponsored by Great Plains IDeA-CTR UNMC, \$13,795.

Hackney, K. (2018). *Measurement of muscle oxygen for exercise science teaching and research*. The centennial endowment, \$2996.92.

Hackney, K., Stastny, S. Kotarsky, C. David, S., Mitchell, S. (2017). *Effects of eight weeks of concurrent exercise training and time-restricted feeding (16/8) on body composition, muscle endurance, metabolism, cardiovascular risk factors, and dietary intake in overweight, sedentary males and females*. Sponsored by Great Plains IDeA-CTR Pilot Grant Program, U54 GM115458 (PI Rizzo). National Institute of General Medical Sciences \$72,469

Mahoney, S., Dicks, N., & **Hackney, K.** (2017). (student grant) Northland American College of Sports Medicine, \$500.

Douglas, M. & **Hackney, K.,** (2017). *North Dakota State University/Service Dogs for America- Continuing to support veterans with service dogs* (In review). United States Department of Defense: Uniformed Services University of the Health Sciences, \$247,277

Stastny, S., **Hackney, K.,** & Byun, W. (2017). *The influence of animal-based protein and beef consumption on ability to perform functional activities, muscle quality and bone mineral density among adolescent to older females* (Funded), North Dakota Beef, \$208,421.

Mahoney, S., Dicks, N., & **Hackney, K.** (2017). *Leg blood flow restriction during rowing exercise as a countermeasures to microgravity induced deconditioning*, (student grant) Northland American College of Sports Medicine, \$500.00.

Hackney, K., Stastny, S., David, S., Byun, W., & Mitchell, S. (2016). *Protein and muscular health with aging: Effect of increased physical activity*, Sanford Health-North Dakota State University Collaborative Research Seed Grant Program, North Dakota State University, \$76,000.00.

Streeter, D & **Hackney, K.** (2016). *The acute effects of L-arginine supplementation on flow mediated dilation after resistance training to fatigue*, (student grant) Northland American College of Sports Medicine Student Research Grant, \$1,000.00.

Douglas, M. & **Hackney, K.** (2016), *North Dakota State University/Service Dogs for America- A partnership for connecting veterans with service dogs* (Funded), United States Department of Defense: Uniformed Services University of the Health Sciences, \$231,027.00.

Stastny, S., **Hackney, K.,** Byun, W., & David, S. (2016). *Beef protein intake, physical activity, and muscle quality in middle age* (Funded), National Cattlemen's Beef Association, \$38,610.00.

Hackney, K., Stastny, S., David, S., & Mitchell, S. (2015). *Protein and muscular health with aging* (Funded), Sanford Health-North Dakota State University Collaborative Research Seed Grant Program, North Dakota State University, \$77,277.00.

Stastny, S., **Hackney, K.,** & Byun, W. (2015) *Beef Protein Intake, Physical Activity, and Muscle Quality with Aging* (Funded), Minnesota Beef Council, State, \$39,939.00.

Hackney, K. (2014). *Ergogenic potential of ION-3 nitrate technology* (Funded), North Dakota State University, \$1,000.00.

Christensen, B., **Hackney, K.**, & Fitzgerald, M. (2014). *Graduate school recruiting proposal* (Funded), North Dakota State University Graduate School, \$5,000.00.

Lyman, K., **Hackney, K.**, Christensen, B., & Sletten, S. (2014). *Kinesio@Taping as a low-cost intervention to assist muscle recruitment during exercise countermeasures* (Funded), NASA Space Grant Consortium, \$12,450.00.

Hackney, K., Fazel-Rezai, R., Ewert, D., Braaten, B., Noghanian, S., Wayne, J., & De Leon, P. (2013). *A mobile health system (mHealth) for monitoring the physiological response of an astronaut performing tasks in the NDX-2 planetary space suit* (Funded), North Dakota NASA EPSCoR, State, \$41,357.00.

Hackney, K. (2013). *Metabolic and perceptual responses to blood flow restricted exercise prescription.* (Funded), North Dakota State University, \$1,000.00.

Hackney, K. (2013). *Novel magnetic resonance imaging techniques to assess skeletal muscle health.* (Funded), College of Human Development and Education, North Dakota State University, \$2,000.00.

Hackney, K. & Ploutz-Snyder, L. (2008). *Essential amino acid-carbohydrate intake prior to low load resistance training with blood flow restriction as a countermeasure to unweighting* (Funded), Graduate Student Research Program-National Aeronautics and Space Administration, \$90,000.00.

Hackney, K. & Ploutz-Snyder, L. (2008). *The effect of amino acid-carbohydrate supplementation prior to sequential bouts of resistance training on resting metabolic rate* (Funded), Research and Creative Grant, Syracuse University, College of Education, \$1,000.00.

Hackney, K. (2007). *The effect of amino acid-carbohydrate versus carbohydrate supplementation prior to sequential bouts of resistance training on resting metabolism.* (Funded), General Nutrition Center Nutritional Research Grant Sponsored, \$2,500.00.

Hackney, K. & Ploutz-Snyder, L. (2007). *The effect of amino acid-carbohydrate supplementation in rehabilitation outcomes following unilateral lower limb suspension* (Funded), Burnyst Endowed Foundation Research Award, Syracuse University, College of Education, \$1,000.00.

Grants Not Awarded

Hackney, K., Pitts, L., Rhee, Y., Fairchild, T. (2018). *Manipulating the Frequency of Concurrent Exercise training in Individuals with Type 2 Diabetes Mellitus: A short-term randomized controlled trial.* National Strength and Conditioning Association-International Grant, \$49,464.

Hackney, K., Stone, K., Stastny, S., Mitchell, S., McFadden, L. (2018). *Blood flow restricted exercise and blended protein supplementation to attenuate sarcopenic effects on muscle function.* Sanford-NDSU Seed, \$89,093.

Nawarathna, K., Dorsam, G., Stastny, S., **Hackney, K.**, Mitchell, S. (2018). *Nucleic-acid biosensor for identification of individualized option for weight management based on epigenetic biomarkers in body fluids*. Sanford-NDSU Seed, \$88,540.

Hackney, K., Schmidt, A., Stastny, S., Lyman, K. (2017). Comparing Blood Serum Values of Vitamin D and Calcium in Division I Female Athletes,(Student grant) Sponsored by American College of Sports Medicine, \$1,120.00.

Stone, K & **Hackney, K.J.** (2017). Blood flow restricted exercise and muscular health with aging: effect of blended protein supplementation," (student grant) Sponsored by American College of Sports Medicine, \$4,616.00.

Hackney, K. & Jarajapu, Y. (2017). *Modulation of bone marrow-derived CD34+ cells by blood flow restricted exercise* (Not Awarded), American College of Sports Medicine Foundation. \$10,000.00.

MacFadden, L., Bond, C., Noonan, B., Piatt, B., & **Hackney, K.** (2017). *Blood flow restriction resistance exercise as an adjunct therapy for rehabilitation following knee arthroscopy* (Not Awarded, Top 27 of 51 applications), Great Plains IDeA CRT Pilot Training Program. \$126,000.00.

Hackney, K. & Jarajapu, Y. (2017), *Blood flow restricted exercise modulation of endothelial progenitor cells* (Not Awarded), NSCA Young Investigator Grant. \$19,836.00.

Dicks, N., & **Hackney, K.** (2017). *Blood flow restriction as a training method for load carriage in tactical athletes* (Not Awarded), NSCA-Tactical Athlete Grant. \$6,114.00.

Dicks, N., Mahoney, S., & **Hackney, K.** (2017). *Effect of blood flow restriction during rowing on the musculoskeletal and cardiovascular system* (Not Awarded), American College of Sports Medicine Foundation. \$4,425.00.

Hackney, K., Stone, K., Stastny, S., & Mitchell, S. (2017). *Kaatsu exercise and muscular health with aging: Effect of blended protein supplementation* (Not Awarded), Sanford Health-North Dakota State University Collaborative Research Seed Grant Program.\$88,766.00.

Ewert, D., **Hackney, K.**, & Brooks, A. (2016). *Discovery based learning in multi-disciplinary teams (DBL-T)* (Not Awarded), NSF EAGER Grant Program. \$144,913.00.

Ewert, D, Braaten, B., Brooks, A., **Hackney, K.**, Nawarathna, D., & Vonnahme, K., (2016). *Discovery based learning in multi-disciplinary teams: Pilot funding* (Not Awarded), North Dakota State University. \$80,000.00.

Hackney, K. & Lyman, K. (2016). *Kinesiotaping as a rehabilitation strategy following prolonged inactivity* (Not Awarded), National Aeronautics and Space Administration.\$100,000.00.

Hackney, K. (2016). *Potential health application of a KAATSU exercise device* (Not Awarded), Centennial Endowment Fund, \$2,074.00.

Sanders, G., **Hackney, K.**, et. al. (2015). *Aging Center Grand Challenge Proposal* (Not Awarded), NDSU Research and Discovery Grand Challenge Initiative, North Dakota State University, \$935,500.00.

Ewert, D., **Hackney, K.**, Braaten, B., Nawarathna, D., & Vonnahme, K. (2015). *Discovery based learning in multi-disciplinary teams* (Not Awarded), National Science Foundation Research Traineeship (NRT) Program, \$495,419.00.

Ewert, D., **Hackney, K.**, & Brooks, A. (2015). *Discovery based learning in multi-disciplinary teams (DBL-T)* (Not Awarded), NSF EAGER Grant Program, \$144,913.00.

Ewert, D., **Hackney, K.**, Braaten, B., Nawarathna, D., Vonnahme, K., & Pruess, B. (2015). *Discovery based learning in multi-disciplinary teams (DBL-T): Pilot funding* (Not Awarded), NDSU Learning and Student Success Grant Program, North Dakota State University, \$77,000.00.

Ewert, D., **Hackney, K.**, Braaten, B., Nawarathna, D., Vonnahme, K., & Pruess, B. (2015). *Discovery-based learning to achieve healthy populations and vital communities*. (Not Awarded), NDSU Research and Discovery Grand Challenge Initiative, North Dakota State University, \$1,000,000.00.

Kotarsky, C. & **Hackney, K.** (2015). *Effect of a progressive callisthenic push-up routine on muscular strength* (Not Awarded), National Strength and Conditioning Association, \$5,425.
Hackney, K., Fazel-Rezai, R., & Ewert, D. (2015). *Fitness for duty requirements for astronauts using the zeroG body mass unloading system* (Not Awarded), North Dakota-National Aeronautics and Space Administration Cooperative Agreement Notice, \$818,681.00.

Ewert, D., **Hackney, K.**, Fazel-Rezai, R., Noghanian, S., Tavakolian, K., De Leon, P., Braaten, B., & Marinov, V. (2015). *Smart health monitoring based on wearable antennas*. (Not Awarded), North Dakota-National Aeronautics and Space Administration EPSCoR Cooperative Agreement Notice, \$1,243,240.00.

Hackney, K. (2014). *Muscle mass and function benefits from leucine distribution and walking exercise in older adults* (Not Awarded), Ajinomoto Innovation Alliance Program, \$200,000.00.

Hackney, K., Stastny, S., & Douglas, M., (2013). *Beef protein and markers of sarcopenia and health in elderly women* (Not Awarded), Minnesota Beef Council, \$34,670.00.

Hackney, K. (2013). *Ergogenics, muscle perfusion, and energy metabolism from resistance exercise and l-arginine nitrate supplementation* (Not Awarded), National Strength and Conditioning Association, Young Investigator Award, \$10,380.00.

Paddon-Jones, D., Ploutz-Snyder, L., Downs, M., English, K., Inniss, K., Pattatinin, A., Scott, J., & **Hackney, K.** (2013). *Optimal distribution of nutrition to potentiate exercise training during hypocaloric bed rest* (Not Awarded), National Space Biomedical Research Institute. \$100,000.00

Hackney, K., Stastny, S., & Christensen, B. (2013). *Resistance exercise and ION-3 nitrate technology: Muscle size, metabolism, and power* (Not Awarded), International Society of Sports Nutrition-MusclePharm, \$10,000.00.

Hackney, K., Stastny, S., & Douglas, M. (2013), *Soy protein and resistance exercise training: muscle, health, and quality of life in women with low habitual protein intake* (Not Awarded), North Dakota Soybean Council, State, \$29,540.00.

Ploutz-Snyder, L., **Hackney, K.**, & Scott, J. (2012). *Comprehensive morphological and*

functional muscle assessment for long-duration spaceflight. (Not Awarded), NASA Research Announcement, \$318,309.00.

Ploutz-Snyder, L., **Hackney, K.**, & Scott, J. (2010). *Does milk enhance the effectiveness of exercise for the maintenance of muscle function during extended periods of unloading?* (Not Awarded), National Dairy Council, Dairy Management Inc., \$179,520.00.

Hackney, K., & Lemmer, J. (2007). *Protein supplementation prior to strength training and resting energy expenditure* (Not Awarded), Michigan State University, College of Education Summer Research Fellowship, \$6,000.00.

Hackney, K. & Ploutz-Snyder, L. (2007). *The effect of amino acid-carbohydrate supplementation in rehabilitation outcomes following unilateral lower limb suspension.* (Not Awarded), Mid-Atlantic American College of Sports Medicine Student Research Grant, \$500.00.

Graduate Students Primary Advisor in HNES

Student	Degree	Research focus	Status/Stage
Miranda Ripplinger	MS-Exercise/Nutrition Science	Aging, Balance, and muscle activation patterns	Pre-proposal
Adam Bradley	PhD- Exercise & Nutrition	Electrical muscle stimulation and hypertrophy/strength gain.	Pre-comprehensive exams
Sean Mahoney	PhD- Exercise & Nutrition	Blood flow restriction rowing exercise and markers of muscle and bone health.	Pre-comprehensive exams
Thomas Lillquist	MS-Exercise/Nutrition Science	Post-Exercise Ischemic Conditioning and Recovery	Graduation Expected May 2020
Logan Pitts	PhD- Exercise & Nutrition	Resistance exercise in Pre-diabetes	Pre-comprehensive exams
Shane Mccullough	MS-Exercise/Nutrition Science	Alkaline water and performance	Pre-proposal
Sean Mahoney	MS-Exercise/Nutrition Science	Acute responses to Blood flow restriction exercise rowing	Graduated May 2018 Matriculated to PhD
Nate Dicks	PhD- Exercise & Nutrition	Interval training methods to increase performance and load carriage in tactical professionals	Graduated May 2019

Chris Kotarsky	PhD- Exercise & Nutrition	Time restricted feeding and concurrent exercise for fat loss and muscle preservation	Graduation Expected May 2020
Daniel Streeter	MS-Exercise/Nutrition Science	The acute effects of L-arginine supplementation on flow-mediated dilation after resistance training to fatigue	Graduated May 2017
Whitney Poser	MS-Exercise/Nutrition Science	Strength and rate of force development needs for effective combat casualty evacuations	Graduated May 2017
Kara Stone	PhD- Exercise & Nutrition	Blood flow restriction exercise and protein supplementation to mitigate sarcopenia	Graduation Expected May 2020
Chris Kotarsky	MS Exercise & Nutrition	Effect of progressive calisthenic push-up training on muscular strength & thickness	Graduated May 2016 Matriculated to PhD

*HNES = Department of Health, Nutrition, and Exercise Sciences

Graduate Students Committee member (All departments)

Student name	Degree	Department	Status/Stage
Rachel Riechel	MS- Adv. AT	HNES	Graduated May 2019
Adalie Schmidt	MS- Adv. AT	HNES	Graduated May 2019
Jay Determan	MS- Adv. AT	HNES	Graduated May 2018
Michael Hilliard	MS- Adv. AT	HNES	Graduated May 2018
Allison Barry	PhD Ex & Nutr	HNES	Graduated May 2018
Shrinidh Joshi	PhD Pharm Sci	Pharm Sci	Graduated May 2019
Alyssa Carlson	MS Ex/Nut Sci	HNES	Graduated May 2017
Andrew Taylor	PhD- ECE	ECE	Pre-proposal
Michael Blake	MS Ex/Nut Sci	HNES	Graduated May 2017
Ryan Napoli	MS Ex/Nut Sci	HNES	Graduated May 2016
Sajid Asif	PhD-ECE	ECE	Graduated May 2016
Sam Thielen	MS Ex/Nut Sci	HNES	Graduated May 2016
Jen Talaski	MS Ex/Nut Sci	HNES	Graduated May 2016
Bea Gagnon	MS- ECE	ECE	Graduated May 2018
Andrew Taylor	MS- ECE	ECE	Graduated May 2015
Jake Erickson	MS Ex/Nut Sci	HNES	Graduated May 2015
George Okamatsu	PhD	HNES	Graduated May 2014

*HNES = Department of Health, Nutrition, and Exercise Sciences; Pharm Sci= Department of Pharmaceutical Sciences; ECE = Department of Electrical and Computer Engineering.

SERVICE & OUTREACH

Professional Service

Ad Hoc Reviewer, Medicine & Science in Sports & Ad
Hoc Exercise Reviewer, Aerospace Medicine and Human
Ad Hoc Performance Reviewer, Journal of Strength and
Conditioning Research
Ad Hoc Reviewer, Experimental Gerontology

Department Service

Graduate Coordinator, HNES (2018-Present)
Promotion, Tenure, and Evaluation Committee, HNES (2019-present)
Committee Member, Exercise Science Program Workgroup (2012 - Present)
Committee Member, HNES interim Department Chair Search Committee (2016 - 2017)
Chair, Exercise Science Tenure Track Faculty Search Committee (2017-2018).

College Service

Digital Measures Pilot program for HDE (2016)

University Service

Committee Member, Research and Consulting Committee (Present)
Committee Member, Research Strategic Planning Committee (2014)
Committee Member, Institutional Review Board Alternate (2013 - 2017)

Public Service

Foster and Grant Writer, Service Dogs of America (SDA), Jud, ND (2014 - 2017)

Professional Organizations

International Society for Clinical Densitometry (2018
Present)
International Society for Sports Nutrition (2012 - Present)
American Physiological Society (2009 - Present)
American College of Sports Medicine (2004 - Present)
National Strength and Conditioning Association (2003 - Present)

TEACHING

North Dakota State University (2013 - Present)

Undergraduate

HNES 365: Kinesiology
HNES 374: Methods of Resistance Training and Cardiovascular Conditioning
HON: 342- Mission to Mars: Physiological and Behavioral Risks

Graduate

HNES 713: Graduate Exercise Physiology
HNES 760: Skeletal Muscle Physiology
HNES 791: Exercise Endocrinology
(online and in person)

Syracuse University (2007 - 2008)

Undergraduate

PPE 685: System Physiology Lab

Michigan State University (2005 - 2007)

Undergraduate

KIN 490: Independent Study
KIN 411: Exercise Physiology Laboratory
KIN 310: Physiology of Physical Activity
KIN 217: Applied Human Anatomy Laboratory
KIN 121: Healthy Lifestyle
KIN 103R: Weight Training I
KIN 118A: Basketball II
KIN 108A: Basketball I
KIN 106C: Bowling I
KIN 103D: General Conditioning

Wayne State University (2003 - 2005)

Undergraduate

KIN-3570: Physiology of Exercise I- Laboratory
KIN-2010: Physiological and Psychological Foundations of Physical Activity
LFA-1530: Basketball Fundamental Skills
LFA-1540: Basketball Shooting and Strategy
LFA-1520: Weightlifting and Training

AWARDS AND HONORS

Exceptional Contributions to Research, College of HDE (2017)
Exceptional Contributions for Collaborative Efforts, College of HDE (2016)
James Lebedeff Endowed Professorship Development Award, College of HDE (2016)
Undergraduate Research Mentor Award, NDSU College of HDE (2015)
Travel Award, NDSU College of HDE (2015)
Travel Award, NDSU College of HDE (2014)
Excellence in Innovation, Wyle Science, Technology and Engineering (2012)
ACSM Nutrition Interest Group Student Award, Syracuse University (2010)
Exercise Physiology & Countermeasures Project MVP, NASA-Johnson Space Center (2010)
Graduate School Travel Award, Syracuse University Graduate School (2009)
Graduate School Scholarship, Syracuse University (2008)
Graduate Tuition Scholarship, Syracuse University (2008)
Graduate Recruitment Fellowship, Michigan State University (2005)

Certifications

Certified Clinical Densitometrist International Society of Clinical Densitometry (2018-Present)
Certified KAATSU Specialist, KAATSU Global (2016 - Present)
Bone Densitometer EnCORE Certification, GE/Alpha Source (2016 - Present)
Certified Strength and Conditioning Specialist, NSCA (2003 - Present)

License

Bone Densitometry Technologist, North Dakota Medical Imaging and Radiation Therapy Board (2019-Present)