

## CURRICULUM VITAE

Terry J. Housh

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### Professional Preparation

BA 1977 Physical Education, Doane College, Crete, Nebraska

MPE 1979 Exercise Science, University of Nebraska-Lincoln

PhD 1984 Exercise Physiology, University of Nebraska-Lincoln

### Professional Experience

Lincoln, Nebraska YMCA, Assistant Physical Director, 1977-1978

University of Nebraska-Lincoln, Graduate Assistant, 1978-1979

University of Nebraska-Lincoln, Fitness-Testing Technician, 1979-1981

University of Nebraska-Lincoln, Graduate Assistant, 1981-1984

Portland State University, Assistant Professor, School of Health and Physical Education, 1984-1986

University of Nebraska-Lincoln, Assistant Professor, Graduate Faculty Fellow, Director of Human Performance Laboratory and Co-Director of Center for Youth Fitness and Sports Research, School of Health, Physical Education and Recreation, 1986-1992

University of Nebraska-Lincoln, Associate Professor, Continuous Appointment, Department of Health and Human Performance, 1992-2003

University of Nebraska-Lincoln, Associate Professor, Continuous Appointment, Department of Nutrition and Health Sciences, 2003-2005

University of Nebraska-Lincoln, Professor, Department of Nutrition and Health Sciences, 2005-present

### Professional Awards and Honors

National Strength and Conditioning Association Lifetime Achievement Award, 2020

National Strength and Conditioning Association Annual Award "Terry J. Housh Young Investigator Award", 2009

National Strength and Conditioning Association President's Award, 2008

Doane College Honor D Award for Outstanding Professional Achievement, 2002

### Teaching Awards and Honors

Omicron Delta Kappa Professor of the Month, November 2016

National Strength and Conditioning Association Educator of the Year Award, 2006

University of Nebraska-Lincoln Teachers College Distinguished Teaching Award, 1990

University of Nebraska-Lincoln Teaching Council and Parents Association Recognition Award, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 2001, 2002, 2005, 2006, and 2010

University of Nebraska-Lincoln Student –Athlete Advisory Committee Staff Recognition Award, 2006

University of Nebraska-Lincoln Teaching and Learning Center's List of Lecture Classes for New Faculty to Observe, 1990

University of Nebraska-Lincoln Teaching and Learning Center, Demonstration Teacher of Large Classes, 1991

### **Research Awards and Honors**

Journal of Strength and Conditioning Research Editorial Excellence Award, 2008

National Strength and Conditioning Association Outstanding Sport Scientist Award, 1998

### **Books**

Housh, T.J., D.J. Housh, and G.O. Johnson (Editors). Introduction to Exercise Science (Fifth Edition). New York: Routledge, 2018.

Housh, T. J., J. T. Cramer, J. P. Weir, T. W. Beck, and G. O. Johnson. Laboratory Manual for Exercise Physiology, Exercise Testing, and Physical Fitness. Scottsdale, AZ: Holcomb Hathaway Publishers, 2016.

Housh, T. J., D. J. Housh, and H. A. deVries. Applied Exercise and Sport Physiology with Labs (Fourth Edition). Scottsdale, AZ: Holcomb Hathaway Publishers, 2016.

Housh, T. J., D. J. Housh, and G. O. Johnson (Editors). Introduction to Exercise Science (Fourth Edition). Scottsdale, AZ: Holcomb Hathaway Publishers, 2012.

Housh, T. J., D. J. Housh, and H. A. deVries. Applied Exercise and Sport Physiology with Labs (Third Edition). Scottsdale, AZ: Holcomb Hathaway Publishers, 2012.

Housh, T. J., J. T. Cramer, J. P. Weir, T. W. Beck, and G. O. Johnson. Physical Fitness Laboratories on a Budget. Scottsdale, AZ: Holcomb Hathaway Publishers, 2009.

Housh, T. J., D. J. Housh, and G. O. Johnson (Editors). Introduction to Exercise Science (Third Edition). Scottsdale, AZ: Holcomb Hathaway Publishers, 2008.

Housh, T. J., D. J. Housh, and H. A. deVries. Applied Exercise and Sport Physiology (Second Edition). Scottsdale, AZ: Holcomb Hathaway Publishers, 2006.

Housh, T. J., D. J. Housh, and H. A. deVries. Applied Exercise and Sport Physiology. Scottsdale, AZ: Holcomb Hathaway Publishers, 2003.

Housh, T. J., D. J. Housh, and G. O. Johnson (Editors). Introduction to Exercise Science (Second Edition). San Francisco, CA: Benjamin Cummings Publishers, 2003.

Housh, T. J. and D. J. Housh (Editors). Introduction to Exercise Science. Needham Heights, MA: Allyn and Bacon Publishers, 2000.

deVries, H. A. and T. J. Housh. Physiology of Exercise for Physical Education, Athletics and Exercise Science (Fifth Edition). Madison, WI: Brown-Benchmark Publishers, 1994.

Weir, L. L., H. A. deVries, and T. J. Housh. Student Study Guide for Physiology of Exercise for Physical Education, Athletics and Exercise Science (Fifth Edition). Madison, WI: Brown-Benchmark Publishers, 1996.

**Chapters, Narrative Reviews, and Meta-Analytic Reviews (peer-reviewed)**

Coburn, J.W., T.W. Beck, H.A. deVries, T.J. Housh, K.C. Cochrane-Snyman, and E.E. Schick. The Neuromuscular System. In: T.J. Chandler and L.E. Brown (Eds.), *Conditioning for Strength and Human Performance*. New York, NY: Routledge, 2019, pp. 50-74.

Coburn, J.W., T.W. Beck, H.A. deVries, and T.J. Housh. The Neuromuscular System: Anatomical and Physiological Bases and Adaptations to Training. In: T.J. Chandler and L.E. Brown (Eds.), *Conditioning for Strength and Human Performance*. Philadelphia, PA: Lippincott, Williams, and Wilkins, 2013, pp. 45-64.

Ratamess, N.A., B.A. Alvar, T.K. Evetovich, T.J. Housh (Chair), W.B. Kibler, W.J. Kraemer, and N.T. Triplett. ACSM Position Stand "Progression Models in Resistance Training for Healthy Adults." *Medicine and Science in Sports and Exercise* 41:687-708, 2009.

Beck, T.W. and T.J. Housh. Use of electromyography in studying human movement. In: Y. Hong and R. Bartlett (Eds.), *Routledge Handbook of Biomechanics and Human Movement Science*. Milton Park, UK: Routledge, 2008, pp. 214-230.

Malek, M.H., D.E. Berger, W.D. Marelich, J.W. Coburn, T.W. Beck, and T.J. Housh. Pulmonary function following surgical repair of pectus excavatum: A meta-analysis. *European Journal of Cardio-Thoracic Surgery* 30:637-643, 2006.

Coburn, J.W., T.W. Beck, H.A. deVries, and T.J. Housh. The Neuromuscular System. In: T.J. Chandler and L.E. Brown (Eds.), *Conditioning for Strength and Human Performance*. Philadelphia, PA: Lippincott, Williams, and Wilkins, 2008, pp.40-59.

Malek, M.H., D.E. Berger, T.J. Housh, W.D. Marelich, J.W. Coburn, and T.W. Beck. Cardiovascular function following surgical repair of pectus excavatum: A meta-analysis. *Chest* 130:506-516, 2006.

Weir, J.P., T.W. Beck, J.T. Cramer, and T.J. Housh. Is fatigue all in your head? A critical review of the Central Governor Model. *British Journal of Sports Medicine* 40:573-586, 2006.

Beck, T.W., T.J. Housh, G.O. Johnson, J.T. Cramer, J.P. Weir, J.W. Coburn, and M.H. Malek. Does the frequency content of the surface mechanomyographic signal reflect motor unit firing rates? A brief review. *Journal of Electromyography and Kinesiology* 17:1-13, 2007.

Beck T.W., T.J. Housh, J.T. Cramer, J.P. Weir, G.O. Johnson, J.W. Coburn, M.H. Malek, and M. Mielke. Mechanomyographic amplitude and frequency responses during dynamic muscle actions: A comprehensive review. *BioMedical Engineering Online* 4:67, 2005. <http://www.biomedical-engineering-online.com/content/4/1/67>

Thorland W.G., G.O. Johnson, G.D. Tharp, and T.J. Housh. Comparative characteristics of elite junior and senior level athletes. In: Brown E.W. and C.F. Branta (Eds.), *Competitive Sports for Children and Youth*. Champaign, IL: Human Kinetics, 1988, pp.129-142.

**Research Publications (peer-reviewed journals)**

Anders, J.P.V., J.L. Keller, T.J. Neltner, T.J. Housh, R.J. Schmidt, and G.O. Johnson. Task-specific performance fatigability and the bilateral deficit during isokinetic leg extensions. *Journal of Musculoskeletal and Neuronal Interactions* (In Press).

Keller, J.L., T.J. Housh, J.P.V. Anders, C.M. Smith E.C. Hill, R.J. Schmidt, and G.O. Johnson. Day to day consistency and inter-subject variability of neuromuscular responses and performance fatigability as the result of maximal bilateral, dynamic leg extensions. *Journal of Science in Sport and Exercise* 2020: <https://doi.org/10.1007/s42978-020-0076-z>.

Keller, J.L., E.C. Hill, T.J. Housh, C.M. Smith, J.P.V. Anders, R.J. Schmidt, and G.O. Johnson. The acute and early phase effects of blood flow restriction training on ratings of perceived exertion, performance fatigability, and muscular strength in women. *Isokinetics and Exercise Science* (In Press).

Keller, J.L., T.J. Housh, J.P.V. Anders, T.J. Neltner, R.J. Schmidt, and G.O. Johnson. Anchor scheme, intensity, and time to task failure do not influence performance fatigability or changes in neuromuscular responses following bilateral leg extensions. *Journal of Exercise Physiology Online* 23:119-134, 2020.

Anders, J.P.V., J.L. Keller, C.M. Smith, E.C. Hill, T.J. Neltner, T.J. Housh, R.J. Schmidt, and G.O. Johnson. Performance fatigability and the bilateral deficit during maximal, isokinetic leg extensions in men and women. *Isokinetics and Exercise Science* (In Press).

Anders, J.P.V., J.L. Keller, C.M. Smith, E.C. Hill, T.J. Neltner, T.J. Housh, R.J. Schmidt, and G.O. Johnson. Performance fatigability and neuromuscular responses for bilateral and unilateral leg extensions in men. *Journal of Musculoskeletal and Neuronal Interactions* 20:325-331, 2020

Neltner, T.J., T.J. Housh, C.M. Smith, J.P.V. Anders, J.L. Keller, E.C. Hill, R.J. Schmidt, and G.O. Johnson. Similar fatigue-induced changes in neuromuscular patterns of responses for contralateral legs during maximal bilateral leg extensions. *Journal of Exercise Physiology Online* 23:1-17, 2020.

Anders, J.P., J.L. Keller, C.M. Smith, E.C. Hill, T.J. Housh, R.J. Schmidt, and G.O. Johnson. The effects of asparagus racemosus supplementation plus 8 weeks of resistance training on muscular strength and endurance. *Journal of Functional Morphology and Kinesiology* 5:4, 2020: doi: 10.3390/jfmk5010004.

Keller, J.L., T.J. Housh, E.C. Hill, C.M. Smith, R.J. Schmidt, and G.O. Johnson. Sex-related differences in performance fatigability independent of blood flow following a sustained isometric muscle action at a low perceptual intensity. *Journal of Science in Sport and Exercise* 2:173-182, 2020: [doi.org/10.1007/s42978-020-00052-7](https://doi.org/10.1007/s42978-020-00052-7).

Hill, E.C., T.J. Housh, J.L. Keller, C.M. Smith, J.P. Anders, R.J. Schmidt, G.O. Johnson, and J.T. Cramer. Low-load blood flow restriction elicits greater concentric strength than non-blood flow restriction training but similar isometric strength and muscle size. *European Journal of Applied Physiology* 120:425-441, 2020: [doi.org/10.1007/s00421-109-04287-3](https://doi.org/10.1007/s00421-109-04287-3).

Anders, J.P., J.L. Keller, C.M. Smith, E.C. Hill, T.J. Neltner, T.J. Housh, R.J. Schmidt, and G.O. Johnson. Performance fatigability and neuromuscular responses for bilateral versus unilateral leg extensions in women. *Journal of Electromyography and Kinesiology* 50: 102367, 2020.

Keller, J.L., T.J. Housh, E.C. Hill, C.M. Smith, R.J. Schmidt, and G.O. Johnson. Self-regulated force and neuromuscular responses during fatiguing isometric leg extensions anchored to a rating of perceived exertion. *Applied Psychophysiology and Biofeedback* 44:343-350, 2019.

Hill, E.C., T.J. Housh, C.M. Smith, J.L. Keller, R.J. Schmidt, and G.O. Johnson. Eccentric and concentric blood flow restriction resistance training on indices of delayed onset muscle soreness in untrained women. *European Journal of Applied Physiology* 119:2363-2373, 2019.

Keller, J.L., T.J. Housh, E.C. Hill, C.M. Smith, R.J. Schmidt, and G.O. Johnson. Are there sex-specific neuromuscular or force responses to fatiguing isometric muscle actions anchored to a high perception of effort? *Journal of Strength and Conditioning Research* (In Press).

Smith, C.M., T.J. Housh, E.C. Hill, J.L. Keller, J.P. Anders, G.O. Johnson, and R.J. Schmidt. Variable resistance training versus traditional weight training on reflex pathway following four weeks of leg press training. *Somatosensory and Motor Research* 36:223-229, 2019: doi: 10.1080/08990220.2019.1659238.

Cochrane-Snyman, K.C., T.J. Housh, C.M. Smith, E.C. Hill, and N.D.M. Jenkins. Treadmill running using the RPE-clamp Model: Mediators of perception and implications for exercise prescription. *European Journal of Applied Physiology* 119:2083-2094, 2019.

Anders, J.P.V., C.M. Smith, J.L. Keller, E.C. Hill, T.J. Housh, R.J. Schmidt, and G.O. Johnson. Inter- and Intra-individual differences in EMG and MMG during maximal, bilateral, dynamic leg extensions. *Sports* 7:175, 2019: doi: 10.3390/sports7070175.

Bergstrom, H.C., T.J. Housh, T.K. Dinyer, M.T. Byrd, N.D.M. Jenkins, K.C. Snyman, P.J. Succi, R.J. Schmidt, G.O. Johnson, and J.M. Zuniga. Neuromuscular responses of the superficial quadriceps femoris muscles: Muscle specific fatigue and inter-individual variability during severe intensity domain treadmill running. *Journal of Musculoskeletal and Neuronal Interactions* 20:77-87, 2020.

Jenkins, N.D.M., A.A. Miramonti, E.C. Hill, C.M. Smith, K.C. Snyman, T.J. Housh, and J.T. Cramer. Mechanomyographic amplitude is sensitive to load-dependent neuromuscular adaptations in response to resistance training. *Journal of Strength and Conditioning Research* (In Press).

Dinyer, T.K., M.T. Byrd, K.C. Snyman, N.D.M. Jenkins, T.J. Housh, R.J. Schmidt, G.O. Johnson, and H.C. Bergstrom. Time course of changes in neuromuscular responses during rides to exhaustion above and below critical power. *Journal of Musculoskeletal and Neuronal Interactions* 19:266-275, 2019.

Hill, E.C., T.J. Housh, J.L. Keller, C.M. Smith, R.J. Schmidt, and G.O. Johnson. The validity of EMG and MMG techniques to examine muscle hypertrophy. *Physiological Measurement* 40:2,2019: <https://doi.org/10.1088/1361-6579/ab057e>.

Keller, J.L., T.J. Housh, E.C. Hill, C.M. Smith, R.J. Schmidt, and G.O. Johnson. The effects of shilajit supplementation on fatigue-induced decreases in muscular strength and serum hydroxyproline levels. *Journal of the International Society of Sports Nutrition* 16:3, 2019: <https://doi.org/10.1186/s12970-019-0270-2>.

Smith, C.M., T.J. Housh, E.C. Hill, J.L. Keller, G.O. Johnson, and R.J. Schmidt. A bio signal analysis for reducing prosthetic control durations: A proposed method using electromyographic and mechanomyographic control theory. *Journal of Musculoskeletal and Neuronal Interactions* 19:142-149, 2019.

Hill, E.C., T.J. Housh, C.M. Smith, R.J. Schmidt, and G.O. Johnson. Gender- and muscle-specific responses during fatiguing exercise. *Journal of Strength and Conditioning Research* 32:1471-1478, 2018.

Smith, C.M., T.J. Housh, E.C. Hill, J.L. Keller, G.O. Johnson, and R.J. Schmidt. Co-activation, estimated anterior and posterior cruciate ligament forces, and motor unit activation strategies during the time course of fatigue. *Sports* 6:104, 2108;doi:10.3390/sports6040104.

Keller, J.L., T.J. Housh, E.C. Hill, C.M. Smith, R.J. Schmidt, and G.O. Johnson. Neuromuscular responses of recreationally active women during a sustained, submaximal isometric leg extension muscle action at a constant perception of effort. *European Journal of Applied Physiology* 118:2499-2508, 2018.

Camic, C.L., T.J. Housh, M. Mielke, J.M. Zuniga, C.R. Hendrix, G.O. Johnson, D.J. Housh, and R.J. Schmidt. Validity of fat-free weight equations for predicting isokinetic peak torque in young wrestlers. *Sport and Health: International Journal of Sport Sciences and Health* 5:69-78, 2018.

Hill, E.C., T.J. Housh, C.M. Smith, J. L. Keller, R.J. Schmidt, and G.O. Johnson. Sex- and mode-specific responses to eccentric muscle fatigue. *International Journal of Sports Medicine* 39:893-901, 2018.

Hill, E.C., T.J. Housh, J.L. Keller, C.M. Smith, R.J. Schmidt, and G.O. Johnson. Early-phase adaptations in muscle strength and hypertrophy as a result of low-intensity blood flow restriction resistance training. *European Journal of Applied Physiology* 118:1831-1843, 2018.

Hill, E.C., T.J. Housh, J.L. Keller, C.M. Smith, R.J. Schmidt, and G.O. Johnson. Sex differences for fatigued-induced changes in muscle blood flow, but not eccentric peak torque or neuromuscular responses. *Journal of Musculoskeletal and Neuronal Interactions* 18:427-437, 2018.

Keller, J.L., T.J. Housh, C. M. Camic, H.C. Bergstrom, D.B. Smith, C.M. Smith, E.C. Hill, R.J. Schmidt, G.O. Johnson, and J. M. Zuniga. The effects of epoch length on time and frequency domain parameters of electromyographic and mechanomyographic signals. *Journal of Electromyography and Kinesiology* 40:88-94, 2018.

Hill, E.C., T.J. Housh, C.M. Smith, J.L. Keller, R.J. Schmidt, and G.O. Johnson. High versus low intensity fatiguing eccentric exercise on muscle thickness, strength, and blood flow. *Journal of Strength and Conditioning Research* (In Press).

Hill, E.C., T.J. Housh, C.M. Smith, J.L. Keller, R.J. Schmidt, and G.O. Johnson. The contributions of arterial cross-sectional area and time averaged flow velocity to arterial blood flow. *Journal of Medical Ultrasound* 2018;doi:10.4103/JMU.JMU\_20\_18.

Hill, E.C., T.J. Housh, C.L. Camic, C.M. Smith, R.J. Schmidt, and G.O. Johnson. Velocity-dependent changes in electrical efficiency of the leg extensors during eccentric isokinetic muscle actions. *International Journal of Sports Medicine* 39:262-269, 2018.

Keller, J.L., T.J. Housh, C.M. Smith, E.C. Hill, R.J. Schmidt, and G.O. Johnson. Sex-related differences in the accuracy of estimating target force using percentages of maximal voluntary isometric contractions versus ratings of perceived exertion during isometric muscle actions. *Journal of Strength and Conditioning Research* 32:3294-3300, 2018.

Smith, C.M., T.J. Housh, E.C. Hill, K.C. Cochrane, N.D.M. Jenkins, R.J. Schmidt, and G.O. Johnson. Differences between the time course of changes in neuromuscular responses and pretest versus posttest measurements of the examination of fatigue. *Journal of Nature and Science* 3(e456):1-6, 2017.

Smith, C.M., T.J. Housh, E.C. Hill, J.L. Keller, G.O. Johnson, and R.J. Schmidt. Effects of fatigue and recovery on electromechanical delay during isokinetic muscle actions. *Physiological Measurement* 38:1837-1847, 2017.

Hill, E.C., T.J. Housh, C.M. Smith, R.J. Schmidt, and G.O. Johnson. The effects of gender on fatigue-induced changes in electromechanical efficiency and torque. *Journal of Nature and Science* 3(e356):1-7, 2017.

Smith, C.M., T.J. Housh, E.C. Hill, J.L. Keller, G.O. Johnson, and R.J. Schmidt. Are there mode-specific and fatigue-related electromechanical delay responses for maximal isokinetic and isometric muscle actions? *Journal of Electromyography and Kinesiology* 37:9-14, 2017.

Hill, E.C., T.J. Housh, C.L. Camic, C.M. Smith, J.L. Keller, R.J. Schmidt, and G.O. Johnson. Electromechanical efficiency tracks eccentric torque production. *International Journal of Physical Education, Sports, and Health* 4:135-140, 2017.

Smith, C.M., T.J. Housh, E.C. Hill, J.L. Keller, G.O. Johnson, and R.J. Schmidt. Time course of changes in neuromuscular parameters from the quadriceps during maximal isokinetic muscle actions. *Journal of Nature and Science* 3(e426):1-7, 2017.

Hill, E.C., T.J. Housh, C.M. Smith, K.C. Cochrane, N.D.M. Jenkins, R.J. Schmidt, and G.O. Johnson. The effects of work-to-rest ratios on torque, electromyographic, and mechanomyographic responses to fatiguing workouts. *International Journal of Exercise Science* 10:580-591, 2017.

Smith, C.M., T.J. Housh, E.C. Hill, J.L. Keller, G.O. Johnson, and R.J. Schmidt. Effects of fatigue on voluntary electromechanical and relaxation electromechanical delay. *International Journal of Sports Medicine* 38:763-769, 2017.

Fry, A.C., T.J. Housh, J.B. Cramer, J.P. Weir, T.W. Beck, B.K. Schilling, J.D. Miller, and J.X. Nicoll. Noninvasive assessment of skeletal muscle myosin heavy chain expression in trained and untrained men. *Journal of Strength and Conditioning Research* 31:2355-2362, 2017.

Smith, C.M., T.J. Housh, E.C. Hill, G.O. Johnson, and R.J. Schmidt. Alternating force induces less pronounced fatigue-related responses than constant repeated force muscle actions. *Isokinetics and Exercise Science* 25:271-279, 2017.

Smith, C.M., T.J. Housh, E.C. Hill, J.L. Keller, G.O. Johnson, and R.J. Schmidt. Effects of intensity on muscle-specific voluntary electromechanical delay and relaxation electromechanical delay. *Journal of Sports Sciences* 36:1196-1203, 2018.

Jenkins, N.D.M., A.A. Miramontu, E.C. Hill, C.M. Smith, K.C. Cochrane-Snyman, T.J. Housh, and J.T. Cramer. Greater neural adaptations following high- versus low-load resistance training. *Frontiers in Physiology* 8:331, 2017.

Smith, C.M., T.J. Housh, E.C. Hill, R.J. Schmidt, and G.O. Johnson. Time course of changes in neuromuscular responses at 30% versus 70% 1 repetition maximum during dynamic constant external resistance leg extensions to failure. *International Journal of Exercise Science* 10:365-378, 2017.

Smith, C.M., T.J. Housh, E.C. Hill, G.O. Johnson, and R.J. Schmidt. Dynamic versus static electromechanical delay in non-fatigued and fatigued muscle: A combined electromyographic, mechanomyographic, and force approach. *Journal of Electromyography and Kinesiology* 33:34-38, 2017.

Hill, E.C., T.J. Housh, C.M. Smith, R.J. Schmidt, and G.O. Johnson. Mechanomyographic amplitude tracks fatigue-induced changes in mean power, but not moment production. *Isokinetics and Exercise Science* 25:105-111, 2017.

Bergstrom, H.C., T.J. Housh, K.C. Cochrane-Snyman, N.D.M. Jenkins, T. Byrd, J.R. Switalla, R.J. Schmidt, and G.O. Johnson. A model for identifying intensity zones above critical velocity. *Journal of Strength and Conditioning Research* 31:3260-3265, 2017.

Smith, C.M., T.J. Housh, E.C. Hill, G.O. Johnson, and R.J. Schmidt. Changes in electromechanical delay during fatiguing dynamic muscle actions. *Muscle and Nerve* 56:315-320, 2017.

Smith, C.M., T.J. Housh, J.M. Zuniga, C.L. Camic, H.C. Bergstrom, D.B. Smith, T.J. Herda, J.P. Weir, E.C. Hill, N.D.M. Jenkins, R.J. Schmidt, and G.O. Johnson. Influences of interelectrode distance and innervation zone on electromyographic signals. *International Journal of Sports Medicine* 38:111-117, 2017.

Hill, E.C., T.J. Housh, C.M. Smith, K.C. Cochrane, N.D.M. Jenkins, R.J. Schmidt, and G.O. Johnson. Muscle- and mode-specific responses of the forearm flexors in women as a result of fatiguing, concentric muscle actions. *International Journal of Physical Education, Sports, and Health* 3:431-438, 2016.

Hill, E.C., T.J. Housh, C.M., Smith, R.J. Schmidt, and G.O. Johnson. Muscle- and mode-specific responses of the forearm flexors to fatiguing, concentric muscle actions. *Sports* 4:47-57, 2016.

Smith, C.M., T.J. Housh, E.C. Hill, K.C. Cochrane, N.D.M. Jenkins, R.J. Schmidt, and G.O. Johnson. Effects of fatiguing constant versus alternating intensity intermittent isometric muscle actions on maximal torque and neuromuscular responses. *Journal of Musculoskeletal and Neuronal Interactions* 16:318-326, 2016.

Smith, C.M., T.J. Housh, N.D.M. Jenkins, E.C. Hill, K.C. Cochrane, A.A. Miramonti, R.J. Schmidt, and G.O. Johnson. Combining regression and mean comparisons to identify the time course of changes in neuromuscular responses during the process of fatigue. *Physiological Measurement* 37:1993-2002, 2016.

Jenkins, N.D.M., T.J. Housh, A.A. Miramonti, B.D. McKay, N. Yeo, C.M. Smith, E.C. Hill, K.C. Cochrane, and J.T. Cramer. Effects of ruminic acid enriched conjugated linoleic acid supplementation on cognitive function and hand grip performance in older men and women. *Experimental Gerontology* 84:1-11, 2016.

Hill, E.C., T.J. Housh, C.M. Smith, K.C. Cochrane, N.D.M. Jenkins, R.J. Schmidt, G.O. Johnson, and J.T. Cramer. Effect of sex on torque, recovery, EMG, and MMG responses to fatigue. *Journal of Musculoskeletal and Neuronal Interactions* 16:310-317, 2016.

Smith, C.M., T.J. Housh, T.J. Herda, J.M. Zuniga, C.L. Camic, H.C. Bergstrom, D.B. Smith, J.P. Weir, E.C. Hill, N.D.M. Jenkins, R.J. Schmidt, and G.O. Johnson. Time course of changes in neuromuscular parameters during sustained isometric muscle actions. *Journal of Strength and Conditioning Research* 30:2697-2702, 2016.

Cochrane, K.C., T.J. Housh, C.M. Smith, E.C. Hill, N.D.M. Jenkins, R.J. Schmidt, and G.O. Johnson. Inter-individual variability in the patterns of responses for electromyography and mechanomyography during cycle ergometry using an RPE-clamp model. *European Journal of Applied Physiology* 116:1639-1649, 2016.

Jenkins, N.D.M., T.J. Housh, S.L. Buckner, H.C. Bergstrom, C.M. Smith, K.C. Cochrane, E.C. Hill, A.A. Miramonti, R.J. Schmidt, G.O. Johnson, and J.T. Cramer. Four weeks of high- versus load-load resistance training to failure on rate of torque development, electromechanical delay, and contractile twitch properties. *Journal of Musculoskeletal and Neuronal Interactions* 16:135-144, 2016.

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Nebelsick-Gullett, L., T. J. Housh, and G. O. Johnson. The relationship between anaerobic capacity from the wingate test and anaerobic work capacity from the critical test. Abstracts of Research Presentations at the National AAHPERD Convention, Kansas City, AAHPERD Publications, 1988. (Presented at the AAHPERD Annual Convention, 1988, Kansas City).

Thorland, W. G., G. O. Johnson, T. J. Housh, G. Tharp, and C. J. Cisar. Generality of strength and power in young male runners. *Medicine and Science in Sports and Exercise* 20:S67, 1988. (Presented at the American College of Sports Medicine Annual Convention, 1988, Dallas).

Johnson, G. O., T. J. Housh, K. B. Kenney, R. A. Hughes, C. J. Cisar, and W. G. Thorland. Estimation of body density in high school wrestlers. *Medicine and Science in Sports and Exercise* 20:S41, 1988. (Presented at the American College of Sports Medicine Annual Convention, 1988, Dallas).

Housh, T. J., G. O. Johnson, R. A. Hughes, C. J. Cisar, and W. G. Thorland. The effect of age and body weight on estimations of body composition in high school wrestlers. *Medicine and Science in Sports and Exercise* 20:S41, 1988. (Presented at the American College of Sports Medicine Annual Convention, 1988, Dallas).

Johnson, G. O., T. J. Housh, W. G. Thorland, C. J. Cisar, R. A. Hughes, K. B. Kenney, and S. L. McDowell. Validation of anthropometric equations for the prediction of minimal wrestling weight. *Medicine and Science in Sports and Exercise* 19:S47, 1987. (Presented at the American College of Sports Medicine Annual Convention, 1987, Las Vegas).

Hughes, R. A., T. J. Housh, W. G. Thorland, and G. O. Johnson. Intertester and validity of anthropometric estimates of body composition. *Medicine and Science in Sports and Exercise* 19:S23, 1987. (Presented at the American College of Sports Medicine Annual Convention, 1987, Las Vegas).

Johnson, G. O., T. J. Housh, L. Marty, G. Eischen, and C. Eischen. Bilateral and ipsilateral isokinetic leg flexion and extension strength ratios of university football players. Abstracts of Research Presentations at the National AAHPERD Convention, Las Vegas, AAHPERD Publications, 1987. (Presented at the AAHPERD Annual Convention, 1987, Las Vegas).

Fry, A. C., T. J. Housh, and R. A. Hughes. Stature and flexibility variables as discriminators of proper foot contact during the parallel squat weight training exercise. (Presented at the AAHPERD Central District Convention, 1987, Kansas City).

Cisar, C. J., W. G. Thorland, G. O. Johnson, T. J. Housh, and R. A. Hughes. Validity of anthropometric equations for determination of changes in body composition in adults during training. *Medicine and Science in Sports and Exercise* 18:79, 1986. (Presented at the American College of Sports Medicine Annual Convention, 1986, Indianapolis).

Thorland, W. G., G. O. Johnson, C. J. Cisar, and T. J. Housh. Estimation of minimal wrestling weight using measures of body build and composition. *Medicine and Science in Sports and Exercise* 18:441, 1986. (Presented at the American College of Sports Medicine Annual Convention, 1986, Indianapolis).

Housh, T. J., W. G. Thorland, G. O. Johnson, R. A. Hughes, and C. J. Cisar. Partial correlations between metabolic factors and middle-distance running performance controlling for aerobic capacity. (Presented at the AAHPERD Northwest District Convention, 1986, Vancouver).

Housh, T. J., W. G. Thorland, G. O. Johnson, C. J. Cisar, R. A. Hughes, and P. Lundvall. Error in skinfold assessment of body density. *Medicine and Science in Sports and Exercise* 18:457, 1986. (Presented at the American College of Sports Medicine Annual Convention, 1986, Indianapolis).

Housh, T. J., W. G. Thorland, G. O. Johnson, R. A. Hughes, C. J. Cisar, and C. J. Ansorge. The covariate influence of aerobic capacity on structural and compositional factors related to middle distance running performance. *Abstracts of Research Presentations at the National AAHPERD Convention, Cincinnati*, AAHPERD Publications, 1986. (Presented at the AAHPERD Annual Convention, 1986, Cincinnati).

Thorland, W. G., G. O. Johnson, G. D. Tharp, and T. J. Housh. Comparative characteristics of elite junior and senior level athletes. Presented at the Big 10 CIC Symposium on the Effects of Competition on Children and Youth, 1985, Michigan State University, East Lansing. (Invited Presentation).

Housh, T. J. Body composition and weight control, exercise programming, program administration. Presented at the American College of Sports Medicine Fitness Instructors Workshop, 1985, Portland Adventist Hospital, Portland. (Invited Presentation).

Housh, T. J. Developmental strength programs for youth. Presented at the Northwest American Corrective Therapy Association Workshop, 1985, Portland State University, Portland. (Invited Presentation).

Johnson, G. O., W. G. Thorland, C. J. Cisar, T. J. Housh, R. A. Hughes, and G. D. Tharp. Analysis of pre-season body composition of high school wrestlers according to age and selected weight classes. (Presented at the American College of Sports Medicine Annual Convention, Colloquia entitled: A Progress Report on the Data Bank Study for Determining A Minimal Weight, 1985, Nashville).

Hughes, R. A., W. G. Thorland, G. O. Johnson, and T. J. Housh. The effect of exercise intensity on acute serum lipoprotein responses. *Medicine and Science in Sports and Exercise* 17:226, 1985. (Presented at the American College of Sports Medicine Annual Convention, 1985, Nashville).

Housh, T. J., W. G. Thorland, G. O. Johnson, and R. A. Hughes. The contribution of selected physiological variables to middle distance running performance. *Abstracts of Research Presentations at the National AAHPERD Convention, Atlanta*, AAHPERD Publications, 1985. (Presented at the AAHPERD Annual Convention, 1985, Atlanta).

Schmidt, R. J., T. J. Housh, and R. A. Hughes. Metabolic responses to kendo. Presented at the Seventeenth Annual Meeting of the "Nippon Budo Gakka" (Japanese Academy of Martial Arts), 1984, Tokyo Noko University, Tokyo, Japan).

Thorland, W. G., G. O. Johnson, C. J. Cisar, T. J. Housh, and G. D. Tharp. Strength and anaerobic influences of running ability in young female athletes. *Medicine and Science in Sports and Exercise* 16:158, 1984. (Presented at the American College of Sports Medicine Annual Convention, 1984, San Diego).

Johnson, G. O., W. G. Thorland, T. J. Housh, C. J. Cisar, and G. D. Tharp. Analysis of pre-season body composition of high school wrestlers as a function of age and body weight. *Medicine and Science in Sports and Exercise* 16:157, 1984. (Presented at the American College of Sports Medicine Annual Convention, 1984, San Diego).

Housh, T. J., W. G. Thorland, and G. Tharp. Isokinetic leg strength of elite adolescent female track and field athletes by event. Abstracts of Research Presentations at the National AAHPERD Convention, Minneapolis, AAHPERD Publications No. 088314-237-6, 1983. (Presented at the AAHPERD Annual Convention, Minneapolis).

Cisar, C. J., W. G. Thorland, G. O. Johnson, and T. J. Housh. Aerobic and anaerobic thresholds and max O<sub>2</sub> consumption rates as predictors of distance running performance. *Medicine and Science in Sports and Exercise* 15:107, 1983. (Presented at the American College of Sports Medicine Annual Convention, 1983, Montreal).

Housh, T. J., W. G. Thorland, G. O. Johnson, G. Tharp, and M. J. Refsell. Multiple discriminant analysis of sports participation with respect to body composition and body build variables. *Medicine and Science in Sport and Exercise* 15:179, 1983. (Presented at the American College of Sports Medicine Annual Convention, 1983, Montreal).

Thorland, W. G., G. O. Johnson, T. J. Housh, C. J. Cisar, and G. Tharp. Anthropometric estimation of body density in highly trained adolescent male athletes. *Medicine and Science in Sports and Exercise* 15:180, 1983. (Presented at the American College of Sports Medicine Annual Convention, 1983, Montreal).

Thorland, W. G., G. O. Johnson, T. J. Housh, and G. Tharp. Estimation of body density from skinfold thickness in highly trained adolescent female athletes. *Medicine and Science in Sports and Exercise* 14:159, 1982. (Presented at the American College of Sports Medicine Annual Convention, 1982, Miami).

Johnson, G. O., W. G. Thorland, T. J. Housh, G. Tharp, M. J. Refsell, and K. Knortz. Effect of a competitive season on the body composition of female university athletic teams. *Medicine and Science in Sports and Exercise* 14:107, 1982. (Presented at the American College of Sports Medicine Annual Convention, 1982, Miami).

**Masters Student Thesis Committees**

- 1987 Lori Nebelsick-Gullett, The Relationship Between Anaerobic Capacity from the Wingate Test and Anaerobic Work Capacity from the Critical Power Test. (Chair)
- 1987 Sharon McDowell, The Effect of Exercise Duration on Salivary Immunoglobulin A. (Chair)
- 1987 Dawn Powell, A Physiological Comparison of Female Body Builders and Power Lifters. (Member)
- 1988 Kathryn Kenney, The Contribution of Selected Physiological Variables to Sprint Swimming Performance. (Chair)
- 1988 Alan Ryan, Blood Lactate Concentrations After 10, 15, and 30 Seconds of Supramaximal Exercise in Weight-Trained and Sedentary Men. (Member)
- 1988 Dona Housh, Actual Versus Predicted Times to Exhaustion Using the Critical Power Test. (Chair)
- 1988 Ken Cheloha, The Effect of Exercise Intensity on Salivary Immunoglobulin A and Cortisol. (Member)
- 1989 Tom Sachtleblen, The Effect of Glycogen Depletion and Supercompensation on Critical Power and Anaerobic Work Capacity. (Member)
- 1990 Rommie Hughes, The Effect of Training on Testosterone, Luteinizing Hormone and Estradiol Responses to a Maximal and Submaximal Exercise Bout. (Chair)
- 1990 Joe Weir, The Effect of Isotonic Weight Training on the Force Velocity Curve. (Chair)
- 1990 Loree Wagner, The Effect of Grip Spacing on Bench Press Performance. (Chair)
- 1990 Robert Schwab, The Acute Effects of Two Different Bouts of Weightlifting Exercise on Serum Testosterone Concentration. (Chair)
- 1991 Merrell Pepper, The Accuracy of the Critical Velocity Test for Predicting Time to Exhaustion During Treadmill Running. (Chair)
- 1992 Bruce Warner, The Accuracy of the Critical Power Test for Predicting Time to Exhaustion During Arm Cranking Ergometry. (Chair)
- 1992 Jeff Soucie, The Bilateral Effects of Unilateral Electrical Stimulation on the Force-Velocity Curve. (Chair)
- 1992 Dave Pavlat, Validation of the Electromyographic Fatigue Threshold Test. (Chair)
- 1992 Jeff Stout, The Validity of NIR for Estimating Body Composition in Males and Females. (Chair)
- 1992 Keanmun Ng, Effects of a Sprint Training Device on Sprint Biomechanics, Performance, and Strength Measures. (Member)
- 1995 Tammy Evetovich, The Effect of Workout Duration on the Physical Working Capacity at the Fatigue Threshold (PWCFT) Test. (Chair)
- 1995 Mike Wanetka, The Development of a Valid Questionnaire to Assess Exercise Dependence. (Member)
- 1996 Kyle Ebersole, The MMG and EMG Responses of the Superficial Quadriceps Muscles During Isometric Contractions. (Chair)
- 1998 Anthony Bull, The Effect of Mathematical Modeling on the Estimation of Critical Power. (Chair)
- 1998 Sharon Perry, Validity of the Physical Working Capacity at the Heart Rate Threshold Test. (Chair)
- 2001 Joel Cramer, Gender Comparisons Among Peak Torque, Mean Power Output, Mechanomyographic and Electromyographic Responses During Maximal, Eccentric Isokinetic Muscle Actions. (Chair)

- 2004 Travis Beck, Mechanomyographic and electromyographic amplitude and frequency responses during fatiguing isokinetic muscle actions of the biceps brachii. (Chair)
- 2011 Haley Bergstrom, A new single workout test to estimate critical power and anaerobic work capacity. (Chair)
- 2013 Robert Lewis, The effects of intermittent isometric fatigue on concentric, eccentric, and isometric torque. (Chair)
- 2013 Nathaniel Jenkins, Test-retest reliability for voluntary and evoked measures of peak torque, electromechanical delay, and rate of torque development in older men. (Member)
- 2016 Cory Smith, Time course of changes in neuromuscular parameters during fatiguing high load and low-load concentric dynamic constant external resistance leg extension muscle actions. (Chair)
- 2016 Ethan Hill, Electromyographic and mechanomyographic time and frequency response during fatiguing, submaximal, isokinetic muscle actions of the biceps brachii. (Chair)

#### **Doctoral Student Dissertation Committees**

- 1987 Roger Hughes, The Effect of Exercise Duration on Serum Lipoprotein Metabolism in Females. (Chair)
- 1987 June Nutter, The Effect of Exercise and Oral Contraceptives on Total Serum Calcium, Estradiol, and Luteinizing Hormone in Moderately Trained Women. (Member)
- 1991 Sharon McDowell, The Effect of Exercise Training on Natural Killer Cell Activity. (Chair)
- 1992 Karen Knortz, The Effect of Repetition Number on Isokinetic Strength and Endurance. (Chair)
- 1993 Joyce Schlike, The Effect of Isokinetic Training in Osteoarthritis Patients. (Member)
- 1993 Joe Weir, The Effect of Unilateral Isometric Leg Extension Training on the Torque and Integrated Electromyogram of the Trained and Contralateral Limb. (Chair)
- 1993 Joan Eckerson, The Validity of Skinfold, Bioelectrical Impedance and Near-infrared Interactance Equations for Monitoring Changes in Fat-free Weight in Females. (Chair)
- 1993 Loree Wagner, The Effect of Endurance Training on the Physical Working Capacity at the Heart Rate Threshold. (Chair)
- 1994 Bennie Moore, The Effects of Latex Gloves on Hand Sensibility and Manual Dexterity. (Member)
- 1995 Jeff Stout, The Relationships Among Electromyography, Acoustic Myography and Oxygen Consumption During Incremental Cycle Ergometry. (Chair)
- 1998 Tammy Evetovich, The Effects of Concentric Isokinetic Strength Training of the Quadriceps Femoris on Electromyography, Mechanomyography, and Muscle Strength. (Chair)
- 2000 Kyle Ebersole, The Effects of Isometric Strength Training of the Biceps Brachii on Electromyography, Mechanomyography, and Muscle Strength. (Chair)
- 2001 Doug Smith, The Effects of Isometric Strength Training of the Quadriceps Femoris on Electromyography, Mechanomyography, and Peak Torque. (Chair)
- 2001 Sharon Perry, Mechanomyographic and Electromyographic Responses of the Superficial Quadriceps Femoris Muscles During Fifty Maximal Isokinetic Muscle Actions at Different Velocities. (Chair)
- 2001 Anthony Bull, Oxygen Kinetic During Continuous Running at Critical Velocity. (Chair)

- 2005 Joel Cramer, The Acute Effects of Static Stretching on Peak Torque, Mean Power Output, Mechanomyography, and Electromyography during Maximal, Eccentric, Isokinetic Muscle Actions. (Chair)
- 2005 Jared Coburn, Responses of Mechanomyography, Electromyography, and Peak Torque to Three Days of Velocity-Specific Isokinetic Training. (Chair)
- 2007 Moh Malek, Examination of the Relationship Between the Slow Component of Oxygen Uptake Kinetics and Plasma Ammonia Concentrations During Cycle Ergometer Exercise. (Chair)
- 2007 Travis Beck, The Influence of Electrode Placement Over the Innervation Zone on Electromyographic Amplitude and Mean Power Frequency Versus Isokinetic and Isometric Torque Relationships. (Chair)
- 2009 Michelle Mielke, An Examination of the Physiological Responses at the Critical Heart Rate. (Chair)
- 2011 Jorge Zuniga, Patterns of Responses for Neuromuscular and Metabolic Parameters for Ramp Versus Step Incremental Cycle Ergometer Tests. (Chair)
- 2011 Clayton Camic, An Assessment of the Motor Control Strategies and Effect of Fatigue Specific to Isometric, Concentric, and Eccentric Muscle Actions. (Chair)
- 2014 Haley Bergstrom, Physiological Responses at the Critical Heart Rate During Treadmill Running. (Chair)
- 2016 Kristen Cochrane, Physiological Responses at the Rating of Perceived Exertion Tt and Above the Gas Exchange Threshold During Treadmill Running. (Chair)
- 2016 Nathaniel Jenkins, Neuromuscular Adaptions to Three and Six Weeks of High- versus Low-Load Leg Extension Resistance Training. (Member)
- 2019 Ethan Hill, The Effects of 4 weeks of Blood Flow Restriction and Low-Load Resistance Training on Muscle Strength, Power, Hypertrophy, and Neuromuscular Adaptation. (Chair)
- 2019 Cory Smith, The Effects of Variable Resistance Training and Dynamic Constant External Resistance Training on Force and Neuromuscular Adaptations as a Result of Four Weeks of Leg Press Training. (Chair)
- 2020 Josh Keller, The Sex-Specific Contributions of Neuromuscular and Muscle Blood Flow Responses to Performance Fatigability Following Fatiguing Bilateral Muscle Actions Above and Below Critical Force. (Chair)

### **Professional Affiliations**

American College of Sports Medicine (Fellow)

American College of Sports Medicine, Northland Chapter

American Alliance for Health, Physical Education, Recreation and Dance (Fellow Research Consortium)

Nebraska Association for Health, Physical Education, Recreation and Dance

National Strength and Conditioning Association (Fellow)

North American Society for Pediatric Exercise Medicine

International Society of Electrophysiology and Kinesiology

American Society of Exercise Physiologists

### Internal Funding

University of Nebraska, System Science Collaborative Initiative (Co-Principal Investigator; Principal Investigator, Terry Stentz PhD), 2017-2019, \$300,000  
UN-L Research Council, 1986, 1987, 1988, 1990, 1997, approximately \$15,000  
UN-L Research Initiation Grant, 1988, \$6,000  
Health and Human Performance Laboratory Equipment Funds, 1986-2001, approximately \$100,000

### External Funding

Natreon Inc. (Principal Investigator), 2020-2023, \$43,700  
Natreon Inc. (Principal Investigator), 2020-2023, \$79,502  
Natreon Inc. (Principal Investigator), 2019-2022, \$46,682  
National Strength and Conditioning Association (Faculty Advisor: Principal Investigator, Josh Keller), 2019-2020, \$9,900  
Natreon Inc. (Principal Investigator), 2019-2020, \$37,147  
Natreon Inc. (Principal Investigator), 2017-2019, \$77,127  
NASA Nebraska Space Grant (Faculty Advisor: Principal Investigator, Ethan Hill), 2017-2018, \$4000  
General Nutrition Corporation (Principal Investigator), 2017-2018, \$97,800  
National Strength and Conditioning Association (Faculty Advisor: Principal Investigator, Ethan Hill), 2017-2018, \$9,635  
Stepan Lipid Nutrition (Co-Principal Investigator: Principal Investigator, Joel Cramer PhD), 2015-2016, \$150,447  
National Strength and Conditioning Association (Faculty Advisor: Principal Investigator, Haley Bergstrom), 2013-2014, \$10,000  
Stepan Lipid Nutrition (Co-Principle Investigator: Principal Investigator, Joel Cramer PhD), 2013-2014, \$339,566  
General Nutrition Corporation (Principal Investigator), 2013, \$99,600  
Rock Creek Pharmaceuticals (Co-Principal Investigator: Principal Investigator, Joel Cramer PhD), 2012- 2013, \$377,456  
General Nutrition Corporation (Principal Investigator), 2012, \$99,600  
General Nutrition Corporation (Principal Investigator), 2010-2011, \$99,840  
General Nutrition Corporation (Principal Investigator), 2009, \$60,000  
General Nutrition Corporation (Principal Investigator), 2009, \$60,000  
General Nutrition Corporation (Principal Investigator), 2008-2009, \$90,000  
General Nutrition Corporation (Principal Investigator), 2008, \$45,000  
General Nutrition Corporation (Principal Investigator), 2006-2008, \$128,400  
General Nutrition Corporation (Principal Investigator), 2006-2007, \$86,760  
General Nutrition Corporation (Principal Investigator), 2006, \$98,160  
General Nutrition Corporation (Principal Investigator), 2005-2006, \$98,160  
FedEx Institute of Technology Research Innovation Fund (Co-investigator: Principal Investigator, Andy Fry PhD, University of Memphis), 2005, \$42,836  
General Nutrition Corporation (Principal Investigator), 2005, \$60,000  
General Nutrition Corporation (Principal Investigator), 2004-2005, \$100,100

General Nutrition Corporation (Principal Investigator), 2004-2005, \$41,250  
General Nutrition Corporation (Principal Investigator), 2003-2004, \$57,750  
Met-Rx (Principal Investigator), 2003-2004, \$13,200  
Numico Research (Co-principal Investigator), 2003-2004, \$77,000  
Nutricia U.S.A. (Principal Investigator), 2001-2003, \$48,250  
American College of Sports Medicine (Faculty advisor), 2004, \$2,500  
National Strength and Conditioning Association (Faculty advisor), 2008, \$3,988  
National Strength and Conditioning Association (Faculty advisor), 2004, \$2,496  
National Strength and Conditioning Association (Faculty advisor), 2002, \$2,284  
National Strength and Conditioning Association (Faculty advisor), 2002, \$1,600  
National Strength and Conditioning Association (Faculty advisor), 2002, \$2,446  
National Strength and Conditioning Association (Faculty advisor), 2000, \$2,338  
National Strength and Conditioning Association (Faculty advisor), 1999, \$1,500  
Central District Alliance of Health, Physical Education, Recreation and Dance  
(Principal Investigator), 1988, \$950  
Nebraska Alliance of Health, Physical Education, Recreation and Dance, 1987  
(Principal Investigator), \$500

**Grant Proposals (External; Not Funded)**

Muscular Dystrophy Association (Co-investigator), 2003, \$108,209  
Bioenergy, Inc. (Principal Investigator), 2001, \$25,300  
Experimental and Applied Sciences (Co-investigator), 2000, \$83,668  
National Institute of Health, National Institute of General Medical Sciences  
(Co-investigator), 2000, \$187,155  
Fortress Systems International Nutrition (Co-investigator), 1999, \$55,760  
National Institute of Health, National Institute on Geriatrics and Rehabilitation Medicine  
(Co-Investigator 1R01HD34365-01), 1996, \$167,299  
National Institute of Health, National Institute on Aging and National Institute of Allergy and  
Infectious Diseases (Principal investigator 1R01AG12031-01), 1993, \$607,434  
Nebraska State Department of Health (Co-investigator), 1993, \$40,000  
Foundation for Physical Therapy (Co-investigator), 1993, \$29,969  
American Cancer Society (Co-investigator 91-06), 1991, \$14,250  
National Institutes of Health, National Institute of Allergy and Infectious Diseases  
(Principal Investigator 1R01AI32567-01), 1991, \$568,561  
American Heart Association, Nebraska Affiliate, 1989, \$18,000

**Service to the University**

Biomedical Grant Allocation Committee, 1984-86 (PSU)  
Social and Special Events Committee, 1984-85 (PSU)  
Promotion and Tenure Committee, 1985-86 (Chairman) (PSU)  
Graduate Committee, 1985-86 (PSU)  
Graduate Council, 1985-86 (PSU)

Graduate Committee, 1986-92 (UNL)  
Kinesiologist Search Committee, 1988 (UNL)  
Chairperson Search Committee, 1988 (UNL)  
Faculty Senate, 1989-90 (UNL)  
Undergraduate Exercise Science Club Faculty Sponsor, 1989-90 (UNL)  
Teachers College Graduate Coordinating Council, 1990-97 (UNL)  
Teachers College Graduate Coordinating Council Faculty Development Subcommittee, 1990-92 (UNL)  
HPER Distinguished Teaching Award Committee, 1991 (UNL)  
HPER School Committee, 1991-92 (UNL)  
Institutional Review Board for Human Subjects, 1993-94 (UNL)  
Teachers College Internal Advisory Committee for Fund Development and Public Relations,  
1994-95 (UNL)  
HHP Department Committee, 1994-97 (UNL)  
HHP Grade Appeals Committee, 1994-95, 1997 (UNL)  
Teachers College Promotion and Tenure Committee, 1996-98 (UNL)  
HHP Graduate Chair, 1992-1997 (UNL)  
Exercise Science Research Committee Chair, 1999-2003 (UNL)  
Exercise Science Undergraduate Curriculum Committee, 1999-2003 (UNL)  
Exercise Science Graduate Curriculum Committee, 1999-2003 (UNL)  
Academic Rights and Responsibilities Panel, 2000-2003 (UNL)  
Life Science Curriculum Coordinating Council, 2001-2003 (UNL)  
NHS Graduate Committee, 2003-2004 (UNL)  
NHS Promotion and Tenure Committee, 2005-2007 (UNL)  
NHS Chair Advisory Committee, 2005-2007 (UNL)  
College of Human Resources and Family Sciences Promotion and Tenure Committee,  
2005-2006 (UNL)

### **Service to the Profession**

Senior Associate Editor, Journal of Strength and Conditioning Research  
Reviewer, Strength and Conditioning Journal  
Reviewer, Journal of Applied Physiology  
Reviewer, International Journal of Sports Medicine  
Reviewer, Journal of Sports Sciences  
Reviewer, Medicine and Science in Sports and Exercise  
Reviewer, Pediatric Exercise Science  
Reviewer, Research Quarterly for Exercise and Sport  
Reviewer, Sports Medicine  
Reviewer, European Journal of Applied Physiology and Occupational Physiology  
Reviewer, American Journal of Human Biology  
Reviewer, Journal of Orthopedic and Sports Physical Therapy  
Reviewer, Clinical Journal of Sports Medicine  
Reviewer, British Journal of Sports Medicine

Reviewer, Journal of Exercise Physiology  
Reviewer, Canadian Journal of Applied Physiology  
Reviewer, Educational Psychology Review  
Book Reviewer, Human Kinetics Publishers  
Lincoln YMCA Medical Advisory Board  
State Board of Directors for the National Strength and Conditioning Association  
National Strength and Conditioning Association Awards Committee  
National Strength and Conditioning Association Research Committee (Chair 2004-2007)  
National Strength and Conditioning Association Abstract Reviewer  
Journal of Strength and Conditioning Research Publication Sub-committee  
AAHPERD Abstract Reviewer  
NSCA Certification Commission Judicial Committee  
NSCA Research Grant Review Panel