

**Kelley G. Hammond, PhD, CSCS**  
**Creighton University, Omaha, NE**  
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**EDUCATION:**

Ph.D. 2017                      Rehabilitation Science, University of Alabama at Birmingham, Birmingham, AL  
M.S. 2010                      Health & Sport Sciences, University of Memphis, Memphis, TN  
B.S. 2008                      Exercise Science, Creighton University, Omaha, NE

**PROFESSIONAL EXPERIENCE:**

2019 – Present                Assistant Professor, Department of Exercise Science & Pre-Health Professions  
Creighton University, Omaha, NE

2018 – 2019                    Visiting Assistant Professor-in-Residence, Dept of Kinesiology & Nutrition Sciences  
University of Nevada, Las Vegas, Las Vegas, LV

2017 – 2018                    Postdoctoral Scholar, School of Nursing  
University of Nevada at Las Vegas, Las Vegas, NV  
U.S. Department of Defense Joint Warfighter Medical Research Program grant  
Project: The effects of hypobarica on skeletal muscle inflammation and regeneration after  
muscle crush injury and hemorrhagic shock  
Mentor: B St. Pierre Schneider

2015 – 2017                    PhD Candidate, Program in Rehabilitation Science  
University of Alabama at Birmingham, Birmingham, AL  
*Dissertation:* Type I Myofiber Grouping: Myofiber Phenotype and Implications for Muscle  
Performance in Older Adults and Parkinson Disease  
*Co-Mentors:* MM Bamman and CP Hurt

2014 – 2016                    Gross Anatomy for Teacher Education, School of Medicine  
University of Alabama at Birmingham, Birmingham, AL  
Successfully completed professional development courses in human gross anatomy with  
complete dissection

2013 – 2015                    Graduate Student Trainee, Program in Rehabilitation Science  
University of Alabama at Birmingham, Birmingham, AL  
*Research rotations:*  
Core Muscle Research Laboratory (MM Bamman); conducted muscle histological  
assays and analyses for myofiber type and capillary density  
Lakeshore Foundation Research Collaborative (LA Malone); assisted with protocol  
development and pilot testing for physical performance outcomes planned for an  
upcoming longitudinal aging with disability study  
Surgical Movement Disorders, Department of Neurology (HC Walker); assisted with data  
collection and analysis for handgrip task during deep brain stimulation electrode  
placement in Parkinson disease

Jan – Aug 2013                Clinical Research Assistant, Department of Epidemiology and Cancer Control  
St. Jude Children’s Research Hospital, Memphis, TN

2010 – 2012 Full-time Instructor, Department of Health & Sport Sciences  
University of Memphis, Memphis, TN

2008 – 2010 Graduate Research Assistant, Neuromuscular Performance Laboratory  
University of Memphis, Memphis, TN

2009 – 2011 Certified Personal Trainer, Inbalance Fitness, Memphis, TN

## **TEACHING EXPERIENCE:**

### ***Creighton University, Omaha, NE***

2019 – Present Fundamentals of Human Anatomy (EXS 111); Clinical Anatomy/Laboratory (OTD 339/340); Nutrition for Health and Sports Performance (EXS 350)

### ***University of Nevada, Las Vegas – Las Vegas, NV***

2018 – 2019 Introduction to Kinesiology/Laboratory (KIN 150), Nutrition & Metabolism (NUTR 451), Human Energy Metabolism (KIN 750), Advanced Skeletal Muscle Physiology (KIN 766X)

### ***University of Alabama at Birmingham – Birmingham, AL***

Spring 2017 Co-lecturer; Introduction to Rehabilitation Science

Summer 2016 Course development; Introduction to Rehabilitation Science

Summer 2015 CIRTL Associate Certificate; Center for the Integration of Research, Teaching, and Learning, UAB Graduate School

Fall 2014 Guest Lecture; Quadriceps Muscle Weakness, Activation Deficits, and Fatigue with Parkinson Disease; Department of Physical Therapy

### ***University of Memphis – Memphis, TN***

Spring 2013 Adjunct Instructor; Resistance Training Applications

2010- 2012 Full-time Instructor; Exercise Physiology I & II, Exercise Programing for Special Populations, Exercise Test Interpretation Laboratory, Advanced Methods of Strength and Conditioning, Resistance Training Applications, and Aerobic Training Applications

Summer 2010 Adjunct Instructor; Exercise Physiology II, Exercise Programing for Special Populations

Fall 2008/2009 Teaching Assistant; Exercise Test Interpretation Laboratory

Summer 2009 Adjunct Instructor; Exercise Physiology II, Advanced Methods of Strength and Conditioning, Aerobic Training Applications

## **RESEARCH PUBLICATIONS (refereed journals):**

1. **Hammond, K.G.**, Isakova-Donahue, I., Bamman, M.M. Alpha-synuclein and tau expression in vastus lateralis of young adults, older adults, and Parkinson disease. (*in preparation*).

2. Lein, D.H., Eidson, C., **Hammond, K.G.**, Bickel, C.S. The impact of varying interphase interval on neuromuscular electrical stimulation-induced muscle performance and perceived comfort. (*in review, Physiother Theory Pract*)
3. **Hammond, K.G.**, Hurt, C.P., Watson, J., Bickel, C.S., Windham, S.T., Bamman, M.M. Type I myofiber grouping in aging and Parkinson's disease: potential effects on neuromuscular performance. (*in review, J App Physiol*).
4. Kuhman, D., **Hammond, K.G.**, Hurt, C.P. Altered joint kinetic strategies of healthy older adults and individuals with Parkinson's Disease to walk at faster speeds. *J Biomech.* 2018 Oct 5;79:112-118.
5. Kelly, N.A., **Hammond, K.G.**, Bickel, C.S., Windham, S.T., Tuggle, S.C., Bamman, M.M. Effects of aging and Parkinson's disease on motor unit remodeling: influence of resistance exercise training. *J App Physiol*, 2018 Apr 1; 124(4): 888-898.
6. Kelly, N.A.\*, **Hammond, K.G.\***, Stec, M.J., Bickel, C.S., Windham, S.T., Tuggle, S.C., Bamman, M.M. Quantification and phenotypic characterization of grouped type I myofibers in human aging. *Muscle & Nerve*, 2018 Jan; 57(1): E52-E59. \*co-first authors
7. **Hammond, K.G.**, Pfeiffer, R.F., LeDoux, M.S., Schilling, B.K. Neuromuscular rate of force development deficit in Parkinson disease. *Clinical Biomechanics.* 2017 Jun;45:14-18.
8. McAllister, M.J., **Hammond, K.G.**, Schilling, B.K., Ferreria, L.C., Reed, J.P., Weiss, L.W. Muscle activation during various hamstring exercises. *Journal of Strength and Conditioning Research*, 2014 Jun; 28(6): 1573-80.
9. Schilling, B.K., **Hammond, K.G.**, Bloomer, R.J., Presley, C.S., Yates, C.R. Physiological and pharmacokinetic effects of oral 1,3-dimethylamylamine administration in men. *Pharmacology and Toxicology.* 2013, 14:52.
10. Weiss, L., DeForest, B, **Hammond, K**, Schilling, B, Ferreira, L. Reliability of goniometry-based Q-angle. *Physical Medicine and Rehabilitation.* 2013 Sep;5(9):763-8.
11. McAllister, M.J., Schilling, B.K., **Hammond, K.G.**, Weiss, L.W., Farney, T.M. Effect of grip width on electromyographic activity during the upright row. *Journal of Strength and Conditioning Research*, 2013, Jan;27(1):181-7.
12. Bloomer, R.J, Kabir, M.M., Canale, R.E., Trepanowski, J.F., Marshall, K.E., Farney, T.M., **Hammond, K.G.** Effect of a 21 day Daniel Fast on metabolic and cardiovascular disease risk factors in men and women. *Lipids in Health and Disease.* 2010 Sep 3;9:94.
13. Ferreira, L.C., Weiss, L.W., **Hammond, K.G.**, Schilling, B.K. Structural and functional predictors of drop vertical jump. *Journal of Strength and Conditioning Research.* 2010 Sep;24(9):2456-67.
14. Bloomer, R.J., Weber, A.A., **Hammond, K.G.**, Fisher-Wellman, K.H., Schilling, B.K. Effect of a pre-workout dietary supplement on resistance exercise performance, blood lactate, nitric oxide, and malondialdehyde in trained men. *Journal of the International Society of Sports Nutrition.* 2010 May 6;7:16.
15. Bloomer, R.J., Schilling, B.K., Canale, R.E., Blankenship, M.M., **Hammond, K.G.**, Fisher-Wellman, K.H. Effect of the dietary supplement Meltdown on catecholamine secretion, markers of lipolysis, and metabolic rate in men and women: a randomized, placebo controlled, cross-over study. *Lipids in Health and Disease* 2009 Aug 5;8:32.
16. Bloomer, R.J., Fisher-Wellman, K.H., **Hammond, K.G.**, Schilling, B.K., Weber, A.A., Cole, B.J. Dietary supplement increases plasma norepinephrine, lipolysis, and metabolic rate in resistance trained men. *Journal of the International Society of Sports Nutrition.* 2009 Jan 28;6:4.

#### PUBLISHED BOOK CHAPTERS:

1. B.K. Schilling and **K.G. Hammond**. Resistance Training for Parkinson's Disease. In: *Resistance Training for the Prevention and Treatment of Chronic Disease*. Chapter 8: 121-134, 2014. CRC Press. New York, NY.
2. Bloomer, R.J., Schilling, B.K., **Hammond, K.G.**, Ledoux, M.S., Pfeiffer, R.F. Effect of resistance exercise training on biomarkers of oxidative stress in men and women with Parkinson's disease. In: *Handbook on oxidative stress*. Chapter 19: 469-478, 2012. Nova Science Publishers. New York, NY.

## PUBLISHED RESEARCH ABSTRACTS AND PRESENTATIONS:

1. Lein, D.H., Eidson, C., **Hammond, K.G.**, Bickel, C.S. The impact of varying interphase interval on neuromuscular electrical stimulation-induced muscle performance and perceived comfort. *Physiotherapy, Volume 105, e115, 2019.*
2. Lavin, K., Kelly, N.A., **Hammond, K.G.**, Isakova-Donahue, I., Bamman, M.M. Inflammation and denervation in skeletal muscle of Parkinson's disease patients: impact of high-intensity exercise training. *Medicine and Science in Sports and Exercise, 50(5S):103, 2018.*
3. **Hammond, K.G.**, Kelly, N.A., Bamman, M.M. Skeletal muscle phenotype and exercise in age and disease: neuromuscular junction instability and type I myofiber grouping. *APS Integrative Biology of Exercise VII.* Phoenix, AZ, 2016.
4. **Hammond, K.G.**, Kelly, N.A., Bickel, C.S., Bamman, M.M. Quantification and characterization of type I myofiber grouping: the effect of aging. *Experimental Biology, San Diego, CA, 2016.*
5. **Hammond, K.G.**, Kelly, N.A., Bickel, C.S., Bamman, M.M. Angiogenic and metabolic implications of type I myofiber grouping in aging adults. *Center for Exercise Medicine Annual Symposium, University of Alabama at Birmingham, 2015.*
6. **Hammond, K.G.**, Gonzalez, C.L., Walker, H.C. Investigation of subthalamic single unit activity in Parkinson disease during an isometric grip task. Program No. 414.09/S4. 2014 Neuroscience Meeting Planner. Washington, DC: *Society for Neuroscience, 2014.* Online.
7. Weiss, L.W., Schilling, B.K., Ferreira, L.C., Feldmann, C.R., **Hammond, K.G.** Association of jump squat rate of force development with vertical jump displacement. *Medicine and Science in Sports and Exercise, 45:S, 2013.*
8. Weiss, L.W., Schilling, B.K., Ferreira, L.C., **Hammond, K.G.**, Feldmann, C.R. Association of accelerometry-derived average rate of dynamic force development with force, velocity, and power. *Journal of Strength and Conditioning Research, 25 (on-line): 2012.*
9. Weiss, L.W., **Hammond, K.G.**, Schilling, B.K., Ferreira, L.C. Efficacy of goniometry-based Q-angle for measuring change. *Medicine and Science in Sports and Exercise, 44:S, 2012.*
10. Weiss, L.W., Ferreira, L.C., Feldmann, C.R., Schilling, B.K., **Hammond, K.G.** Congruency of velocity output from dual, non-centered accelerometers during barbell jump squats. *Medicine and Science in Sports and Exercise, 43:S, 2011.*
11. Weiss, L.W., Feldmann, C.R., Schilling, B.K., Ferreira, L.C., **Hammond, K.G.** Does average rate of dynamic force development reflect either peak force, velocity, or power? *Journal of Strength and Conditioning Research, 25 (on-line): 2011.*
12. Weiss, L.W., Feldmann, C.R., Schilling, B.K., Ferreira, L.C., **Hammond, K.G.** Stability reliability and precision of average rate of eccentric force development during load-spectrum countermovement jump squats. *Journal of Strength and Conditioning Research, 25: 2011.*
13. **Hammond, K.G.**, Schilling, B.K., LeDoux, M.S., Pfeiffer, R.F. Central vs. peripheral manifestations of neuromuscular force production in persons with Parkinson's disease. 2010 National Strength and Conditioning Association Annual Meeting, Orlando, FL.
14. Feldmann, C.R., Weiss, L.W., Ferreira, L.C., Schilling, B.K., **Hammond, K.G.** Association of accelerometer-derived jump squat peak velocity with drop vertical jump displacement. 2010 National Strength and Conditioning Association Annual Meeting, Orlando, FL.
15. Feldmann, C.R., Weiss, L.W., Ferreira, L.C., Schilling, B.K., **Hammond, K.G.** Reactive strength index and ground contact time: reliability, precision, and association with drop vertical jump displacement. 2010 NSCA Annual Meeting, Orlando, FL.
16. Weiss, L.W., Ferreira, L.C., Schilling, B.K., Feldmann, C.R., **Hammond, K.G.** Criterion validity of accelerometer-derived peak velocity during jump squats. 2010 National Strength and Conditioning Association Annual Meeting, Orlando, FL.
17. Weiss, L.W., Ferreira, L.C., Feldmann, C.R., Schilling, B.K., **Hammond, K.G.** Association of accelerometer-derived jump squat power with drop vertical jump displacement. 2010 National Strength and Conditioning Association Annual Meeting, Orlando, FL.
18. Feldmann, C.R., Weiss, L.W., Ferreira, L.C., Schilling, B.K., **Hammond, K.G.** Criterion validity of accelerometer-derived peak power obtained during jump squats. 2010 American College of Sports Medicine Annual Meeting, Baltimore, MD.

19. Weiss, L.W., Ferreira, L.C., Schilling, B.K., Feldmann, C.R., **Hammond, K.G.** Stability reliability, precision, and association of measures of average rate of dynamic force development. 2010 American College of Sports Medicine Annual Meeting, Baltimore, MD.
20. Canale, R.E., Kabir, M.M., Marshall, K.E., Williams, S.A., Farney, T.M., **Hammond, K.G.**, Bloomer, R.J. Impact of the Daniel Fast on risk factors for metabolic and cardiovascular disease. 2010 American College of Sports Medicine Annual Meeting, Baltimore, MD.
21. Schilling, B.K., **Hammond, K.G.**, LeDoux, M.S., Pfeiffer, R.F., Ferreira, L.C. Relationship of neuromuscular strength to balance, functional mobility and quality of life in persons with Parkinson's disease. XVIII WFN World Congress on Parkinson's Disease and Related Disorders, Miami Beach, FL.
22. **Hammond, K.G.**, Schilling, B.K., Weber, A.A., Bloomer, R.J., Weiss, L.W., Ferreira, L.C. Power and muscular endurance repeatability with 48 hours rest. 2009 National Strength and Conditioning Association Annual Meeting, Las Vegas, NV.
23. Weiss, L.W., Ferreira, L.C., Schilling, B.K., **Hammond, K.G.**, Trepanowski, J., Landrum, D., Grindle, M. Validity of accelerometer-derived peak force output during loaded jump squats. 2009 National Strength and Conditioning Association Annual Meeting, Las Vegas, NV.
24. Fisher-Wellman, K.H., **Hammond, K.G.**, Weber, A.A., Cole, B.J., Schilling, B.K., Bloomer, R.J. Lipolytic agent increases plasma norepinephrine and metabolic rate with minimal increase in hemodynamics. 2009 American College of Sports Medicine Annual Meeting, Seattle, WA.
25. Bloomer, R.J., Schilling, B.K., Canale, R.E., Blankenship, M.M., **Hammond, K.G.**, Fisher-Wellman, K.H. Acute effects of VPX Meltdown® on plasma catecholamines, free fatty acids, glycerol, metabolic rate, and hemodynamics in young men and women. 2009 International Society of Sports Nutrition Conference and Expo Meeting, New Orleans, LA.

#### GRANTS AND HONORS:

1. NIH National Center for Medical Rehabilitation Research T-32 Institutional Training Grant, *1T32HD071866 Interdisciplinary Training in Pathobiology and Rehabilitation Medicine*, 2014-2016 (Predoctoral Trainee, Funded)
2. National Strength and Conditioning Association Master's Research Grant, *Central vs. Peripheral Strength Deficits in Persons with Parkinson's Disease*, 2009, \$5,000 (Principal Investigator, Funded)
3. 2009-2010 Melvin Humphreys Student Research Prize, University of Memphis Health & Sports Sciences, March 23, 2010.
4. 2010 Skeletal Muscle Mechanics & Physiology Achievement Award, University of Memphis Health & Sports Sciences, April 25, 2010.

#### PROFESSIONAL DEVELOPMENT:

CreightonConnect Training, Creighton University (Fall 2019)

Newcomer's Orientation, Valuing Ignatian and Creighton Engagement - (NOVICE), Creighton University (2019-2020)

Judge, University of Nevada, Las Vegas, Rebel Grad Slam (3MT Competition) (2018)

Associate Graduate Faculty, University of Nevada, Las Vegas (2018 - present)

Millipore Sigma – Luminex Multi-Plex Assay Training (November 2017)

Luminex Webinar: Multiplexed Gene Expression Profiling (March 2018)

Reviewer, International Journal of Exercise Science (2016 – present)

Protocol Development, Neuromechanics & Energetics of Human Movement Laboratory, Department of Physical Therapy, University of Alabama at Birmingham (Summer/Fall 2016)

#### Graduate Assistant/Student Worker Supervision

- Elizabeth Duffy, Master's student, UNLV – Bioarchaeology (2017 – 2018)
- Jazmin Lopez, Undergraduate student, UNLV – Nursing (2018)
- April Fish, Master's student, UNLV – Public Health (2018)

#### Student Mentorship

- Shelby Barker, UAB Physical Therapy, *Scholarly Activity Project* (2017)
- Erika Wilson, UAB Physical Therapy, *Scholarly Activity Project* (2017)
- Henry Davis, UAB MHRC – *Undergraduate Summer Enrichment Program* (2016)
- Perry Griffin, UAB – *Undergraduate Honors Student Research* (Spring 2015 – Spring 2016)
- Eryn Peeler, UAB MHRC – *Undergraduate Summer Enrichment Program* (2015)
- Keri Jones UAB MHRC – *Undergraduate Summer Enrichment Program* (2015)

#### **CERTIFICATIONS:**

International Parkinson and Movement Disorder Society – Unified Parkinson Disease Rating Scale (MDS-UPDRS) Training Program & Exercise (Certified in 2016)

American Heart Association, Heartsaver CPR/AED (Recertified 2018)

National Strength and Conditioning Association, Certified Strength and Conditioning Specialist (CSCS) (Certified in 2009)

#### **PROFESSIONAL AFFILIATIONS:**

National Strength and Conditioning Association (2008 – present)

American College of Sports Medicine (2009 – present)

American Physiological Society (2014 – present)

International Parkinson and Movement Disorder Society (2016 – present)

#### **ACTIVITIES:**

Volunteer, Las Vegas High Rollers Wheelchair Rugby (UNLV), Las Vegas, NV  
Assist with set-up and scoring at tournaments (2018 – present)

Volunteer, Interfaith Hospitality House (YWCA of Central Alabama), Birmingham, AL  
Prepared and served monthly dinner, front desk volunteer (2015 – 2017)

Pathways Mentor, Streets Ministries, Memphis, TN  
Weekly sessions with a local middle school student to help mentee develop life skills and expose them to cultural experiences (2011-2013)

Volunteer Coach, Rhodes College Club Rowing, Memphis, TN  
Develop workouts, instructing technique and skills for collegiate club crew team (Fall 2010)

Team Captain, NCAA Division I Women's Rowing, Creighton University, Omaha, NE  
Participated in training, competition, and community service (Fall 2004 – Spring 2008)

Student Assistant to the Strength Coach, Creighton University Athletics, Omaha, NE  
Assisted with facility maintenance and athlete management (Spring 2005 – Spring 2008)