

Christopher M. Modlesky

Curriculum Vitae

CONTACT INFORMATION

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CURRENT POSITION/RANK

Professor, University of Georgia, Athens, GA

EDUCATION

1998-2002	The University of Georgia	PhD, Exercise Science
1992-1995	The University of Georgia	MA, Exercise Science
1989-1992	The State University of New York	BS, Kinesiology
1986-1989	Pennsylvania State University	AAS, Telecommunications

ACADEMIC POSITIONS

2017-present	Georgia Athletic Association Professorship in Kinesiology, Department of Kinesiology, University of Georgia, Athens, GA
2016-2017	Professor, Department of Kinesiology and Applied Physiology, University of Delaware, Newark, DE
2008-2016	Associate Professor, Department of Kinesiology and Applied Physiology, University of Delaware, Newark, DE
2002-2008	Assistant Professor, Department of Health, Nutrition and Exercise Sciences, University of Delaware, Newark, DE
1998-2002	Research Coordinator, Department of Foods and Nutrition, The University of Georgia, Athens, GA
1994-1998	Laboratory Technician III, Department of Foods and Nutrition, The University of Georgia, Athens, GA
1992-1994	Graduate Teaching Assistant, The University of Georgia, Athens, GA

AFFILIATIONS

2014-2017	Faculty, Medical Sciences PhD Program, University of Delaware, Newark, DE
2010-2017	Faculty, Applied Physiology PhD Program, University of Delaware, Newark, DE

2008-2017 Faculty, Center for Biomedical Engineering Research, University of Delaware, Newark, DE (recently renamed Center for Biomechanical Engineering Research)
2002-2017 Faculty, Biomechanics and Movement Science Program, University of Delaware, Newark, DE

RESEARCH SUPPORT

NIH/NICHHD/NCMRR, R01 HD090126 (Modlesky, PI) 09/11/17 - 05/31/22
Title: Effect of vibration on muscle properties, physical activity and balance in children with cerebral palsy
\$2,985,608

The goal of this randomized controlled trial is to determine the effect of a mild vibration treatment on muscle quality, muscle performance, physical activity and balance in children with cerebral palsy.

NIH INBRE Pilot Program 12/01/16 - 05/31/17
Title: High-frequency, low-magnitude vibration, muscle performance and physical activity in children with cerebral palsy
\$40,000 (directs)

The goals of the project were: 1) to develop an MRI-based protocol to assess muscle stiffness in children with cerebral palsy; and 2) to gather preliminary data that will inform a larger study aimed at determining if a vibration stimulus show signs of a positive effect on muscle stiffness, muscle spasticity, muscle performance and physical activity in children with cerebral palsy.

Role: PI of pilot project 1

Note: NIH INBRE Pilot Program = Institutional Development Award (IDeA) Networks of Biomedical Research Excellence Grants Pilot Program.

NIH INBRE Pilot Program (Johnson, PI of pilot project 2) 12/01/16 - 05/31/17
Title: High-resolution brain MR elastography in children with cerebral palsy
\$40,000 (directs)

The goal of the project was to develop an MR elastography protocol to assess brain stiffness, a measure of brain health, in children with cerebral palsy.

Role: Co-Investigator – I developed the study concept. I provided imaging expertise related to children with CP.

NIH INBRE Pilot Program (Crenshaw, PI of pilot project 3) 12/01/16 - 05/31/17
Title: Development of a comprehensive evaluation of postural control in children with cerebral palsy
\$40,000 (directs)

The goal of the project is to develop a protocol aimed at assessing balance and fall recovery in children with cerebral palsy.

Role: Co-Investigator – I co-developed the study concept. I provided preliminary data and research expertise in working with children with CP.

NIH INBRE Pilot Program (Modlesky/Johnson/Crenshaw, multi-PIs) 12/01/16 - 05/31/17
Title: Musculoskeletal and neurological structure and function in children with cerebral palsy

\$40,000 (directs)

One goal of the project was to develop the administrative infrastructure necessary to support the recruitment and retention of research participants and to integrate the three individual projects described above.

Role: multi-PI (Senior investigator; created the concept of the 3 NIH INBRE projects developed the integrated plan)

Delaware Clinical/Translational Research Retreats Program
(NIH –sponsored)

05/24/16

Title: CP Research Symposium

<http://sites.udel.edu/kaap/research-index/cerebral-palsy-research-symposium/>

\$2430

The award funded a one day research symposium at the University of Delaware. The aim of the symposium was to introduce scientists to cerebral palsy (CP)-focused research at the University of Delaware, the AI duPont Hospital for Children and other clinical partners (Christiana Care and Medical University of South Carolina). Scientists and clinicians from the partnering institutions, the Kennedy Krieger Hospital and the HMS School for Children with Cerebral Palsy participated in the symposium.

Role: PI

National Science Foundation Innovation Corps
Development of an MRI Compatible Dynamometer

Fall 2014

\$3,000

The goal of the project was to work with students in the Senior Design Mechanical Engineering class and develop a portable MRI-compatible dynamometer that could be used for research purposes and marketed commercially. The device will allow us to assess isometric force with an emphasis on children and adults with physical disabilities, such as cerebral palsy.

Role: PI/Faculty mentor

University of Delaware, College of Health Sciences, First Step Program
Add-on to MRI Compatible Dynamometer

Fall 2014

\$500

The goal of the project was to add on to the MRI-compatible dynamometer developed above to allow us to assess muscle spasticity and isokinetic muscle force.

Role: Faculty mentor

NIDRR, H133N110021 (Marino, PI)

10/01/11-9/30/17

Zoledronic acid to prevent bone loss after acute spinal cord injury

\$51,572 to Modlesky at University of Delaware

The goal of the study is to examine the potential usefulness of zoledronic acid in the prevention of bone loss in adults with spinal cord injury.

Role: Co-Investigator – I set up the DXA protocol for the assessment of areal bone mineral density. My lab analyzes all DXA scans and I provide expertise on the outcome measures and the importance of the findings with respect to the current literature.

NIH/NICHD/NCMRR, R15HD071397

03/15/12-02/28/15

Effect of botulinum toxin plus vibration on bone in children with cerebral palsy

\$464,209

The goal of this project was to collect pilot data aimed at informing a larger scale study in which we will determine the effect of botulinum toxin on bone in children with cerebral palsy and to determine if the effect can be offset (if negative) or amplified (if positive) by a daily a vibration treatment.

Role: PI

Craig H. Nielsen Foundation (Johnston, PI)

07/01/10-6/30/12

The Effects of two functional electrical stimulation cycling paradigms

\$275,000 (\$17,000 to University of Delaware)

The goal of the project was to compare the musculoskeletal and cardiovascular effects of a 6 month functional electrical stimulation cycling program using a low cadence and a high resistance program vs. a high cadence and a low resistance program for people with spinal cord injury.

Role: Co-investigator – I assisted in writing the proposal. I provided expertise on exercise and bone. I set up the MRI and DXA testing procedures. My lab analyzed all MRI and DXA scans. I provided assistance on the interpretation of the results and am assisting in manuscript preparation.

Osteogenesis Imperfecta Foundation

07/01/09-09/30/11

Effect of a high-frequency, low-magnitude mechanical stimulus on bone in children with osteogenesis imperfecta: A pilot study

\$60,000

The first goal of the pilot project was to determine the degree of underdevelopment in trabecular and cortical bone structure in children with osteogenesis imperfecta (OI) type I. The second goal of the project was to generate pilot data that would inform a larger intervention study aimed at determining if a high-frequency, low-magnitude vibration stimulus can improve trabecular and cortical bone structure in children with OI type I and children with other musculoskeletal disorders.

Role: PI

NIH/NICHD/NIAMS

09/15/06-9/14/08

Vitamin K and Bone in Children with Cerebral Palsy

\$151,000

The first goal of the project was to determine if children with cerebral palsy have a poor vitamin K status. The second goal of the project was to determine if vitamin K status is related to bone quality in weight bearing bones of children with cerebral palsy and typically developing children.

Role: PI

FASEB-MARC Travel Award

09/15/06-09/19/06

\$1450

Purpose: To accompany a minority graduate student in the Department of Health, Nutrition and Exercise Sciences to the American Society for Bone Mineral Research Conference in Philadelphia, Pa

Role: Faculty mentor

National Osteoporosis Foundation

09/01/05-05/31/07

Mazess Grant: awarded for best grant proposal submitted (finalist)

Relationship between physical activity and bone structure in prepubertal children
\$57,000

The goal of the project was to examine the relationship between physical activity assessed using activity monitors and the trabecular microarchitecture and geometric structure of the femur in children.

Role: PI

University of Delaware Research Foundation

06/01/04-05/30/06

Assessment of skeletal status in children using MRI

\$29,862

The goal of the pilot project was to assess the reproducibility of trabecular microarchitecture and geometric structure measures from MRI in the femur of children.

Role: PI

United Cerebral Palsy Res. and Ed. Foundation, B-756-03

01/01/04-12/31/06

Trabecular microarchitecture and geometric structure of bone in children with cerebral palsy.

\$99,882

The goal of the study was to assess the status of trabecular microarchitecture and geometric structure in the femur of children with cerebral palsy.

Role: PI

Center for Research Development/College of Health Sciences, U Del

06/30/03-08/31/03

Assessment of musculoskeletal status in children using magnetic resonance imaging

\$3300

The goal of the project was to develop a protocol for assessing trabecular bone microarchitecture, bone geometry and muscle mass in the thigh of children with and without physical disabilities.

Role: PI

NIH/NICHD (Dudley, PI)

02/01/03-01/31/04

Bone and skeletal muscle loss after spinal cord injury: consequences and interventions

\$10,993

The goal of the project was to determine if bone quality is compromised in the lower limbs after spinal cord injury.

Role: Co-investigator – I designed the study, quantified cortical bone architecture and muscle volume using magnetic resonance images and wrote three papers (references 15, 16 and 18 under the Peer-reviewed Publications section).

NIH/NICHD (Lewis, PI)

09/01/02-06/30/03

Determinants of bone health in young gymnasts

\$16,172

The goal of the project was to determine if physical activity was related to changes in bone mineral density during a two-year period.

Role: Co-investigator - I developed a method to quantify bone-loading activity using physical activity questionnaires.

PUBLICATIONS

Peer-Reviewed Publications

1. Whitney, DW, Singh, H, Miller, F, Barbe, MF, Slade, JM, **Modlesky, CM**. Cortical bone deficit and fat infiltration of bone marrow and skeletal muscle in ambulatory children with mild spastic cerebral palsy. *Bone*. 94:90-91, 2017. *Impact factor: 4.140*
2. Kindler, J, Pollock, NK, Ross, HL, **Modlesky, CM**, Singh, H, Laing, EM, Lewis, RD. Obese versus normal-weight late-adolescent females have inferior trabecular bone microarchitecture: a pilot case-control study. *Calcif Tissue Int*, (e-pub ahead of print) 2017, *Impact factor: 3.124*
3. Johnston, TE, Marino, RJ Oleson, CV, Schmidt-Read, M, Leiby, BE Sendecki, J, Singh, H, **Modlesky, CM**. Musculoskeletal effects of 2 functional electrical stimulation cycling paradigms conducted at different cadences for people with spinal cord injury: A pilot study. *Arch Phys Med Rehabil*. 97:1413-22 2016. *Impact factor: 3.045*
4. Singh, H, Whitney, DG, Knight, CA, Miller, F, Manal, K, Kolm, P, **Modlesky, CM**. Site-specific transmission of a floor-based, high-frequency, low-magnitude vibration stimulus in children with cerebral palsy. *Arch Phys Med Rehabil* 97:218-33, 2016. *Impact factor: 3.045*
5. Bajaj, D, Allerton, BM, Kirby JT, Miller F, Rowe DA, Pohlrig RT, **Modlesky CM**. Muscle volume is related to trabecular and cortical bone architecture in typically developing children. *Bone*. 81:217-27, 2015. *Impact factor 4.140*
6. Johnston TE, Marino RJ, Oleson CV, Schmidt-Read M, **Modlesky CM**. Cycling with Functional Electrical Stimulation Pre and Post a Distal Femur Fracture in a Man with Paraplegia. *Top Spinal Cord Injury Rehabil*, 21:275-81, 2015. *Impact factor 1.31*
7. **Modlesky CM**, Whitney DG, Singh H, Barbe MF, Kirby JT, Miller F. Underdevelopment of trabecular bone microarchitecture in the distal femur of nonambulatory children with cerebral palsy becomes more pronounced with distance from the growth plate. *Osteoporos Int*. 26:505-12, 2015. *Impact factor: 3.665*
8. Kindler JM, Ross HL, Laing EM, **Modlesky CM**, Pollock NK, Baile CA, Lewis RD. Load-specific physical activity scores are related to tibia bone architecture. *Int J Sport Nutr Exerc Metab*. 25(2):136-44, 2015. *Impact factor: 2.105*
9. **Modlesky CM**, Whitney, D.G., Carter, P.T., Allerton, B.M., Kirby, J.T., Miller, F. The pattern of trabecular bone microarchitecture in the distal femur of typically developing children and its effect on processing of magnetic resonance images. *Bone* 60: 1-7, 2014. *Impact factor: 4.140*
10. Riad J, **Modlesky CM**, Gutierrez-Farewik EM, Broström E. Are muscle volume differences related to concentric work during walking in spastic hemiplegic cerebral palsy? *Clin Orthop Relat Res*. 470:1278-85, 2012. *Impact factor: 3.127*
11. Maser RE, Kolm P, **Modlesky CM**, Beck TJ, Lenhard MJ. Hip strength in adults with type 1 diabetes is associated with age at onset of diabetes. *J Clin Densitom*. 15(1):78-85, 2012. *Impact factor: 2.644*
12. Logan, S.W., **Modlesky, C.M.**, Scrabis-Fletcher, K., Getchell, N. A. The relationship between motor skill proficiency and body composition in preschool children. *Res Quart Exerc Sport*. 82(3):442-8, 2011. *Impact factor: 1.702*

13. **Modlesky CM**, Bajaj D, Kirby JT, Mulrooney BM, Rowe DA, Miller F. Sex differences in trabecular bone microarchitecture are not detected in pre and early pubertal children using magnetic resonance imaging. *Bone* 49(5):1067-72, 2011. *Impact factor: 4.140*
14. Rawal R, Miller F, **Modlesky CM**. Effect of a novel procedure for limiting motion on body composition and bone estimates by dual-energy X-ray absorptiometry in children. *J Pediatr*.159(4): 691-4e2, 2011. *Impact factor: 3.736*
15. Johnston TE, **Modlesky CM**, Betz RR, Lauer RT. Muscle changes following cycling and/or electrical stimulation in pediatric spinal cord injury. *Arch Phys Med Rehabil*. 92(12):1937-43, 2011. *Impact factor: 3.045*
16. **Modlesky, C.M.**, Cavaiaola, M.L., Smith, J.J., Rowe, D.A., Johnson, D.L., Miller, F. A DXA-based mathematical model predicts midthigh muscle mass from magnetic resonance imaging in typically developing children but not in those with cerebral palsy. *J Nutr* 140(120): 2260-5, 2010. *Impact factor: 3.740*
17. **Modlesky, C.M.**, Kanoff, S.A., Johnson, D.L., Subramanian, P., Miller, F. Evaluation of the femoral midshaft in children with cerebral palsy using magnetic resonance imaging. *Osteoporos Int*. 20(4):609-15, 2009. *Impact factor: 3.665*
18. Mackenzie, S.J., Getchell, N., **Modlesky, C.M.**, Miller, F., Jaric, S. Using grasping tasks to evaluate hand force coordination in children with hemiplegic cerebral palsy. *Arch Phys Med Rehabil*. 90(8):1439-42, 2009. *Impact factor: 3.045*
19. Johnson, D.L, Miller, F., Subramanian, P. **Modlesky, C.M.** Adipose tissue infiltration of skeletal muscle in children with cerebral palsy. *J Pediatr*. 154(5):715-20, 2009. *Impact factor: 3.890*
20. **Modlesky, C.M.**, Majumdar, S., Dudley, G.A. Trabecular bone microarchitecture in female collegiate gymnasts. *Osteoporos Int*. 19:1011-8, 2008. *Impact factor: 3.665*
21. **Modlesky, C.M.**, Subramanian, P., Miller, F. Underdeveloped trabecular bone microarchitecture is detected in children with cerebral palsy using high resolution magnetic resonance imaging. *Osteoporos Int* 19:169-176, 2008. *Impact factor: 3.665*
22. Pollock, N., Laing, E.M., **Modlesky, C.M.**, O'Connor, P.J., Lewis, R.D. Former college artistic gymnasts maintain higher BMD: a nine month follow-up. *Osteoporosis Int* 2006;17(11):1691-7, 2006. *Impact factor: 3.665*
23. Stein, EM, Laing, EM, Hall, DB, Hausman, DB, Kimlin, MG, Johnson, MA, **Modlesky, CM**, Wilson, AR, Lewis, RD. Serum 25-hydroxyvitamin D concentrations in girls aged 4–8 y living in the southeastern United States. *Am J Clin Nutr* 83:75-81, 2006. *Impact factor: 6.703*
24. Evans, E.M., Prior, B.M., **Modlesky, C.M.** A mathematical method to estimate body composition in tall individuals using DXA. *Med Sci Sports Exerc* 37:1211-5, 2005. *Impact factor: 4.041*
25. Laing, E.M., Wilson, A.R., **Modlesky, C.M.**, O'Connor, P.J., Hall, D.B., Lewis, R.D. Initial years of recreational gymnastics training improves lumbar spine bone mineral accrual in 4 to 8 year old females. *J Bone Miner Res* 20(3):509-19, 2005. *Impact factor: 5.622*
26. **Modlesky, C.M.**, Slade, J.M., Bickel, C.S., Meyer, R.A., Dudley, G.A. Deteriorated geometric structure and strength of the mid-femur of men with complete spinal cord injury. *Bone* 36:331-339, 2005. *Impact factor: 4.140*
27. Slade, J.M., Bickel, S.B., **Modlesky, C.M.**, Majumdar, S., Dudley, G.A. Trabecular bone is more deteriorated in spinal cord injured versus estrogen-free postmenopausal women. *Osteoporos Int* 16(3):263-272, 2005. *Impact factor: 3.665*

28. **Modlesky, C.M.**, Bickel, C.S., Slade, J.M., Meyer, R.A., Cureton, K.J., Dudley, G.A. Assessment of skeletal muscle mass in men with spinal cord injury using dual-energy X-ray absorptiometry and magnetic resonance imaging. *J Appl Physiol* 96:561-65, 2004. *Impact factor: 3.004*
29. **Modlesky, C.M.**, Majumdar, S., Narasimhan, A., Dudley and G.A. Trabecular bone microarchitecture is deteriorated in men with spinal cord injury *J Bone Miner Res* 19(1):48-55, 2004. *Impact factor:5.622*
30. Poudevigne, P.J., O'Connor, P.J., Laing, E.M., **Modlesky, C.M.** and Lewis, R.D. Body images of 4-8 year old girls at the onset of their first gymnastics class. *Int J Eat Disord* 34:244-250, 2003. *Impact factor: 4.068*
31. Clfuentes, M., Heymsfield, S., Johnson, M.A., Lewis, R.D., **Modlesky, C.M.**, Shapses, S. Bone turnover and body weight relationships differ in normal-weight compared to heavier postmenopausal women. *Osteoporosis Int* 14(2):116-22, 2003. *Impact factor: 3.665*
32. **Modlesky, C.M.** and Lewis, R.D. Does exercise during growth have a long-term effect on bone health? *Exerc Sport Sci Rev* 30(4):171-6, 2002. *Impact factor: 4.451*
33. Laing, E.M., Massoni, J.A., Nichols-Richardson, S.M., **Modlesky, C.M.**, Lewis, R.D. A prospective study of bone mass and body composition in female adolescent gymnasts. *J Pediatr* 141(2):211-6, 2002. *Impact factor: 3.736*
34. Millard-Stafford ML, Collins MA, **Modlesky C.M.**, Snow TK, Roskopf LB. Effect of race and resistance training status on the density of fat-free mass and percent fat estimates. *J Appl Physiol.* 91(3):1259-68, 2001. *Impact factor: 3.004*
35. Evans, E.M., Prior, B.M., **Modlesky, C.M.**, Sloniger, MA. , Lewis, R.D. and Cureton, K.J. Relation of bone mineral content and density to mineral content of the fat-free mass. *J Appl Physiol* 91(5):2166-72, 2001. *Impact factor: 3.004*
36. Prior, B.M., **Modlesky, C.M.**, Evans, E.M., Sloniger, M.A, Saunders, M.J., Lewis, R.D, and Cureton, K.J. Muscularity and density of the fat-free mass in athletes. *J Appl Physiol.* 90(4):1523-31, 2001. *Impact factor: 3.004*
37. Nickols-Richardson, **Modlesky, C.M.**, O'Connor, P.J. and Lewis, R.D. Gymnasts possess higher bone mineral density than controls. *Med Sci Sports Exerc.* 32(1): 63-69, 2000. *Impact factor: 4.041*
38. **Modlesky, C.M.**, Evans, E.M., Millard-Stafford, M.L., Collins, M.A., Lewis, R.D. and Cureton, K.J. Impact of bone mineral estimates on percent fat estimates from a four-component model. *Med Sci Sports Exerc.* 31(12):1861-1868, 1999. *Impact factor: 4.041*
39. Lewis, R.D. and **Modlesky, C.M.** Nutrition, physical activity, and bone health in women. *Int J Sport Nutr.* 8:250-284, 1998. *Impact factor: 2.105*
40. Prior, B.M., Cureton, K.J., **Modlesky, C.M.**, Evans, E.M., Sloniger, M.A, and Lewis, R.D. In vivo validation of whole-body composition estimates from dual-energy X-ray absorptiometry. *J Appl Physiol.* 83(2): 623-630, 1997. *Impact factor: 3.004*
41. **Modlesky, C.M.**, Cureton, K.J., Lewis, R.D., Prior, B.M., Sloniger, M.A. and Rowe, D.A. Density of the fat-free mass and estimates of body composition in male weight trainers. *J Appl Physiol.* 80(6): 2085-2096, 1996. *Impact factor: 3.004*
42. **Modlesky, C.M.**, Lewis, R.D., Yetman, K.A., Rose, B., Roskopf, L.B., Snow, T.K. and Sparling, P.B. Comparison of body composition and bone mineral measurements from two DXA instruments in young men. *Am J Clin Nutr.* 64:669-676, 1996. *Impact factor: 6.703*

Web of Science

- h-index is 19
- Cited 988 times.
- Cited 24 times per publication on average.
- 23 publications cited 10 or more times.

Google Scholar:

- h-index is 23
- Cited 1,866 times.
- Cited 44 times per publication on average.
- 31 publications cited 10 or more times.

Book Chapters

1. **Modlesky, C.M.** Assessment of body size and composition. In. Sports Nutrition: A Practice Manual for Professionals, 5th Ed, Rosenbloom, C. (ed.), The American Dietetic Association, Chicago, 2012.
2. **Modlesky, C.M.** Assessment of body size and composition. In. Sports Nutrition: A Practice Manual for Professionals, 4th Ed, Dunford, M. (ed.), The American Dietetic Association, Chicago, 2005.
3. **Modlesky, C.M.** and Lewis, R.D. Body measurement and body composition. In. Sports Nutrition: A Guide for the Professional Working with Active People, 3rd Ed, Rosenbloom, C. (ed.), The American Dietetic Association, Chicago, 1999.

Abstracts/Presentations

1. Whitney, DG, Miller, F, Pohlig, RT, **Modlesky, CM.** BMI does not capture the high fat mass index and low fat-free mass index in children with cerebral palsy and proposed statistical models that improve this accuracy. Presented at the American Academy of Cerebral Palsy and Developmental Medicine meeting in Montreal, 2017.
2. Whitney, DG, Zhnag, C, Miller, F, **Modlesky, CM.** Bone deficits and discordance between lean mass and bone measures in ambulatory children with cerebral palsy. Presented at the American Society for Bone and Mineral Research Meeting in Denver, CO, 2017
3. Zhang, C, Conner, B., Whtney, DG, Miller, F, **Modlesky, CM.** Technical limitations associated with aral bone mineral density assessment at the distal femur in children with cerebral palsy. Presented at the American Society for Bone and Mineral Research Meeting in Denver, CO, 2017
4. Conner, B., Singh, H., Whitney, D., Miller, F., **Modlesky, C.M.** Reliable assessment of bone size, composition and strength in the midtibia of children using magnetic resonance imaging. Presented at the American Society for Bone and Mineral Research Meeting in Atlanta, GA, 2016
5. Singh, H., Johnston, T., **Modlesky, C.M.** Do skeletal effects of functional electrical stimulation cycling paradigm at low cadence differ in cervical vs thoracic spinal cord injury? Top Spinal Cord Inj Rehabil 22(S1), 2016.
6. Davison, D., Conner, B. Miller,, F., **Modlesky, C.M.** Improving the reliability of a technique to calculate rate of force development scaling factor in children. Presented at the

University of Delaware's Undergraduate Research Program's Research Symposium in the August 2016.

7. Whitney, D.W., Singh, H., Miller, F., DiAlessandro, Lennon, N., **Modlesky, C.M.** Bone-specific underdevelopment of trabecular bone microarchitecture in ambulatory children with mild cerebral palsy. Presented at the American Society for Bone and Mineral Research Annual Meeting in Seattle, WA in October 2015.³
8. **Modlesky, C.M.**, Singh, H., Whitney, D.G., Miller, F. Underdevelopment in trabecular bone microarchitecture is dictated by level of motor function in children with cerebral palsy. Presented at the American Society for Bone and Mineral Research Annual Meeting in Seattle, WA in October 2015. Also presented to the Pediatric Bone and Mineral Working Group.¹
9. Whitney, D.W., Singh, H., Miller, F., Barbe, M.F., Slade, J.M., **Modlesky, C.M.** Adipose tissue infiltration of bone marrow and skeletal muscle in children with mild spastic cerebral palsy. Presented at the Experimental Biology Annual Meeting in Boston, MA, 2015.
10. Hagggett, V., Singh, H., Whitney, D.W., Knight, C.A, Manal, K., Miller, F., **Modlesky, C.M.** Muscle response to vibration in children with cerebral palsy. Presented at the Gait and Clinical Movement Analysis Society annual meeting, 2015.
11. **Modlesky, C.M.** Assessment of adiposity and the musculoskeletal system in special populations using magnetic resonance imaging. Presented at the Obesity, Imaging and Musculoskeletal Health Conference sponsored by the University of Georgia's Obesity Initiative, 2014.¹
12. Kindler, J., Ross, H., Laing, E., **Modlesky, C.M.**, Pollock, N.K., Baile, C., Punyanitya, M., Lewis, R.D. Relationships between total body and regional adiposity and cortical and trabecular architecture in late adolescent females. *J Bone Miner Res* 29(S1), 2014.
13. Johnston, T.E., Schmidt-Read, M., Marino, R.J., Oleson, C. V., Leiby, B.E., **Modlesky, CM.** Musculoskeletal effects of two functional electrical stimulation cycling paradigms for people with spinal cord injury. Presented at the American Congress of Rehabilitation Medicine (ACRM) annual meeting in Toronto, CA, 2014.
14. Hagggett, V., Singh, H., Whitney, D.W.: Knight, C.A., Miller, F., Manal, K., **Modlesky, C.M.** Effect of high-frequency, low-magnitude vibration on lower extremity muscle activity in children with spastic cerebral palsy. Presented at the Gait and Clinical Movement Analysis Society annual meeting, 2014.
15. Singh, H., Whitney, D.W.: Knight¹, C.A., Miller, F., Manal, K., **Modlesky, C.M.** Are adiposity and trabecular bone quality related to the transmission of a high-frequency, low-magnitude vibration in the leg of children with spastic cerebral palsy? *J Bone Miner Res* 29(S1), 2014. Also invited for oral presentation to the Pediatric Bone and Mineral Working Group.¹
16. Singh, H., Whitney, D.W.: Knight, C.A., Miller, F., Manal, K., **Modlesky, C.M.** Transmission of a floor based, high-frequency, low-magnitude vibration stimulus to the tibia and femur of children with spastic cerebral palsy. Presented at the American Academy of Cerebral Palsy and Developmental Medicine meeting in San Diego, 2014.²
17. LaGreca, M., Milla Ceja, K., Whitney, D., Singh, H., Miller, F., **Modlesky, C.** Assessment of fat concentration in the leg muscles of children with cerebral palsy using magnetic resonance imaging. Presented at the University of Delaware's Undergraduate Research Scholars Poster Session in the Summer 2014.

18. Milla Ceja, K., LaGreca, Singh, H., Whitney, D. Miller, F., **Modlesky, C.** Reduction of magnetic resonance imaging processing time for the assessment of leg muscle volume in children with cerebral palsy: Part II. Presented at the University of Delaware's Undergraduate Research Scholars Poster Session in the Summer 2014.
19. Milla Ceja, K., Singh, H., Miller, F., **Modlesky, C.** Reduction of magnetic resonance imaging processing time for the assessment of leg muscle volume in children with cerebral palsy. Presented at the University of Delaware's Undergraduate Research Scholars Poster Session in the Summer and again at the National McNair Scholars Research Competition in October 2013.²
20. Porter, M., Singh, H., Miller, F., Lennon, N., DiAllesandro, K., Knight., C.A., **Modlesky, C.** Comparison of full vs. a set passive range of motion on spasticity in children with cerebral palsy. Presented at the University of Delaware's Undergraduate Research Scholars Poster Session in the Spring 2013.
21. Kindler, J., M., Goff, H.L., Laing, E.M., **Modlesky, C.M.**, Pollock, N.K., Caile, C.A., Lewis, R.D. The relationships between bone-specific physical activity questionnaires and MRI-derived measures of bone strength. Presented at the Georgia Academy of Nutrition and Dietetics/Georgia Nutrition Council, 2013.²
22. Kindler, J., Goff, H., Laing, E., **Modlesky, C.M.**, Pollock, N., Baile, C., Lewis, R.D. Physical activity is related to cortical but not trabecular architecture in young women. *J Bone Miner Res* 28(S1), 2013.
23. Porter, M., Porter, M.W., Johnston, T., Marino, R., **Modlesky, C.M.** Agreement in distal femur bone mineral estimates using two different procedures in adults with spinal Cord Injury. *J Bone Miner Res* 28(S1), 2013.
24. Singh, H., Riad, J., Mulrooney, B.M., Miller, F., **Modlesky, C. M.** Association between lower extremity muscle mass and bone structure in individuals with unilateral cerebral palsy. *J Bone Miner Res* 28(S1), 2013.
25. Porter, M., Singh, H., Miller, F., Lennon, N., DiAllesandro, K., **Modlesky, C.** Effect of passive range of motion on measures of spasticity in children with cerebral palsy. Presented at the University of Delaware's Undergraduate Research Scholars Poster Session in the Summer 2012.
26. Goff, H., **Modlesky, C.**, Laing, E., Pollock, N., Singh, H., Baile, C., Lewis, R. Trabecular bone microarchitecture is compromised in obese late adolescent females. *J Bone Miner Res* 27(S1), 2012.³
27. Singh, H., Riad, J. Mulrooney, B. Royer, T. Miller, F. **Modlesky, C.** Exploring the relationship between lower extremity muscle work during gait and bone structure in individuals with unilateral cerebral palsy. *J Bone Miner Res* 27(S1), 2012.
28. **Modlesky, C.M.**, Mulrooney, B.M., Davey, L., Bober, M. Bone structure abnormalities in children with osteogenesis imperfecta. *J Bone Miner Res* 27(S1), 2012.
29. Hartman, E., Manal, K., Mulrooney, B.M., Bober, M.B., Davey, L., **Modlesky, C.M.** The effects of high-frequency low-magnitude vibration on muscle activity in children with osteogenesis imperfecta. Presented at the University of Delaware's Undergraduate Research Scholars Poster Session in the Summer 2011.
30. Spera, M., Manal, K., Mulrooney, B.M., Hartman, E., Bober, M.B., **Modlesky, C.M.** Transmission of a floor-based, high-frequency, low-magnitude vibration stimulus across the tibia and femur of children with osteogenesis imperfecta: a pilot study, Presented at Center for Biomedical Engineering Research Symposium at the University of Delaware, 2011.

31. Yatzus, K.J., Bober, M.B., Mulrooney, B.M., Bajaj, B., Davey, L., **Modlesky, C.M.** Calcium and vitamin D intake in children with mild osteogenesis imperfecta. Presented at the University of Delaware's Undergraduate Research Scholars Poster Session in the Spring 2011.
32. **Modlesky, C.M.**, Spera, M., Manal, K., Mulrooney, B.M., Davey, L., Hartman, E., Bober, M.B.. Transmission of a floor-based, high-frequency, low-magnitude vibration stimulus across the tibia and femur of children with osteogenesis imperfecta: a pilot study, *J Bone Miner Res* 26(S1), 2011.
33. Mulrooney, B., Riad, J., Miller, F., **Modlesky, C.M.** Architectural compromise is greater in the tibia than the femur in the involved lower extremity of individuals with hemiplegic cerebral palsy. *J Bone Miner Res* 25(S1), 2010.
34. **Modlesky, C.M.**, Barbe, M.F., Bajaj, D., Miller, F. Underdeveloped trabecular bone microarchitecture is related to suppressed bone formation in nonambulatory children with cerebral palsy. *J Bone Miner Res* 25(S1), 2010.
35. **Modlesky, C.M.**, Bober, M., Mulrooney, B., Bajaj, D., Davey, L., Kruse, R. Bone development in children with osteogenesis imperfecta. Presented at the Osteogenesis Imperfecta Patient Conference in Portland, 2010.
36. **Modlesky, C.M.** Effect of a high frequency, low-magnitude vibration treatment on bone in children with mild osteogenesis imperfecta. Presented at the Osteogenesis Imperfecta Research Conference in Chicago, 2010.¹
37. **Modlesky, C.M.** Can we improve skeletal development in children who need it most? Presented to Department of Kinesiology at Penn State University, University Park, 2010.¹
38. Bajaj, D, Barbe, M.F., Kirby, J.T., Miller, F., **Modlesky, C.M.** Trabecular bone microarchitecture and low bone turnover in children with cerebral palsy. Poster presented at the DHSA Women and Children's Health Research Conference, 2010.
39. Yatzus, K.J., Bober, M.B., Mulrooney, B.M., Bajaj, B., Davey, l., **Modlesky, C.M.** Calcium intake in children with mild osteogenesis imperfecta. Presented at the University of Delaware's Undergraduate Research Scholars Poster Session in the Summer, 2010.
40. Kelly, E.M., Ria, J., Mulrooney, B., Miller, F., **Modlesky, C.M.** Compromised midfemur strength individuals with hemiplegic cerebral palsy is associated with low quadriceps femoris mass. *Med Sci Sports Exerc.* 42(5):708, 2010.
41. Smith, J.S., Kirby, J.B., Mulrooney, B., Miller, F., **Modlesky, C.M.** Selective underdevelopment of trabecular bone microarchitecture within the femur of children with cerebral palsy is detected using magnetic resonance imaging. *J Bone Miner Res* 24(S1), 2009.
42. Mulrooney, B., Riad, J., Miller, F., **Modlesky, C.M.** Greater structural compromise in the tibia than the femur in the involved lower extremity of individuals with hemiplegic cerebral palsy. *Dev Med Child Neurol.* 51 (S1):78, 2009²
43. **Modlesky, C.M.**, Kirby, J.T., Miller F. Discordant relationship between muscle mass and trabecular bone microarchitecture in children with cerebral palsy. *J Bone Miner Res* 24(S1), 2009. Also invited for oral presentation to the Pediatric Bone and Mineral Working Group.¹
44. Bajaj, D., Kirby, J.T., Mulrooney, B.M., Miller, F., **Modlesky, C.M.** Trabecular bone microarchitecture assessed by magnetic resonance imaging: relation to age, gender, body size and body composition in children. *J Bone Miner Res* 24(S1), 2009. Also, invited for oral presentation to the Bone Strength Working Group

45. Bajaj, D., Kirby, J.T., Mulrooney, B.M., Miller, F., **Modlesky, C.M.** Relationship between trabecular bone microarchitecture assessed by magnetic resonance imaging and body composition in children. University of Delaware Center for Biomedical Engineering Research Symposium Newark, May 2009.
46. Maser, R.E., Lenhard, M.J., Wachter, A., Beck, T.J., **Modlesky, C.M.** Is an earlier onset of type 1 diabetes associated with lower hip bone strength? Presented at the Endocrine Society annual meeting in Washington, D.C., June 2009.
47. **Modlesky, C.M.**, Kirby, J.T., Kanoff, S., Miller, F. Vitamin K intake is positively related to trabecular bone microarchitecture in children. *J Bone Miner Res* 23(S1), 2008.
48. Smith, J.J., Kirby, J.T., Morrissey, M., Edger, T., **Modlesky, C.M.** Reduction of magnetic resonance image processing time for assessment of trabecular bone microarchitecture. *J Bone Miner Res* 23(S1), 2008.
49. **Modlesky, C.M.**, Kanoff, S.A., Heaven, J., Miller, F. Are there gender differences in trabecular bone microarchitecture and cortical bone structure and the muscle-bone unit in children? *Med Sci Sports Exerc* 40 (5): S40, 2008.
50. Smith, J.J., Kirby, J.T., Miller, F., **Modlesky, C.M.** Reduction of magnetic resonance image processing time for assessment of trabecular bone microarchitecture. University of Delaware Center for Biomedical Engineering Research Symposium, Newark, DE, May 2008.
51. Smith, J.J., Miller, F. **Modlesky, C.M.** Poor bone growth in children with cerebral palsy is underestimated by dual-energy X-ray absorptiometry. *J Bone Miner Res* 22(S1), 2007.
52. **Modlesky, C.M.** Meyers, A. , Hoffmann, E.S., Smith J.J., Miller, F. Evaluation of the muscle-bone relationship in the midthigh of children with cerebral palsy. *J Bone Miner Res* 22(S1), 2007.
53. **Modlesky, C.M.**, Subramanian, P., Miller, F. Underdeveloped midfemur geometry and strength in children with cerebral palsy. To be presented at the American Academy of Cerebral Palsy and Developmental Medicine meeting in Vancouver, BC in October 2007.
54. **Modlesky, C.M.**, Smith, J.J., Subramanian, P., Johnson, D.L., Kanoff, S.A., Hoffmann, E.S., Miller, F. Evaluation of the muscle-bone relationship in children using magnetic resonance imaging. *Med Sci Sports Exerc.* 39(5):S42, 2007.
55. Mackenzie, S., Getchell, N., Jaric, S., Miller, F., **Modlesky, C.M.** Assessment of lateral hand function deficits in children with hemiplegic cerebral palsy by way of grip and load force coupling and the Jebsen-Taylor test. University of Delaware Center for Biomedical Research Biomechanics Research Symposium, Newark, DE, May 2007.
56. **Modlesky, C.M.**, Subramanian, P., Johnson, D.L., Miller, F. Underdeveloped trabecular bone microarchitecture in the distal femur of children with cerebral palsy, *J Bone Miner Res.* 21(1):M114, 2006.
57. **Modlesky, C.M.**, Subramanian, P., Johnson, D.L., Miller, F. Stability of trabecular bone microarchitecture assessment by magnetic resonance imaging in children. *J Bone Miner Res.* 21(1):M114, 2006.
58. Johnson, D.L., Miller, F., Subramanian, P., **Modlesky, C.M.** Midthigh adipose tissue compartmentalization in children with quadriplegic cerebral palsy. National ACSM meeting, Denver, June 2006. National ACSM meeting, Denver, June 2006.
59. Johnson, D.L., Kanoff, S., Miller, F., Subramanian, P., Lee, S.C.K., **Modlesky, C.M.** Midthigh muscle mass in children with cerebral palsy and unable to ambulate independently. University of Delaware Center for Biomedical Research Biomechanics Research Symposium, Newark, DE, May 2006.

60. Johnson, D.L., Miller, F., Subramanian, P., **Modlesky, C.M.** Midthigh adipose tissue compartmentalization in children with moderate to severe cerebral palsy. Mid Atlantic ACSM meeting, Harrisburg, November 2005.
61. Stein, E.M. Laing, E.M., Wilson, A.M.R., **Modlesky, C.M.**, Kimlin, M.G., Hall, D.B., Lewis, R.D.. Serum 25-hydroxy-vitamin D levels and bone in prepubertal females living in a southern latitude. FASEB J. A62.6, 2005.
62. **Modlesky, C.M.**, Johnson, D.J., Miller, F.. Assessing changes in bone structure and strength of the mid-femur in children using magnetic resonance imaging. J Bone Miner Res. 20(1):S337, 2005.
63. Laing, E.M., **Modlesky, C.M.**, Wilson, A.R., Hall, D.B., Beck, T.J., Lewis, R.D.. A prospective analysis of geometric changes in the proximal femur in young female gymnasts. J Bone Miner Res. 20(1):S318, 2005.
64. Pollock, N.K., Laing, E.M., Wilson, A.R., **Modlesky, C.M.**, Beck, T.J., Lewis, R.D. Body fatness and bone properties in prepubertal females: A two year prospective study. J Bone Miner Res. 20(1):S318, 2005.
65. Gildea, R.A., Laing, E.M., Hall, D.B., **Modlesky, C.M.**, Beck, T.J., Wilson, A.R., Baile, C.A., Lewis, R.D. Effects of 24-months of gymnastics training on insulin-like growth factors in prepubertal females. J Bone Miner Res. 20(1):S130, 2005.
66. **Modlesky, C.M.**, Johnson, D.L., Miller, F. Relationship between thigh muscle mass and bone mineral content and size in prepubertal children. Med Sci Sports Exerc. 37(5):S90, 2005.
67. Timmons, R.L., Provost-Craig, M.A., **Modlesky, C.M.**, Knight, C.A. Effect of measured versus predicted thoracic gas volumes on percent body fat in wrestlers. Med Sci Sports Exerc 36(5):S178, 2004.
68. Slade, J.M., Bickel, C.S., **Modlesky, C.M.**, Majumdar, S., Dudley, G.A. Trabecular bone deterioration following unloading and estrogen loss in women. FASEB J. A455.1, 2004.
69. **Modlesky, C.M.**, Cavaiola, M.L., Slade, J.M., Lewis, R.D. and Dudley, G.A. Female collegiate gymnasts have greater total and cortical bone size in the mid-femur than non-gymnasts. J Bone Miner Res 18(1):M159, 2003.
70. **Modlesky, C.M.**, Majumdar, S., Slade, J.M., Narasimhan, A., and Dudley, G.A. Greater trabecular bone connectivity in the knee of female collegiate gymnasts. J Bone Miner Res 18(1):SU171, 2003.
71. Aburto, N.J., Laing, E.M., Wilson, A.R., Hardy, K.H., **Modlesky, C.M.** and Lewis, R.D. Zinc intake is positively correlated with bone parameters in prepubertal girls. The FASEB J 17:A620, 2003.
72. Laing, E.M., Wilson, A.R., **Modlesky, C.M.**, O'Connor, P.J., and Lewis, R.D. Two-years of recreational artistic gymnastics improves lumbar spine bone mineral density in young girls Med Sci Sports and Exerc 35(5):S366, 2003.
73. **Modlesky, C.M.**, Slade, J., Bickel, C.S. and Dudley, G.A. Geometric structure and strength of bone in men with complete spinal cord injury. Med Sci Sports Exerc 35(5):S50, 2003.
74. Hardy, K.H., Laing, E.M., Wilson, A.M. **Modlesky, C.M.** and Lewis, R.D. Relationship between dietary zinc and insulin-like growth factor-1 in prepubescent girls. The FASEB J 16(4): A524, 2002.
75. Laing, E.M., Wilson, A.M., **Modlesky, C.M.** and Lewis, R.D. Effects of a two-year gymnastics intervention on bone mass and body composition in young females. Med Sci Sports Exerc. 34(5): S82, 2002.

76. **Modlesky, C.M.**, Wilson, A.M., Laing, E.M., O'Connor, P.J. and Lewis, R.D. Do prepubescent girls who enroll in artistic gymnastics have higher bone mass than nongymnasts? *Med Sci Sports Exerc.* 34(5): S82, 2002.
77. **Modlesky, C.M.**, Bickel, C.S., Majumdar, S. Dudley, G.A. Trabecular bone microarchitecture about the knee after complete spinal cord injury. 15th International Bone Densitometry Workshop in Monterey CA, pp.102, 2002.
78. **Modlesky, C.M.**, Massoni, J.A., Laing, E.M., Nichols-Richardson, S.M., Lewis, R.D. Total and central body fatness are related to physical activity and fat intake in young girls. *Med Sci Sports Exerc.* 33(5): S187, 2001.
79. Laing, E.M., Massoni, J.A., Nichols-Richardson, S.M., **Modlesky, C.M.**, Lewis, R.D. A prospective study of bone mass and body composition in female adolescent gymnasts. *Med Sci Sports Exerc.* 33(5): S146, 2001.
80. Poudevigne, P.J., O'Connor, P.J., Laing, E.M., **Modlesky, C.M.** and Lewis, R.D. Body images of 4-8 year old girls enrolled in gymnastics do not differ from non-gymnast controls matched on percent fat and age. *Med Sci Sports Exerc.* 33(5): S96, 2001.
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82. **Modlesky, C.M.**, Nichols-Richardson, S.M., Massoni, J.A., Laing, E.M., Lewis, R.D. Changes in bone mineral at stressed and unstressed skeletal sites in young female gymnasts. *Med Sci Sports Exerc* 32(5): S184, 2000.
83. Collins, M.A. and **Modlesky, C.M.** Critical evaluation of the BOD POD body composition system: validity, practical considerations, and implications for multicomponent models. Tutorial at Southeast ACSM, 2000.
84. Massoni, J.A., Laing, E.M., **Modlesky, C.M.** and Lewis, R.D. Does gymnastics participation affect growth and sexual maturation in young adolescent females? *The FASEB J.* 14(4):A487, 2000.
85. Reinhart Wilson, A.M., O'Connor, P.J., **Modlesky, C.M.** and Lewis, R.D. Physical activity, calcium intake, body composition and bone in 4-8 year old girls. *The FASEB J.* 14(4): A524, 2000.
86. Reinhart Wilson, A.M., **Modlesky, C.M.**, Lewis, R.D. Three-day diet records vs food frequency questionnaire as tools for measuring dietary intaked in 4-8 year old girls. Georgia Nutrition Council, 2000.
87. Reinhart, A.M., **Modlesky, C.M.** and Lewis, R.D.. Body composition and skeletal age in 4-8 year old girls. *The FASEB J.* 13(4): A595, 1999.
88. Monkhouse, E.E., Nickols-Richardson, S.M., **Modlesky, C.M.**, and Lewis, R.D. Longitudinal changes in bone mineral density and body composition in adolescent female artistic gymnasts. *The FASEB J.* 13(4): A428, 1999.
89. Ogburn, C.L., Arngrimsson, S.A., Evans, E.M., **Modlesky, C.M.**, Cureton, K.J., and Lewis, R.D. Bone mineral density, bone biomarkers, and hormonal profiles of college cross-country runners and controls. *Med Sci Sports Exerc* 31(5): S137, 1999.
90. Reinhart, A.M., **Modlesky, C.M.**, and Lewis, R.D. Food intake, physical activity, and body fat in 4-8 year old girls. *J Am Diet Assoc*, 1999.
91. Monkhouse, E.E., Nickols-Richardson, S.M., **Modlesky, C.M.**, and Lewis, R.D. Longitudinal changes in bone mineral density and body composition in adolescent female artistic gymnasts. *The FASEB J.* 13(4):A428, 1999.

92. Ogburn, C.L., Arngrimsson, S.A., Evans, E.M., **Modlesky, C.M.**, Cureton, K.J., and Lewis, R.D. Bone mineral density, bone biomarkers, and hormonal profiles of college cross-country runners and controls. *Med Sci Sports Exerc* 31(5):S137, 1999.
93. **Modlesky, C.M.**, Evans, E.M., Millard-Stafford, M.L., Collins, M.A., Lewis, R.D. and Cureton, K.J. Impact of using bone mineral content from two different dual-energy X-ray absorptiometers on four-component model estimates of body composition. *Med Sci Sports Exerc.* 30(5):S146, 1998.
94. Spano, M.A., Evans, E.M., **Modlesky, C.M.** and Lewis, R.D. Weight loss in obese premenopausal women: implications for bone mass. *The FASEB J.* 12(4):1421, 1998.
95. Johnson, M.A., Houston, D.K., Edmonds, J., Nozza, R.J., Shea, K., Cutler, M., Lewis, R.D., **Modlesky, C.M.** and Gunter, E.W. Age-related hearing loss is associated with poor bone health and low calcium intake in women. *The FASEB J.* 12(5):5082, 1998.
96. **Modlesky, C.M.**, Lewis, R., Houston, D., Barnes, J., Johnson, M.A., Edmonds, J. Influence of body composition, estrogen and oral contraceptive use on bone mineral density in postmenopausal women. *The FASEB J.* 11(3): 3417, 1997.
97. Houston, D., Johnson, M.A., Edmonds, J., Nozza, R., Cutler, M., Lewis, R., **Modlesky, C.M.**, Gunter, E. Age-related hearing loss and vitamin B₁₂, calcium, and bone health in postmenopausal women. *The FASEB J.* 11(3): 1375, 1997.
98. Nickols-Richardson, S.M., Lewis, R.D., **Modlesky, C.M.**, Latimer, A.M., Hausman, D.B. Dietary intake, insulin-like growth factor-I (IGF-I), and bone mineral density (BMD) in premenstrual gymnasts. *The FASEB J.* 11(3): 1082, 1997.
99. **Modlesky, C.M.**, Prior, B.M., Lewis, R.D. and Cureton, K.J. Measurement of body composition in tall individuals using dual-energy X-ray absorptiometry. *Med Sci Sports Exerc.* 29(5): S37, 1997.
100. Evans, E.M., Prior, B.M., **Modlesky, C.M.**, Sloniger, M.A. , Lewis, R.D. and Cureton, K.J. Relation of bone mineral content and density to mineral content of the fat-free mass. *Med Sci Sports Exerc.* 29(5): S54, 1997.
101. **Modlesky, C.M.**, Cureton, K.J., Lewis, R.D., Prior, B.M., Sloniger, M.A. and Rowe, D.A. Estimates of body composition using a four-component model in men with high musculoskeletal development. *The FASEB J.* 9(4): 5864, 1995.

National/International Abstracts: n = 84

Regional Abstracts: n = 17

Key:

¹ Invited talk (n = 7)

² Won student award (n = 4)

³ Late Breaking Abstract (n = 2)

TEACHING EXPERIENCE

Courses Taught

- KAAP 440 *Topics in Exercise Science: Bone Health and Exercise:* Developed a course that introduces upper level undergraduate students to issues related to bone health and exercise. The course includes a review of pertinent scientific literature that has

led to our current understanding about the influence of exercise on bone development and maintenance.

Developed Spring taught Spring 2016 and 2017 (planned)

KAAP 285 *Introduction to Research in Health Sciences*

The course introduces undergraduate students to the research process during their sophomore year. The course includes tours of research labs in the health sciences and a review of a key paper from each lab. The course prepares students to participate in the Summer Scholars Program at UD.

Taught Spring 2013, Fall 2014

KAAP 603 *Graduate Seminar in Exercise Science*

The course aids in the development of a student's review and presentation of the research literature. It also introduces students to new research in exercise science through presentations from peers and outside speakers.

Taught Spring 2011-2014

KAAP 675 *Clinical Exercise Physiology* (graduate)

A graduate course that reviews the methods of evaluating cardiovascular function through graded exercise tests as well as principles of exercise prescription.

Practical covering of administrative aspects of testing, metabolic calculations, variety of testing protocols, basic exercise physiology and exercise prescription are also reviewed. There is an emphasis on the incorporation of the research literature in the development of exercise programs.

Taught Spring 2011-2012

KAAP 475 *Clinical Exercise Physiology* (undergraduate)

The course reviews the methods of evaluating cardiovascular function through graded exercise tests as well as principles of exercise prescription. Practical covering of administrative aspects of testing, metabolic calculations, variety of testing protocols, basic exercise physiology and exercise prescription are also reviewed.

Taught Spring 2011-2012 and 2015, Fall 2011-2013

KAAP 105 *Freshman Seminar in Exercise Science*

An introduction to the exercise science major, including a review of the curriculum, undergraduate research, career opportunities, and advanced degree opportunities in the health sciences beyond undergraduate education. (3 Sections taught)

Taught Fall 2005-2016

NTDT 615 *Advanced Nutrition and Activity*

The course was designed to review the current literature on nutrition and physical activity and their connection to performance and health.

Taught Spring 2005

NTDT 310 *Nutrition and Activity*

The course reviews the relationships between nutrition and performance and between nutrition and physical activity.

NTDT 665 *Nutrition Graduate Seminar*

Oversaw weekly Human Nutrition graduate program seminar. This includes supervision of student presentations (assist students with preparation) and arranging non-student speakers.

- KAAP 667 Taught Fall and Spring 2004-2007
Exercise, Nutrition and Bone Health
The course introduces students to topics in bone physiology and reviews studies that demonstrate the importance of exercise and nutrition in the development of bone and the maintenance of skeletal health.
Taught Fall 2004, 2006, 2008, 2010 and 2014 and Spring 2015 and 2016
- NTDT 401 *Micronutrients*
The course reviews the importance of vitamins and mineral in the diet and their role in metabolic function.
Taught Fall and Spring 2002-2004
- FDNS 4530 *Medical Nutrition Therapy* (Co-taught laboratory)
Co-taught laboratory focused on anthropometry and its importance in disease assessment.
Taught 1998-2002
- FDNS 4510 *Lifecycle Nutrition* (Guest lecturer)
Conducted lecture focusing on the assessment of body composition and its connection to disease and on the physiology of pregnancy. Also, co-taught laboratory focused on bone mineral density and body composition assessment.
Taught 1995-1998
- PEDB 1920 *Body Conditioning*
Course focused on health and fitness. The course involved weekly lectures covering basic exercise, nutrition and health principles.
Taught Fall and Spring 1992-1994 (12 sections taught)
- PEDB 1260 *Softball*
Course focused on the fundamentals of softball.
Taught Fall 1992 (2 sections taught)

Courses Developed

- KAAP 440 *Topics in Exercise Science: Bone Health and Exercise*: The course introduces upper level undergraduate students to issues related to bone health and exercise. It includes a review of scientific literature that has led to our current understanding about the influence of exercise on bone development and maintenance.
Developed Spring 2015
- KAAP 285 *Introduction to Research in Health Sciences*: The course introduces sophomore students to the research process. Students get a hands on experience in research labs in the health sciences and review of a key paper from each lab. Students are prepared to participate in the Summer Scholars Program at UD.
Developed Spring 2013
- KAAP 675 *Exercise Prescription and Testing*: Developed a graduate version of our Clinical Exercise Physiology (HESC 451, now KAAP 475) course. The course reviews the methods of evaluating cardiovascular function through graded exercise tests as well as principles of exercise prescription. Practical covering of administrative aspects of testing, metabolic calculations, variety of testing protocols, basic exercise physiology and exercise prescription are also reviewed. There is greater emphasis on application based on a review of the literature.

Developed Spring 2011
KAAP 667 *Exercise, Nutrition and Bone Health*: Developed a course that introduces students to topics in bone physiology and reviews studies focused on the importance of exercise and nutrition in the development and maintenance of bone.
Developed Fall 2004

Funded Instructional Grants

2012, Spring The Center for Teaching and Learning (CTL) and the Office of Undergraduate Research and Experiential Learning (UREL) Instructional Improvement Grant, Modlesky and Getchell (PIs)
Title: KAAP 285 Introduction to Research in Health Sciences
Amount: \$17,000
Purpose: To develop a new course focused on introducing freshman and sophomore students to research in the health sciences. Students will be provided with the preliminary training needed to enter a laboratory focused on research in the health sciences. The funding led to the development of KAAP 285 Introduction to Research in Health Sciences

Teaching Seminars Attended

2006 You're teaching...What are your students learning?
Facilitated by Dr. Marilee Bresciani
Wednesday, January 4, 2006
9:00-11:45 a.m.
Rodney Room, Perkins Student Center

2006 Journaling and Rubrics, the Pleasure and the Pain
Facilitated by Dr. Gabriele Bauer
Tuesday, January 10, 2006-02-08
9:30-11:00 am
208 Gore Hall

Research Independent Studies

Graduate Students

2006, Spring *Pravesh Subramanian*, graduate student in Computer Information Systems Program: Pravesh added new modules to previously developed magnetic resonance image programs. This led to a paper published in *Osteoporosis International*, an abstract presented at the University of Delaware Center for Biomedical Engineering Research Symposium, Newark, May 2006 and two abstracts presented at the American Society for Bone and Mineral Research Conference, Philadelphia, September 2006.

2006, Spring *Alexandria Cremer*, graduate student in Human Nutrition Program. Alexandria learned about bone and body composition assessment using dual-energy X-ray absorptiometry in children. She learned the procedure to assess bone mineral

density at the distal femur, a unique assessment site for children with movement disorders.

- 2005, Fall *Sharon Collison*, Potential PhD student in BIOMS program. Sharon reviewed the literature on bone quality in adolescents with anorexia nervosa. This led to the submission of a grant proposal to the NIH “Bone and muscle development in adolescents with anorexia nervosa.”
- 2003, Spring *Stephanie Petersen*, BIOMS PhD student: I trained Stephanie to quantify skeletal muscle mass using magnetic resonance imaging.

Undergraduate Students

I mentored > 80 undergraduate research independent studies at the University of Delaware. Although the goal of a specific student independent study will vary, the general goals are: 1) to introduce them to the study of tissue development in children, with an emphasis on children with movement disorders, such as cerebral palsy; 2) to train them to assess bone, muscle and adipose tissue in the hips and lower extremities using magnetic resonance imaging and image processing software developed in our laboratory; 3) to demonstrate how research is important in the study of musculoskeletal development in children with movement disorders; and/or 4) to establish EMG and accelerometry assessment in our laboratory. These studies were funded through grants from the NIH, the Cerebral Palsy Research and Educational Foundation, the Osteogenesis Imperfecta Foundation and the Craig H. Neilsen Foundation.

Undergraduate Research Projects Through the University of Delaware’s Summer Scholars/Fellowship Programs

- 2016 *Daniela Davison*: Improving the reliability of a technique to calculate rate of force development scaling factor in children. Presented at the University of Delaware’s Undergraduate Research Program’s Research Symposium in the August 2016.
- 2014 *Mark LaGreca*: Assessment of fat concentration in the leg muscles of children with cerebral palsy using magnetic resonance imaging. Presented at the University of Delaware’s Undergraduate Research Program’s Research Symposium in the August 2014 and April 2015.
- 2014 *Kimberly Milla-Ceja*: Reduction of magnetic resonance imaging processing time for the assessment of leg muscle volume in children with cerebral palsy: Part II. Presented at the University of Delaware’s Undergraduate Research Program’s Research Symposium in August 2014 and April 2015 and at the National McNairs Scholars Research Competition and Graduate School Fair Competition in the Fall 2014.¹
- 2013 *Kimberly Milla-Ceja*: Reduction of magnetic resonance imaging processing time for the assessment of leg muscle volume in children with cerebral palsy. Presented at the University of Delaware’s Undergraduate Research Program’s Research Symposium in August 2013 and April 2014 and at the National McNairs Scholars Research Competition and Graduate School Fair Competition in the Fall 2013.¹
- 2012 *Mike Porter*: Effect of passive range of motion on measures of spasticity in children with cerebral palsy. Poster presented at the University of Delaware Undergraduate Research Program’s Research Symposium in August 2012.

- 2011 *Erica Hartman*: The effects of high-frequency low-magnitude vibration on muscle activity in children with osteogenesis imperfecta. Poster presented at the University of Delaware Undergraduate Research Program's Research Symposium in April 2012; also presented at the American Society for Bone and Mineral Research in Minneapolis, MN.
- 2010 *Katherine Yatzus*: Calcium and vitamin D intake in children with mild osteogenesis imperfecta. Poster presented at the University of Delaware Undergraduate Research Program's Research Symposium in April 2011.
- 2009 *Eleanor Kelly*: Compromised midfemur strength individuals with hemiplegic cerebral palsy is associated with low quadriceps femoris mass. The data was presented as the University of Delaware's Undergraduate Research Program's Research Symposium in August 2009 and at the 2010 ASCM meeting in Washington D.C.
- 2009 *Matthew Rementer*: Received a summer research fellowship aimed at determining changes in muscle mass in children with complete spinal cord injury who underwent a functional electrical stimulation cycling intervention, a passive cycling intervention or an electrical stimulation intervention.
- 2008 *Brianne Mulrooney*: Data presented at the University of Delaware's Undergraduate Research Scholars Poster Session in the Spring 09. She also presented the data at the American Academy of Cerebral Palsy of Developmental Medicine Conference in Scottsdale, AZ in September 2009.
- 2005 *Kevin Neeld*: Kevin was introduced to the research process. This experience included a literature review, data collection, data analysis, etc.

¹First Place for Science.

Master's Degree Comprehensive Exam Committees

Melissa Miller, Department of Health, Nutrition and Exercise Sciences, Human Nutrition Program, Fall 2008

Jennifer Colantuono, Department of Health, Nutrition and Exercise Sciences, Human Nutrition Program, Fall 2008

Rachel Schiavone, Department of Health, Nutrition and Exercise Sciences, Human Nutrition Program, Fall 2008

Thesis Committees

Benjamin Conner, Biomechanics and Movement Sciences MS Program; Thesis title: A comparison of compensatory stepping thresholds in children with cerebral palsy and typically developing children. Graduated, Spring 2016 (Major advisors: **Modlesky** (senior) and Crenshaw)

Victoria Haggett, Dept of Kinesiology and Applied Physiology; Thesis title: Effect of a high-frequency, low-magnitude mechanical stimulus on muscle activity in children with spastic cerebral palsy. Graduated Spring 2015 (Major advisor: **Modlesky**)

Andrew Giannini, Dept of Kinesiology and Applied Physiology. Comparison of the Fitbit Zip to the Actical in children and adults. Graduated Fall 2013 (Major advisor: Getchell)

Deepti Bajaj, Dept of Kinesiology and Applied Physiology; Thesis title: Assessment of the relationship between muscle mass and bone structure in pre- and early-pubertal children using magnetic resonance imaging. Graduated Summer 2011 (Major advisor: **Modlesky**)

Brianne Mulrooney, Dept of Kinesiology and Applied Physiology; Thesis title: Structural compromise in the tibia and femur of adolescents and young adults with hemiplegic cerebral palsy. Graduated Spring 2011 (Major advisor: **Modlesky**)

Rita Rawal, Dept of Health, Nutrition and Exercise Sciences; Thesis title: Does a novel procedure for limiting motion affect body composition estimates by dual-energy X-ray absorptiometry in children? Graduated Spring 2010 (Major advisor: **Modlesky**)

Samual Logan, Dept of Health, Nutrition and Exercise Sciences; Thesis title: The relationship between motor proficiency and body composition in preschool children. Graduated Summer 2008 (Major advisor: Getchell)

David Johnson, Dept of Health, Nutrition and Exercise Sciences; Thesis title: Midhigh adipose tissue distribution differences in children with and without cerebral palsy. Graduated, Winter 2007 (Major advisor: **Modlesky**)

Samuel Mackenzie, Dept of Health, Nutrition and Exercise Sciences; Thesis title: Effect of bimanual task constraint on grip and load force coordination in hemiplegic cerebral palsy. Graduated Summer 2007 (Major advisor: Getchell)

John Stabley, Dept of Health, Nutrition and Exercise Sciences; Thesis title: *Autonomic nerve fiber dysfunction and bone loss*. Graduated Summer 2006 (Major advisor: Provost-Craig)

Erin Paul, Dept of Health, Nutrition and Exercise Sciences; Thesis title: Hemodynamic responses to an acute sodium load. Graduated Summer 2005 (Major advisor: Farquhar)

Darren Beck, Dept of Health, Nutrition and Exercise Sciences; Thesis title: Cross-validation and method comparison for assessing minimum weights in high school wrestlers. (Major advisor: Provost-Craig)

Matthew Cavaiola, Dept of Health, Nutrition and Exercise Sciences; Thesis title: Assessment of skeletal muscle in prepubertal children. Graduated Summer 2004 (Major advisor: **Modlesky**)

Rikki Timmons, Dept of Health, Nutrition and Exercise Sciences; Thesis title: The effect of measured versus predicted thoracic gas volume on percent body fat in high school wrestlers. Graduated Spring 2003 (Major advisor: Provost-Craig)

Dissertation Committees

Daniel Whitney, Applied Physiology PhD Program; Dissertation title: Musculoskeletal fat profile and its relationship to motor function and cardiometabolic disease risk in ambulatory children with spastic cerebral palsy. Graduated, Spring 2017 (Major advisor: **Modlesky**)

Chuan Zhang, Applied Physiology PhD Program; Dissertation title: To be decided. Expected Graduation, Spring 2019 (Major advisor: **Modlesky**)

Anastasia Zarkou, Biomechanics and Movement Sciences PhD Program; Dissertation title: The role of foot and ankle somatosensory ability on motor function in children with cerebral palsy. Can stochastic resonance stimulation modulate somatosensory information to improve balance performance? Graduated, Spring 2017 (Major advisor: Lee)

Michael Babak, Animal and Food Sciences PhD Program; Evaluation of redox homeostasis profile in modern broiler chickens: A time series analysis. Graduated, Spring 2017 (Major advisor: Abasht)

Seungyong Lee, Applied Physiology PhD Program; Dissertation title: Short-term intermittent PTH 1-34 administration and bone vasculature alterations in mice. Transferred (Major Advisor: Prisby)

Victoria Allen, Applied Physiology PhD Program; Dissertation title: Cardiovascular health status in older adults with chronic musculoskeletal pain. Graduated Summer 2016 (Major Advisor: Hicks)

Daphne Golden, Biomechanics and Movement Sciences PhD program; Dissertation title: The short-term effect of active videotaping in physical activity levels and executive function in children with and without Autism Spectrum Disorder. Graduated Spring 2016 (Major Advisor: Getchell)

Harshvardhan Singh, Applied Physiology PhD Program; Dissertation title: Trabecular bone microarchitecture and vibration transmission in ambulatory children with cerebral palsy. Graduated Summer 2015 (Major advisor: **Modlesky**)

Lauren Burt, Exercise Science PhD Program, Australian Catholic University; Dissertation title: Upper body bone strength and muscle function in non-elite artistic gymnasts. Graduated Fall 2011 (Served as external examiner)

Stephanie Petterson, Biomechanics and Movement Science PhD program; Dissertation title: Knee osteoarthritis and total knee arthroplasty: quadriceps weakness, rehabilitation, and recovery. Graduated Winter 2006 (Major Advisor: Snyder-Mackler)

Ryan Mizner, Biomechanics and Movement Science PhD program; Dissertation title: Quadriceps femoris weakness and functional outcome in individuals with end-stage knee osteoarthritis. Graduated, Summer 2004 (Major advisor: Snyder-Mackler)

Other Student Committees

David Klyne, Molecular Biology & Bioinformatics PhD Program, The University of Queensland, St. Lucia, Australia; Secondary Examiner, BIOC7000 Molecular Biology, School of Chemistry and Molecular Biosciences, Fall 2016 (Major Advisor: Paul Hodges)

SERVICE

Professional Memberships/Committees

2017-present	<i>Research Committee, American Academy of Cerebral Palsy and Developmental Medicine</i>
2014-present	<i>Fellow, American Academy of Cerebral Palsy and Developmental Medicine</i>
2014-2016	<i>Gait and Clinical Movement Analysis Society</i>
2005-present	<i>American Society for Bone and Mineral Research</i>
2000-2005	<i>International Bone and Mineral Society</i>
1993-2007	<i>American College of Sports Medicine</i>

Abstract Reviewer

2016	<i>American Society for Bone and Mineral Research abstract reviewer for Pediatric Bone and Mineral Research Working Group in Atlanta, GA.</i>
2015	<i>Biomedical Engineering Society (BMES) abstract reviews for annual meeting in Tampa, Florida</i>

Manuscript/ Reviewer

2009-present	<i>Journal of Bone and Mineral Research</i>
2006-present	<i>Journal of Magnetic Resonance Imaging</i>
2006-present	<i>Bone</i>
2006-present	<i>Osteoporosis International</i>
2006-present	<i>Journal of Pediatrics</i>
2005-present	<i>Archives of Physical Medicine and Rehabilitation</i>
2003-present	<i>Clinical Physiology and Functional Imaging</i>
2002-present	<i>Journal of Applied Physiology</i>
2002-present	<i>European Journal of Clinical Nutrition</i>
1999-present	<i>Medicine and Science in Sports and Exercise</i>

Grant Reviewer

2013	<i>NIH Institutional Development Award (IDeA) Networks of Biomedical Research Excellence (INBRE) Grants Pilot Program. The purpose of the NIH INBRE Grants Pilot Program is to develop scientists in IDEA states and position for larger NIH grants.</i>
2012	<i>American Institute of Biological Sciences, USAMRRA: Member of the Osteoporosis and Bone-Related Diseases Panel: The purpose of the panel was to evaluate grant proposals submitted to the U.S. Department of Defense.</i>
2010	<i>American Institute of Biological Sciences, USAMRRA: Member of the Osteoporosis Panel: The purpose of the panel was to evaluate grant proposals submitted to the U.S. Department of Defense.</i>
2009	<i>Mail Reviewer, NIH Challenge Grants Panel, Musculoskeletal, Oral and Skin Sciences</i>

- 2008 *American Society for Bone and Mineral Research Career Enhancement Award Program*
- 2006 *American Institute of Biological Sciences, USAMRRA*: Member of the Osteoporosis Panel: The purpose of the panel was to evaluate grant proposals submitted to the U.S. Department of Defense.
- 2005,2006 *American Institute of Biological Sciences, USAMRRA*: Member of the Bone Diseases Panel: The purpose of the panel was to evaluate grant proposals submitted to the U.S. Department of Defense.
- 2004,2010,2012 *American Institute of Biological Sciences, USAMRRA*: Member of the Osteoporosis and Bone-Related Diseases Panel: The purpose of the panel was to evaluate grant proposals submitted to the U.S. Department of Defense.
- 2003 *National Aeronautics and Space Administration (NASA)*, Member of the Musculoskeletal Biology, Exercise and Countermeasures Panel: The purpose of the appointment was to evaluate grant proposals submitted to NASA's Biomedical Research and Countermeasures Program.
- 2002 *American Institute of Biological Sciences, USAMRRA*: The progress of a grant funded by the U.S. Department of Defense was evaluated.

University Seminars/Presentations

- 2016, Spring Identifying treatments to improve physical activity and musculoskeletal health in children with cerebral palsy. Presented at the CP Research Symposium at the University of Delaware; also, organized and hosted the event
- 2014, Spring MRI Capability at the University of Delaware. Presented with other MRI Task Force members as part of a town hall meeting at the University of Delaware.
- 2011, Spring Consequences of poor skeletal development and potential treatment strategies. Seminar presented to the Biomechanics and Movement Science (BIOMS) Interdisciplinary Program at the University of Delaware.
- 2009, Fall NTDT 665 – Presented a description of my research program to graduate students in the Human Nutrition Program at the University of Delaware
- 2009, Fall NTDT 665 – What to expect in a graduate course. Seminar presented to graduate students in the Human Nutrition Program at the University of Delaware.
- 2008, Fall NTDT 665 – Presented a description of my research program to graduate students in the Human Nutrition Program at the University of Delaware.
- 2007, Spring NTDT 665 – Immobilization, Vitamin K and Fracture Resistance. Seminar presented to graduate students in the Human Nutrition Program at the University of Delaware
- 2005, Summer UNIV 602 – Faculty Roles in Institutions of Higher Education. Presented to students considering a position in academia.
- 2005, Fall NTDT 484, Guest lecture for Women in Sports: Nutrition. Discussed the importance of nutrition in sports with an emphasis on the specific needs of women
- 2004, Spring Weight Gain in Athletes. Presentation given to football players at the University of Delaware.

- 2004, Spring NTDT 665 - Physical Disabilities and Skeletal Health. Seminar presented to the Nutrition Program at the University of Delaware.
- 2004, Summer UNIV 602 – Faculty Roles in Institutions of Higher Education-presented to students considering a position in academia.
- 2003, Spring The pre-race meal. Seminar given to the University of Delaware’s Running Club
- 2003, Spring Are you worried about you diet? A seminar given to the University of Delaware’s Towers dormitory
- 2003, Fall Physical Activity and Bone Health: Beyond BMD. Seminar presented to the Biomechanics and Movement Science (BIOMS) Interdisciplinary Program at the University of Delaware.
- 2003, Fall Exercise, Nutrition and Bone Health: Seminar presented to the HESC 400 undergraduate seminar class.

Non-University Seminars/Presentations/Service

- 2016, Spring Grand Rounds, Musculoskeletal Development in Children with Cerebral Palsy, Nemours AI duPont Hospital for Children
- 2014, Summer Assessment of Bone and Adiposity in Children with Disabilities using MRI; *Invited Talk* at the Obesity and Bone Conference: Imaging for Regional Soft Tissue and Bone in Humans and Small Animals, University of Georgia Bioimaging Center
- 2011, Spring AI duPont Hospital for Children Search Committee for Senior Scientist Specializing in Pediatric Orthopedics
- 2004, Summer Nutrition and the Athlete. Presentation given to the Old School Camp, a basketball camp for the 40 top high school basketball players in the state of Delaware. The focus of the presentation was optimal nutrition for adolescent basketball players.
- 2004-2006 Special Olympics: Organized the anthropometric assessment of more then 200 children at the Special Olympics Basketball event held every Spring at the University of Delaware Field House.

University Committees/Service

- 2016-2017 Center for Biomedical and Brain Imaging, Executive Board, University of Delaware
- 2016-2017 Search Committee for Department Chair in Department of Kinesiology and Applied Physiology
- 2016-2017 Search Committee Chair for faculty position in Department of Kinesiology and Applied Physiology - Neuroscience
- 2015 Search Committee for Senior MRI Technologist for the University of Delaware’s Center for Biomedical and Brain Research
- 2015-2016 Search Committee for 5 new faculty positions for the College of Health Sciences new Communication Sciences and Disorders program
- 2014 Medical Sciences Graduate Program Committee

2014-Fall	Committee to revise merit document for the Department of Kinesiology and Applied Physiology
2013-2017	Nursing Graduate Program Committee
2013/14	Search Committee for faculty position in Department of Kinesiology and Applied Physiology - Biomechanics
2012-2107	MRI Task Force, University of Delaware
2011/12	Search Committee for faculty position in Department of Kinesiology and Applied Physiology – Cardiovascular Physiology – 2 hires
2010-2017	Applied Physiology Graduate Program Committee
2008, Winter	Chair, Search Committee for faculty in Nutrition Program – search canceled
2007-2009	Graduate Committee, Human Nutrition Program
2006, Winter	Search Committee for faculty position in Nutrition Program – 1 hire
2005-2009	Center for Research Development Advisory Council
2005-2006	Graduate Studies Committee, Department of Health, Nutrition and Exercise Science
2002-2003	Undergraduate Studies Committee, Department of Nutrition and Dietetics, University of Delaware Campaign
2005, Spring	Search Committee for faculty position in Exercise Physiology Program
2005, Spring	Promotion and Tenure Committee, Scholarship: Assisted in the revision of the Promotion and Tenure and Workload documents with special emphasis on the Scholarship component.
2004-2008	Nutrition Program representative, Discovery Day
2003-2004	United Way Department representative, University of Delaware United Way
2003-2008	University of Delaware Running Club Advisor
2003-2008	Graduate Studies Committee, Department of Health, Nutrition and Exercise Sciences
2002-2017	Faculty member, Biomechanics and Movement Science Interdisciplinary Program
2002-2003	University of Delaware Running Club Co-advisor