

CURRICULUM VITA
PAUL DEVITA

I. PERSONAL DATA

Date and Place of Birth: February 24, 1955, Brooklyn, New York

Present Home Address: 1406 Doris Circle, Greenville, North Carolina 27858

Present University Address: Biomechanics Laboratory, 332 Ward Sports Medicine Building, Department of Exercise and Sport Science, College of Health and Human Performance, East Carolina University, Greenville, North Carolina 27858, DeVitaP@ecu.edu, (252) 737 – 4563.

II. EDUCATION

Ph.D. University of Oregon, 1986, Department of Physical Education and Human Movement Science

M.S. University of Oregon, 1984, Department of Physical Education and Human Movement Science

B.A. State University of New York at Binghamton, 1977, Department of Biology

III. PROFESSIONAL EXPERIENCE

A. Current Position

Professor, Department of Exercise and Sport Science, East Carolina University, Greenville, North Carolina, August 2007 - present.

B. Previous Positions:

Associate Professor, Department of Exercise and Sport Science, East Carolina University, Greenville, North Carolina, August 1998 – August 2007.

Assistant Professor, Department of Exercise and Sport Science, East Carolina University, Greenville, North Carolina, January 1995 – August 1998.

Associate Professor and Biomechanics Laboratory Co-Director Department of Physical Education, Southern Illinois University at Carbondale, Carbondale, Illinois, April 1992 - December, 1994.

Assistant Professor and Biomechanics Laboratory Co-Director, Department of Physical Education, Southern Illinois University at Carbondale, Carbondale, Illinois, August, 1986 - April, 1992.

C. Additional Teaching Experience:

Computer Programming Instructor, Departments of Physical Education and Human Movement Studies and Continuing Education, University of Oregon, Eugene, Oregon, September, 1983 - August 1986.

IV. PUBLICATIONS

A. Refereed Journal Articles:

1. Lander, J.E., Bates, B.T. & **DeVita, P.** (1986). Biomechanics of the squat exercise using a modified center of mass bar. *Medicine and Science in Sports and Exercise*, 18, 469-478.
2. **DeVita, P.**, & Bates, B.T. (1988). Intraday reliability of ground reaction force data. *Human Movement Science*, 7, 73-85.
3. **DeVita, P.** & Skelly, W. (1990). Intrasubject variability in lower extremity joint moments of force during the stance phase of running. *Human Movement Science*, 9, 99-115.
4. **DeVita, P.** & Stribling, J. (1991). Lower extremity joint kinetics and energetics during backward running. *Medicine and Science in Sports and Exercise*, 23, 602-610.
5. **DeVita, P.**, Hong, D. & Hamill, J. (1991). The effect of asymmetric load carrying on the biomechanics of walking. *Journal of Biomechanics*, 24, 1119-1129.
6. **DeVita, P.** & Skelly, W. (1992). Effect of landing stiffness on joint kinetics and energetics in the lower extremity. *Medicine and Science in Sports and Exercise*, 24, 108-115.
7. Moss, R., **DeVita, P.** & Dawson, M. (1992). A biomechanical analysis of patellofemoral stress syndrome. *Journal of Athletic Training*, 27, 64-69.
8. **DeVita, P.** (1992). Kinetic and energetic analysis of unilateral above-knee amputee gait. *Medicine, Exercise, Nutrition and Health*, 1, 164-170.
9. **DeVita, P.**, Blankenship, P. & Skelly, W.A. (1992). Effects of a functional knee brace on the biomechanics of running. *Medicine and Science in Sports and Exercise*, 24, 797 - 806.
10. **DeVita, P.** (1994). Selection of a standard convention for analyzing gait data based on the analysis of relevant biomechanical factors. *Journal of Biomechanics*, 27, 501-508.
11. McCaw, S. & **DeVita, P.** (1995). Errors in alignment of center of pressure and foot coordinates affect predicted lower extremity torques. *Journal of Biomechanics*, 28, 984-988.
12. Sullivan, J., Knowlton, R., **DeVita P.** & Brown, D. (1996). Cardiovascular response to restricted range of motion exercise. *Journal of Strength and Conditioning Research*, 10, 3-7.
13. **DeVita, P.**, Torry, M., Glover, K.L., & Speroni, D.L. (1996). A functional knee brace alters joint torque and power patterns during walking and running. *Journal of Biomechanics*, 29, 583-588.
14. Hortobagyi, T., Barrier, J., Beard, D., Braspeninx, J., Koens, P., **DeVita, P.**, Dempsey, L. & Lambert, J. (1996). Greater initial adaptations to submaximal muscle lengthening than maximal shortening. *Journal of Applied Physiology* 81, 1677-1682.
15. **DeVita, P.**, Hortobagyi, T., Barrier, J., Torry, M., Glover, K., Speroni, D., Money, J. & Mahar, M. (1997). Gait adaptations before and after anterior cruciate ligament reconstruction surgery. *Medicine and Science in Sports and Exercise*, 29, 853-859.

16. **DeVita, P.**, Hortobagyi, T. & Barrier, J. (1998). Gait biomechanics are not normal after anterior cruciate ligament reconstruction and accelerated rehabilitation. *Medicine and Science in Sports and Exercise*, 30, 1481-1488.
17. **DeVita, P.**, Lassiter, T., Hortobagyi, T. & Torry, M. (1998). Functional knee brace effects during walking in subjects with anterior cruciate ligament reconstruction. *American Journal of Sports Medicine*, 26, 778-784.
18. Kovács I., Tihanyi J., **DeVita P.**, Rácz L., Barrier J., Hortobágyi T. (1999). Foot placement modifies kinematics and kinetics during drop jumping. *Medicine and Science in Sports and Exercise*, 31, 708-716.
19. Hortobágyi T. & **DeVita P.** (1999). Altered movement strategy increases lower extremity stiffness during stepping down in the aged. *Journal of Gerontology: Biological Sciences*, 54, B63-B70.
20. Hortobágyi, T. & **DeVita P.** (2000). Muscle pre- and co-activity during downward stepping are associated with leg stiffness in aging. *Journal of Electromyography and Kinesiology*, 10, 117-126.
21. **DeVita, P.** & Hortobagyi, T. (2000). Age causes a redistribution of joint torques and powers during gait. *Journal of Applied Physiology*, 88, 1804-1811.
22. Hortobágyi, T. & **DeVita P.** (2000). Favorable neuromuscular and cardiovascular responses to seven days of exercise with an eccentric overload in elderly women. *Journal of Gerontology: Biological Sciences*, 55A, B401-410.
23. **DeVita, P.** & Hortobágyi T. (2000). Age increases the skeletal vs. muscular component of lower extremity stiffness during stepping down. *Journal of Gerontology: Biological Sciences*, 55, B593-B600.
24. Hortobágyi, T., Tunnel D., Moody J., Beam S. & **DeVita P.** (2001). Low or high intensity strength training partially restores impaired quadriceps force accuracy and steadiness in the aged. *Journal of Gerontology: Biological Sciences*, 56, B38-B47.
25. Hickner, R., Mehta, P., Dyck, D., **DeVita, P.**, Houmard, J., Koves, T. & Byrd, P. (2001). Relationship between fat-to-fat-free mass ratio and decrements in leg strength following downhill running. *Journal of Applied Physiology*, 90, 1334-1341.
26. Hortobágyi, T. & **DeVita P.**, Money, J. & Barrier, J. (2001). Effects of standard and eccentric overload resistive exercise training in young women. *Medicine and Science in Sports and Exercise*, 33, 1206-1212.
27. **DeVita, P.** & Hortobagyi, T. (2001). Functional knee brace alters predicted knee muscle and joint forces in persons with ACL reconstruction during walking. *Journal of Applied Biomechanics*, 17, 297-311.
28. Mercer, J., **DeVita, P.**, Derrick, T. & Bates, B.T. (2003). Individual effects of stride length and frequency on shock attenuation during running. *Medicine and Science in Sports and Exercise*, 35, 307-313.
29. Hortobagyi, T., Mizelle, C., Beam, S. & **DeVita, P.** (2003). Old adults perform activities of daily living near their maximal capabilities. *Journal of Gerontology, Medical Sciences*, 58A, 453-460.

30. **DeVita, P.** & Hortobágyi, T. (2003). Obesity is not associated with increased knee joint torque and power during walking. *Journal of Biomechanics*, 36, 1355-1362.
31. Hortobágyi, T., Garry, J., Holbert, D. & **DeVita, P.** (2004). Aberrations in the control of quadriceps muscle force in patients with knee osteoarthritis. *Arthritis and Rheumatism (Arthritis Care and Research)*, 51, 562-569.
32. Messier, S., **DeVita, P.**, Cowan, R. Seay, J., Young, H. & Marsh, A. (2005). Do older adults with knee osteoarthritis place greater loads on the knee during gait? *Archives of Physical Medicine and Rehabilitation*, 86:703-709.
33. Hortobágyi T., Westerkamp L., Beam S., Moody J., Garry J., Holbert D., **DeVita P.** (2005). Altered hamstring-quadriceps muscle balance in patients with knee osteoarthritis. *Clinical Biomechanics*, 20, 97-104 .
34. Messier, S.P., Gutekunst, D.J., Davis, C. & **DeVita, P.** (2005). Weight loss reduces knee joint loads in overweight and obese older adults with knee osteoarthritis. *Arthritis and Rheumatism*, 52, 2026-2032.
35. **DeVita, P.** (2005). Musculoskeletal modeling and the prediction of *in vivo* muscle and joint forces. *Medicine and Science in Sports and Exercise*, 37, 1909-1910.
36. Hortobágyi, T. & **DeVita, P.** (2006). Mechanisms responsible for the age-associated increase in coactivation of antagonist muscles. *Exercise and Sport Science Reviews*, 34, 29-35.
37. **DeVita, P.**, Helseth, J. & Hortobágyi, T. (2007). Muscles do more positive than negative work in human locomotion. *Journal of Experimental Biology*, 210, 3361-3373.
38. Kulas, A., Zalewski, P, Hortobágyi, T. & **DeVita, P.** (2008). Effects of added trunk load and corresponding trunk position adaptations on lower extremity biomechanics during drop-landings. *Journal of Biomechanics*, 41, 180-185.
39. Helseth, J., Hortobágyi, T. & **DeVita, P.** (2008). How do low horizontal forces produce disproportionately high torques in human locomotion? *Journal of Biomechanics*, 41, 1747-1753.
40. Solnik, S., **DeVita, P.**, Rider, P., Long, B. & Hortobágyi, T. (2008). Teager-Kaiser Operator improves the accuracy of EMG onset detection independent of signal-to-noise ratio. *Acta of Bioengineering and Biomechanics*, 10, 65-68.
41. Messier, S., Legault, C., Schoenlank, C., Jolla, J., Martin, D. & **DeVita, P.** (2008). Risk factors and mechanisms of knee injury in runners. *Medicine and Science in Sports and Exercise*, 40, 1873-1879.
42. **DeVita, P.**, Janshen, L., Rider, R., Solnik, S. & Hortobágyi, T. (2008). Muscle work is biased towards energy generation over dissipation in non-level running. *Journal of Biomechanics*, 41, 3354-3359.
43. Powell, D., **DeVita, P.** & Hortobágyi, T. (2008). Inertial loading during gait evokes unique neuromuscular adaptations in old adults. *Perceptual and Motor Skills*, 2008, 107, 881-892.
44. Hortobágyi, T., Solnik, S., Gruber, A., Rider, P., Steinweg, K., Helseth, J. & **DeVita, P.** (2009). Interaction between age and gait velocity in the amplitude and timing of antagonist muscle coactivation. *Gait and Posture*, 29, 558-564.

45. Messier, S., Legault, C., Mihalko, S., Miller, G., Loeser, R., **DeVita, P.**, Lyles, M., Eckstein, F., Hunter, D., Williamson, J. & Nicklas, B. (2009). The Intensive Diet and Exercise for Arthritis (IDEA) Trial: design and rationale. *BMC Musculoskeletal Disorders*, <http://www.biomedcentral.com/content/pdf/1471-2474-10-93.pdf>.

46. Kulas, A., **DeVita, P.** & Hortobagyi, T. (2010). Interaction between trunk load and trunk position adaptations modulate knee anterior shear and hamstring muscle forces in landing. *Journal of Athletic Training*, 45, 5-15.

47. Solnik S., Rider P., **DeVita P.**, Hortobágyi T. (2010). Teager-Kaiser energy operator signal conditioning improves EMG onset detection. *European Journal of Applied Physiology*, 110, 489-498.

48. Solnik, S., **DeVita, P.**, Grzegorzczuk, K., Koziatek, A. & Bober, T. (In Press). EMG frequency during isometric, submaximal activity: a statistical model for biceps brachii. *Acta of Bioengineering and Biomechanics*.

B. Publication Summary of Refereed Journal Articles:

1. Impact Factors of Primary Journals:

a. Medicine and Science in Sports and Exercise:	3.40
b. Journal of Biomechanics:	2.78
c. Journal of Gerontology:	4.00
d. Journal of Applied Physiology:	3.66
e. Arthritis and Rheumatism:	7.68

2. Articles With Five Highest Numbers of Citations and the Numbers of Citations from DeVita as Primary Author:

a. DeVita et al, MSSE, 1992, article 6 above	126
b. DeVita et al, J Appl Physiol, 2000 article 21 above	93
c. DeVita et al, MSSE, 1997, article 15 above	67
d. DeVita et al, MSSE, 1998, article 16 above	65
e. DeVita et al, MSSE, 1992, article 9 above	40

3. Total Number of Citations to Articles with DeVita as co-author: 1,114

(all summary data from I.S.I. Web of Knowledge website

<http://wos.isiknowledge.com/CIW.cgi/portal.cgi/?SID=T112blhNL9C2Om9cIdO>)

D. Chapters in Professional Books:

1. Bates, B.T., **DeVita, P.** & Kinoshita, H. (1983). The effects of intra-individual variability on sample size. In B. Nigg & B. Kerr (Eds.), *Biomechanical Aspects of Sport Shoes and Playing Surfaces* (pp 191-198). Calgary, Canada: University Printing.

2. **DeVita, P.** & Bates, B.T. (1987). The effects of time on selected ground reaction force parameters. In B. Jonsson (Ed.), *Biomechanics X-B*, (pp 1011-1014). Champaign, Illinois: Human Kinetics.

3. **DeVita, P.** & Bates, B.T. (1988). Shoe evaluation methodology for ground reaction force data. In G. de Groot, A. Hollander, P. Huijing & G. Schenau (Eds.), *Biomechanics IX*, (pp 705-709). Amsterdam: Free University Press.

4. **DeVita, P.** (2005). ACSM Fellows Offer Advice to Students (pp 124-133). American College of Sports Medicine. Indianapolis, Indiana.

E. Letters to the Editor

1. **DeVita, P.** & Hortobagyi, T. (2004). Authors' Response. *Journal of Biomechanics*, 37, 1633-1634.

2. Hortobagyi, T., **DeVita, P.** & LaStoyo, P. (2009). Letter addressing, "Neuromuscular and balance responses to fly wheel inertial versus weight training in older persons. (2008) *Journal of Biomechanics*, 41, 3133-3138," *Journal of Biomechanics*, 42, 956.

F. Refereed Abstracts:

1. Kinoshita, H., Bates, B.T. & **DeVita, P.** (1983). Intertrial variability for selected running gait parameters. *Proceedings of the IXth International Congress of Biomechanics*, 9.

2. Bates, B.T., **DeVita, P.** & Lander, J.E. (1984). The evaluation of foot function using two measurement systems. *Proceedings of the Third Biannual Conference of the Canadian Society of Biomechanics: Human Locomotion III*, 3, 83-84.

3. **DeVita, P.**, Bates, B.T. & Lander, J.E. (1984). Reliability of ground reaction force data. *Proceedings of the Third Biannual Conference of the Canadian Society of Biomechanics: Human Locomotion III*, 3, 77-78.

4. Kinoshita, H., Bates, B.T. & **DeVita, P.** (1984). Orthogonal ground reaction force component interactions. *Proceedings of the 1984 Olympic Scientific Congress*, 299-304.

5. **DeVita, P.** & Bates, B.T. (1985). The effects of time on selected ground reaction force parameters. *Proceedings of the Xth International Congress of Biomechanics*, 10, 54.

6. Lander, J., Bates, B. & **DeVita, P.** (1985). The kinematics of the squat exercise using a modified center of mass bar. *Proceedings of the Xth International Congress of Biomechanics*, 10, 155.

7. Bates, B.T., **DeVita, P.** & Hamill, J. (1986). The effects of additional load on impact force. *Proceedings of the Fourth Biannual Conference of the Canadian Society of Biomechanics: Human Locomotion III*, 4, 60-61.

8. **DeVita, P.** & Bates, B.T. (1986). Intraday reliability of selected ground reaction force parameters during running. *Medicine and Science in Sports and Exercise*, 18 (suppl.), 79.

9. Osternig, L., Robertson, R.N., Hamill, J. & **DeVita, P.** (1986). Effect of isokinetic dynamometer compliance on muscle tension. *Medicine and Science in Sports and Exercise*, 18 (suppl.), 57.

10. **DeVita, P.** & Bates, B.T. (1987). Shoe evaluation methodology for ground reaction force data. *Proceedings of the XIth International Congress of Biomechanics*, 11.

11. **DeVita, P.** & Bates, B.T. (1988). Intrasubject variability of ground reaction force data over consecutive days and weeks. *Proceedings of the Fifth Biannual Conference of the Canadian Society of Biomechanics* 5, 54-55.

12. Bates, B.T., Hamill, J. & **DeVita, P.** (1988). The evaluation of strategies used to accommodate additional loads during running. Proceedings of the Fifth Biannual Conference of the Canadian Society of Biomechanics, 5, 40-41.
13. **DeVita, P.** & Blankenship, P. (1989). Biomechanical analysis of running with a functional knee brace. Proceedings of the 13th Annual Meeting of the American Society of Biomechanics, 13, 188-189.
14. **DeVita, P.** & Skelly, W. (1989). Intrasubject variability in lower extremity joint moments of force during the support phase of running. Proceedings of the XII International Congress of Biomechanics, 12, Abstract no. 60.
15. **DeVita, P.** & Skelly, W. (1989). Biomechanics of landing from a vertical jump. Proceedings of the 13th Annual Meeting of the American Society of Biomechanics, 13, 186-187.
16. Hong, D. & **DeVita, P.** (1989). Effects of asymmetrical loads on ground reaction forces during walking. Proceedings of the XII International Congress of Biomechanics, 12, Abstract no. 59.
17. Robertson, R., **DeVita, P.** & Bates, B.T. (1989). Biomechanical control parameters in a precise horizontal standing jump: joint kinetic-EMG relationships. Proceedings of the 13th Annual Meeting of the American Society of Biomechanics, 13, 198-199.
18. **DeVita, P.** (1990). Kinetic and energetic analysis of above knee amputee gait. Proceedings of the Sixth Biannual Conference of the Canadian Society of Biomechanics: Human Locomotion VI, 6, 37-38.
19. **DeVita, P.**, Hong, D. & Hamill, J. (1990). Effect of asymmetric load carrying on frontal plane joint kinetics. Proceedings of the 14th Annual Meeting of the American Society of Biomechanics, 14, 131-132.
20. Skelly, W. & **DeVita, P.** (1990). Compressive and shear forces on the tibia and knee during landing. Proceedings of the Sixth Biannual Conference of the Canadian Society of Biomechanics: Human Locomotion VI, 6, 59-60.
21. **DeVita, P.**, Blankenship, P. & Skelly, W. (1991). Dynamic analysis of a functional knee brace and a previous ACL injury. Proceedings of the 15th Annual Meeting of the American Society of Biomechanics, 15, 110-111.
22. **DeVita, P.**, Dolan, T. & Skelly, W. (1992). Identification of a general mechanism of impact absorption in the lower extremity. Proceedings of the Second North American Congress on Biomechanics, 2, 539-540.
23. **DeVita, P.** (1993). Selection of a standard convention for analyzing gait based on the analysis of joint torques and electromyography. Proceedings of the 17th Annual Meeting of the American Society of Biomechanics, 17, 173-174.
24. McCaw, S. & **DeVita, P.** (1993). Center of pressure location error effects lower extremity joint movement of force values. Medicine and Science in Sports and Exercise (suppl.) 25, 69.
25. **DeVita, P.**, Torry, M., Glover, K. & Speroni, D. (1995). Biomechanical effects of a functional knee brace during walking and running. Medicine and Science in Sports and Exercise (suppl.) 27, 42.
26. Torry, M. & **DeVita, P.** (1995). Functional assessment of lower limb biomechanics after anterior tibialis resection: a case study. Medicine and Science in Sports and Exercise (suppl.) 27, 91.

27. Stavrakas, P., **DeVita, P.**, Lambert, J. & Hortobagyi, T. (1996). Effect of NDT facilitation on gait parameters in children with neurologic deficits: two case studies. *Pediatric Physical Therapy*, v 7, 198.
28. **DeVita, P.**, Hortobagyi, T., Money, J. & Barrier, J. (1996). Functional knee brace alters hip and knee torques in ACL-injured subjects during walking. *Medicine and Science in Sports and Exercise (suppl.)* 28, s26.
29. Skelly, W. & **DeVita, P.** (1996). Muscular and intersegmental sources of mechanical power in soft and stiff landings from vertical falls. *Medicine and Science in Sports and Exercise (suppl.)* 28, s122.
30. Hortobagyi, T., Barrier, J., Beard, D., Braspenincx, J., Koens, P., **DeVita, P.**, Dempsey, L., Israel, R. & Lambert, J. (1996). Greater adaptations with submaximal muscle lengthening than maximal shortening contractions. *Medicine and Science in Sports and Exercise (suppl.)* 28, s128.
31. **DeVita, P.**, Hortobagyi, T., Money, J., Torry, M., Glover, K., Speroni, D. Barrier, J., Mahar, M. & Lochmann, J. (1996). Gait adaptations before and after ACL reconstruction surgery. *Proceedings of the 20th Annual Meeting of the American Society of Biomechanics*, 20, 41-42.
32. Hortobagyi, T., **DeVita, P.**, Barrier, J., Money, J. & McLuckie, T. (1996). The effect of aging and fatigue on lower extremity stiffness. *Proceedings of the 20th Annual Meeting of the American Society of Biomechanics*, 20, 131-132.
33. Lambert, J., Westbrook, S., Hortobagyi, T. & **DeVita, P.** (1997). Cycle ergometer training and motor performance of patients with hemiplegia. *Proceedings of the Scientific Meeting and Exposition of the American Physical Therapy Association*, s80.
34. **DeVita, P.** Hortobagyi, T., Lassiter, T. Barrier, J., Kandle, R., Chirpakovich, G., Money, J. & Baggett, C. (1997). Comparison of muscle activity between recent ACL-injured and healthy subjects during walking. *Medicine and Science in Sports and Exercise (suppl.)* 29, s39.
35. Dempsey, L., Lambert, J., **DeVita, P.**, Fraser, D. and Hortobagyi, T. (1997). Immobilization uniformly decreases various expressions of muscle strength and EMG. *Medicine and Science in Sports and Exercise (suppl.)* 29, s24.
36. Hortobagyi, T., Zheng, D., Dempsey, W., Fraser, D., **DeVita, P.** and Dohm, L. (1997). Immobilization differentially alters human Type I, IIa, and IIx MHC mRNA isoforms. *Medicine and Science in Sports and Exercise (suppl.)* 29, s66.
37. Barrier, J., Kovacs, I., Racz, L, Tihanyi, J., **DeVita, P.** and Hortobagyi, T. (1997). Differential effects of toe versus heel landing on lower extremity joint kinetics. *Medicine and Science in Sports and Exercise (suppl.)* 29, s233.
38. Tomsic, J., Knowlton, R., Becque, M., **DeVita, P.** and Ackerman, K. (1997). Selected physiological and biomechanical effects of aerodynamic cycling positions during race simulated workload and duration. *Medicine and Science in Sports and Exercise (suppl.)* 29, s197.
39. **DeVita, P.** & Lieber, R. (1997). Muscle stiffness and the control of movement. *Medicine and Science in Sports and Exercise (suppl.)* 29, s109.

40. Hortobagyi, T., Dempsey, L., Fraser, D. & **DeVita, P.** (1997). Strength gains and fatigue are unrelated in the recovery of muscular strength after immobilization. *Proceedings of the XVI International Congress of Biomechanics*, 16, 394.
41. **DeVita, P.**, Hortobagyi, T., Barrier, J., Money, J. & Anderson, E. (1997). Effects of aging on skeletal and muscular components of lower limb quasi-stiffness. *Proceedings of the 21st Annual Meeting of the American Society of Biomechanics*, 21, 282-283.
42. Hortobagyi, T., Dempsey, L., Lambert, J., Hamilton, G. & **DeVita, P.** (1997). Increased neuromuscular efficiency during fatigue following lower limb immobilization. *Proceedings of the 21st Annual Meeting of the American Society of Biomechanics*, 21, 286-287.
43. Hortobagyi, **DeVita, P.**, Money, J., Barrier, J. & Anderson, E. (1997). Muscle coactivation and lower limb quasi-stiffness in aging. *Abstracts, Society for Neuroscience*, 27, 1833.
44. Barrier, J., Money, J., Stockett, J., Kandle, R., Spencer, M., Forbis, B., Lambert, J., Tracy, J., Connors, J., **DeVita, P.** & Hortobagyi, T. (1998). Dissimilar hamstring/quadriceps (H/Q) ratios according to mode of muscle contraction and training status. *Proceedings of the 26th Annual meeting of the American College of Sports Medicine, Southeast Regional Chapter*, 26, abstract #43.
45. Forbis, B., Money, J., Barrier, J., Stockett, J., Kandle, R., Spencer, M., Lambert, J., Tracy, J., Connors, J., **DeVita, P.** & Hortobagyi, T. (1998). The relationship between rate of tension development of the quadriceps muscle groups and the sprint starts. *Proceedings of the 26th Annual meeting of the American College of Sports Medicine, Southeast Regional Chapter*, 26, abstract #56.
46. Harper, W., **DeVita, P.**, Jenkins, W., Houmard, J. & Mahar, M. (1998). The effects of orthotics on running economy and gait mechanics in symptomatic recreational runners. *Proceedings of the 26th Annual meeting of the American College of Sports Medicine, Southeast Regional Chapter*, 26, abstract #79.
47. Kandle, R., Stockett, J., Forbis, B., Spencer, M., Barrier, J., Money, J., Connors, J., Lambert, J., Tracy, J., **DeVita, P.** & Hortobagyi, T. (1998). Comparison between bilateral and unilateral strength during the supine leg press. *Proceedings of the 26th Annual meeting of the American College of Sports Medicine, Southeast Regional Chapter*, 26, abstract #20.
48. Spencer, M., Barrier, J., Kandle, R., Money, J., Stockett, J., Forbis, B., Lambert, J., Tracy, J., Connors, J., **DeVita, P.** & Hortobagyi, T. (1998). Synchronization and symmetry in joint motions in the lower extremities during treadmill running. *Proceedings of the 26th Annual meeting of the American College of Sports Medicine, Southeast Regional Chapter*, 26, abstract #82.
49. Stockett, J., Kandle, R., Barrier, J., Money, J., Forbis, B., Spencer, M., Tracy, J., Lambert, J., Connors, J., **DeVita, P.** & Hortobagyi, T. (1998). Greater power production in elite sprinters during jump squat compared to conventional squat exercise. *Proceedings of the 26th Annual meeting of the American College of Sports Medicine, Southeast Regional Chapter*, 26, abstract #24.
50. Tunnel, D., Kandle, R., Stockett, J., Forbis, B., Spencer, M., Barrier, J., Money, J., Connors, J., Tracy, J., Lambert, J., **DeVita, P.** & Hortobagyi, T. (1998). Lower hamstring coactivation during knee extension in Olympic sprinters and distance runners than in sedentary runners. *Proceedings of the 26th Annual meeting of the American College of Sports Medicine, Southeast Regional Chapter*, 26, abstract #80.

51. **DeVita, P.**, Hortobagyi, T. & Barrier, J. (1998). Functional knee brace reduces knee shear force in ACL-reconstructed patients during walking. *Medicine and Science in Sports and Exercise (suppl.)* 30, s335.
52. Fisher, S., **DeVita, P.**, Hortobagyi, T., Lang, J., Popovich, A., Smith, R. & Miller, J. (1998). Distribution of joint torques during gait is different between young and elderly humans. *Medicine and Science in Sports and Exercise (suppl.)* 30, s254.
53. Hortobagyi, T., Money, J., Barrier, J., Fraser, D. & **DeVita, P.** (1998). Acute strength gains are greater with eccentric overload compared to standard resistive training in young and old women. *Medicine and Science in Sports and Exercise (suppl.)* 30, s335.
54. Money, J., Dudek, R., Fraser, D., **DeVita, P.**, Barrier, J. & Hortobagyi, T. (1998). Absence of damage in aged human skeletal muscle after acute training with an eccentric overload. *Medicine and Science in Sports and Exercise (suppl.)* 30, s335.
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163. Bulluck, J., **DeVita, P.**, Hortobagyi, T. & Kula, A. (2009). Sagittal plane trunk position affects hip and knee joint moments during a single-leg squat. Proceedings of the 6th Annual Human Movement Science Research Symposium, 6, 4.
164. Kulas, A., Bulluck, J., Hortobagyi, T. & **DeVita, P.** (2009). Trunk flexion interactively affects knee muscle and joint forces during a single-leg squat. Proceedings of the 6th Annual Human Movement Science Research Symposium, 6, 5.
165. Copple, T., Patterson, J., Rider, P., Long, B., Steinweg, K., Hortobagyi, T. & **DeVita, P.** (2009). Controlling stride length during walking in young and old adults. Proceedings of the 6th Annual Human Movement Science Research Symposium, 6, 8.

166. Gomez, J., Moscicki, B., Rider, P., Solnik, S., Bai, O., Hallett, M., **DeVita, P.** & Hortobagyi, T. (2009). Muscle-to-muscle coherence is higher in young than old adults during gait. Proceedings of the 6th Annual Human Movement Science Research Symposium, 6, 9.
167. Long, B., Via, K., Rider, P., Gruber, A., Hortobagyi, T. & **DeVita, P.** (2009). Mechanisms used to increase speed during incline running. Proceedings of the 6th Annual Human Movement Science Research Symposium, 6, 10.
168. McNally, M., Rider, P., Long, B., Hortobagyi, T., Pories, W., Jernigan, K. & **DeVita, P.** (2009). Positive and negative muscle work during non-level walking: obese vs. lean adults. Proceedings of the 6th Annual Human Movement Science Research Symposium, 6, 11.
169. Herring, C., Rider, P., Long, B., White, B., Jernigan, K., Pories, W., **DeVita, P.** & Hortobagyi, T. (2009). Gait kinematics in lean and obese children and adults. Proceedings of the 6th Annual Human Movement Science Research Symposium, 6, 17.
170. Finch, A., Rider, P., Gomez, J., Steinweg, K., **DeVita, P.** & Hortobagyi, T. (2009). Age and velocity modulate the amplitude and timing of antagonist muscle co-activation during level walking in young and old adults. Proceedings of the 6th Annual Human Movement Science Research Symposium, 6, 19.
171. Bullock J., **DeVita P.**, Hortobágyi T. & Kulas A. (2009). Trunk position modulates hip and knee joint moments during a single-leg squat. Proceedings of the 3rd Annual East Carolina University Research and Creative Achievement Week, 3, 69.
172. Copple T., Patterson J., Rider P., Long B., Steinweg K., Hortobágyi T. & **DeVita P.** (2009). Controlling stride length during walking in young and old adults. Proceedings of the 3rd Annual East Carolina University Research and Creative Achievement Week, 3, 71.
173. Finch A., Rider P., Gomez J., Steinweg K., **DeVita P.** & Hortobágyi, T., (2009). Proceedings of the 3rd Annual East Carolina University Research and Creative Achievement Week, 3, 68.
174. Gomez J., Moscicki B., Rider P., Solnik S., Bai O., Hallett M., **DeVita P.** & Hortobágyi T. (2009). Tasks and gait velocity-specificity of muscle-to-muscle coherence in young and old adults. Proceedings of the 3rd Annual East Carolina University Research and Creative Achievement Week, 3, 70.
175. Herring C., Rider P., Long B., White B., Jernigan K., Pories W., **DeVita P.** & Hortobágyi T. (2009). Lean and obese children vs. lean and obese adult gait kinematic and kinetic variables. Proceedings of the 3rd Annual East Carolina University Research and Creative Achievement Week, 3,
176. Jones J., Copple T., Gomez J., Rider P., **DeVita P.** & Hortobágyi T. (2009). Effects of training status, contraction type, and contraction speed on coactivation during isokinetic knee extension. Proceedings of the 3rd Annual East Carolina University Research and Creative Achievement Week, 3, 69.
177. Moore B., Gomez J., Zabransky Z., **DeVita P.**, Hortobágyi T., DeVita, P., Bai, O. & Rider P. (2009). Quantification of agonist and antagonist muscle torques in trained vs. untrained males. Proceedings of the 3rd Annual East Carolina University Research and Creative Achievement Week, 3,
178. Motawar B., McNally M., Rider P., **DeVita P.** & Hortobágyi T. (2009). Modulation of the H reflex in response to voluntary contraction of the homologous muscle in the contralateral limb. Proceedings of the 3rd Annual East Carolina University Research and Creative Achievement Week, 3, 109.

179. Patterson J., Rider P., Herring C., Long B., Sams P., Jernigan K., Pories W., **DeVita, P.** & Hortobágyi T. (2009). Changes in gait after bariatric surgery-induced weight loss. Proceedings of the 3rd Annual East Carolina University Research and Creative Achievement Week, 3, 60.
180. **DeVita, P.**, Rider, P., Copple, T., Patterson, J. & Hortobagyi, (2009). T. Lower limb kinetic and energetic factors associated with stride length in healthy human gait. *Medicine and Science in Sports and Exercise* (suppl.), 41, s3.
181. Messier, S., Legault, C., **DeVita, P.**, Loeser, R., Van Arsdale, S. & Nicklas, B. (2009). Weight loss in knee osteoarthritis: effects on knee joint loads, inflammation, and disease progression. *Medicine and Science in Sports and Exercise* (suppl.), 41, s4.
182. Hortobagyi, T., Howatson, G., Taylor, M., Rider, P., Solnik, S. & **DeVita, P.** (2009). Ipsilateral motor cortical responses to TMS during shortening and lengthening of the wrist flexors. *Medicine and Science in Sports and Exercise* (suppl.), 41, s124.
183. Herring, C., Rider, P., Long, B., White, B., **DeVita, P.** & Hortobagyi, T. (2009). Interaction in gait kinetics between lean and obese children and adults. *Medicine and Science in Sports and Exercise* (suppl.), 41, s136.
184. Rider, P., Herring, C., Patterson, J., Long, B., Sams, P., Pories, W., **DeVita, P.** & Hortobagyi, T. (2009). Gait adaptations to 37 kg weight loss produced by bariatric surgery. *Medicine and Science in Sports and Exercise* (suppl.), 41, s580.
185. Hortobágyi T., Howatson G., Rider P., Solnik S. & **DeVita P.** (2009). Mechanisms of changes in excitability of the primary motor cortex during unilateral muscle contractions: Implications for cross education. Proceedings of the 14th Annual Congress of the European College of Sport Science, 14, 122.
186. **DeVita, P.**, Copple, T., Patterson, J., Rider, P., Long, B., Steinweg, K. & Hortobagyi, T. (2009). Modulating step length during walking by young and old adults. Proceedings website (http://www.asbweb.org/conferences/2009/asb_schedule.htm) of the 33rd Annual Meeting of the American Society of Biomechanics.
187. Messier, S., Ray, J., Davis, C., Mihalko, S., Legault, C., Nicklas, B., **DeVita, P.**, Carr, J., Hunter, D. & Loeser, RF. (2009). Function, Pain and the Modifying Effects of Regional Adiposity and Strength in Older Adults with Knee Osteoarthritis. Proceedings of the Annual meeting of the Osteoarthritis Research Society International.
188. Kitchens, E., Rider, P., McNally, M., Hortobagyi, T. & **DeVita, P.** (2010). Comparison of gait biomechanics at self-selected and standardized walking speeds. Proceedings of the 2010 Human Movement Science Symposium, 7, 13.
189. Kulas, A., Bulluck, J. & **DeVita, P.** (2010). Relationship between external work and lower extremity work during single-leg landing from three different heights. Proceedings of the 2010 Human Movement Science Symposium, 7, 22.
190. Kulas, A., Bulluck, J. & **DeVita, P.** (2010). Absolute and relative lower extremity joint work during single leg landing from three different heights. Proceedings of the 2010 Human Movement Science Symposium, 7, 24.

191. McNally, M., Rider, P., Long, B., Hortobagyi, T. & **DeVita, P.** (2010). Biomechanical gait adaptations in obese are task dependent. Proceedings of the 2010 Human Movement Science Symposium, 7, 28.
192. Pearl, C., Herring, C., Jernigan, K., McNally, M., Patterson, J., Pories, W., Rider, P., **DeVita, P.** & Hortobagyi, T. (2010). Effects of weight loss produced by bariatric surgery on biomechanical measures seen in locomotion. Proceedings of the 4th Annual ECU Research and Creative Achievement Week, O-092.
193. Copple, T., Meuffleman, R., Rider, P., **DeVita, P.** & Hortobagyi, T. (2010). Whole body vibration influences on muscular force steadiness. Proceedings of the 4th Annual ECU Research and Creative Achievement Week, P-094.
194. Gomez, J., Copple, T., Rider, P., **DeVita, P.** & Hortobagyi, T. (2010). Effects of age and contraction velocity on antagonist muscle co-activation during knee extension. Proceedings of the 4th Annual ECU Research and Creative Achievement Week, P072.
195. Hill, R., McNally, M., Motawar, B., Rider, P., **DeVita, P.** & Hortobagyi, T. (2010). Task specific effects of unilateral eccentric and concentric exercise on spinal excitability of the contralateral homologous plantar flexors. Proceedings of the 4th Annual ECU Research and Creative Achievement Week, P-077.
196. Bulluck, J., **DeVita, P.** & Hortobagyi, T. (2010). Effects of landing height on lower extremity energy absorption during single-leg landing. Proceedings of the 4th Annual ECU Research and Creative Achievement Week, P-081.
197. McNally, M., Rider, P., Long, B., Hortobagyi, T. & **DeVita, P.** (2010). Task dependent biomechanical gait adaptations in obese adults. Proceedings of the 4th Annual ECU Research and Creative Achievement Week, P-061.
198. McNally, M., Rider, P., Long, B., Hortobagyi, T. & **DeVita, P.** (2010). Obesity induced biomechanical gait adaptations are task dependent. *Medicine and Science in Sports and Exercise* (suppl.), 42, s373.
199. Rider, P., Bulluck, J., **DeVita, P.** & Kulas, A. (2010). Knee musculotendon work vs knee joint mechanical work during single leg squatting. *Medicine and Science in Sports and Exercise* (suppl.), 42, s281.
200. Messier, S., Nicklas, B., Legault, C., Loeser, R., Miller, G., **DeVita, P.**, Davis, C. & Carr, J. (2010). Relationship between thigh fat depots and knee joint loads in knee osteoarthritis: a preliminary study. *Medicine and Science in Sports and Exercise* (suppl.), 42, s99.
201. **DeVita, P.**, Nicklas, B., Legault, C., Loeser, R., Miller, G., Messier, S. (2010). Relationships among knee joint loads during gait and c-reactive protein in knee osteoarthritis: a preliminary study. *Medicine and Science in Sports and Exercise* (suppl.), 42, s576.
202. Hortobagyi, T., Motawar, B., McNally, M., Rider, P. & **DeVita, P.** (2010). Spinal excitability in contralateral muscle is similar during shortening and lengthening of the wrist flexors. *Medicine and Science in Sports and Exercise* (suppl.), 42, s413.

G. Non-refereed Articles:

1. **DeVita, P.** (1996). Walt Whitman - poet or closet biomechanist? International Society of Biomechanics Newsletter, Fall, 15-16.
2. **DeVita, P.** (1996). All the world is a stage and all the actors are biomechanists. International Society of Biomechanics Newsletter, Winter, 17-18.

V. GRANTS AND SERVICE FUNDS (P.I. unless otherwise indicated, co-investigators listed):

A. Grants Funded

1. Mini-sabbatical for Research, Graduate School, Southern Illinois University at Carbondale, 1986, \$800.
2. Mini-sabbatical for Research, Graduate School, Southern Illinois University at Carbondale, 1987, \$800.
3. Reliability of support leg joint moments of force in running. Special Research Project, Graduate School Southern Illinois University at Carbondale, 1987, \$19,200.
4. Intrasubject variability in the performance of a discrete motor skill. Summer Research Fellowship Award, Graduate School, Southern Illinois University at Carbondale, 1988, \$2,640.
5. Biomechanical Investigation of the General Impact Absorption Mechanism in the Lower Extremities. Illinois Association for Health, Physical Education, Recreation and Dance, 1992, \$2,900.
6. Longitudinal analysis of joint kinetics and energetics in the lower extremity during gait in subjects with anterior cruciate ligament injury. Special Research Project, Graduate School, Southern Illinois University at Carbondale, 1993, \$17,000.
7. Effects of knee bracing on selected biomechanical variables. Summer Research Fellowship Award, Graduate School, Southern Illinois University at Carbondale, 1993, \$3,800.
8. Effects of a functional knee brace on lower extremity kinetics and energetics during gait. Illinois Association for Health, Physical Education, Recreation and Dance, 1993, \$3,333.
9. A comparison of three knee bracing techniques. Seed money grant from School of Health and Human Performance, East Carolina University, 1995, \$400.
10. Biomechanical effects of a functional knee brace during walking and running. Summer Stipend, Research/Creative Activity Grant, East Carolina University, 1995, \$5,928.
11. Biomechanical effects of a functional knee brace during walking and running. Research/Creative Activity Grant (continuation of previous grant), East Carolina University, 1995, \$3000.
12. Research Travel Award, Graduate School, East Carolina University, 1995, \$200.
13. The effects of surgical intervention in anterior cruciate ligament injured individuals, School of Health and Human Performance, East Carolina University, 1996, \$2,400.

14. Expansion and development of the H&HP curriculum enrichment project, phase III, (co-P.I. with Glasgow, D., Langley, D., Mahar, M., Heininger, E. & Cain, W.), Student Computer and Technology Fee Committee, East Carolina University, 1996, \$67,500.
15. Visiting Industrial Scientist Program, North Carolina Biotechnology Center, 1997, \$2,000, (funded through Office of Research and Graduate Studies, ECU).
16. Initial neuromuscular adaptations to anterior cruciate ligament injury, Research/Creative Activity Grant, East Carolina University, 1997, \$11,187.
17. Effect of aging on lower extremity stiffness, North Carolina Institute on Aging, 1997, \$5,000.
18. Influence of obesity and weight loss on gait, (co-P.I. with Hortobagyi, T. and Evans, E.), North Carolina Institute of Nutrition, 1997, \$8,000.
19. LeRoy T. Walker International Human Performance Center, Biomechanics Laboratory equipment grant, (co-P.I. with Hortobagyi, T.), 1997, \$133,590.
20. ECU Basic Faculty Computer Program, 1997, \$3,000.
21. Knee joint forces while walking with and without a functional knee brace in recent ACL-reconstructed subjects, (with Hortobagyi, T., Hanley, M.), National Athletic Trainers Association, 1999, \$20,974.
22. Seed money grant, School of Health and Human Performance, East Carolina University, 1999, \$600.
23. Role of stiffness in aging, (co-Investigator with Hortobagyi, T.), NIH, 1999, \$104,272.
24. Instrumented stairway for biomechanical analysis, (co-P.I. with Hortobagyi, T.), Facilities Services, East Carolina University, 1999, \$1,500.
25. International Studies travel grant, East Carolina University, 1999, \$300.
26. Neuromuscular reorganization with age, Research/Creative Activity Grant, East Carolina University, 2000, \$19,252.
27. Improving EXSS 3850 Introduction to Biomechanics through the development and delivery of a prerequisite course in Structural Kinesiology, Teaching Grant, East Carolina University, 2003, \$9,000.
28. Mechanical plasticity in locomotion with age (with Hortobagyi, T., Steinweg, K. & Holbert, D.), NIH R01AG024161, \$1,211,250, May 15, 2005 – May 14, 2009.
29. Intensive Dietary Restriction with Exercise in Arthritis (co-Investigator with Messier, S. (P.I.), Lenchick, L., Mihalko, S., Miller, G., Legault, C., Nicklas, B., Williamson, J. & Loeser, R.), NIH R01 AR052528, \$3,449,508, August 15, 2006 – August 14, 2011.
30. Positive and Negative Muscle Work in Young and Old Adults, East Carolina University Research Development Award, \$19,996, July 1, 2008 – June 30, 2009.

31. Biomechanical Factors Associated with Knee Injuries and Pain in Runners, (co-Investigator with Messier, S. (P.I.), Legault, C., Martin, D., Mihalko, S. & Seay, J.), US Department of Defense, \$598,844, June 1, 2010 – May 31, 2012.

B. Grants Not Funded or Pending:

1. Biomechanical gait analysis of individuals with severe anterior cruciate ligament injury, National Collegiate Athletic Association, 1992, \$25,000, (not funded).
2. Factors affecting gait adaptations after knee ACL injury, NIH, \$75,000, 1995, (not funded).
3. The effects of surgical intervention in anterior cruciate ligament injured individuals, Research/Creative Activity Grants Committee, East Carolina University, 1995, \$6,100, (not funded).
4. Role of stiffness in aging, (co P.I. with Hortobagyi, T.), American College of Sports Medicine, 1996, \$15,000, (not funded).
5. Stiffness modulation in response to age and fatigue, (with Hortobagyi, T.), NSF, 1996, \$358,368, (not funded).
6. Muscle lengthening as a countermeasure to strength loss and atrophy, (co P.I. with Hortobagyi, T., Houmard, J. & Dudek, R.), NASA, 1996, \$419,765, (not funded).
7. Musculoskeletal stiffness and aging, (with Hortobagyi, T. and Lassiter, T.), Orthopaedic Research and Education Foundation, 1996, \$87,300, (not funded).
8. Mechanisms of gait adaptations after knee ACL injury, NIH, 1996, \$92,467, (not funded).
9. Muscular and skeletal components of lower extremity stiffness in young and elderly adults during stair descent, (with Hortobagyi, T. and Lassiter, T.), Orthopaedic Research and Education Foundation, 1997, \$91,800, (not funded).
10. In vivo joint forces in knee osteoarthritis, (with Hortobagyi, T. & Garry, J.), NIH, 1999, \$150,000, (not funded).
11. *In vivo* joint forces in knee osteoarthritis, (with Hortobagyi, T. & Garry, J.) Arthritis Research Foundation, 2000, \$254,995, (not funded).
12. In vivo joint and muscle forces and quadriceps power in knee osteoarthritis, (with Hortobagyi, T. & Garry, J.) Arthritis Research Foundation, 2001, \$246,560, (not funded).
13. Quadriceps force and power in knee osteoarthritis, (with Hortobagyi, T. & Garry, J.) NIH, 2001, \$209,250, (not funded).
14. Three-dimensional rear foot kinematics and kinetics in individuals with diabetic neuropathy, (co-P.I. with Williams, B.) American Diabetes Association, 2001, \$405,569, (not funded).
15. Moderation of knee osteoarthritis with vigorous and mild exercise, (co-I. with P.I. Hortobagyi, T.) NIH, 2002, \$1,569,375, (not funded).

16. Mathematical modeling of muscle force in osteoarthritis, (with Hortobagyi, T. & Garry, J.), NIH, 2003, \$209,250, (not funded).
17. Relative effort in aging, (co-P.I. with Hortobagyi, T.), NIH, 2003, \$1,395,000, 2003, (not funded).
18. Quadriceps control in knee OA (co P.I. with Hortobagyi, T.), NIH, 2003, \$1,255,500, 2003, (not funded).
19. Sex-specific adaptability to an imposed trunk load on trunk muscle recruitment, trunk control, and knee mechanics during single leg landing, (co-Investigator with Kulas, A.), National Athletic Trainers Association, \$62,733, 2006, (not funded).
20. The runners and injury longitudinal study, (co-Investigator with Messier, S. et al.), NIH, \$2,951,364, (ECU total: \$77,286), 2006, (not funded).
21. Reducing ACL injury potential by modifying trunk kinematics, (co-Investigator with Kulas, A.), NIH, \$150,000, 2007, (not funded).
22. The runners and injury longitudinal study, (co-Investigator with Messier, S. et al.), NIH, \$3,087,804, (ECU total: \$83,361), 2007, (not funded).
23. Gait analysis in obesity, (co-Investigator with Hortobagyi, T.). NIH, \$2,348,908, June, 2007, (not funded).
24. Paradigm for reducing disability in old age, (with Hortobagyi, T., Steinweg, K., Rider, P., Allison, L. & Hudson, S.), NIH, \$988,435, May, 2009, (not funded).
25. Reducing the Age-Related Increase in Metabolic Cost of Gait, (co-Investigator with Hortobagyi, T.), NIH, \$394,624, Submitted June, 2009, (not funded).
26. Whole body vibration to improve mobility in stroke patients, (co-Investigator with Hortobagyi, T., Manolo, E., Holbert, D., Moore, D., & Lambert, J.), NIH, \$394,625, Submitted October, 2009, (not funded).
27. Strength Training and Arthritis Trial (co-Investigator with Messier, S., et al.), NIH, \$5,120,877 July, 2010, (pending).

C. ECU Biomechanics Laboratory Funds that I co-directed expenditures:

1. ECU overhead receipt grant for Biomechanics Laboratory, East Carolina University, 1995, \$12,484.
2. ECU-H&HP Indirect cost grant for Biomechanics Laboratory, East Carolina University, 1995, \$7,400.

D. Service Funds:

1. Gait and movement analyses performed for state citizens, 1995 to present, \$5,900.

VI. PRESENTATIONS

A. Invited Presentations:

1. **DeVita, P.** Effects of landing stiffness on joint kinetics and energetics in the lower extremity. Biomechanics Laboratory, University of Iowa, November, 1990.
2. **DeVita, P.** Review of impact absorption research at Southern Illinois University at Carbondale. American Association of Health, Physical Education, Recreation and Dance, Washington, DC, March, 1993.
3. **DeVita, P.,** Money, J. & Barrier, J. Gait analysis following ACL re-construction. North Carolina Athletic Trainers Spring Symposium, Greenville, NC, March, 1996.
4. **DeVita, P.** Aging and faux-pseudo-possibly-quasi stiffness in the lower extremity during stepping. Pennsylvania State University, October, 1997.
5. **DeVita, P.** Biomechanical gait responses to ACL injury and reconstruction surgery. Pennsylvania State University, October, 1997.
6. **DeVita, P.** Where do we stand with ACL injury? American College of Sports Medicine, Orlando, Florida, June, 1998.
7. **DeVita, P.** Biomechanical gait responses to ACL injury, reconstruction surgery, and rehabilitation. University of Colorado, September, 1999.
8. **DeVita, P.** Friends, Romans, countrymen, lend me your biomechanist: theatrical discoveries of biomechanics. Midwest Graduate Students Biomechanics Symposium, Illinois State University, April, 2000.
9. **DeVita, P.** Biomechanical gait responses to ACL injury, reconstruction surgery, and rehabilitation. Midwest Graduate Students Biomechanics Symposium, Illinois State University, April, 2000.
10. **DeVita, P.** Neuromuscular effects of joint degenerative disease: Gait adaptations due to knee osteoarthritis. University of Nevada at Las Vegas Lecture Series, University of Nevada at Las Vegas, March 2002.
11. **DeVita, P.** Neuromuscular responses to anterior cruciate ligament injury, reconstruction surgery, and rehabilitation. University of Nevada at Las Vegas Lecture Series, University of Nevada at Las Vegas, March 2002.
12. **DeVita, P.** Neuromuscular reorganization during stairway locomotion in old adults. Biomechanics Invitational Seminar, University of Nevada at Las Vegas, March 2002.
13. **DeVita, P.** Neuromuscular reorganization during locomotion in older adults. Wake Forest University, March, 2003.
14. **DeVita, P.** Mechanical plasticity in locomotion with age. University of Delaware, October, 2005.
15. **DeVita, P.** No wonder it's harder ascending vs. descending inclines! Dynamic Walking Symposium, University of Michigan, May, 2006.

16. **DeVita, P.** Let's be more positive than negative about muscle work. University of Tennessee at Knoxville, March, 2007.

17. **DeVita, P.** Age-Induced Mechanical Plasticity In Locomotion. Keynote presentation at the South-Central American Society of Biomechanics Symposium, Odessa, Texas, March, 2008.

18. **DeVita, P.,** Rider, P., Solnik, S., Long, B, Via, K. & Hortobagyi, T. Skeletal Muscle Energetics and Function During Human Locomotion. Keynote presentation at the 45th Annual Technical Meeting of the Society of Engineering Science, University of Illinois, Urbana, Illinois, October, 2008.

19. **DeVita, P.** Age-Induced Mechanical Plasticity In Locomotion. Keynote presentation at the 2009 Human Movement Science Research Symposium, University of North Carolina at Chapel Hill, Chapel Hill, NC, February, 2009.

B. Professional Societies:

1. Kinoshita, H., Bates, B.T. & **DeVita, P.** Inter-trial variability for selected running gait parameters. International Society of Biomechanics, Waterloo, Ontario, June, 1983.

2. Bates, B.T., **DeVita, P.** & Lander, J.E. The evaluation of foot function using two measurement systems. Canadian Society of Biomechanics, Winnipeg, Canada, August, 1984.

3. **DeVita, P.,** Bates, B.T. & Lander, J.E. Reliability of ground reaction force data. Canadian Society of Biomechanics, Winnipeg, Canada, August, 1984.

4. Kinoshita, H., Bates, B.T. & **DeVita, P.** Orthogonal ground reaction force component interactions. Olympic Scientific Congress, Eugene, Oregon, July, 1984.

5. **DeVita, P.** & Bates, B.T. The effects of time on selected ground reaction force parameters. International Society of Biomechanics, Sweden, June, 1985.

6. Lander, J., Bates, B. & **DeVita, P.** The kinematics of the squat exercise using a modified center of mass bar. International Society of Biomechanics, Sweden, June, 1985.

7. Bates, B.T. & **DeVita, P.** Intraday reliability of selected ground reaction force parameters during running. American College of Sports Medicine, Indianapolis, Indiana, May, 1986.

8. Bates, B.T., Hamill, J. & **DeVita, P.** The effects of additional load on impact force. Canadian Society of Biomechanics, Montreal, Canada, August, 1986.

9. Osternig, L., Robertson, R.N., Hamill, J. & **DeVita, P.** Electromyographic patterns accompanying isokinetic exercise under varying speed and sequencing conditions. American College of Sports Medicine, Indianapolis, Indiana, May, 1986.

10. **DeVita, P.** & Bates, B.T. Shoe evaluation methodology for ground reaction force data. International Society of Biomechanics, Amsterdam, the Netherlands, June, 1987.

11. Bates, B.T., Hamill, J. & **DeVita, P.** The evaluation of strategies used to accommodate additional loads during running. Canadian Society of Biomechanics, Ottawa, Canada, August, 1988.

12. **DeVita, P.** & Bates, B.T. Intrasubject variability of ground reaction force data over consecutive days and weeks. Canadian Society of Biomechanics, Ottawa, Canada, August, 1988.
13. **DeVita, P.** & Blankenship, P. A biomechanical analysis of running with a functional knee brace. American Society of Biomechanics, Burlington, Vermont, August, 1989.
14. **DeVita, P.** & Skelly, W. Intrasubject variability in lower extremity joint moments of force during running. International Society of Biomechanics, Los Angeles, California, June, 1989.
15. **DeVita, P.** & Skelly, W. Biomechanics of landing from a vertical jump. American Society of Biomechanics, Burlington, Vermont, August, 1989.
16. **DeVita, P.** & Stribling, J. Lower extremity joint moments of force during backward running. American Alliance of Health, Physical Education, Recreation and Dance, Boston, Massachusetts, April, 1989.
17. Hong, D. & **DeVita, P.** Effects of asymmetrical loads on ground reaction forces during walking. International Society of Biomechanics, Los Angeles, California, June, 1989.
18. Moss, R., **DeVita, P.** & Dawson, M. A biomechanical analysis of patellofemoral pain. National Athletic Trainers Association, Fort Worth, Texas, June, 1989.
19. Robertson, R., **DeVita, P.** & Bates, B.T. Biomechanical control parameters in a precise horizontal standing jump: joint kinetic and EMG relationships. American Society of Biomechanics, Burlington, Vermont, August, 1989.
20. **DeVita, P.** Kinetic and energetic analysis of unilateral above knee amputee gait. Canadian Society of Biomechanics, Quebec City, Canada, August, 1990.
21. **DeVita, P.** & Skelly, W. Compressive and shear forces on the tibia and knee during landing. Canadian Society of Biomechanics, Quebec City, Canada, August, 1990.
22. Hong, D., **DeVita, P.** & Hamill J. Effects of asymmetrical load carrying on frontal plane joint kinetics. American Society of Biomechanics, Miami, Florida, November, 1990.
23. **DeVita, P.**, Blankenship, P. & Skelly, W. Dynamic analysis of a functional knee brace and a previous ACL injury. American Society of Biomechanics, Tempe, Arizona, October, 1991.
24. **DeVita, P.**, Dolan, T. & Skelly, W. A. Identification of a general mechanism of impact absorption in the lower extremity. North American Congress on Biomechanics, Chicago, Illinois, August, 1992.
25. McCaw, S. & **DeVita, P.** Center of pressure location error affects lower extremity joint moment of force values. American College of Sports Medicine, Seattle, Washington, May, 1993.
26. **DeVita, P.** Selection of a standard convention for analyzing gait based on the analysis of joint torques and electromyography. American Society of Biomechanics, Iowa City, Iowa, October, 1993.
27. **DeVita, P.**, Torry, M., Glover, K. & Speroni, D. Biomechanical effects of a functional knee brace during walking and running. American College of Sports Medicine, Minneapolis, Minnesota, May, 1995.

28. Torry, M., & **DeVita, P.** Functional assessment of lower limb biomechanics after anterior tibialis resection: a case study. American College of Sports Medicine, Minneapolis, Minnesota, May, 1995.
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143. Pickett, S., Moscicki, B., **DeVita, P.**, Solnik, S. & Hortobagyi, T. Coherence analysis of muscle activity in aging. ECU Research and Creative Achievement Week, East Carolina University, Greenville, NC, March, 2007.

144. **DeVita, P.**, Rider, P., Gruber, A., Helseth, J., Zalewski, P., Moscicki, B., Janshen, L., Solnik, S. & Hortobagyi, T. Let's be more positive than negative about muscle work. Second Annual South East Biomechanics Conference, Duke University, Durham, NC, April, 2007.
145. Gruber, A., Rider, P., Steinweg, K., Hortobagyi, T. & **DeVita, P.** Mechanisms for increasing walking speed in old adults. Second Annual South East Biomechanics Conference, Duke University, Durham, NC, April, 2007.
146. Zalewski, P., Hortobagyi, T., **DeVita, P.** & Kulas, A. Effect of trunk flexion angle on lower extremity energetics and vertical jump height performance during a drop jump. Second Annual South East Biomechanics Conference, Duke University, Durham, NC, April, 2007.
147. Kulas, A. S., Zalewski, P., Hortobagyi, T., & **DeVita, P.** Effects of trunk position and trunk loads on lower extremity biomechanics during drop-landings. Mid-Atlantic Athletic Trainers' Association Symposium, Virginia Beach, VA, May, 2007.
148. **DeVita, P.**, Steinweg, K., Rider, P., Gruber, A. & Hortobagyi, T. Reduced stride length in older adults is an energy saving mechanism. American College of Sports Medicine, New Orleans, Louisiana, June, 2007.
149. McCaw, S., Hortobágyi, T. & **DeVita, P.** One leg and two leg landings differ in the relationship between energy absorption at the joints and leg vertical stiffness. American College of Sports Medicine, New Orleans, Louisiana, June, 2007.
150. Moscicki, M., Lin, P., Bai, O., Pickett, S., **DeVita, P.**, Hallett, M. & Hortobagyi, T. Muscle-to-muscle EMG coherence during walking in young and old adults. American College of Sports Medicine, New Orleans, Louisiana, June, 2007.
151. Kulas, A., Zalewski, P., Hortobagyi, T. & **DeVita, P.** Added trunk loads selectively increase knee anterior shear forces depending on trunk adaptation strategy. American College of Sports Medicine, New Orleans, Louisiana, June, 2007.
152. Hortobágyi, T., Solnik S. & **DeVita P.** Most of it is in the head: Neural mechanisms in the aging motor system. 12th Annual Congress of the European College of Sport Science, Jyväskylä, Finland, July, 2007.
153. **DeVita, P.**, Janshen, L., Gruber, A., Rider, P., Solnik, S., Zalewski, P., Moscicki, B. & Hortobagyi, T. Muscle function is biased towards positive over negative work in level gait. 31st annual meeting of the American Society of Biomechanics, Palo Alto, California, August, 2007.
154. **DeVita, P.**, Rider, P., Gruber, A., Steinweg, K., Fisher, M., Mazzenga, A., Solnik, S. & Hortobagyi, T. Eccentric but not concentric muscle work is retained with age in level walking. 31st annual meeting of the American Society of Biomechanics, Palo Alto, California, August, 2007.
155. Via, K., Jarrett, D., Long, B., Gruber, A., Janshen, L., Rider, P., Hortobagyi, T. & **DeVita, P.** Positive and negative work during incline and decline running at three speeds. Third Annual State of North Carolina Undergraduate Research and Creative Activity Symposium, Greensboro, NC, November, 2007.

156. Gomez, J., Solnik, S., Moscicki, B., Carney, B., Rogers, D., **DeVita, P.** & Hortobágyi, T. Reliability of muscle-to-muscle EMG coherence in healthy adults. Third Annual State of North Carolina Undergraduate Research and Creative Activity Symposium, Greensboro, NC, November 17, 2007.
157. White, B., Herring, C., Solnik, S., Rider, P., Hortobágyi, T., Long, B., Gore, M. & **DeVita, P.** Obese children and adults walk with similar gait kinetics: a pilot study. Third Annual State of North Carolina Undergraduate Research and Creative Activity Symposium, Greensboro, NC, November 17, 2007.
158. Herring, C., Long, B., Rider, P., Moscicki, B., Gruber, A., Zalewski, P., Gore, M., White, B., **DeVita, P.** & Hortobágyi, T. The effects of childhood obesity on gait biomechanics during level walking. The Second Annual ECU Research and Creative Achievement Week, Greenville, NC, March, 2008.
159. Gore, M., Rider, P., Long, B., Herring, C., Garry, J., **DeVita, P.** & Hortobágyi, T. Gait adaptations in obesity and knee osteoarthritis. The Second Annual ECU Research and Creative Achievement Week, Greenville, NC, March, 2008.
160. Long, B., Rider, P., Gruber, A., Via, K., Daniels, J., Hortobágyi, T. & **DeVita, P.** Incline running for knee rehabilitation in athletes. The Second Annual ECU Research and Creative Achievement Week, Greenville, NC, March, 2008.
161. Gomez, J., Rider, P., Solnik, S., Moscicki, B., Steinweg, K., **DeVita, P.** & Hortobágyi, T. Reliability of muscle-to-muscle EMG coherence in healthy adults. The Second Annual ECU Research and Creative Achievement Week, Greenville, NC, March, 2008.
162. Via, K., Daniels, J., Janshen, L., Rider, P., Gruber, A., Solnik, S., Hortobágyi, T. & **DeVita, P.** Positive and negative muscle work during incline and decline running at three speeds. The Second Annual ECU Research and Creative Achievement Week, Greenville, NC, March, 2008.
163. Slye, A., Rider, P., Solnik, S., Moscicki, B., Gomez, J., Motawar, B., Steinweg, K., **DeVita, P.** & Hortobágyi, T. Age-related differences in muscle coactivation during treadmill locomotion. The Second Annual ECU Research and Creative Achievement Week, Greenville, NC, March, 2008.
164. Taylor, M., Howatson, G., Rider, P., Solnik, S., **DeVita, P.** & Hortobágyi, T. Task specificity of ipsilateral motor cortical (M1) responses to transcranial magnetic brain stimulation (TMS) in humans. The Second Annual ECU Research and Creative Achievement Week, Greenville, NC, March, 2008.
165. Kulas A., Hortobágyi T. & **DeVita P.** Trunk flexion angle and ground reaction force as predictors of knee anterior shear forces in males and females. ACL Research Retreat IV. Greensboro, NC. April, 2008.
166. Hortobágyi, T., Garry, J., Holbert, D. & **DeVita, P.** Gait adaptations are specific to obesity and knee osteoarthritis. 13th Annual Meeting of the Gait and Clinical Movement Analysis Society, Richmond, VA, April, 2008.
167. Janshen, L., Rider, P., Gruber, A., Via, K., Daniels, J., Hortobágyi, T. & **DeVita, P.** Positive and negative muscle work during incline and decline running at three speeds. 13th Annual Meeting of the Gait and Clinical Movement Analysis Society, Richmond, VA, April, 2008.
168. Long, B., Rider, P., Gruber, P., Via, K., Daniels, J., Hortobágyi, T. & **DeVita, P.** Knee joint forces during incline, decline, and level running. 13th Annual Meeting of the Gait and Clinical Movement Analysis Society, Richmond, VA, April, 2008.

169. Solnik, S., Rider, P., Gruber, A., Helseth, J., Steinweg, K., **DeVita, P.** & Hortobágyi, T. Age modifies the timing of muscle activity during gait. 13th Annual Meeting of the Gait and Clinical Movement Analysis Society, Richmond, VA, April, 2008.
170. Solnik, S., Gruber, A., Rider, P., Steinweg, K., Helseth, J., **DeVita, P.** & Hortobágyi, T. Teager-Kaiser Energy Operator improves signal-to-noise ratio of EMG signal in young and old adults. 27th Annual Congress of the International Society of Electrophysiology and Kinesiology, Niagara Falls, Canada, June, 2008.
171. Hortobágyi, T., Solnik, S., Rider, P., Moscicki, B., Lin, P., Bai, O., Hallett, M., **DeVita, P.** Aging-induced neural adaptations in human gait. 13th Annual Congress of the European College of Sport Science, Estoril, Portugal, July, 2008.
172. **DeVita, P.**, Rider, P., Long, B., Steinweg, K., Gruber, A., Solnik, S. & Hortobágyi, T. Joint powers but not joint torques discriminate highly mobile and functional old from young adults. 32nd annual meeting of the American Society of Biomechanics, Ann Arbor, Michigan, August, 2008.
173. Solnik, S., **DeVita, P.**, Rider, P., Long, B. & Hortobágyi, T. Teager-Kaiser Operator improves the accuracy of EMG onset detection independent of signal to noise ratio. Congress of the Polish Society of Biomechanics, Wroclaw, Poland, September, 2008.
174. Messier S. , Legault, C., Davis, C, Khajanchi, S., **DeVita, P.**, Loeser R., Carr, J., Nicklas, B. Relationship of Regional Adiposity to Knee Joint Loads in Knee Osteoarthritis: A Preliminary Study. Annual Meeting of the Osteoarthritis Research Society, Rome, Italy, September, 2008.
175. Hortobágyi T., Solnik S., Rider P., Steinweg K. & **DeVita P.** Age and velocity modulate the amplitude and timing of antagonist muscle coactivation during level walking in young and old adults. Motor Control 2008 - From Theories to Clinical Application, Zakopane, Poland, September, 2008.
176. Hortobágyi, T., Howatson, G., Taylor, M., Rider, P. Solnik, S. & **DeVita, P.** Contraction specificity of ipsilateral motor cortical (M1) responses to transcranial magnetic brain stimulation in humans. Third International Conference on Transcranial Magnetic and Direct Current Stimulation, University of Gottingen, Gottingen, Germany, October, 2008.
177. Patterson, J., Rider P., Copple T., Long L., Steinweg K., Hortobágyi, & **DeVita P.** Lower limb kinetic and energetic factors that influence stride length in older adults. Family Medicine 3rd Annual Scholarship Day. East Carolina University, Greenville, NC, February 5, 2009.
178. Bulluck, J., **DeVita, P.**, Hortobágyi, T. & Kula, A. Sagittal plane trunk position affects hip and knee joint moments during a single-leg squat. 2009 Human Movement Science Research Symposium, University of North Carolina at Chapel Hill, Chapel Hill, NC, February, 2009.
179. Kulas, A., Bulluck, J., Hortobágyi, T. & **DeVita, P.** Trunk flexion interactively affects knee muscle and joint forces during a single-leg squat. 2009 Human Movement Science Research Symposium, University of North Carolina at Chapel Hill, Chapel Hill, NC, February, 2009.
180. Copple, T., Patterson, J., Rider, P., Long, B., Steinweg, K., Hortobágyi, T. & **DeVita, P.** Controlling stride length during walking in young and old adults. 2009 Human Movement Science Research Symposium, University of North Carolina at Chapel Hill, Chapel Hill, NC, February, 2009.

181. Gomez, J., Moscicki, B., Rider, P., Solnik, S., Bai, O., Hallett, M., **DeVita, P.** & Hortobágyi, T. Muscle-to-muscle coherence is higher in young than old adults during gait. 2009 Human Movement Science Research Symposium, University of North Carolina at Chapel Hill, Chapel Hill, NC, February, 2009.
182. Long, B., Via, K., Rider, P., Gruber, A., Hortobágyi, T. & **DeVita, P.** Mechanisms used to increase speed during incline running. 2009 Human Movement Science Research Symposium, University of North Carolina at Chapel Hill, Chapel Hill, NC, February, 2009.
183. McNally, M., Rider, P., Long, B., Hortobágyi, T., Pories, W., Jernigan, K. & **DeVita, P.** Positive and negative muscle work during non-level walking: obese vs. lean adults. 2009 Human Movement Science Research Symposium, University of North Carolina at Chapel Hill, Chapel Hill, NC, February, 2009.
184. Herring, C., Rider, P., Long, B., White, B., Jernigan, K., Pories, W., **DeVita, P.** & Hortobágyi, T. Gait kinematics in lean and obese children and adults. 2009 Human Movement Science Research Symposium, University of North Carolina at Chapel Hill, Chapel Hill, NC, February, 2009.
185. Finch, A., Rider, P., Gomez, J., Steinweg, K., **DeVita, P.** & Hortobágyi, T. Age and velocity modulate the amplitude and timing of antagonist muscle co-activation during level walking in young and old adults. 2009 Human Movement Science Research Symposium, University of North Carolina at Chapel Hill, Chapel Hill, NC, February, 2009.
186. Bullock J., **DeVita, P.**, Hortobágyi T. & Kulas A. Trunk position modulates hip and knee joint moments during a single-leg squat. East Carolina University Research and Creative Achievement Week. Greenville, NC, March 30-April 3, 2009.
187. Copple T., Patterson J., Rider P., Long B., Steinweg K., Hortobágyi T. & **DeVita, P.** Controlling stride length during walking in young and old adults. East Carolina University Research and Creative Achievement Week. Greenville, NC, March 30-April 3, 2009.
188. Finch A., Rider P., Gomez J., Steinweg K., **DeVita, P.** & Hortobágyi, T., Velocity and age alter the timing and amplitude of antagonist muscle coactivation during level walking in young and old adults. East Carolina University Research and Creative Achievement Week, Greenville, NC, March 30-April 3, 2009.
189. Gomez J., Moscicki B., Rider P., Solnik S., Bai O., Hallett M., **DeVita, P.** & Hortobágyi T. Tasks and gait velocity-specificity of muscle-to-muscle coherence in young and old adults. East Carolina University Research and Creative Achievement Week. Greenville, NC, March 30-April 3, 2009.
190. Herring C., Rider P., Long B., White B., Jernigan K., Pories W., **DeVita, P.** & Hortobágyi T. Lean and obese children vs. lean and obese adult gait kinematic and kinetic variables. East Carolina University Research and Creative Achievement Week. Greenville, NC, March 30-April 3, 2009.
191. Jones J., Copple T., Gomez J., Rider P., **DeVita, P.** & Hortobágyi T. Effects of training status, contraction type, and contraction speed on coactivation during isokinetic knee extension. East Carolina University Research and Creative Achievement Week. Greenville, NC, March 30-April 3, 2009.
192. Moore B., Gomez J., Zabransky Z., DeVita P., Hortobágyi T., **DeVita, P.**, Bai, O. & Rider P. Quantification of agonist and antagonist muscle torques in trained vs. untrained males. East Carolina University Research and Creative Achievement Week. Greenville, NC, March 30-April 3, 2009.

193. Motawar B., McNally M., Rider P., **DeVita, P.** & Hortobágyi T. Modulation of the H reflex in response to voluntary contraction of the homologous muscle in the contralateral limb. East Carolina University Research and Creative Achievement Week. Greenville, NC, March 30-April 3, 2009.
194. Patterson J., Rider P., Herring C., Long B., Sams, P., Jernigan K., Pories W., **DeVita, P.** & Hortobágyi T. Changes in gait after bariatric surgery-induced weight loss. East Carolina University Research and Creative Achievement Week. Greenville, NC, March 30-April 3, 2009.
195. **DeVita, P.**, Rider, P., Copple, T., Patterson, J. & Hortobágyi, T. Lower limb kinetic and energetic factors associated with stride length in healthy human gait. American College of Sports Medicine, Seattle, Washington, May, 2009.
196. Messier, S., Legault, C., **DeVita, P.**, Loeser, R., Van Arsdale, S. & Nicklas, B. Weight loss in knee osteoarthritis: effects on knee joint loads, inflammation, and disease progression. American College of Sports Medicine, Seattle, Washington, May, 2009.
197. Hortobágyi, T., Howatson, G., Taylor, M., Rider, P., Solnik, S. & **DeVita, P.** Ipsilateral motor cortical responses to TMS during shortening and lengthening of the wrist flexors. American College of Sports Medicine, Seattle, Washington, May, 2009.
198. Herring, C., Rider, P., Long, B., White, B., **DeVita, P.** & Hortobágyi, T. Interaction in gait kinetics between lean and obese children and adults. American College of Sports Medicine, Seattle, Washington, May, 2009.
199. Rider, P., Herring, C., Patterson, J., Long, B., Sams, P., Pories, W., **DeVita, P.** & Hortobágyi, T. Gait adaptations to 37-kg weight loss produced by bariatric surgery. American College of Sports Medicine, Seattle, Washington, May, 2009.
200. Hortobágyi T., Howatson G., Rider P., Solnik S. & **DeVita P.** Mechanisms of changes in excitability of the primary motor cortex during unilateral muscle contractions: Implications for cross education. 14th Annual Congress of the European College of Sport Science, Oslo, Norway, June, 2009.
201. Solnik S., Rider P., Steinweg K, **DeVita P.**, Hortobágyi T. Conditioning with Teager-Kaiser Operator improves onset detection of sEMG signals recorded during gait in old adults. 14th Annual Congress of the European College of Sport Science, Oslo, Norway, June, 2009.
202. **DeVita, P.**, Copple, T., Patterson, J., Rider, P., Long, B., Steinweg, K. & Hortobágyi, T. Modulating step length during walking by young and old adults. American Society of Biomechanics, College Station, Pennsylvania, August 2009.
203. Messier, S., Ray, J., Davis, C., Mihalko, S., Legault, C., Nicklas, B., **DeVita, P.**, Carr, J., Hunter, D. & Loeser, RF. (2009). Function, Pain and the Modifying Effects of Regional Adiposity and Strength in Older Adults with Knee Osteoarthritis. Osteoarthritis Research Society International, Montreal, Canada, September 10-13, 2009.
204. Hortobágyi T., Moscicki B., Rider P., **DeVita P.**, Steinweg K., Solnik S., Lin P., Bai O., Hallett M. Effects of age and gait tasks on muscle to muscle coherence. The 3rd International Congress on Gait and Mental Function. Washington, DC, February, 2010.

205. Kitchens, E., Rider, P., McNally, M., Hortobagyi, T. & **DeVita, P.** Comparison of gait biomechanics at self-selected and standardized walking speeds. 2010 Human Movement Science Symposium, 7, 13. Human Movement Science Research Symposium, Chapel Hill, North Carolina, February 26, 2010.
206. Kulas, A., Bulluck, J. & **DeVita, P.** Relationship between external work and lower extremity work during single-leg landing from three different heights. 2010 Human Movement Science Research Symposium, Chapel Hill, North Carolina, February 26, 2010.
207. Kulas, A., Bulluck, J. & **DeVita, P.** Absolute and relative lower extremity joint work during single leg landing from three different heights. 2010 Human Movement Science Research Symposium, Chapel Hill, North Carolina, February 26, 2010.
208. McNally, M., Rider, P., Long, B., Hortobagyi, T. & **DeVita, P.** Biomechanical gait adaptations in obese are task dependent. 2010 Human Movement Science Research Symposium, Chapel Hill, North Carolina, February 26, 2010.
209. Pearl, C., Herring, C., Jernigan, K., McNally, M., Patterson, J., Pories, W., Rider, P., **DeVita, P.** & Hortobagyi, T. Effects of weight loss produced by bariatric surgery on biomechanical measures seen in locomotion. 4th Annual ECU Research and Creative Achievement Week, Greenville, NC, April 5, 2010.
210. Copple, T., Meuffleman, R., Rider, P., **DeVita, P.** & Hortobagyi, T. Whole body vibration influences on muscular force steadiness. 4th Annual ECU Research and Creative Achievement Week, Greenville, NC, April 5, 2010.
211. Gomez, J., Copple, T., Rider, P., **DeVita, P.** & Hortobagyi, T. Effects of age and contraction velocity on antagonist muscle co-activation during knee extension. 4th Annual ECU Research and Creative Achievement Week, Greenville, NC, April 5, 2010.
212. Hill, R., McNally, M., Motawar, B., Rider, P., **DeVita, P.** & Hortobagyi, T. Task specific effects of unilateral eccentric and concentric exercise on spinal excitability of the contralateral homologous plantar flexors. 4th Annual ECU Research and Creative Achievement Week, Greenville, NC, April 5, 2010.
213. Bulluck, J., **DeVita, P.** & Hortobagyi, T. Effects of landing height on lower extremity energy absorption during single-leg landing. 4th Annual ECU Research and Creative Achievement Week, Greenville, NC, April 5, 2010.
214. McNally, M., Rider, P., Long, B., Hortobagyi, T. & **DeVita, P.** Task dependent biomechanical gait adaptations in obese adults. 4th Annual ECU Research and Creative Achievement Week, Greenville, NC, April 5, 2010.
215. McNally, M., Rider, P., Long, B., Hortobagyi, T. & **DeVita, P.** Obesity induced biomechanical gait adaptations are task dependent. American College of Sports Medicine, Baltimore, MD, June, 2010.
216. Rider, P., Bulluck, J., **DeVita, P.** & Kulas, A. Knee musculotendon work vs knee joint mechanical work during single leg squatting. American College of Sports Medicine, Baltimore, MD, June, 2010.
217. Messier, S., Nicklas, B., Legault, C., Loeser, R., Miller, G., **DeVita, P.**, Davis, C. & Carr, J. Relationship between thigh fat depots and knee joint loads in knee osteoarthritis: a preliminary study. American College of Sports Medicine, Baltimore, MD, June, 2010.

218. **DeVita, P.**, Nicklas, B., Legault, C., Loeser, R., Miller, G., Messier, S. Relationships among knee joint loads during gait and c-reactive protein in knee osteoarthritis: a preliminary study. American College of Sports Medicine, Baltimore, MD, June, 2010.

219. Hortobagyi, T., Motawar, B., McNally, M., Rider, P. & **DeVita, P.** Spinal excitability in contralateral muscle is similar during shortening and lengthening of the wrist flexors. American College of Sports Medicine, Baltimore, MD, June, 2010.

C. Symposia:

1. **DeVita, P.** & Lieber, R. (Co-chairs), Muscle stiffness and the control of movement. American College of Sports Medicine, Denver, Colorado, May, 1997.

2. **DeVita, P.** (Chair), Biewener, A., Enoka, R., Hortobagyi, T. & Howell, J. The positives of negatives and other eccentric matters. American College of Sports Medicine, Seattle, Washington, June, 1999.

3. **DeVita, P.** Neuromuscular reorganization during locomotion in older adults. Presented as part of symposium titled: Aging and motor control: from the motor unit to physical function. American College of Sports Medicine, St. Louis, Missouri, May, 2002.

4. **DeVita, P.** (Chair). Buchanan, T., Bessier, T, Lloyd, D., Thelen, D. & Shelburne, K. Musculoskeletal Modeling and the Prediction of *In Vivo* Muscle and Joint Forces. American College of Sports Medicine, Indianapolis, Indiana, June, 2004.

5. **DeVita, P.** Williams, D. Biomechanical changes in healthy and pathological elderly populations. Presented as part of the symposium titled: Gait adaptations related to pathology and injury throughout the lifespan. American College of Sports Medicine, Denver, Colorado, June, 2006.

VII. TEACHING

A. Teaching Interests and Specialties:

1. Biomechanics and Kinesiology of human movement
2. Neuromuscular basis of human movement
3. Research techniques in exercise and sport science

B. Courses Taught at East Carolina University

1. Undergraduate

- a. EXSS 2850 Structural Kinesiology
- b. EXSS 3850 Introduction to Biomechanics
- c. EXSS 4300 Physical Activity and Disease Prevention
- d. EXSS 4800 Internship in Health/Fitness
- e. NEUR 4901 Behavioral and Integrative Neuroscience

2. Graduate

- a. EXSS 6200 Biomechanics
- c. EXSS 6204 Techniques of Biomechanical Assessments
- b. EXSS 6301 Research Seminar in EXSS

C. Courses Taught at Southern Illinois University at Carbondale

1. Undergraduate

- a. PE 302 Kinesiology for Physical Therapists
- b. PE 303 Kinesiology
- c. PE 304 Biomechanics

2. Graduate

- a. PE 500 Research Techniques in Physical Education
- b. PE 505 Topical Seminar in Computer Programming
- c. PE 505 Topical Seminar in Biomechanics Instruments
- d. PE 511 Analysis of Human Physical Movement
- e. PE 512 Biomechanics of Human Motion
- f. PE 530 Doctoral Seminar

D. Faculty Mentor:

1. Robert Hickner, Ph.D., 1999 – 2003.
2. Nicholas Murray, Ph.D., 2003 – 2006.
3. Anthony Kulas, Ph.D., 2005 – present.

E. Master's and Ph.D. Thesis Committees:

1. 35 Completed Master's Theses – Tim Copple (Directed) 2010, Mike McNally (Directed) 2010, Jonathan Bulluck 2010, Binal Motawar 2010, Cortney Herring 2010, Ben Long (Directed) 2009, Lindsay Stagner 2009, Lauren Tranthem 2008, Erin Bushey (Directed) 2008, Brian Moscicki 2008, Paul Zalewski 2007, Patrick Rider (Directed) 2007, Allison Gruber (Directed) 2007, Joseph Helseth (Directed) 2005, Brandon Noyes (Directed) 2005, Chris Evans (2005), Chris Mizelle (Directed) 2004, Douglas Powell, 2004, Lenna Westerkamp 2003, Jovita Jolla, (Directed) 2002, Kim Smith 2002, Stacey Beam 2001, Jill Moody (Directed) 2000, David Tunnel 2000, Jeffrey Money 1998, Jason Barrier, (Directed) 1998, Wanda Harper, (Directed) 1997; Sean O'Neill 1996; William L. Dempsey 1996; Kay Glover, (Directed) 1995; Kendall Garrett 1994; Jeremy Pick 1994; James Tomsic 1993; Scott A. Neill 1991; Pamela Blankenship Hunter (Directed), 1990; Christina Copland 1989; Linda M. Sikora 1989; Teresa Schneider 1987.
2. Six Completed Ph.D. Dissertations - William A. Skelly, (Directed), 1994; Weili Lin, 1994; Marilyn K. Miller, (Co-Directed), 1990; Dale D. Brown, 1989; Robert I. Moss, (Co-Directed), 1989; Der Ming Hong, (Co-Directed), 1988.

F. Undergraduate Research Assistants Directed or Partially Directed (Internships, Practicums, Independent Research and Honors Students), Total of 108:

1. 1995 – 1996, 4 students: Chuck Tanner, Trisha McCluckey, Rob Kandle, Wanda Harper
2. 1996 – 1997, 8 students: Eric Anderson, Trudi Denholm, ,Rob Kandle, Chris Baggett, Brendon Fraser, Jeni Prue, Aaron Dence, Gina Churpakovich
3. 1997 – 1998, 13 students: Eric Anderson, Jennifer Stockett, Roderick Reeves, Gina Churpakovich, Meri Spencer, Keri Riddell, Sunshine Fisher, Jamie Lang, Jon Miller, Damon Woodley, Rick Smith, Anthony Popovich, Ursula Wilson

4. 1998 – 1999, 8 students: Allison Shidall, Hannah Balcome, Tamlyn Shields, Rob Gray, Jakub Holy, Tracy Lowry, Holly Hatley, Kara Gummow
5. 1999 – 2000, 5 students: Jill Davis, Erick Dickerson, Suzanne Keller, Chase Harrington, John Oveido
6. 2000 – 2001, 10 students: Cheryl Hamilton, Angela Hershberger, April Vestal, Eli Wells, Addie Chlebnikow, Audra Thome, Monica Gardiner, Teresa Foster, Jillian Griego, Chris Mizelle
7. 2001 – 2002, 4 students: Steve Salaga, Eric Taylor, Noah Zacharko, Cheryl Hamilton
8. 2002 – 2003, 8 students: Nicole Marchewka, Rachel Segneri, Noah Zacharko, Syreeta Stewart, Brandi Benedict, David Kemble, Shannon Rigling, Adam Padgette
9. 2003 - 2004, 5 students: Heidi Brown, Kristen Smith, Brian Wurzinger, Christina Rivera, Jason Beck
10. 2004 – 2005, 7 students, Chris Giggey, Kyle Johnston, Lara Brickhouse, Stephen Reed, Nadezda Stanojevic, Brandee Winkler, Priscilla Bryan
11. 2005 – 2006, 7 students, Lauren Miller, Amanda Smith, Genella Roseboro, Michelle Latimer, Lindsey Brown, Schuyler Neely, Rui Hu
12. 2006-2007, 5 students, Schuyler Neely, Shannon Pickett, Michael Muzyczyn, Mandy Fisher, Allison Mazzenga
13. 2007-2008, 10 students, Tracy Sadler, Jarrett Daniels, Kevin Via, Jonathan Gomez, Gabriel Geyer, Bryan Carney, Beth White, Annie Slye, Hilary Bauer, Matt Taylor
14. 2008-2009, 8 students, Kyle Pusey, Romin Ghassemi-nia, Matt Gros, Andrew Riggan, Jonathan Patterson, Harshal Patel, Christina MacKenzie, Zach Zabarsky
15. 2009-2010, 7 students, Jennifer Kurowicki, Lisa Mroz, Samantha Lichtner, Brian Schmitt, Elizabeth Kitchens, Robert Brady, Erica Gibson

VIII. PROFESSIONAL SERVICE

A. Offices Held:

1. Associate Editor, Journal of Applied Biomechanics, 1998 to present.
2. Associate Editor, Exercise and Sport Science Reviews, 1999 to 2005.
3. Member (temporary), NIH Geriatrics and Rehabilitation Medicine study section, 1999 to 2004.
4. Member (temporary), NIH Musculoskeletal and Rehabilitation Sciences study section, 2004 to 2005.
5. Member, NIH Musculoskeletal and Rehabilitation Sciences study section, 2005 to 2008.
6. Member, NIH Special Emphasis Panels (ad hoc grant review panels), 2008 to present.
7. Member, (temporary), NIH Musculoskeletal and Rehabilitation Sciences study section, 2009 to present.
8. Secretary-Treasurer Elect, American Society of Biomechanics, 2006 to 2007.
9. Secretary-Treasurer and Treasurer, American Society of Biomechanics, 2007 to 2010.
10. Member, Biomechanics Featured Sessions Committee of the American College of Sports Medicine, 2003 to present.
11. Chair, Executive Committee of the Biomechanics Interest Group of the American College of Sports Medicine, 2001 – 2002.

12. Member, Executive Committee of the Biomechanics Interest Group of the American College of Sports Medicine, 1998 – 2001.
13. Member, Interest Group Forum, American College of Sports Medicine, 2001 to 2005.
14. Member, American Society of Biomechanics Awards Committee, 2000, 2003.

B. East Carolina University Service:

1. Department of Exercise and Sport Science (EXSS), Promotion Committee Member, 1995 to present.
2. EXSS, Tenure Committee Member, 1998 to present.
3. EXSS, ACSM Health and Fitness Workshop Instructor, 1999 to 2000.
4. EXSS, Co-Sponsor, Biomechanics Laboratory Lecture Series, 1995 to present.
5. EXSS Curriculum Committee Member and Chair, 2001 to 2003.
6. School of Health and Human Performance (HHP), Technology Committee Member, 1998 to 2003.
7. HHP, L.T. Walker International Human Performance Center, Staff scientist, 1997 to 2007.
8. HHP, Alternate member of Faculty Senate, 1999 to 2001.
9. HHP, Curriculum Committee Member, 2002 to 2006.
10. ECU, Research/Creative Activity Grants Committee, Member, 2001 to 2002.
11. ECU, Neuroscience Program, Curriculum Committee, Member, 2002 to 2004.
12. ECU, Judicial Review Board Committee, Member, 2002 to 2003.
13. Adjunct Professor, Department of Physical Therapy, 2002 to present.
14. Served on various Departmental Search Committees, 1995 to present.
15. Biomechanics Laboratory Tours for many ECU and eastern North Carolina groups, 1995 to present.

C. Memberships in Professional Societies:

1. American Society of Biomechanics
2. International Society of Biomechanics
3. American College of Sports Medicine, Fellow of the College
4. Southeast Chapter of the American College of Sports Medicine

D. Journal Reviews:

1. Medicine and Science in Sports and Exercise, 1987 - present
2. Journal of Biomechanics, 1991- present
3. Journal of Applied Biomechanics, 1993 - present
4. Journal of Biomechanical Engineering, 1999 - present
5. Journal of Physiology, 2000 - present
6. Journal of Applied Physiology, 2000 - present
7. Motor Control, 1998 - present
8. Clinical Biomechanics, 2002 - present
9. Journal of Experimental Biology, 2005 - present.
10. Acta Physiologica Scandinavica, 2005 - present
11. Journal of Rheumatology, 2006 – present
12. Gait and Posture, 2007 – present
13. Archives of Physical Medicine and Rehabilitation, 2007 - present
14. Journal of Neuroengineering and Rehabilitation, 2008 - present
15. Computer Methods in Biomechanics and Biomedical Engineering, 2000 – present
16. European Journal of Applied Physiology and Occupational Physiology, 2000 - present
17. Research Quarterly for Exercise and Sports, 1990, 2000
18. Medicine, Exercise, Nutrition and Health, 1991

19. Pediatric Exercise Science, 1990
20. Biomedical Instrumentation and Technology, 1988

E. Grant Reviews Other than NIH:

1. National Athletic Trainers Association (NATA), 2000 – present
2. National Sciences and Engineering Research Council of Canada (NSERC), 2002

F. Abstract Reviews:

1. American Alliance of Health, Physical Education, Recreation and Dance, 1995, 1996.
2. American College of Sports Medicine, 1995, 1996
3. American Society of Biomechanics, 2006

G. Moderator at Professional Conferences:

1. American Alliance of Health, Physical Education, Recreation and Dance, 1992.
2. Southeast Chapter of the American College of Sports Medicine, 1996, 1997, 1998, 2004.
3. American College of Sports Medicine, 1996, 1997, 1999, 2001, 2002, 2003, 2004, 2005, 2006, 2007.
4. American Society of Biomechanics, 1999, 2001, 2002, 2005, 2006.
5. International Society of Biomechanics, 2005.

H. Honors and Awards:

1. New York State Regents Scholarship Award, 1973 to 1977, \$3,200.
2. Mini-sabbatical for Research, Graduate School, Southern Illinois University at Carbondale, 1986, \$800.
3. Mini-sabbatical for Research, Graduate School, Southern Illinois University at Carbondale, 1987, \$800.
4. Graduate School, East Carolina University, \$200, 1995, Travel Award.
5. School of Health and Human Performance, ECU, Researcher of the Year Award, 1998.

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