

CURRICULUM VITAE

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Education

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|---------------------------------------|-----|------|------------------|
| Penn. State Univ, State College, PA | PhD | 1990 | Biomechanics |
| Univ of Virginia, Charlottesville, VA | MEd | 1984 | Biomechanics |
| Univ of Florida, Gainesville, FL | BS | 1978 | Physical Therapy |
| Univ. of Massachusetts, Amherst, MA | BS | 1977 | Exercise Science |

State of Delaware, Physical Therapy License #J1-0000718

Employment

Current Appointment

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| 2004-present | University of Delaware, Newark, Delaware Professor, Department of Physical Therapy |
| 2004-present | Drayer Physical Therapy Institute, Hummelstown, PA Director of Research |

Employment History

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| 1997-2004 | University of Delaware, Newark, Delaware Associate Professor, Department of Physical Therapy |
| 1989-1997 | University of Delaware, Newark, Delaware Assistant Professor, Department of Physical Therapy |
| 1985-1989 | Pennsylvania State University, University Park, Pennsylvania Research Assistant, Center for Locomotion Studies |
| 1982-1985 | University of Virginia, Charlottesville, Virginia Research Assistant, Rehabilitation Engineering Center |
| 1979-1982 | Woodrow Wilson Rehabilitation Center, Fishersville, Virginia Staff Physical Therapist, Department of Physical Therapy |

Publications

Peer Reviewed Publications

1. Lieberman, DE, Daoud, AI, Werbel, WA, Venkadesan, M, D'Andrea, S, **Davis, IS**, Mang'Eni, RO, Pitsiladis, Y (2010). Foot Strike Patterns and Impact Transient Forces in Habitually Barefoot versus Shod Runners. *Nature*, 463:531-535.

2. Crowell, HP, Hamill, J, Milner, CE and **Davis, IS**. (2010). Reducing impact loading during running with the use of real-time visual feedback. (*in press*) *Journal of Orthopedic and Sports Physical Therapy*.
3. Noehren, BM, Scholz, JP and Davis, IS. (2010). The effect of real-time gait retraining on hip kinematics pain and function in subjects with patellofemoral pain syndrome (*in press*) *British Journal of Sports Medicine*.
4. Ferber, R, Noehren, B, Hamill, J, and **Davis, I**. (2010). Competitive female runners with a history of iliotibial band syndrome demonstrate atypical hip and knee kinematics. *Journal of Orthopedic and Sports Physical Therapy*, 2010;40(2):52-58.
5. Milner, CE, Hamill, J and **Davis, IS** (2010). Distinct hip and rearfoot kinematics in female runners with a history of tibial stress fracture. *Journal of Orthopedic and Sports Physical Therapy* 40(2):59-66.
6. **Davis, IS** and Powers, CM (2010). Patellofemoral pain syndrome: Local, distal and proximal factors: Consensus statement from the 2009 international research retreat. (*in press*) *Journal of Orthopedic and Sports Physical Therapy*
7. Barrios, JA, Royer, T, Higginson, J and **Davis, IS**. (2009). Static and dynamic correlates of the knee adduction moment in healthy knees ranging from normal to varus-aligned. *Clinical Biomechanics*, 24:850-854
8. Pohl, MB, Hamill, J and **Davis, IS**. (2009). Biomechanical and anatomical factors associated with a history of plantar fasciitis in female runners. *Clinical Journal of Sports Medicine*, 19(5):372-376.
9. MacLean, CL. **Davis, IS** and Hamill, J. (2009). Influence of running shoe midsole composition and custom foot orthotic intervention on lower extremity dynamics during running. *Journal of Applied Biomechanics* 25(1):54-63.
10. Barrios, JA, **Davis, IS**, Higginson, JS and Royer, TD. (2009). Lower extremity walking mechanics of young individuals with asymptomatic varus knee alignment. *Journal of Orthopedic Research*, 27(11):1414-1419.
11. Butler, RJ, Royer, TD, Barrios, JA, and **Davis, IS** (2009). Effect of laterally wedged foot orthoses on rearfoot and hip mechanics in patients with medial knee osteoarthritis. *Prosthetics and Orthotics, International*, 33(2):107-116.
12. Barrios JA, Crenshaw JR, Royer TD, **Davis IS** (2009). Walking shoes and laterally wedged orthoses in the clinical management of medial tibiofemoral osteoarthritis: A one-year prospective controlled trial. *The Knee*, 16:136-142.
13. Willson, JD and **Davis, IS** (2009). Core strength measurements and lower extremity jumping mechanics in females with and without patellofemoral pain. *Journal of Sport Rehabilitation* 18:76-90.
14. Zifchock, RA and **Davis I** (2008). A comparison of custom and semicustom foot orthotics in high and low arched runners. *Clinical Biomechanics*, 23:1287-1293.
15. Willson, JD and **Davis, IS** (2008). Utility of the frontal plane projection angle in females with patellofemoral pain. *JOSPT*, 38(10):606-615.
16. Hamill, J, Miller, R, Noehren, B and **Davis, I** (2008). Prospective study of Iliotibial Band strain in runners. *Clinical Biomechanics* 23(8):1018-1025.
17. Willson, JD, Binder-Macleod, S, and **Davis, IS** (2008). Lower extremity jumping mechanics of females with and without patellofemoral pain before and after exertion. *Am J Sports Med*. 36,1587-1596.
18. Zifchock, RA, Royer, T, Higginson, J & **Davis, IS** (2008) Side-to-Side Differences in Overuse Running Injury Susceptibility: A Retrospective Study. *Human Movement Science* 27:888-902.
19. Dierks, TA, **Davis, IS**, Hamill, J and Manal, K. (2008). Proximal and Distal Influences on Hip and Knee Kinematics in Runners with Patellofemoral Joint Pain. *JOSPT* 38(8)453-456.
20. Pohl, M, Mullineaux, D, Milner, C, Hamill, J and **Davis, I** (2008). Biomechanical predictors of retrospective tibial stress fractures in runners. *Journal of Biomechanics* 41:1160-1165.
21. **Davis, I**, Zifchock, R and Deleo, A (2008). A comparison of semi-custom and custom orthoses on rearfoot

control and comfort. *JAPMA* 98(5):1-10.

22. Willson, JD and **Davis, IS** (2008). Lower extremity mechanics of females with and without patellofemoral pain across activities with progressively greater task demands. *Clinical Biomechanics* 23:203-211.
23. Zifchock, RA and **Davis, IS** (2008). The symmetry angle: A novel, robust method of quantifying asymmetry. *Gait and Posture* 27:622-627.
24. MacLean, C, **Davis, I**, and Hamill, J (2008). Short and longterm influences of a custom foot orthotic intervention on lower extremity dynamics. *Clinical J Sports Med* 18:3.
25. Butler, R.J., H.Hillstrom, J. Song, C.J. Richards & **I.S. Davis**. (2008) The arch height index measurement system: Establishment of reliability and normative values. *J Am Pod Assoc*, 98(2):102-106.
26. Zifchock, RA and **Davis, IS** (2008). Non-consecutive versus consecutive footstrikes as an equivalent method of assessing gait asymmetry. *Journal of Biomechanics* 41(1), 226-230.
27. Noehren, B, **Davis, I**, and Hamill, J (2007) A prospective study of the biomechanical factors associated with iliotibial band syndrome. Clinical Biomechanics Award Winner 2006. *Clinical Biomechanics* 22:951-956
28. Milner, C, **Davis I** (2007). Are knee mechanics during early stance related to tibial stress fractures in runners? *Clin Biom* 22(6):697-703.
29. Butler, R.J., Royer, T. & **I.S. Davis** (2007). The effect of a subject specific amount of lateral wedge on knee mechanics in patients with medial knee osteoarthritis. *J. Ortho. Res* 25(9):1121-1127.
30. Dierks, T and **Davis, I** (2007). Discrete and continuous joint coupling measures in uninjured recreational runners. *Clinical Biomechanics* 22(5):581-591.
31. Butler, R.J., J. Hamill & **I.S. Davis**. (2007) Effect of footwear on high and low arched runners' mechanics during a prolonged run. *Gait and Posture* 26(2):219-225.
32. **Davis, IS**, Ireland, ML and Hanaki, S. (2007). ACL Injuries: The Gender Bias. Research Retreat III. *JOSPT*, 37(2):A1-A32.
33. McCrory JL, Quick NE, Shapiro R, Ballantyne BT, and **Davis IM** (2007). The effect of a single treatment of the Protonics system on lower extremity kinematics during gait and the lateral step up exercise. *Gait and Posture*, 25(4):544-548.
34. Butler, R.J., J. Hamill & **Davis, IS**. (2006) Interaction of arch type and footwear on running mechanics. *Am. J. Sports Med.* 34(12):1998-2005.
35. Willson, J, Ireland, ML, and **Davis, IS** (2006). Core strength and lower extremity alignment during single leg squats. *Med Sci Sport and Exercise* 38(5):945-952.
36. Zifchock, RA, **Davis, IS**. & Hamill, J. (2006) Kinetic asymmetry in female runners with and without tibial stress fractures *Journal of Biomechanics*, 39(15):2792-2797.
37. Milner, CE, **Davis, IS** and Hamill, J. (2006) Relationship between free moment and tibial stress fractures. *Journal of Biomechanics*. 39(15):2819-2825.
38. Zifchock, RA, **Davis, IS**, Hillstrom, H, & Song, Jinsup (2006). The effect of age, gender and lateral dominance on arch height and stiffness. *Foot and Ankle, Intl* 27(5), 367-372.
39. MacLean, C., **McClay-Davis, I.**, Hamill, J (2006). Influence of a custom foot orthotic intervention on lower extremity dynamics in healthy runners. *Clinical Biomechanics* 21(6):623-630.
40. Mullineaux, DR, Milner, CE, **Davis, IS**, and Hamill, J (2006) Normalization of ground reaction forces. *Journal of Applied Biomechanics* 22:229-231.
41. Milner, CE, **Davis, IS**, Ferber, R, Pollard, CD & Hamill, J (2006). Biomechanical factors associated with tibial stress fractures in female runners. *Med Sci Sport and Ex.* 38, 323-328.
42. Buchanan, K and **McClay Davis, I.** (2005). The relationship between forefoot alignment and rearfoot and midfoot compensation. *J. Orth. Sports PT* 35(9):559-566.
43. Denton, J, Willson, J, Ballantyne, B and **McClay Davis, I** (2005). Addition of the Protonics brace system to

- a rehabilitation protocol to address patellofemoral pain syndrome. *Journal of Orthopedic and Sports Physical Therapy* 35(4):210-219.
44. Willson, J, Dougherty, C, Ireland, ML, and **McClay Davis, I** (2005). Core Stability: and its relationship to lower extremity function and injury. *Journal of the American Academy of Orthopedic Surgeons* 13:316-326
 45. Ferber, R, and **McClay Davis, I** (2005). The effect of orthotics on lower extremity joint coupling. *Journal of Biomechanics* 38:477-483.
 46. **Davis, I** (2004). How do we accurately measure foot motion? Guest Editorial, *Journal of Orthopedic and Sports Physical Therapy* 34(9):503-504.
 47. **Davis, I** (2004) Measuring Foot Motion: Forward and Inverse Dynamic Models: Foot and Ankle Research Retreat Introduction and Consensus Statement. *Journal of Orthopedic and Sports Physical Therapy* 34(9):A1-A4.
 48. Pollard, C, **McClay Davis, I**, and Hamill, J. (2004) Influences of gender on hip and knee mechanics during an unanticipated cutting maneuver. *Clin Biomechanics* 19(10):1022-1031
 49. Deleo, A, Dierks, T, Ferber, R, and **McClay Davis, I** (2004) Joint coupling during running: An update. *Clinical Biomechanics* 19(10):983-991.
 50. Leetun, D, Willson, J, Ireland, ML, Ballantyne, B and **McClay Davis, I** (2004). Core strength and lower extremity injuries in athletes. *Medicine and Science in Sport and Exercise*.36(6):926-934.
 51. Hurd, W, Chiemelowski, T, Axe, M, **McClay Davis, I**, Snyder-Mackler, L (2004) "Gender Differences in Lower Extremity Mechanics in Normal and Perturbed Walking". *Clinical Biomechanics* 19(5):465-472.
 52. McCrory, J, Quick, N, Shapiro, R, Ballantyne, B and **McClay Davis, I**. (2004) The effect of a single treatment of the Protonics system on biceps femoris and gluteus medius activation during gait and the lateral step up exercise. *Gait and Posture*. 19(2):148-153.
 53. Williams, DS, **McClay, IS**, Scholz, JP, Hamill, J, Buchanan, TS (2004). High-arched runners exhibit increased leg stiffness compared to low-arched runners. *Gait and Posture* (19):263-269.
 54. Laughton, CA, **McClay, IS**, Hamill, J and Richards, J (2004). The Effect of Orthotic Intervention and Strike Pattern on Rearfoot Motion in Runners. *Clinical Biomechanics* 19(1):64-70
 55. Williams, DS, **McClay Davis, I** and Baitch, S (2003).Effect of inverted orthoses on lower extremity mechanics. *Medicine and Science in Sport and Exercise*. 35(12):2060-2068.
 56. Ireland, ML, Ballantyne, B, Willson, J and **McClay Davis, I** (2003) The relationship between hip strength and patellofemoral joint pain. *Journal of Orthopedic and Sports Physical Therapy*.33(11):671-676
 57. **McClay Davis, I**, and Ireland, ML (2003). ACL Research Retreat II: The Gender Bias. *Journal of Orthopedic and Sports Physical Therapy*.35(8):A1-A30
 58. McClay Davis, I. (2003) Research retreats: In search of more focus. Guest Editorial. *Journal of Orthopedic and Sports Physical Therapy*.35(8):2-3.
 59. Laughton, CA, **McClay, IS**, Hamill, J and Richards, J (2003). The Effect of Orthotic Intervention and Strike Pattern on Tibial Shock in Runners. *Journal of Applied Biomechanics*, 19:153-168
 60. Butler, R, **McClay Davis, I**, Laughton, C and Hughes, M (2003). Can a dual function orthosis control rearfoot motion and attenuate shock? *Foot and Ankle* 24(5):410-414
 61. Butler, R, Crowell, HP, **McClay Davis, I** (2003). Lower extremity stiffness: Implications for performance and injury. *Clinical Biomechanics* 8(6), 511-517.
 62. Ferber, R., **McClay Davis, I**, and Williams, D. (2003) Gender differences in lower extremity mechanics during running. *Clinical Biomechanics* 18(4), 350-357
 63. Ott, S, Ireland, ML, Ballantyne, BT and **McClay, IS** (2003). Functional Outcome Measures following ACL Reconstruction: A Gender Comparison. *Knee surgery, sports traumatology and arthroscopy* 11:75-80.
 64. Manal, KT & **McClay, IS** (2003) The accuracy of estimating proximal tibial translation during natural

cadence walking: bone vs. skin mounted targets. *Clinical Biomechanics* 18(2):126-131.

65. Ferber, R, **McClay Davis, I**, & Williams, D (2002). Within and between day reliability of discrete lower extremity kinematic and kinetic variables during running. *Journal of Orthopedic Research* 20:1139-1145.
66. Laughton, CA, **McClay, IS** & Williams, DS (2002) Comparison of Four Methods of Obtaining a Negative Impression of the Foot. *Journal of the American Podiatric Society* 92(5):261-268
67. Sahte, V, Ireland, ML, Ballantyne BT, Quick, NE and **McClay, IS** (2002). Acute Effect of the Protonics System on Patellofemoral Alignment: an MRI study. *Knee surgery, sports traumatology and arthroscopy* 10(2002):44-48
68. Manal, KT, **McClay, IS**, Stanhope, SJ, and Richards, J (2002) Knee Moment Profiles during Walking: Errors due to Soft Tissue Movement and the Influence of the Reference Coordinate System. *Gait and Posture* 15(1)10-17.
69. **McClay Davis, I** & Lloyd Ireland, M (2001). The Gender Bias in ACL Injuries: A Research Retreat. *Clinical Biomechanics* 16(2001):937-939.
70. Williams, DS, **McClay, IS**, Hamill, J, Buchanan, TS (2001). Lower Extremity Kinematic and Kinetic Differences in Runners with High and Low Arches. *Journal of Applied Biomechanics*. 17:153-163.
71. Williams, DS, **McClay, IS**, Hamill, J, (2001). Arch Structure and Injury Patterns in Runners. *Clinical Biomechanics* (16)5:341-347.
72. **McClay, IS** (2001). Proceedings of the Foot Classification Conference. *Journal of Orthopedic and Sports Physical Therapy*. 31(3):154-160.
73. Ireland, ML, Ballantyne, BT, Little, K, **McClay, IS**. (2001) A Radiographic Analysis of the Relationship between the Size and Shape of the Intercondylar Notch and Anterior Cruciate Ligament Injury. *Knee surgery, sports traumatology and arthroscopy*.9:200-205.
74. Williams, DS & **McClay, IS** (2000). Measurements Used to Characterize the Foot and the Medial Longitudinal Arch:Reliability and Validity. *Physical Ther*. 80(9):864-871.
75. Williams, DS, **McClay, IS**, & Manal, KT. (2000) Mechanics of Runners with a Converted Forefoot Strike Pattern. *Journal of Applied Biomechanics* 16(2)210-218.
76. Manal, KT, **McClay, IS**, Stanhope, S, & Richards, J (2000). Comparison of Surface Mounted Markers and Attachment Methods in Estimating Tibial Rotations During Walking. *Gait and Posture* 11: 38-45
77. **McClay, IS** (2000) The Evolution of the Study of Running Mechanics: Relationships to Injury. *Journal of the American Podiatric Society* 90(3)133-148.
78. **McClay, IS** & Manal, KT (1999). Three-Dimensional Kinetic Analysis of Running: Significance of Secondary Planes of Motion. *Medicine and Science in Sports and Exercise* 31(11)1629-1637.
79. **McClay, IS** & Manal, KT (1998). A Comparison of Three-dimensional Lower Extremity Kinematics during Running between Pronators and Normals. *Clinical Biomechanics* 13(3):195-203.
80. **McClay, IS** & Manal, KT (1998). The Relationship between Angle of Gait and Differences between Two-Dimensional and Three-Dimensional Rearfoot Motion. *Foot and Ankle* 19(1):26-31.
81. **McClay, IS** & Bray, J (1996). The Subtalar Angle - a potential measure of rearfoot structure. *Foot and Ankle*, 17(8):1-4.
82. **McClay, IS** (1996). Statistically Significant, but Clinically Irrelevant. Guest Editorial, *Journal of Orthopedic and Sports Physical Therapy*, 23(12).
83. **McClay, IS** & Manal, KT (1996). Coupling Parameters in Runners who Pronate and Normals. *Journal of Applied Biomechanics* 13(1):109-124.
84. **McClay, IS** & Cavanagh, PR (1994). Mediolateral Force Patterns in Distance Running. *Clinical Biomechanics* 9:117-123.
85. **McClay, IS**, Robinson, JR, et al (1994). A Kinematic Profile of Skills in Professional Basketball Players.

Journal of Applied Biomechanics, 10(3):205-221, 1994.

86. **McClay, IS**, Robinson, JR, et al. (1994) A Profile of Ground Reaction Forces in Professional Basketball Players. *Journal of Applied Biom*, 10(3):222-236, 1994.

Book Chapters

1. **McClay, IS** (1995): "The Use of Gait Analysis to Enhance the Understanding of Running Injuries". In *Gait Analysis: Theory and Application*. ed. RL Craik & CA Oatis, Human Kinetics, Champaign, Ill .
2. **McClay, IS** (1995): "A Case Report: Biomechanical Perspective". In *Gait Analysis: Theory and Application*. ed. RL Craik & CA Oatis, Human Kinetics, Champaign, Ill.
3. **McClay, IS**, Lake, MJ, & Cavanagh, PR (1990): "Muscle Activity in Running". In *The Biomechanics of Distance Running*. ed. PR Cavanagh, Human Kinetics, Champaign, Ill.

Non-Peer Reviewed Publications

1. **Davis, IS** (2005). How to Succeed in Graduate School. In *ACSM Fellows Offer Advice*, Susan Hall (ed), publisher:American College of Sports Medicine, Indianapolis, IN, 48-62.
2. **Davis, IS** (2005). Evaluation of the Injured Runner. *In Touch*, Journal of the Organization of Chartered Physiotherapists in Private Practice Winter (113):4-9.
3. **Davis, IS** (2005). Gait Retraining in Runners. *Orthopedic Physical Therapy Practice* 17(2)8-13.

Publications in Review

1. Lloyd, C, **Davis, IS**, and Royer, TD. (2009). Muscle strength and gait asymmetry in unilateral, trans-tibial amputees. (*in review*) *Gait and Posture*
2. Crowell, HP and **Davis, IS**. (2009) Gait retraining to reduce lower extremity loading in runners. (*in review*) *Clinical Biomechanics*
3. Barrios, JA, Crossley, K, and **Davis, IS** (2009). Gait retraining to reduce the knee adduction moment through real-time visual feedback of dynamic knee alignment. (*in review*) *Journal of Biomechanics*
4. Noehren, BM, Manal, K and **Davis, IS** (2009) The effectiveness of a marker placement device in improving between-day kinematic reliability in running. (*in review*) *Journal of Orthopedic Research*
5. Morrison, K, Hudson, D, and **Davis, I**, Richards, J, Royer, T, Dierks, T, and Kaminski, T (2009). Plantar pressure distributions during a running gait in subjects with chronic ankle instability. (*in review*). *Foot and Ankle International*.
6. Barrios JA, Lloyd C, Royer T, **Davis IS** (2009). Long-term effectiveness of lateral wedging on the adduction moment in individuals with medial knee osteoarthritis. (*in review*) *Osteoarthritis & Cartilage*.
7. Fellin, RA, Manal, K and **Davis, IS** (2009). Comparison of lower extremity kinematics during overground and treadmill running. (*in review*). *Journal of Applied Biomechanics*.
8. Fellin, RA, Rose, WC, Royer, TD and **Davis, IS** (2009). Comparison of methods for kinematic identification of footstrike and toe-off during overground and treadmill running. (*in review*). *Journal of Medicine and Science in Sport*.
9. Willy, R, Pohl, MB and **Davis, IS** (2009). Calculation of vertical load rates in the absence of vertical impact peaks in runners. (*in review*). *Journal of Applied Biomechanics*.

Presentations

Scientific Symposia

1. **Davis, IS** "The Role of the Hip in Iliotibial Band (ITB) Injuries in the Female Athlete". Presented in the Symposium "Lower Extremity Injuries in the Female Athlete", Combined Section Meeting of the APTA, Nashville, TN, February, 2010.
2. **Davis, IS** "The Incidence and Impact of Knee Osteoarthritis on the Active Adult: A Biomechanical Approach for the Development and Implementation of Interventions". Presented in the Symposium "A Biomechanical Approach to Restoring Function in Knee Osteoarthritis: Incorporating Evidence into Clinical Practice", Combined Section Meeting of the APTA, Nashville, TN, February, 2010.
3. **Davis, IS** "A Biomechanical Approach to the Evaluation and Treatment of Tibial Stress Fractures". Presented in the Symposium "Evidenced-based Prevention and Treatment of Lower Extremity Stress Fractures", Combined Section Meeting of the APTA, Nashville, TN, February, 2008.
4. **Davis, IS** "Gait Retraining through the use of Realtime Feedback: Altering the Fingerprint of Gait. Presented at the American College of Sports Medicine Meeting, Indianapolis, IN, May, 2008.
5. **Davis, IS** "Realtime Feedback: Intervention for Gait Retraining". Presented in the Symposium "Motion Analysis: From Research Laboratory to Clinical Practice, Combined Section Meeting of the APTA, Nashville, TN, February, 2008.
6. **Davis, IS** "The Use of Realtime Feedback for Gait Retraining in Runners." Presented at the Symposium on "Biomechanics in Rehabilitation", World Congress of Biomechanics, Munich, Germany, August, 2006.
7. **Davis, IS** "Stress Fractures and Loading: The Tipping Point". Presented at the Symposium on "Stress Fractures", American College of Sports Medicine Meeting, Denver, CO, June, 2006.
8. **Davis, IS** "The Role of Hip Control in Lower Extremity Mechanics and Injury". Presented at the "Biomechanics of Lower Extremity Injuries", American College of Sports Medicine Meeting, Nashville, TN, May, 2005.
Davis, IS. "Influence of Foot Biomechanics on Overuse Injuries of the Knee". Presented in the "Mechanisms of Knee Injuries: Implications for Prevention and Rehabilitation" Symposium. Combined Sections Mtg of the APTA, Nashville, TN, February, 2004.
9. **McClay, IS** "Risk Factors in Anterior Cruciate Ligament Injuries". Clinical Colloquium presented at the National ACSM Mtg, in Seattle, WA, June, 1999.
10. **McClay, IS** "Problem Solving the Injured Runner". Clinical Colloquium presented at the National ACSM Mtg, in Seattle, WA, June, 1999.
11. **McClay, IS** "Selected Case Studies in Running Injuries". Presented in the "Running Injuries" Symposia at the Combined Sections Meeting of the APTA, San Antonio, TX, Feb, 2001.

Podium and Poster Presentations

1. Willy, R and **Davis, IS**. The effects of a hip strengthening program on running and squatting kinematics in females with abnormal hip mechanics. Presented at the Combined Section of the American Physical Therapy Association, San Diego, CA, February, 2010.
2. Orlin, MN, Laibisrinon, S and **Davis, IS**. Ground reaction forces and kinetics of running in children with cerebral palsy compared to children with typical development. Presented at the Combined Section of the American Physical Therapy Association, San Diego, CA, February, 2010.
3. Noehren, BM and **Davis, IS**. Running mechanics, pain, and function in runners with patellofemoral pain syndrome following gait retraining and at one-month follow-up. Presented at the Combined Section of the American Physical Therapy Association, San Diego, CA, February, 2010.
4. Barrios, JA and **Davis, IS**. The influence of lateral wedging over time in patients with medial knee osteoarthritis: an analysis of frontal plane knee mechanics and clinical outcomes. Presented at the Combined Section of the American Physical Therapy Association, San Diego, CA, February, 2010.

5. **Davis, IS**, Crowell, HP, Fellin, RE and Altman, AR. Reduced impact loading following gait retraining over a 6 month period. Presented at the Societa Italiana di Analisis del Movimento in Clinica, Alghero, Sardegna, Italy, October, 2009.
6. Barrios, JA and **Davis, IS**. Gait retraining to reduce the knee adduction moment through realtime feedback of dynamic knee alignment. Presented at the American Society of Biomechanics Meeting, State College, PA, August, 2009.
7. Fellin, RE and **Davis, IS**. Comparison of warm-up periods for treadmill running. Presented at the American Society of Biomechanics Meeting, State College, PA, August, 2009.
8. Willy, R and **Davis, IS**. The effect of hip strengthening on running and squatting mechanics in female runners. Presented at the American Society of Biomechanics Meeting, State College, PA, August, 2009.
9. Altman, A and **Davis, IS**. Is midfoot striking during running advantageous over rearfoot striking? Presented at the American Society of Biomechanics Meeting, State College, PA, August, 2009.
10. **Davis, IS**, Crowell, HP, Fellin, RE and Altman, AR. Reduced impact loading following gait retraining over a 6 month period. Presented at the American Society of Biomechanics Meeting, State College, PA, August, 2009.
11. Altman, A and **Davis, IS**. Muscle Onset Timing in Subjects Trained to Reduce Tibial Shock. Presented at the American College of Sports Medicine Meeting, Seattle, WA, May, 2009.
12. Dierks, TA, Holder, MD and **Davis, IS**. The influence of running with pain on lower extremity kinematics In runners with patellofemoral pain. Presented at the American College of Sports Medicine Meeting, Seattle, WA, May, 2009.
13. Fellin, RA and **Davis, IS**. Free moment changes following gait retraining protocol to reduce tibial shock. Presented at the American College of Sports Medicine Meeting, Seattle, WA, May, 2009.
14. Noehren, BM and **Davis, IS**. Can gait retraining change hip kinematics and reduce symptoms in runners with patellofemoral pain syndrome? Presented at the American College of Sports Medicine Meeting, Seattle, WA, May, 2009.
15. Willy, R and **Davis, IS**. A comparison of treadmill running in minimal footwear compared to standard running shoes. Presented at the American College of Sports Medicine Meeting, Seattle, WA, May, 2009.
16. Noehren, BM, Pohl, M, Barrance, P and **Davis, IS**. Tibiofemoral and patellofemoral alignment during a single-leg squat: An MRI study. Presented at the International Patellofemoral Pain Syndrome Research Retreat, Baltimore, MD, April, 2009.
17. Noehren, BM and **Davis, IS**. The Effect of Gait Retraining on Hip Mechanics, Pain and Function in Runners with Patellofemoral Pain Syndrome. Presented at the International Patellofemoral Pain Syndrome Research Retreat, Baltimore, MD, April, 2009.
18. Dierks, TA and **Davis, IS**. Rearfoot and Knee Coupling over a Prolonged Run in Runners with Patellofemoral Pain Syndrome. Presented at the International Patellofemoral Pain Syndrome Research Retreat, Baltimore, MD, April, 2009.
19. Barrios, JA, **Davis, IS**. The influence of knee varus alignment on knee varus torques and rearfoot eversion in young individuals with healthy, varus knees. Presented at the Combined Section of the American Physical Therapy Association, Nashville, TN, February, 2009.
20. Noehren, BM, Barrance, P and **Davis, IS**. Tibiofemoral and patellofemoral alignment during a single leg squat: An MRI study. Presented at the Combined Section of the American Physical Therapy Association, Nashville, TN, February, 2009.
21. **Davis, IS** and Dierks, TA. Rearfoot and knee coupling during a prolonged run in individuals with patellofemoral pain syndrome. Presented at the International Foot and Ankle Biomechanics Meeting in Bologna, Italy, September, 2008.
22. Altman, A, Pohl, M, Barrios, J and **Davis, I**. A 3D kinematic comparison between single-belt and split-belt treadmill walking. Presented at the American Society of Biomechanics Meeting, Ann Arbor, MI, August,

2008.

23. Barrios, JA and **Davis, IS**. The relationship between hip and knee kinematics to the knee adduction moment in asymptomatic individuals with genu varum. Presented at the American Society of Biomechanics Meeting, Ann Arbor, MI, August, 2008.
24. Dierks, TA and **Davis, IS**. Joint coupling of the rearfoot and knee in runners with patellofemoral pain syndrome during a prolonged run. Presented at the American Society of Biomechanics Meeting, Ann Arbor, MI, August, 2008.
25. Fellin, RE and **Davis, IS**. Comparison of variability between overground and treadmill running. Presented at the American Society of Biomechanics Meeting, Ann Arbor, MI, August, 2008.
26. Noehren, B and **Davis, I**. Can between-day kinematic reliability be improved? Presented at the American Society of Biomechanics Meeting, Ann Arbor, MI, August, 2008.
27. Willy, R, Pohl, MB and **Davis, IS**. Calculation of vertical load rates in the absence of vertical impact peaks. Presented at the American Society of Biomechanics Meeting, Ann Arbor, MI, August, 2008.
28. Altman, A, Pohl, M and **Davis, IS**. A comparison of split belt and single belt treadmill walking over time. Presented at the American College of Sports Medicine Meeting, Indianapolis, IN, May, 2008.
29. Barrios, JA and **Davis, I**. The effect of gait retraining on medial knee loading. Presented at the American College of Sports Medicine Meeting, Indianapolis, IN, May, 2008.
30. Dierks, TA and **Davis, IS**. Relationship between static alignment and knee valgus in runners with patellofemoral pain. Presented at the American College of Sports Medicine Meeting, Indianapolis, IN, May, 2008.
31. Fellin, RE and **Davis, IS**. Pattern comparison of 3D lower limb kinematics during overground and treadmill running. Presented at the American College of Sports Medicine Meeting, Indianapolis, IN, May, 2008.
32. Noehren, B, Pohl, M, Barrance, P and **Davis, I**. Relationship between tibiofemoral and patellofemoral alignment during a single leg squat: A preliminary MRI study. Presented at the American College of Sports Medicine Meeting, Indianapolis, IN, May, 2008.
33. Pohl, MB and **Davis, IS**. What strategies do runners utilize to reduce tibial shock following a gait retraining protocol? Presented at the American College of Sports Medicine Meeting, Indianapolis, IN, May, 2008.
34. Willy, R, and **Davis, I**. Instrumented comparison of overground and treadmill running in healthy adults. Presented at the American College of Sports Medicine Meeting, Indianapolis, IN, May, 2008.
35. Barrios, JA, **Davis, IS**, Lloyd, CH and Royer, T. Progression of dynamic knee loading at one year in medial knee osteoarthritis: The influence of baseline load. Presented at the Combined Section of the American Physical Therapy Association, Nashville, TN, February, 2008.
36. Barrios, J and **Davis, I**. A gait modification to reduce the external adduction moment at the knee: A case study. Presented at the American Society of Biomechanics Meeting, Palo Alto, CA, August, 2007.
37. Pohl, M, **Davis, I** and Hamill, J. Prospective study of kinetic factors associated with tibial stress fractures in runners. Presented at the American Society of Biomechanics Meeting, Palo Alto, CA, August, 2007.
38. Fellin, R and **Davis, I**. Comparison of methods for determining footstrike and toe-off during overground running. Presented at the American Society of Biomechanics Meeting, Palo Alto, CA, August, 2007.
39. Dierks, T, **Davis, I**, Scholz, J, and Hamill, J. Variability of joint coupling within the lower extremity in runners with patellofemoral pain during a prolonged run. Presented at the American Society of Biomechanics Meeting, Palo Alto, CA, August, 2007.
40. Noehren, B and **Davis, I**. Prospective study of the biomechanical factors associated with patellofemoral pain syndrome. Presented at the American Society of Biomechanics Meeting, Palo Alto, CA, August, 2007.
41. Barrance, P, Pohl, M, Noehren, B, Barrios, J and **Davis I**. Bone surface tracking for standing knee MRI: A validation study. Presented at the American Society of Biomechanics Meeting, Palo Alto, CA, August, 2007.

42. Hamill, J, Miller, R, Noehren, B and **Davis, I**. A strain model of the Iliotibial Band. Presented at the International Society for Sport Biomechanics, Brazil, August, 2007.
43. Barrios, J, **Davis, I**, Lloyd, C, and Royer, T. Differences in frontal plane mechanics between asymptomatic controls and patients with medial or lateral compartment tibiofemoral osteoarthritis. Presented at the American College of Sports Medicine Meeting, New Orleans, June, 2007.
44. Butler, R and **Davis, I**. The effect of footwear on hip and knee mechanics in low arched runners. Presented at the American College of Sports Medicine Meeting, New Orleans, June, 2007.
45. Fellin, R, Barrios, J and **Davis, I**. 3D kinematic hip, knee and rearfoot comparison of overground and treadmill running. Presented at the American College of Sports Medicine Meeting, New Orleans, June, 2007.
46. Lloyd, C, Royer, T, Barrios, J and **Davis, I**. Medially wedged insoles reduce knee pain during functional activities in subjects with lateral knee osteoarthritis. Presented at the American College of Sports Medicine Meeting, New Orleans, June, 2007.
47. Noehren, B and **Davis, I**. Frontal and transverse plane rearfoot, hip and knee patterns in female runners with a history of patellofemoral pain. Presented at the American College of Sports Medicine Meeting, New Orleans, June, 2007.
48. Pohl, M and **Davis, I**. Predicting retrospective tibial stress fractures in female runners using kinematic and kinetic variables. Presented at the American College of Sports Medicine Meeting, New Orleans, June, 2007.
49. Willson, J and **Davis, I**. Mechanics of single leg jumps during exertion in females with and without patellofemoral pain syndrome. Presented at the American College of Sports Medicine Meeting, New Orleans, June, 2007.
50. Zifchock, R and **Davis, I**. Consecutive footstrikes may not be necessary to quantify gait symmetry during running. Presented at the American College of Sports Medicine Meeting, New Orleans, June, 2007.
51. Willson, J and **Davis, I**. Frontal plane projection angles of the knee during single leg squats among females with and without patellofemoral pain. Presented at the Combined Sections Meeting of the American Physical Therapy Association, Boston, MA, February, 2007.
52. Barrios, J. and **Davis, I**. Acute effects of laterally wedged orthoses on walking and stair negotiation in subjects with medial compartment tibiofemoral osteoarthritis. Presented at the Combined Sections Meeting of the American Physical Therapy Association, Boston, MA, February, 2007.
53. Noehren, B, Willson, J and **Davis, I**. Realtime feedback to improve gait kinematics in runners with patellofemoral pain: A case series. Presented at the Combined Sections Meeting of the American Physical Therapy Association, Boston, MA, February, 2007.
54. Barrios, J, Royer, T, Crenshaw, J and **Davis, I**. Frontal plane mechanics during walking in patients with lateral compartment tibiofemoral osteoarthritis with and without a medially wedged orthosis. Presented at the American Society of Biomechanics Meeting in Blacksburg, VA, Sept 2006.
55. Crowell, H and **Davis, I**. Reducing lower extremity loads through gait retraining using real-time feedback methods. Presented at the American Society of Biomechanics Meeting in Blacksburg, VA, Sept 2006.
56. Dierks, T, **Davis, I** and Hamill, J. Continuous relative phase within the lower extremity in runners with patellofemoral pain during a prolonged run. Presented at the American Society of Biomechanics Meeting in Blacksburg, VA, Sept 2006.
57. Noehren, B, **Davis, I** and Hamill, J. Prospective Study of the Biomechanical Factors Associated with Iliotibial Band Syndrome. Presented at the American Society of Biomechanics Meeting in Blacksburg, VA, Sept 2006.
58. Willson, J and **Davis, I**. Hip strength and running mechanics in females with and without patellofemoral pain. Presented at the American Society of Biomechanics Meeting in Blacksburg, VA, Sept 2006.
59. Zifchock, R and **Davis, I**. A novel, more robust method to quantify symmetry. Presented at the American

Society of Biomechanics Meeting in Blacksburg, VA, Sept 2006.

60. **Davis, IS** "Gait Retraining in Runners with Patellofemoral Pain Syndrome". Presented at the International Patellofemoral Study Group Meeting, Boston, MA, May, 2006.
61. Crowell, H, and **Davis, I**. Between Day Reliability of Accelerometry. Presented at the American College of Sports Medicine Mtg, Denver, CO, June, 2006.
62. McCoy, K, Zifchock, R and **Davis, I**. The Effect of Custom and Semi-Custom Orthotic Devices on Rearfoot Control and Comfort in High and Low-Arched Runners. Presented at the American College of Sports Medicine Mtg, Denver, CO, June, 2006.
63. Milner, C, **Davis, I** and Hamill, J. Are initial contact conditions related to tibial stress fracture in distance runners? Presented at the American College of Sports Medicine Mtg, Denver, CO, June, 2006.
64. Crenshaw, J, Royer, R, Barrios, J and **Davis, I**. Long-Term Effects of Wedged Orthoses on Function and WOMAC Scores in Subjects with Knee Osteoarthritis. Presented at the American College of Sports Medicine Mtg, Denver, CO, June, 2006.
65. Chang, R, **Davis, I**, and Hamill, J. Are Rearfoot Parameters Normally Distributed? Presented at the American College of Sports Medicine Mtg, Denver, CO, June, 2006.
66. Dierks, T, **Davis, I** and Hamill, J. Lower Extremity Joint Timing During Prolonged Treadmill Running In Runners With Patellofemoral Joint Pain. Presented at the American College of Sports Medicine Mtg, Denver, CO, June, 2006.
67. Noehren, B, **Davis, I**, Hamill, J and Ferber R. Secondary Plane Biomechanics of Iliotibial Band Syndrome in Competitive Female Runners. Presented at the American College of Sports Medicine Mtg, Denver, CO, June, 2006.
68. Willson, J and **Davis, I**. Association between the single leg squat test and the energetics of single leg landings. Presented at the American College of Sports Medicine Mtg, Denver, CO, June, 2006.
69. Royer, T, Crenshaw, J, Barrios, J and **Davis, I**. Wedged Shoe Orthoses Reduce Peak Medial Ground Reaction Force. Presented at the American College of Sports Medicine Mtg, Denver, CO, June, 2006.
70. Zifchock, R, **Davis, I** and Hamill, J. Hip, Knee, and Ankle Velocities May Predict Injury Risk in Female Distance Runners. Presented at the American College of Sports Medicine Mtg, Denver, CO, June, 2006.
71. Barrios, J, **Davis, I**, Crenshaw, J and Royer, T. Effect of laterally wedged orthoses on frontal plane knee mechanics in subjects with medial compartment tibiofemoral osteoarthritis. Presented at the American College of Sports Medicine Mtg, Denver, CO, June, 2006.
72. Willson, J and **Davis, I**. Utility of the frontal plane projection angle of the knee during single leg squats. Presented at the ACL Research Retreat III: The Gender Bias. Lexington, KY, April, 2006.
73. Mullineaux, D, Dierks, T and **Davis, I**. Variability in coordination of leg kinematics in males and females during treadmill running. Presented at the ACL Research Retreat III: The Gender Bias. Lexington, KY, April, 2006. Butler, RJ, **Davis, IS**, Hamill, J and Knight, C. Does Footwear affect Lower Extremity Variability in High and Low Arched Runners. Presented at the International Society of Biomechanics Mtg, Cleveland, OH, August, 2005.
74. Butler, RJ, **Davis, IS** and Hamill, J. The Effect of Motion Control and Cushioning Shoes on High and Low Arched Runners. Presented at the Footwear Symposium, Cleveland, OH, August, 2005.
75. Dierks, TA, **Davis, IS**, Manal, KT, and Hamill, J. Kinematics of Runners with and without Patellofemoral Pain during Prolonged Treadmill Running. Presented at the International Society of Biomechanics Mtg, Cleveland, OH, August, 2005.
76. Hamill, J, Haddad, JM. Milner, CE and **Davis, IS**. Intralimb Coordination in Female Runners with Tibial Stress Fractures. Presented at the International Society of Biomechanics Mtg, Cleveland, OH, August, 2005 .
77. Milner, CE, **Davis, IS** and Hamill, J. Does Free Moment Predict the Incidence of Tibial Stress Fractures? Presented at the International Society of Biomechanics Mtg, Cleveland, OH, August, 2005.

78. Seay, J, Haddad, JM, Milner, CE, **Davis, IS** and Hamill, J. Dynamic Symmetry in Female Runners with a History of Tibial Stress Fractures. Presented at the International Society of Biomechanics Mtg, Cleveland, OH, August, 2005.
79. Willson, JD and **Davis, IS**. Utility of the Frontal Plane Projection Angle of the Knee During Single Leg Squats. Presented at the International Society of Biomechanics Mtg, Cleveland, OH, August, 2005.
80. Zifchock, RA, **Davis, IS** and Hamill, J. Kinetic Asymmetry in Left and Right Dominant Female Runners: Implications for Injury. Presented at the International Society of Biomechanics Mtg, Cleveland, OH, August, 2005.
81. Buchanan, KR and **Davis, IS**. The Relationship between Forefoot Structure and Rearfoot and Midfoot Mechanics. Presented at the American College of Sports Medicine Mtg, Nashville, TN, May, 2005.
82. Butler, RJ, **Davis, IS** and Hamill, J. Interaction of Shoe and Arch Height on Running Mechanics. Presented at the American College of Sports Medicine Mtg, Nashville, TN, May, 2005.
83. Crowell, HP, Milner, CE, Hamill, J and **Davis, IS**. Short-term Retention of Gait Changes after Realtime Feedback to Reduce Shock. Presented at the American College of Sports Medicine Mtg, Nashville, TN, May, 2005.
84. Dierks, TA and **Davis, IS**. Hip Strength and Hip Kinematics during Prolonged Running in Runners with Patellofemoral Joint Pain. Presented at the American College of Sports Medicine Mtg, Nashville, TN, May, 2005.
85. Milner, CE, **Davis, IS** and Hamill, J. Is Dynamic Hip and Knee Malalignment associated with Tibial Stress Fractures in Female Distance Runners? Presented at the American College of Sports Medicine Mtg, Nashville, TN, May, 2005.
86. Willson, JD and **Davis, IS**. Gait Retraining Using Real-Time Kinematic Biofeedback to decrease Torsional Loads. Presented at the American College of Sports Medicine Mtg, Nashville, TN, May, 2005.
87. Zifchock, RA and **Davis, IS**. Kinetic Asymmetry in Female Runners with and without Retrospective Tibial Stress Fractures. Presented at the American College of Sports Medicine Mtg, Nashville, TN, May, 2005.
88. **Davis, IS**, Milner, CE and Hamill, J. Prospective Study of Rearfoot Mechanics in Runners who Develop Plantar Fasciitis. Presented at the American Society of Biomechanics Mtg, Portland, OR, September 2004.
89. Willson, JD and **Davis, IS**. Clinical quantification of frontal plane knee angle: Correlation of 2D and 3D motion analysis. Presented at the American Society of Biomechanics Mtg, Portland, OR, September 2004.
90. Dierks, TA, **Davis, IS**, and Hamill, J. Lower Extremity Joint Coupling in Runners who Develop Patellofemoral Pain Syndrome. Presented at the American American Society of Biomechanics Mtg, Portland, OR, September 2004.
91. Milner, CE, **Davis, IS** And Hamill, J. Does Sustaining a Lower Extremity Stress Fracture alter Lower Extremity Mechanics in Runners? Presented at the American American Society of Biomechanics Mtg, Portland, OR, September 2004.
92. Butler, RJ, **Davis, IS**, Royer, T, Crenshaw, S and Mika, ES. Differences in Frontal Plane Mechanics during Walking between Patients with Medial and Lateral Knee Presented at the American American Society of Biomechanics Mtg, Portland, OR, September 2004.
93. Zifchock, RA, **Davis, IS** and Hillstom, H. Age and Gender Differences in Arch Height and Arch Stiffness. Presented at the American American Society of Biomechanics Mtg, Portland, OR, September, 2004.
94. **Davis, I**, Milner, C and Hamill, J (2004). "Does increased loading during running lead to tibial stress fractures: A prospective study". Presented at the American College of Sportsmedicine Meeting, Indianapolis, IA, June, 2004.
95. Milner, C, **Davis, I**, and Hamill, J (2004). "Is free moment related to tibial stress fractures in runners?". Presented at the American College of Sportsmedicine Meeting, Indianapolis, IA, June, 2004.
96. Pollard, C, Heiderscheidt, B, **Davis, I**, and Hamill, J. "Influence of Gender on Lower Extremity Segment and Joint Coordination During an Unanticipated Cutting Maneuver." Presented at the American College of

Sportsmedicine Meeting, Indianapolis, IA, June, 2004

97. Willson, J. Ireland, ML, and **Davis, I.** "The influence of lumbopelvic strength on lower extremity performance." Presented at the American College of Sportsmedicine Meeting, Indianapolis, IA, June, 2004
98. Zifchock, R, Butler, R and **Davis, I.** "Measured differences in arch height as a function of gender." Presented at the American College of Sportsmedicine Meeting, Indianapolis, IA, June, 2004
99. Butler, R, **Davis, I,** Royer, T and Crenshaw, S (2004). "The effect of wedged orthotics on hip and ankle mechanics." Presented at the American College of Sportsmedicine Meeting, Indianapolis, IA, June, 2004.
100. Dierks, T. and **Davis, I** "Lower extremity joint coupling and patellofemoral pain during running." Presented at the American College of Sportsmedicine Meeting, Indianapolis, IA, June, 2004.
101. Crenshaw, S, Royer, T, Butler, R, and **Davis, I** "Laterally wedged insoles reduce knee pain during functional activities in subjects with medial knee osteoarthritis. Presented at the Gait and Clinical Movement Analysis Society, Lexington, KY, April, 2004.
102. Zifchock, RA, **Davis, IS** & Butler, RJ. Arch Height Differences between Genders and across Decades. Presented at the annual CBER Research Day, University of Del., May, 2004.
103. Milner, CE, **Davis, IS** And Hamill, J. Does Sustaining a Lower Extremity Stress Fracture alter Lower Extremity Mechanics in Runners? Presented at the annual CBER Research Day, University of Del., May, 2004.
104. Dierks, TA & **Davis, IS.** "Lower Extremity Joint Coupling and Patellofemoral Joint Pain in Runners" Presented at the annual CBER Research Day, University of Del., May, 2004.
105. Butler, R, **Davis, I,** Royer, T and Crenshaw, S. "The effect of wedged orthotics on hip and ankle mechanics." Presented at the annual CBER Research Day, University of Del., May, 2004.
106. Willson, J. Ireland, ML, and **Davis, I** "The influence of lumbopelvic strength on lower extremity performance." Presented at the annual CBER Research Day, University of Del., May, 2004.
107. Cashen, C, Mika, ES, Butler, RJ, Royer, T, & **Davis, IS.** "The Effect of the Laterally Wedged Orthosis on Knee Kinematics and Kinetics in Patients with Medial Knee OA" Presented at the annual CBER Research Day, University of Del., May, 2004.
108. **McClay Davis, I,** Dierks, TA, and Ferber, R. Lower extremity mechanics in patients with patellofemoral joint pain: A prospective study. Presented at the American Society of Biomechanics Meeting, Toledo, OH, September, 2003.
109. Gupta, R and **McClay Davis, I.** Lower extremity mechanics behind successful orthotic intervention in patients with anterior knee pain. Presented at the American Society of Biomechanics Meeting, Toledo, OH, September, 2003.
110. Dierks, TA and **McClay Davis, I.** Discrete and continuous joint coupling during running. Presented at the American Society of Biomechanics Meeting, Toledo, OH, September, 2003.
111. Butler, RJ, **McClay Davis, I,** Royer, T, Crenshaw, S and Mika, E. Toe-out effects frontal plane knee moments and angles in patients with knee osteoarthritis. Presented at the American Society of Biomechanics Meeting, Toledo, OH, September, 2003.
112. Crenshaw, S, Royer, T, **McClay Davis, I,** Mika, E and Butler, R. The effect of laterally wedged insoles on standing alignment. Presented at the American Society of Biomechanics Meeting, Toledo, OH, September, 2003.
113. Richards, CJ, Card, K, Song, J, Hillstrom, H, Butler, R and McClay Davis, I. A novel arch height index measurement system (AHIMS): Intra- and inter-rater reliability. Presented at the American Society of Biomechanics Meeting, Toledo, OH, September, 2003.
114. **McClay Davis, I,** Ferber, R, Hamill, J and Pollard, CD. Rearfoot mechanics in competitive runners who had experienced plantar fasciitis. Presented at the International Society of Biomechanics Mtg in Dunedin, New Zealand in July, 2003.

115. Butler, RJ, **McClay Davis, I**, Royer, T, Crenshaw, S and Mika, ES. Acute effects of wedged orthoses on knee mechanics in patients with knee osteoarthritis. Presented at the International Society of Biomechanics mtg in Dunedin, New Zealand in July, 2003.
116. Ferber, R, **McClay Davis, I**, Hamill, J and Pollard, CD. Prospective biomechanical investigation of Iliotibial band syndrome in competitive female runners. Presented at the American College of Sports Medicine Mtg, San Francisco, CA, May 2003.
117. Willson, JD, **McClay Davis, I** and Ireland, ML. Relationship between hip strength and tibiofemoral valgus angle during single leg squats. Presented at the American College of Sports Medicine Mtg, San Francisco, CA, May 2003.
118. Dierks, TA, **McClay Davis, I**, and Ferber, R. Gender differences in discrete joint coupling variables during running. Presented at the American College of Sports Medicine Mtg, San Francisco, CA, May 2003.
119. DeLeo, AT, Ferber, R, Mika, ES and **McClay Davis, I**. Comparison of rearfoot motion and comfort between custom and semi-custom orthotics based on arch height. Presented at the American College of Sports Medicine Mtg, San Francisco, CA, May 2003.
120. Butler, RJ, Ferber, R and **McClay Davis, I**. Gender differences in lower extremity stiffness during running. Presented at the American College of Sports Medicine Mtg, San Francisco, CA, May 2003.
121. Pollard, CD, Maclean, C, **McClay Davis, I** and Hamill, J. Knee joint kinematics during a single limb squat: Gender based differences in the collegiate soccer player. Presented at the American College of Sports Medicine Mtg, San Francisco, CA, May 2003.
122. **McClay Davis, I**, Dierks, TA and Ferber, R. Gender differences in continuous joint coupling variables during running. Presented at the American College of Sports Medicine Mtg, San Francisco, CA, May 2003.
123. Ferber, R, **McClay Davis, I**, Hamill, J. The effect of orthotics on lower extremity joint coupling. Variables associated with the incidence of lower extremity stress fractures. Presented at the World Congress of Biomechanics Mtg, Calgary, Canada, August, 2002.
124. DeLeo, A, **McClay Davis, I** and Ferber, R. Custom and Semi-custom orthotic devices: A comparison of motion control and comfort. Presented at the World Congress of Biomechanics Mtg, Calgary, Canada, August, 2002.
125. **McClay Davis, I**, Ferber, R, Dierks, T, Butler, R, and Hamill, J. Variables associated with the incidence of lower extremity stress fractures. Presented at the World Congress of Biomechanics Mtg, Calgary, Canada, August, 2002.
126. Pollard CD, **McClay IS**, Hamill J. Multiple Lower Extremity Stress Fractures in a Female Division I Cross-Country Runner: A Case Study. Presented at the Combined Sections Meeting of the APTA, Boston, MA, February 2002.
127. McCrory, JL, Quick, NE, Ballantyne, BT, and **McClay Davis, I**. Effects of a Dynamic Knee Orthosis on Subject Kinematics during the Lateral Step-Up Exercise. Presented at the American College of Sports Medicine Meeting in St. Louis, MO, June, 2002.
128. Ferber, R, **McClay Davis, I**, Hamill, J,, Pollard, CD, and McKeown, KA. Kinetic Variables in Subjects with Previous Lower Extremity Stress Fractures. Presented at the American College of Sports Medicine Meeting in St. Louis, MO, June, 2002.
129. Pollard, CD, McKeown, KA, Ferber, R, **McClay Davis, I**, and Hamill, J. Selected Structural Characteristics of Female Runners with and without Lower Extremity Stress Fractures. Presented at the American College of Sports Medicine Meeting in St. Louis, MO, June, 2002.
130. Leetun, DT, Ireland, ML, Ballantyne, BT and **McClay, IS**. Differences in Core Stability between Male and Female Collegiate Basketball Athletes as Measured by Trunk and Hip Performance. Presented at the ACL Research Retreat, Lexington, KY, April, 2001.
131. Ireland, ML, Ballantyne, BT, Little, K and **McClay, IS**. A Radiographic Analysis of the Relationship between the Size and Shape of the Intercondylar Notch and Anterior Cruciate Ligament Injury Presented at the ACL Research Retreat, Lexington, KY, April, 2001.

132. Shapiro, R, Yates, J, **McClay, I**, and Ireland, ML. Male-Female Biomechanical Differences in Selected Landing Maneuvers. Presented at the ACL Research Retreat, Lexington, KY, April, 2001.
133. Laughton, CA, **McClay, IS**, Hamill, J. Effect of Orthotic Intervention and Strike Pattern on Tibial Shock in Runners. Presented at the International Society of Biomechanics, Zurich, Switzerland, July, 2001.
134. **McClay, IS**, Hughes, MA, Laughton, CA, Gupta, R. Effect of Soft Orthotics on Tibial Shock and Rearfoot Motion. Presented at the American College of Sports Medicine Mtg, Baltimore, June, 2001.
135. Manal, KT & **McClay, IS**. Errors in Estimating Tibial Translation during Natural Cadence Walking: Bone vs. Skin Mounted Tracking Markers. Presented at the American College of Sports Medicine Mtg, Baltimore, June, 2001.
136. Laughton, CA, **McClay, IS**, & J. Hamill. Effect of Foot Orthoses and Strike Pattern on Rearfoot Motion. Presented at the American College of Sports Medicine Mtg, Baltimore, June, 2001.
137. Ballantyne, BT, Leetun, D, Ireland, ML, & **McClay, IS**. Gender differences in core stability as measured by trunk and hip performance Presented at the American College of Sports Medicine Mtg, Baltimore, June, 2001.
138. McCrory, JL, Quick, NE, Ballantyne, BT & **McClay, IS**. Effect of a Resistive Dynamic Knee Orthosis on Muscle Activations During the Lateral Step Up. Presented at the American College of Sports Medicine Mtg, Baltimore, June, 2001.
139. Laughton, CA and **McClay, IS**. Relationship between Loading Rates and Tibial Accelerometry in Forefoot Strike Runners. Presented at the Annual American Society of Biomechanics Mtg, Chicago, IL, July, 2000.
140. Williams, DS and **McClay, IS**. Lower Extremity Stiffness in Runners with High and Low Arches. Presented at the Annual American Society of Biomechanics Mtg, Chicago, IL, July, 2000.
141. Manal, KT, **McClay, IS**, Richards, J and Stanhope, SJ. Effect of Marker Placement on Knee Joint Moments. Presented at the Canadian Society of Biomechanics Mtg, Montreal, July, 2000.
142. Hamill, J, Heidersheidt, B, **McClay, IS**, Li, L. Influence of Strike Pattern on Lower Extremity Stiffness in Runners. Presented at the Canadian Society of Biomechanics Mtg, Montreal, July, 2000.
143. Williams, DS and **McClay, IS**. Injury Patterns in Runners with Pes Cavus and Pes Planus. Presented at the ACSM National Mtg in Indianapolis, IN, June, 2000.
144. Sahte, V, Ireland, ML, Ballantyne BT and **McClay, IS**. Acute Effect of the Protonics System on Patellofemoral Alignment. Presented at the ACSM National Mtg in Indianapolis, IN, June, 2000.
145. Ott, S, Ireland, ML, Ballantyne, BT and **McClay, IS**. Gender Differences in Functional Outcomes following ACL Reconstruction. Presented at the ACSM National Mtg in Indianapolis, IN, June, 2000.
146. Williams, DS, **McClay, IS** & Laughton, CA. A Comparison of between day Reliability of Different Types of Lower Extremity Kinematic Variables in Runners. Presented at the American Society of Biomechanics, October, 1999, Pittsburgh, PA.
147. **McClay, IS**, Williams, DS & Laughton, CA. Can Gait be Retrained to Prevent Injury in Runners? Presented at the American Society of Biomechanics, October, 1999, Pittsburgh, PA.
148. **McClay, IS**, Williams, DS and Baitch, S. The Effect of the Inverted Orthotic on Lower Extremity Mechanics. Presented at the International Society of Biomechanics Mtg, August, 1999, Calgary, Canada.
149. **McClay, IS**, & Williams, DS. Structure and Mechanics of Injured Twin Runners. Presented at the ACSM National Mtg in Seattle, WA, June, 1999.
150. Wills, J & **McClay, IS**. Epidemiology of Extreme Sports. Presented at the ACSM National Mtg in Seattle, WA, June, 1999.
151. Crook, S, Ballantyne, BT & **McClay, IS**. Reliability of a Functional Assessment Tool. Presented at the ACSM National Mtg in Seattle, WA, June, 1999.
152. Laughton, CA, **McClay, IS** and Williams, DS. A Comparison of Methods of Obtaining a Negative Impression of the Foot. Presented at the National APTA Conference, Washington, DC, June, 1999.

153. Williams, DS, **McClay, IS**. Reliability and Validity of Arch Characterizing Measurements. Presented at the Combined Sections Mtg of the APTA, Seattle, WA, February, 1999.
154. **McClay, IS**, Williams, DS, and Manal, KT. Lower Extremity Mechanics of Runners with a Converted Forefoot Strike Pattern. NACOB, Chicago, IL, 1998.
155. Manal, KT, **McClay, IS** et al. A Comparison of Surface Mounted Markers and Attachment Methods in estimating Tibial Rotations during Walking. Am. Soc. Biom. Mtg, Clemson, SC, Oct, 1997.
156. **McClay, IS** The Relationship between Lower Extremity Mechanics and Injury in Runners to be presented at the Whitaker Conference, Utah, August, 1996.
157. **McClay, IS** & Manal, KT. A Comparison of Rearfoot and Knee Kinematics during Running between Excessive Pronators and Normals. Presented at the Canadian Orthopedic Research Society Meeting, Quebec City, May, 1996.
158. **McClay, IS** & Manal, KT. Lower Extremity Kinematic Comparisons between Forefoot and Rearfoot Strikers. Presented at the American Society of Biomechanics Meeting, Stanford, CA August, 1995.
159. **McClay, IS** & Manal, KT. Lower Extremity Kinetic Comparisons between Forefoot and Rearfoot Strikers. Presented at the American Society of Biomechanics Meeting, Stanford, CA August, 1995.
160. **McClay, IS** & Manal, KT. Coupling Parameters in Runners who Pronate and Normals. Presented at the American Society of Biomechanics Meeting, Columbus, Ohio, November, 1994.
161. **McClay, IS** & Manal, KT (1995). A Comparison of Two- and Three-dimensional Lower Extremity Kinematics during Running between Pronators and Normals. (Presented at the American Society of Biomechanics Meeting, Columbus, Ohio, November, 1994.
162. **McClay, IS**, Cavanagh, PR, Sommer, HJ, & Kalenak, A. "Three-Dimensional Kinematics of the Patellofemoral Joint during Running". Proceedings of the American Society of Biomechanics Meeting, October, 1991, Tempe, AZ.
163. **McClay, IS**, Cavanagh, PR, Sommer, HJ, & Kalenak, A. The Effect of Orthotic Treatment on Tibiofemoral and Patellofemoral Joint Kinematics. *Physical Therapy*, 71(6):S46-7, 1991.
164. **McClay, IS**, Cavanagh, PR, Sommer, HJ, Woltring, HJ, & Kalenak, A. Three-Dimensional Angular Kinematics of the Tibiofemoral Joint During Running. Proceedings of the International Symposium on 3-D Analysis of Human Movement, Montreal, July, 1991.
165. Cavanagh, PR, Robinson, JR & **McClay, IS**. Biomechanical Perspective of Stress Fractures in Professional Basketball Players. *Med Sci Sport and Exercise*, 22:(2) S104, April, 1990.
166. Woltring, HJ, **McClay, IS**, & Cavanagh, PR. 3-D Photogrammetric Camera Calibration without a Calibration Object. Abstract published in the Proceedings of the International Society of Biomechanics Meeting, Los Angeles, CA, June, 1989.
167. **McClay, IS**, Cavanagh, PR, & Kalenak, A. Biomechanical Evaluation of the Injured Runner. Abstract published in the Proceedings of the East Coast Gait Conference, November, 1987.
168. Brubaker, CE, **McClay, IS**, & McLaurin, CA. Effect of Seat Position of Propulsion Efficiency. Proceedings of the 2nd International Conference on Rehabilitation Engineering, 1984, pp. 134-138.
169. Brubaker, CE, **McClay, IS**, & McLaurin, CA. The Effect of Mechanical Advantage on Lever Propulsion Efficiency. Proceedings of the 6th Annual Conference on Rehabilitation Technology, 1983, pp. 122-124.

Invited National and International Presentations

1. **Davis, IS**. "A Novel Approach to Evaluating and Treating the Runner with Patellofemoral Pain" Presented at the International Olympic Committee and Advanced Team Physician Course, Stanford, CA, June, 2009.
2. **Davis, IS**. "Video Gait Analysis: What can be Learned?" Presented at the International Olympic Committee and Advanced Team Physician Course, Stanford, CA, June, 2009.

3. **Davis, IS** "Gait Retraining through the use of Realtime Feedback: Altering the Fingerprint of Gait." Presented at the Prescription Foot Orthotic Laboratory Association Biomechanics Meeting, Vancouver, British Columbia, October, 2008.
4. **Davis, IS**, Fellin, RA and Willy. R "Is Treadmill Running a Good Representation of Overground Running. Presented at the Prescription Foot Orthotic Laboratory Association Biomechanics Meeting, Vancouver, British Columbia, October, 2008.
5. **Davis, IS** and Buchanan, K. "Relationship between Forefoot position and Static Midfoot and Rearfoot Position: Testing Root Theory Presented at the Prescription Foot Orthotic Laboratory Association Biomechanics Meeting, Vancouver, British Columbia, October, 2008.
6. **Davis, IS** and Buchanan, K. "Relationship between Forefoot position and Dynamic Midfoot and Rearfoot Mechanics: Testing Root Theory Presented at the Prescription Foot Orthotic Laboratory Association Biomechanics Meeting, Vancouver, British Columbia, October, 2008.
7. **Davis, IS** "Gait Retraining through the use of Realtime Feedback: Altering the Fingerprint of Gait" Presented at the Drayer Physical Therapy Institute National Conference, Hilton Head, South Carolina, October, 2008.
8. **Davis, IS** "Comprehensive Treatment of Patellofemoral Pain Syndrome". Presented at the Drayer Physical Therapy Institute National Conference, Hilton Head, South Carolina, October, 2008.
9. **Davis, IS** "Abnormal Running Mechanics and Injury". Presented at the Drayer Physical Therapy Institute National Conference, Hilton Head, South Carolina, October, 2008.
10. **Davis, IS** "Pathomechanics of the Foot and Ankle." Presented at the Drayer Physical Therapy Institute National Conference, Hilton Head, South Carolina, October, 2008.
11. **Davis, IS** "Evaluation of the Injured Runner." Presented at the Drayer Physical Therapy Institute National Conference, Hilton Head, South Carolina, October, 2008.
12. **Davis, IS** "The Lower Quarter Exam." Presented at the Drayer Physical Therapy Institute National Conference, Hilton Head, South Carolina, October, 2008.
13. **Davis, IS** "Gait Retraining through the use of Realtime Feedback: Altering the Fingerprint of Gait. Presented at the New Hampshire Musculoskeletal Institute 25th Annual Symposium, Manchester, NH, September, 2008.
14. **Davis, IS** "Relationship between Core Stability and Lower Extremity Function and Injury". Presented at the New Hampshire Musculoskeletal Institute 25th Annual Symposium, Manchester, NH, September, 2008.
15. **Davis, IS** "Gait Retraining through the use of Realtime Feedback: Altering the Fingerprint of Gait. Presented at the Instituti Ortopedici Rizzoli, Bologna, Italy, June, 2008.
16. **Davis, IS** "Gait Retraining through the use of Realtime Feedback: Altering the Fingerprint of Gait. Presented at the Istituto Universitario di Scienze Motorie, Rome, Italy, June, 2008.
17. **Davis, IS** "A Biomechanical Approach to the Evaluation and Treatment of Tibial Stress Fractures". Presented at the Army Stress Fracture Research Meeting, Fort Jackson, SC, February, 2008.
18. **Davis, IS**. "Relationship between Abnormal Running Mechanics and Injury." Presented at the Drayer Physical Therapy institute National Sports Medicine Meeting, Hilton Head, SC, October, 2007.
19. **Davis, IS**. "An Evidence-Based Lower Quarter Exam". Presented at the Drayer Physical Therapy institute National Sports Medicine Meeting, Hilton Head, SC, October, 2007.
20. **Davis, IS**. "Assessment of the Injured Runner". Presented at the Drayer Physical Therapy institute National Sports Medicine Meeting, Hilton Head, SC, October, 2007.
21. **Davis, IS** "Effect of Wedged Orthoses in Patients with Knee Osteoarthritis". Presented at the Pedorthic Association Mtg in San Antonio, Texas, November, 2007.
22. **Davis, IS** "Assessment of the Lower Quarter in Injured Runners". Presented at the Milwaukee School of Medicine Sports Medicine Meeting, Milwaukee, IL, March, 2007.

23. **Davis, IS** "Visual Gait Analysis for the Injured Runner". Presented at the Milwaukee School of Medicine Sports Medicine Meeting, Milwaukee, IL, March, 2007.
24. **Davis, IS** "The Use of Realtime Feedback for Gait Retraining in Runners". Presented at the University of Washington Medical School Running Medicine Meeting, Milwaukee, IL, March, 2007.
25. **Davis, IS** "Running Right: Relationships between Injury and Mechanics" Presented at the University of Washington Medical School Running Medicine Meeting, Milwaukee, IL, March, 2007.
26. **Davis, IS** "The Use of Realtime Feedback for Gait Retraining in Runners". Presented at the Hospital for Special Surgery, February, 2007.
27. **Davis, IS** "Patellofemoral Pain Syndrome: Local, Distal and Proximal Factors". Presented at the Hospital for Special Surgery, February, 2007.
28. **Davis, IS**, "Effect of Wedged Orthoses in Patients with Knee Osteoarthritis: An Update". Presented at the Hospital for Special Surgery, February, 2007.
29. **Davis, IS** "Patellofemoral Pain Syndrome: Local, Distal and Proximal Factors". Presented at the Prescription Foot Orthotic Laboratory Association Mtg, Chicago, IL, December, 2006.
30. **Davis, IS**, Barrios, J, Royer, Lloyd, C and Royer, T. "Effect of Wedged Orthoses in Patients with Knee Osteoarthritis: An Update". Presented at the Prescription Foot Orthotic Laboratory Association Mtg, Chicago, IL, December, 2006.
31. **Davis, IS** "Evaluation of the Injured Runner". Presented at the Drayer Physical Therapy Institute National Conference, Hilton Head, SC, October, 2006.
32. **Davis, IS** "The Role of Core Stability in Lower Extremity Mechanics and Injury". Presented at the Drayer Physical Therapy Institute National Conference, Hilton Head, SC, October, 2006.
33. **Davis, IS** "Stress Fractures and Loading: The Tipping Point". Presented at the Drayer Physical Therapy Institute National Conference, Hilton Head, SC, October, 2006.
34. **Davis, IS** "Stress Fractures and Loading: The Tipping Point". Presented at the Natick Army Labs, Natick, MA, October, 2006.
35. **Davis, IS** "The Use of Realtime Feedback for Gait Retraining in Runners." Grand Rounds, Boston Medical Center, Boston, MA, October, 2006.
36. **Davis, IS** "Stress Fractures and Loading: The Tipping Point". Presented at the University of Ohio, Department of Exercise Science, Toledo, OH, April, 2006.
37. **Davis, IS** "Addressing the Hip in Patellofemoral Disorders". Presented at the Symposium on Patellofemoral Disorders, Combined Sections Meeting of the APTA, San Diego, CA, February, 2006.
38. **Davis, IS** "Stress Fractures and Loading: The Tipping Point". Presented at the Virginia Tech University, Department of Mechanical Engineering, January, 2006.
39. **Davis, IS** "The Role of Core Stability in Lower Extremity Mechanics and Injury". Presented at the FORUM Meeting, Las, Vegas, NV, January, 2006.
40. **Davis, IS** "The Dreaded Stress Fracture: Relationship to Mechanics". Presented at the Prescription Foot Orthotic Labs Association Meeting, Vancouver, Canada, November 2005.
41. **Davis, IS** "The Effect of Wedged Orthoses on Lower Extremity Mechanics and Function in Patients with Knee OA". Presented at the Prescription Foot Orthotic Labs Association Meeting, Vancouver, Canada, November 2005.
42. **Davis, IS** "The Dreaded Stress Fracture: Relationship to Mechanics". Keynote presented at the MidAtlantic ACSM Meeting, Harrisburg, PA, October, 2005.
43. **Davis, IS** "Running Right: Relationships between Mechanics and Injury". Keynote presented at the Sports Medicine Australia Meeting, Melbourne, Australia, October, 2005.
44. **Davis, IS** "The Relationship between Core Stability and Lower Extremity Function and Injury". Presented at

- the Sports Medicine Australia Meeting, Melbourne, Australia, October, 2005.
45. **Davis, IS** "The Role of Hip Control in Lower Extremity Mechanics and Injury". Presented at the National Athletic Training Association Meeting, Indianapolis, IN, June 2005.
 46. **Davis, IS** "The Role of Hip Control in Lower Extremity Mechanics and Injury". Presented at the American Orthopedic Association Meeting, Huntington Beach, CA, June 2005.
 47. **Davis, IS**. "Is there a Right Way to Run: Relationships between Mechanics and Injury". Keynote presentation at the UK Sports Medicine Meeting, Nottingham, England, April 2005.
 48. **Davis, IS**. "Case Studies in the Injured Runner". Keynote presentation at the UK Sports Medicine Meeting, Nottingham, England, April 2005.
 49. **Davis, IS** "Observational Gait Analysis". Presentation at the Running Medicine Meeting, Charlottesville, VA, March, 2005.
 50. **Davis, IS** ""Is there a Right Way to Run: Relationships between Mechanics and Injury". Keynote presentation at the Running Medicine Meeting, Charlottesville, VA, March, 2005.
 51. **Davis, IS**. "Stress Fractures: Study of Relationship between Mechanics and Injury". Presentation given at the Australian Institute for Sport, Canberra, Australia, February 2005.
 52. **Davis, IS**. "Foot Structure, Mechanics and Injury Risk". Keynote Presentation at the 2nd International Foot and Ankle Symposium, Newark, DE, October 2004.
 53. **Davis, IS**. "The Effect of Laterally Wedged Foot Orthoses on Lower Extremity Mechanics of Patients with Medial Knee OA". Presented at the Prescription Foot Orthotic Laboratory of America (PFOLA) Mtg, Boston, MA, October, 2004.
 54. **Davis, IS**. "Is there a right way to run? Relationships between mechanics and injury". Presented at the and Science of Sports Medicine, Charlottesville, VA, June, 2004.
 55. Ireland, ML, **Davis, IS**, and Willson, J "The influence of lumbopelvic strength on lower extremity performance." Presented at the International ACL Study Group Mtg, Sardinia, Italy, June, 2004.
 56. **Davis, IS**. "Relationships between structure and mechanics". Presented at the and Science of Sports Medicine, Charlottesville, VA, June, 2004.
 57. **Davis, IS** & Hamill, J. "The Biomechanical Etiology of Stress Fractures in Female Runners". Presented at the United States Army Research Institute of Environmental Medicine", May, 2004.
 58. **Davis, IS**. "Is there a right way to run? Relationships between mechanics and injury". Presented at the Graduate Research Symposium, Penn State University, January, 2004,
 59. **Davis, IS** "A Research Update on Orthotic Intervention". Presented at the Research Symposium at the Temple University College of Podiatric Medicine, December, 2003.
 60. **Davis, IS** "Foot and ankle case studies in runners". Presented at the Research Symposium at the Temple University College of Podiatric Medicine, December, 2003.
 61. **Davis, IS** "Is there a right way to run? Relationships between mechanics and injury". Presented at the National Congress of Sports Medicine in Stavanger, Norway, November, 2003.
 62. **Davis, IS** "The Role of Core Stability in Lower Extremity Injuries". Presented at the University of MA seminar series, Amherst, MA, November, 2003.
 63. **Davis, IS** "Comparison of Comfort and Rearfoot Control between a Semicustom and Custom Foot Orthoses". Presented at the Prescription Foot Orthotic Laboratory of America (PFOLA) Mtg, Las Vegas, NV, December 2003.
 64. **Davis, IS** "Biomechanical Considerations for Various Types of Foot Orthoses". Presented in the symposium titled "Clinical and Biomechanical Efficacy of Foot Orthoses" at the American College of Sports Medicine Mtg in San Francisco, CA, May, 2003.
 65. **Davis, IS** "Influence of Foot and Ankle Mechanics of Patellofemoral Joint Dysfunction: A Ground Up

- Biomechanical Perspective". Presented in the symposium titled "The Influence of Lower Quarter Mechanics on Patellofemoral Joint Dysfunction" at the American College of Sports Medicine Mtg in San Francisco, CA, May, 2003.
66. **Davis, IS** "Case Studies in the Injured Runner". Presented at the Medical Aspects of Sports Medicine Mtg, University of Delaware, March, 2003.
 67. **Davis, IS** "Evidence for the Effect of Foot Orthoses on Lower Extremity Mechanics". Presented at Temple University College of Podiatric Medicine. February, 2003.
 68. **Davis, IS** "The Relationship between Structure and Function in the Foot and Ankle". Presented at the Foot Management Inc. Mtg, Ocean City, MD, October 2002.
 69. **Davis, IS** "Normal and Abnormal Gait" Presented at the Foot Management Inc. Mtg, Ocean City, MD, October 2002.
 70. **Davis, IS** "The Effect of the Inverted Orthotic on Lower Extremity Mechanics in Patients with Patellofemoral Joint Pain". Presented at the Prescription Foot Orthotic Laboratory of America (PFOLA) Mtg, Montreal, Canada, October 2002.
 71. **Davis, IS** "Structural Deformities of the Foot: Assessment and Clinical Implications". Presented at the National Athletic Trainers Association Mtg, Dallas, TX, June, 2002.
 72. **Davis, IS** "Running Mechanics and Injury". Presented at the National Athletic Trainers Association Mtg, Dallas, TX, June, 2002.
 73. **Davis, IS** "The Role of Core Instability in Lower Extremity Injuries". Symposium: ACL Injuries and the Gender Bias. Presented at the American College of Sports Medicine Mtg in St. Louis, May, 2002.
 74. **Davis, IS** "Biomechanical Case Studies in Running Injuries" Symposium: Evidence for injury mechanisms in runners". Presented at the American College of Sports Medicine Mtg in St. Louis, May, 2002.
 75. **Davis, IS** "The Application of Biomechanics to Sports Medicine: Focus on Running Injuries". Keynote lecture at the Midwest Student Biomechanics Symposium, Normal, IL, March, 2002.
 76. **Davis, IS** "Core Instability and Lower Extremity Mechanics: Implications for Injury." Presented at the Combined Sections Meeting of the APTA, Boston, MA, February, 2002.
 77. **Davis, IS** "An Update on the Mechanics behind the Success of Orthotic Intervention". Presented at Temple University School of Podiatric Medicine research seminar series, Philadelphia, PA, February 2002.
 78. **Davis, IS** "An Update on Orthotic Research: What do Orthotics do?". Presented at the Biokinesiology Graduate Research Seminar Series at the University of Southern California, Los Angeles, CA, November, 2001.
 79. **Davis, IS** "The Effect of the Inverted Orthotic on Lower Extremity Mechanics: An Update". Presented at the Prescription Foot Orthotic Laboratory Association Annual Meeting, Miami, FL, November, 2001.
 80. **Davis, IS** "How Do Foot Orthotic Devices Influence Lower Extremity Mechanics". Presented at the Prescription Foot Orthotic Laboratory Association Annual Meeting, Miami, FL, November, 2001.
 81. **McClay, IS** "Developing Standards in Epidemiological Research". Presented at the National ACSM Mtg in Indianapolis, June, 2000.
 82. **McClay, IS** "Lower Extremity Mechanics and Injury Patterns in High and Low Arch Runners". Keynote lecture presented at the Foot and Ankle Research Retreat, Annapolis, MD, May, 2000.
 83. **McClay, IS** "Effect of the Inverted Orthotic on Rearfoot and Knee Mechanics". Presented at the 4th Annual John Weed Seminar, Palm Springs, CA, March, 2000.
 84. **McClay, IS** "Effect of the Inverted Orthotic on Rearfoot and Knee Mechanics". Presented at the PFOLA meeting in Vancouver, BC, November 2000.
 85. **McClay, IS** "Influence of foot, knee and hip coupling on patellofemoral mechanics". Symposium at the Combined Sections Meeting of the APTA, New Orleans, LA, February, 2000.

86. **McClay, IS** "Influence of foot, knee and hip coupling on patellofemoral mechanics". Symposium at the National ACSM Mtg in Indianapolis, June, 2000.
87. **McClay, IS** "Influence of foot, knee and hip coupling on patellofemoral mechanics". Presented at Arts and Science of Sports Medicine, Charlottesville, VA, June, 2000.
88. **McClay, IS** "Visual Gait Analysis in Runners". Presented at the Arts and Science of Sports Medicine, Charlottesville, VA, June, 2000.
89. **McClay, IS** "Injury Mechanisms in Runners". Keynote speaker at the Fifth IOC Congress on Sport Sciences, Sydney, Australia, November, 1999
90. **McClay, IS** "Clinical Gait Analysis". Keynote speaker at the Fifth IOC Congress on Sport Sciences, Sydney, Australia, November, 1999.
91. **McClay, IS** "Coupling between the Foot and the Knee in Runners". Presented at Joyner Sportsmedicine Institute National Conference, Hilton Head, SC, October, 1999.
92. **McClay, IS** "Biomechanics of the Knee". Presented at Joyner Sportsmedicine Institute National Conference, Hilton Head, SC, October, 1999.
93. **McClay, IS** "Physical Therapist to Marathoner - A Classical Tale of Overuse." Presented at the Case Conference Seminar at the Annual Conference of the American Physical Therapy Association, Minneapolis, MN, June, 1998.
94. **McClay, IS** "The Biomechanical Evaluation of the Injured Runner". Presented at The Arts and Science of Sports Medicine Conference, Charlottesville, Va., June, 1998.
95. **McClay, IS** "The Biomechanical Evaluation of the Injured Runner". Presented at the East Coast Gait Conference, Bethesda, Md, November, 1997.
96. **McClay, IS** Eugene Michels Research Forum - "Instrumented versus Visual Gait Analysis in Clinical Assessments". Presented at the Combined Sections Mtg in Dallas, TX, Feb., 1997.
97. **McClay, IS** "Biomechanical Differences between Forefoot and Rearfoot Strikers". Presented at the Joyner Sportsmedicine Institute National Conference, Hilton Head, SC, Nov. 1996.
98. **McClay, IS** "Plantar Fasciitis:A Case Study". Presented at the Case Conference Seminar at the Annual Conference of the American Physical Therapy Association, Minneapolis, MN, June, 1996.
99. **McClay, IS** "Abnormal Structure and Gait". Presented at the Management of the Foot and Lower Extremity Course, Foot Mgt, Inc in Ocean City, MD April, 1996.
100. **McClay, IS** "Closed Kinetic Chain Activities for the Foot and Ankle". Presented at the Management of the Foot and Lower Extremity Course, Foot Mgt, Inc in Ocean City, MD April, 1996.
101. **McClay, IS** "The Use of Motion Analysis in Physical Therapy". University of PA, Philadelphia, October, 1995.
102. **McClay, IS** "The Patellofemoral Joint - Implications of the study of three-dimensional kinematics". Grand Rounds, Dept. of Orthopedic Surgery, Hershey Medical Center, January, 1995.
103. **McClay, IS** "What is Clinical Research". Keynote Address at Research Symposium, Shenandoah University, April, 1994.
104. **McClay, IS** "Abnormal Structure and Gait". Presented at the Management of the Foot and Lower Extremity Course, Foot Mgt, Inc in Ocean City, MD in October, 1994.
105. **McClay, IS** "Closed Kinetic Chain Activities for the Foot and Ankle". Presented at the Management of the Foot and Lower Extremity Course, Foot Mgt, Inc in Ocean City, MD in October, 1994.
106. **McClay, IS** "Research in Foot and Ankle Biomechanics". Presented at the Combined Sections Meeting of the American Physical Therapy Association, New Orleans, LA, February, 1994.
107. **McClay, IS** "Biomechanical Assessment of Gait". Presented at the Arts and Science of Sports Medicine Conference, Charlottesville, Va., June, 1993.

108. **McClay, IS** "Closed Kinetic Chain Activities for the Foot and Ankle". Presented at the Foot and Ankle Seminar for HealthSouth in Orlando, FL, February, 1993.
109. **McClay, IS** "Closed Kinetic Chain Activities for the Foot and Ankle". Presented at the Foot and Ankle Seminar for HealthSouth in Phoenix, AZ, March, 1993.
110. **McClay, IS** "Closed Kinetic Chain Activities for the Foot and Ankle". Presented at the Foot and Ankle Seminar for HealthSouth in St. Louis, MO, April, 1993.
111. **McClay, IS** "Normal Structure and Gait". Presented at the Arts and Science of Sports Medicine Conference, Charlottesville, Va., June, 1992.
112. **McClay, IS** "Normal Structure and Gait". Presented at the Symposium on the Biomechanics of the Lower Extremity, NATA, Denver, CO, February, 1992.
113. **McClay, IS** "Abnormal Structure and Gait". Presented at the Symposium on the Biomechanics of the Lower Extremity, NATA, Denver, CO, February, 1992
114. **McClay, IS** "Abnormal Structure and Gait". Presented at the Arts and Science of Sports Medicine Conference, Charlottesville, Va., June, 1992.
115. **McClay, IS** "The Biomechanical Evaluation of the Injured Runner". Presented at the Medical Symposium of the Penn Relays, April, 1992,
116. **McClay, IS** "Biomechanics of the Foot and Ankle". Presented at the Arts and Science of Sports Medicine Conference, Charlottesville, Va., June, 1991.
117. **McClay, IS** "Relationship between Mechanics and Running Injuries". Presented at the Arts and Science of Sports Medicine Conference, Charlottesville, Va., June, 1991.
118. **McClay, IS** "Anatomy and Biomechanics of the Patellofemoral Joint". Presented at the Sports Physical Therapy Meeting, Orlando, Fla. December, 1990.
119. **McClay, IS** "Relationship between Structure and Function in Patellofemoral Disorders". Presented at the Sports Physical Therapy Meeting, Orlando, Fla. December, 1990.
120. **McClay, IS** "Normal and Abnormal Running Mechanics". Presented at the Arts and Science of Sports Medicine Conference, Charlottesville, Va. June, 1990.
121. **McClay, IS** "Biomechanical Perspective of Stress Fractures in Professional Basketball Players". Presented at the Annual Meeting of the NBA Physicians, West Palm Beach, Fl, November, 1988.
122. **McClay, IS** "The Biomechanics of Patellofemoral Disorders". Presented at the Arts and Science of Sports Medicine Conference, Charlottesville, Va., June, 1988.
123. **McClay, IS** "Biomechanical Profile of Elite Woman Distance Runners". Presented at the Dogwood Festival Pre-race Conference, Atlanta, GA, July, 1988.

Continuing Education Workshops Conducted/Organized

1. Evaluation and Treatment of the Injured Runner. 2 day course sponsored by Swedish Hospital, Seattle, WA, March, 2008.
2. Evaluation and Treatment of the Injured Runner. 2 day course sponsored by Drayer Physical Therapy Institute, Hummelstown, PA in February, 2008.
3. Evaluation of the Injured Runner. 1 day course sponsored by the Maryland Chapter of the American Physical Therapy Association, Baltimore, MD, April, 2007.
4. Biomechanics of the Foot and Ankle. 2 day course sponsored by Drayer Physical Therapy Institute, Hummelstown, PA, January, 2007.
5. Biomechanics of Patellofemoral Disorders. 4 hour course sponsored by the Maryland Chapter of the APTA Meeting, Baltimore, MD, February, 2006.

6. Biomechanics of the Foot and Ankle. 2 day course sponsored by Drayer Physical Therapy Institute, Hummelstown, PA, February, 2004.
7. Biomechanics of the Foot and Ankle. 2 day course sponsored by NovaCare Physical Therapy, Chicago, IL, January, 2004.
8. Biomechanics of the Foot and Ankle. 2 day course sponsored by NovaCare Physical Therapy, Raleigh, NC, September, 2003.
9. Biomechanics of the Foot and Ankle. 2 day course sponsored by NovaCare Physical Therapy, Alexandria, VA, November, 2003.
10. Biomechanic and Orthotic Treatment of the Foot and Ankle - 2 day course sponsored by Joyner Sportsmedicine Institute, Harrisburg, PA, March, 2001.
11. Foot and Ankle Biomechanics and Orthotic Therapy. 2 day course sponsored by NovaCare Physical Therapy, Philadelphia, March, 2000.
12. Course on Orthotics. 2 day course presented to Foot Management, Inc, Ocean City, MD October, 2002.
13. The Lower Kinetic Chain. 2 day course sponsored by Foot Management, Inc, Ocean City, MD October, 1998.

Grant Activity

Current Funding

DOD X81XWH-07-1-0395 (PI Davis) June, 2007 – May, 2009 (currently in period of 1 yr NCE) 15% effort
\$200,000 (Direct costs \$132,450)

Effect of Reduced Loading during Running on Tibial Strain Rates: A Modeling Study

The aim of this study is to examine the effect of reduced impacts during running through gait retraining on tibial strain rates.

NIH R01HD050679 (PI Davis) June, 2007 – May, 2010 15% effort
\$879,616 (Direct costs \$582,527)

Gait Retraining to Reduce Loading in Runners

The aim of this study is to examine the effect of a gait retraining program using realtime feedback to reduce impact loading (associated with stress fractures) during running. The persistence of these changes are monitored at 1, 6 and 12 months post training.

Pending

NIH R01HD050679 (PI Davis) April, 2010 – Mar, 2014 15% effort
\$1,070,999 (Direct costs \$700,000)

Improving Gait Mechanics in Runners with Patellofemoral Pain Syndrome

The aim of this study is to examine the effect of a gait retraining program using realtime feedback to improve lower extremity alignment and reduce pain in runners with patellofemoral pain syndrome. The persistence of these changes is monitored at 1, 6 and 12 months post training.

NIH 1R13HD063283-01 (PI Davis) Dec, 2009 – Nov, 2010 10% effort
\$30,000 (Direct costs \$30,000) (score 14% - awaiting funding decision)

Biomechanics in movement science: Building transdomain bridges

The purpose of this workshop is to develop and prioritize a set of recommendations pertaining to biomechanics and movement science research that is trans-domain and translational in nature.

Completed

Federally Funded

DOD W911NF-05-1-0097 (PI Davis) April, 2005 – March, 2006

\$230,000 Direct Cost

The Use of an Instrumented Treadmill to Alter Locomotor Patterns

This instrumentation grant allowed the purchase of an instrumented treadmill in order to begin to explore the ability to alter locomotor patterns

DOD DAMD17-00-1-0515 (PI Davis) July, 2000 – June 2005

\$1.05 million (Direct Costs \$700,000)

Biomechanical Factors in the Etiology of Tibial Stress Fractures

The purpose of this prospective/retrospective study was to understand the biomechanical factors associated with tibial stress fractures.

P20 (PI Buchanan, Co-Investigator Davis) Feb., 2002 – Jan., 2007

\$931,815 (Direct Costs \$617,096)

The Effect of Wedged Foot Orthoses on Lower Extremity Mechanics and Function in Patients with Knee Osteoarthritis

The purpose of this study was to assess the short and longterm effect of wedged foot orthoses on the gait and function of individuals with medial and lateral knee OA.

Other Funded

100% salary support. Joyner Sportsmedicine Institute (1997-2006).

100% salary support Drayer Physical Therapy Institute (2004-2007).

3 Doctoral scholarships (\$60,000), Drayer Physical Therapy Institute (2004-present).

A Comparison of Custom and Semicustom Foot Orthotic Devices on Lower Extremity Mechanics and Comfort in High and Low Arched Runners. The Pauline Marshall Research and Education Foundation, \$22,000 for one year grant period beginning 2/2004.

A Comparison of Custom and Semicustom Foot Orthotic Devices on Lower Extremity Mechanics and Comfort. The Pauline Marshall Research and Education Foundation, \$15,000 for one year grant period beginning 9/2001.

Biomechanical Factors Associated with the Etiology of Stress Fractures in Runners. The Department of the Army. \$1.05 million for 5 yr grant period beginning 9/2000.

2 Doctoral Scholarship. \$20,000. Joyner Sportsmedicine Institute, 1998, 1999, 2000, 2001; \$36,000 for 2002, 2003.

Undergraduate Summer Scholarship. \$4,000. Joyner Sportsmedicine Institute, 1997 and 1998, 1999, 2000, 2001.

A Comparison of Four Methods to Obtain a Negative Impression of the Foot, \$3,250, Foot Management, Inc, 1998-1999.

The Effect of Different Orthotic Devices on Lower Extremity Mechanics of Rearfoot and Forefoot Strikers, \$3,500. Foot Management, Inc, 1999-2000.

The Effect of the Protonics System on Patellar Alignment and Gait in Patients with Patellofemoral Joint Pain. \$18,000. Funded by Inverse Technology, 1998-1999.

Clinical Efficacy of the Protonics System in Patients with Patellofemoral Joint Pain. \$3,000. Funded by Inverse Technology, 1998-1999.

A Comparison of Strengthening vs. Orthotics on Pronation and Pronation Velocity. Funded by the Physical Therapy Foundation \$60,000, 1993-1995.

Lower Extremity Mechanics and Injury. Funded by the Whitaker Foundation \$180,000, 1993-1996.

The Relationship between Subtalar Joint Axis Orientation, Joint Motion and Injuries in Runners. Funded by the Biomedical Research Support Grant. \$2550, 1992.

The Relationship between Subtalar Joint and Knee Joint Motion in Runners. Funded by the University of Delaware Research Foundation. \$16,000, 1990.

A Comparison of Patellofemoral 3-D Kinematics in Runners with and without Patellofemoral Pain. Doctoral Dissertation. Foundation for Physical Therapy. \$8500, 1988.

Service

Membership in Scientific/Professional Organizations:

American Society of Biomechanics

| | |
|----------------------|----------------|
| Member | 1984 - Present |
| Past-President | 2009 - 2010 |
| President | 2008 - 2009 |
| President-Elect | 2007 - 2008 |
| Program Chair | 2005 - 2006 |
| Abstract reviewer | 2000 |
| Membership Committee | 1997 – 2001 |
| Awards Committee | 2008 - 2010 |

American Physical Therapy Association

| | |
|---|----------------|
| Member | 1990 - Present |
| Member, Orthopedic Section | 1990 - Present |
| Chairperson of Research Committee, Foot and Ankle Special Interest | 1997 – 2004 |
| Member, Research Section | 1990 - Present |
| Member, Sports Section | 2009 - Present |

American College of Sports Medicine,

| | |
|---------------------------------------|----------------|
| Member | 1992 - Present |
| Fellow | 2001 - Present |
| Chair, Biomechanics Interest Group | 2008 - 2009 |
| Co-Chair, Biomechanics Interest Group | 2005 – 2009 |
| Abstract Reviewer | 2009 - Present |

International Society of Biomechanics

| | |
|---|----------------|
| Member | 1992 - Present |
| Scientific Committee for the Third International Symposium on 3-D Analysis of Human Movement, Stockholm, Sweden, | 1994 |

Consultative and Advisory Positions Held:

| | |
|---|----------------|
| Director of Research, Drayer Physical Therapy Institute | 2004 - Present |
| Director of Research, Joyner Sportsmedicine Institute, | 1997 - 2004 |

Organizing Chair/Committees

- Organizing Chair of the Delaware Priorities Conference: Building Transdomain Bridges to Translational Research in Biomechanics. To be held at the University of Delaware, June, 2010.
- Organizing Chair of the "Patellofemoral Joint Research Retreat: Patellofemoral Pain Syndrome: Local, Proximal and Distal Factors". Held in Baltimore, MD, April, 2009.
- Organizing Committee, Drayer Physical Therapy Institute National Sports Medicine Mtg, Hilton Head, SC, October 2006.
- Organizing Committee, Drayer Physical Therapy Institute National Sports Medicine Mtg, Hilton Head, SC, October 2007.
- Organizing Committee, Drayer Physical Therapy Institute National Sports Medicine Mtg, Hilton Head, SC, October 2008.
- Organizing Chair for Research Retreat – "Measurement of Foot Motion: Forward and Inverse Dynamic Models", University of Southern California, Los Angeles, CA, April, 2004
- Organizing Chair for Research Retreat - "ACL Injuries: The Gender Bias". Lexington, KY, April 2001.
- Organizing Chair for Research Retreat - "ACL Injuries: The Gender Bias". Lexington, KY, April 2003.
- Organizing Chair for Research Retreat - "ACL Injuries: The Gender Bias". Lexington, KY, April 2006.
- Organizing Chair for Research Retreat - "Static and Dynamic Classification of the Foot." Annapolis, MD, May, 2000.
- Organizing Committee, Joyner Sportsmedicine Institute National Sportsmedicine Conference, Hilton Head, SC (1996-1999).

International PhD External Reviewer

- Natalie Collins "Foot Orthoses in Anterior Knee Pain". University of Queensland, Australia, 2009
- Regan Emile Arendse - "The Application of Clinical Gait Analysis to Running Injuries" University of Cape Town, 2005.
- Jacqueline Alderman "Development of a numerically based lower limb model: Its use in the assessment of patellofemoral pain in female runners". University of Western Australia, 2005.

Grant Review Panels

- Musculoskeletal Rehabilitation Science (MRS) Study Section Member, NIH, February, 2010.
- Grant Review Committee, Orthopedic Section, APTA Research February, 2009.
- Review panel: Grants for Injury Control Research Centers (ICRC). Center for Disease Controls, Chaired by Keith Kaufman, Atlanta, GA, November, 2009.
- Study section on Musculoskeletal Modeling, National Institutes for Health, Chaired by Peter Cavanagh, November, 2003.
- Invited Participant to the "Working Conference on Gait Analysis in Rehabilitation Medicine" National Institutes for Health, September, 1996.
- Doctoral Research Advisory Committee (grant reviews), American Physical Therapy Association (1995-1997).

Editorial Boards

- Clinical Biomechanics (1999-present)
- Journal of Orthopedic and Sports Physical Therapy (1996-1997)
- Journal of Applied Biomechanics (1997-1999)

Journal Reviewer

- Journal of Biomechanics
- Medicine and Science in Sports and Exercise
- Foot and Ankle, International

Journal of the American Podiatric Medical Association
 Journal of Applied Biomechanics
 British Journal of Sports Medicine
 Journal of Orthopedic and Sports Physical Therapy

Community Service:

| | |
|---|----------------|
| Delaware Blood Bank | 1989 – Present |
| Sandwich Beach Committee | 2009 – Present |
| Medical Mission Trip to Haiti (Christian Coalition for Haiti) | 2008 |
| Habitat for Humanity | 2005, 2009 |
| Newark Food Bank | 2007 |

University/College/School on

Committees

| | |
|---|----------------|
| University of Delaware University Faculty Senate | 2004 – 2006 |
| Biomechanics and Movement Science Program Executive Committee | 1994 – 1996 |
| Biomechanics and Movement Science Program Executive Committee | 1994 – 1996 |
| College of Health Science Research Advisory Committee | 2009 - Present |
| Department of Physical Therapy Academic Affairs Committee | 1989 – Present |
| Department of Physical Therapy Admissions Committee | 1989 - Present |
| Department of Physical Therapy Bylaws Committee | 2005 - 2007 |
| Department of Physical Therapy Retreat Committee | 2008 |

Teaching

Research Mentorship

| | | | |
|-----------------------|----------------------|------------------------|----------------|
| Research Mentor | Margo Orlin, PhD | Drexel Univ | 2007 - 2009 |
| Post-doctoral Advisor | Brad Bowser, PhD | Univ. of Delaware | 2009 - Present |
| Post-doctoral Advisor | Michael Pohl, PhD | Univ. of Delaware | 2006 - 2008 |
| Post-doctoral Advisor | Clare Milner, PhD | Univ. of Delaware | 2003 - 2005 |
| Post-doctoral Advisor | Reed Ferber, PhD | Univ. of Delaware | 2001 - 2003 |
| PhD Advisor | Allison Altman | Univ. of Delaware | 2008 – Present |
| PhD Advisor | Rebecca Fellin | Univ. of Delaware | 2007 – Present |
| PhD Advisor | Richard Willy | Univ. of Delaware | 2007 – Present |
| PhD Advisor | Joaquin Barrios | Univ. of Delaware | 2005 – 2009 |
| PhD Advisor | Brian Noehren | Univ. of Delaware | 2005 – 2009 |
| PhD Advisor | Philip Crowell | Univ. of Delaware | 2004 – 2008 |
| PhD Advisor | John Willson | Univ. of Delaware | 2003 – 2007 |
| PhD Advisor | Rebecca Zifchock | Univ. of Delaware | 2003 – 2007 |
| PhD Advisor | Tracy Dierks | Univ. of Delaware | 2001 – 2005 |
| PhD Advisor | Robert Butler | Univ. of Delaware | 2001 – 2005 |
| PhD Advisor | Dorsey Williams, III | Univ. of Delaware | 1996 – 2000 |
| PhD Advisor | Kurt Manal | Univ. of Delaware | 1994 – 1998 |
| PhD Committee Member | Angela Boynton | Univ. of Delaware | 2009 – Present |
| PhD Committee Member | Nicole Chimera | Univ. of Delaware | 2007 – 2009 |
| PhD Committee Member | Katherine Morrison | Univ. of Delaware | 2007 – 2009 |
| PhD Committee Member | Ryan Chang | Univ. of Massachusetts | 2006 - Present |

| | | | |
|----------------------------|-------------------|------------------------------|----------------|
| PhD Committee Member | Chris Maclean | Univ. of Massachusetts | 2003 - 2006 |
| PhD Committee Member | Christine Pollard | Univ. of Massachusetts | 2002 – 2004 |
| PhD Committee Member | Susan Sigward | Univ. of Southern California | 2002 – 2004 |
| PhD Committee Member | Kirsten Buchanan | Univ. of Virginia | 1999 - 2001 |
| MS Advisor | Rebecca Fellin | Univ. of Delaware | 2006 – 2007 |
| MS Advisor | Allison Altman | Univ. of Delaware | 2007 – 2008 |
| MS Advisor | Rachna Gupta | Univ. of Delaware | 2000 – 2003 |
| MS Advisor | Allison Deleo | Univ. of Delaware | 2001 - 2003 |
| MS Advisor | Carrie Laughton | Univ. of Delaware | 1998 – 2000 |
| MS Committee Member | Jeremy Crenshaw | Univ. of Delaware | 2006 – 2007 |
| MS Committee Member | Mike Koenig | Univ. of Delaware | 2003 – 2004 |
| MS Committee Member | Wendy Hurd | Univ. of Delaware | 2002 - 2003 |
| MS Committee Member | David Hudson | Univ. of Delaware | 1999 – 2000 |
| MS Committee Member | Gail Forrester | Univ. of Delaware | 1997 – 1998 |
| MS Committee Member | Kraig Gualtier | Univ. of Delaware | 1997 - 1998 |
| Research Advisor (grad) | Tom Splithoff | Radboud University | 2009 |
| Research Advisor (grad) | Saori Hanaki | Drayer Physical Therapy | 2005 - 2007 |
| Research Advisor (grad) | Lori Bolgla | Drayer Physical Therapy | 2003 - 2005 |
| Research Advisor (grad) | John Willson | Drayer Physical Therapy | 2001 – 2003 |
| Research Advisor (grad) | Bryan Ballantyne | Drayer Physical Therapy | 2001 – 2003 |
| Research Advisor (DPT) | Matt Wescott | University of Delaware | 2008 - Present |
| Research Advisor (UG) | Jessica Rhombach | University of Delaware | 2009 - Present |
| Research Advisor (DPT) | Chris Robson | University of Delaware | 2007 - 2009 |
| Research Advisor (DPT) | Sam Hermes | University of Delaware | 2005 - 2007 |
| Research Advisor (DPT) | Memy Hwang | University of Delaware | 2005 - 2007 |
| Research Advisor (DPT) | Danelle Dixon | University of Delaware | 2005 - 2006 |
| Research Advisor (UG) | Kevin McCoy | University of Delaware | 2003 - 2007 |
| Research Advisor (UG) | Caitlin Cashen | University of Delaware | 2002 – 2004 |
| Research Advisor (UG) | Emily Mika | University of Delaware | 2002 – 2003 |
| Research Advisor (UG) | Michelle Kopp | University of Delaware | 2001 – 2002 |
| Research Advisor (UG) | Malcolm Hughes | University of Delaware | 2000 – 2001 |
| Research Advisor (UG) | Daneille Struys | University of Delaware | 1998 – 1999 |
| Research Advisor (UG) | Brian Matson | University of Delaware | 1996 – 1998 |
| Research Advisor (UG) | Kate Rushton | University of Delaware | 1997 – 1998 |
| Research Advisor (UG) | Nicki Holder | University of Delaware | 1996 – 1997 |
| Research Advisor (UG) | Cathy Corey | University of Delaware | 1994– 1996 |
| PT Residency Res. Advisor | William Young | Drayer Physical Therapy | 2009 |
| PT Residency Res. Advisor | Ryan Shelton | Drayer Physical Therapy | 2009 |
| PT Residency Res. Advisor | William Young | Drayer Physical Therapy | 2009 |
| PT Residency Res. Advisor | Tammy Fiscus | Drayer Physical Therapy | 2009 |
| PT Residency Res. Advisor | Misty Becker | Drayer Physical Therapy | 2009 |
| PT Residency Res. Advisor | Andrea Brooks | Drayer Physical Therapy | 2006 |
| PT Residency Res. Advisor | Jaleh Zandieh | Drayer Physical Therapy | 2005 |
| MD Fellowship Res. Advisor | Greg Sarin | Kentucky Sportsmedicine | 2002 – 2003 |
| MD Fellowship Res. Advisor | Chris Dougherty | Kentucky Sportsmedicine | 2002 - 2003 |
| MD Fellowship Res. Advisor | Ken Tepper | Kentucky Sportsmedicine | 2001 – 2002 |
| MD Fellowship Res. Advisor | Jon LeBlanc | Kentucky Sportsmedicine | 2001 - 2002 |
| MD Fellowship Res. Advisor | Kitty George | Kentucky Sportsmedicine | 2000 - 2001 |
| MD Fellowship Res. Advisor | Darren Leeten | Kentucky Sportsmedicine | 2000 - 2001 |
| MD Fellowship Res. Advisor | John Ellis | Kentucky Sportsmedicine | 1999 - 2000 |
| MD Fellowship Res. Advisor | Susan Ott | Kentucky Sportsmedicine | 1998 – 1999 |

Current Teaching Responsibilities

| | |
|----------|---|
| PHYT 604 | Functional Anatomy and Biomechanics (Instructor in Charge). |
| PHYT 805 | Rehabilitation (teach 21 hours: Diabetic foot, foot and lower extremity orthotics). |

Honors and Awards

| | |
|---|------|
| Univ. of Florida Dept. of Phys.Ther. 2009 Outstanding Alumnus Awardee | 2009 |
| Clinical Biomechanics Award | 2006 |
| Fellow, American College of Sports Medicine | 2001 |
| Summa Cum Laude Graduate, The Penn State University | 1990 |
| Physical Therapy Foundation Scholar | 1988 |
| Recipient of Zipser Scholarship, The Penn State University | 1988 |
| Outstanding Masters Student Award, University of Virginia | 1984 |
| Nominee for Mary McMillan Scholarship Award, APTA | 1978 |
| Magna Cum Laude Graduate, University of Florida | 1978 |
| Magna Cum Laude Graduate, University of Massachusetts | 1977 |

Student Awards

| | | |
|------------------|------|--|
| Rebecca Fellin | 2009 | Biomechanics Interest Group of ACSM Research Award |
| Richard Willy | 2009 | American Physical Therapy PODS I Award |
| Rebecca Fellin | 2008 | Biomechanics Interest Group of ACSM Travel Award |
| Brian Noehren | 2008 | Biomechanics Interest Group of ACSM Research Award |
| Joaquin Barrios | 2008 | American Society of Biomechanics Research Grant |
| Brian Noehren | 2008 | American College of Sports Medicine Research Grant |
| Brian Noehren | 2008 | American Physical Therapy PODS II Award |
| Richard Willy | 2008 | American Physical Therapy PODS I Award |
| Brian Noehren | 2007 | American Physical Therapy PODS I Award |
| Joaquin Barrios | 2007 | American Physical Therapy PODS I Award |
| Brian Noehren | 2006 | American Physical Therapy PODS I Award |
| Joaquin Barrios | 2006 | American Physical Therapy PODS I Award |
| John Willson | 2004 | American Physical Therapy PODS I Award |
| John Willson | 2005 | American Physical Therapy PODS I Award |
| John Willson | 2006 | American Physical Therapy PODS II Award |
| Rebecca Zifchock | 2006 | University of Delaware Competitive Fellowship Award |
| Rebecca Zifchock | 2006 | American Society of Biomechanics Research Grant |
| Rebecca Zifchock | 2006 | International Society of Biomechanics Research Grant |
| Robert Butler | 2003 | International Society of Biomechanics Travel Award |
| Caitlin Cashen | 2004 | Undergrad. Student Poster Award, CBER Research Day |
| Robert Butler | 2004 | University of Delaware Alumni Award |
| Robert Butler | 2003 | American College of Sports Medicine Research Grant |
| Robert Butler | 2004 | University of Delaware Competitive Fellowship Award |
| Robert Butler | 2005 | Finalist for Nike Award for Athletic Footwear Research |