

DIVISION OF BIOKINESIOLOGY & PHYSICAL THERAPY  
UNIVERSITY OF SOUTHERN CALIFORNIA

CURRICULUM VITAE

**CHRISTOPHER M. POWERS**

2/27/26

**I. PERSONAL INFORMATION**

**University Address**

Division of Biokinesiology & Physical Therapy  
University of Southern California  
1540 E. Alcazar St. CHP 155 Los Angeles, CA 90089-9006  
Tel: (323) 442-1928  
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**Clinic Address**

Movement Performance Institute  
2101 E. El Segundo Blvd, Suit 101  
El Segundo, CA 90245  
Tel: 310-670-6683

**Education**

Post-Doctoral Fellowship (1996-1997), University of California Irvine, Irvine, CA  
Ph.D. Biokinesiology (1991-1996), University of Southern California, Los Angeles, CA  
M.S. Physical Therapy (1985-1987), Columbia University, New York, NY  
B.A. Physical Education (1980-1984), University of California Santa Barbara, Santa Barbara, CA

**Academic Appointments**

2/20-current	<i>Associate Chair of Research &amp; Biokinesiology Programs</i> Division of Biokinesiology & Physical Therapy University of Southern California, Los Angeles, CA
1/15-current	<i>Professor</i> Division of Biokinesiology & Physical Therapy University of Southern California, Los Angeles, CA
7/03-12/14	<i>Associate Professor</i> Division of Biokinesiology & Physical Therapy University of Southern California, Los Angeles, CA
7/97-6/03	<i>Assistant Professor</i> Department Biokinesiology & Physical Therapy, University of Southern California, Los Angeles, CA Joint appointments: Department of Radiology & Department of Orthopaedic Surgery

### **Other Previous Employment**

- 1/96-6/97      *Post-doctoral Research Fellow*  
Orthopaedic Biomechanics Laboratory, Department of Orthopaedic Surgery, University of California Irvine, Irvine, CA
- 5/91-1/96      *Research Physical Therapist*  
Pathokinesiology Laboratory, Rancho Los Amigos Medical Center, Downey, CA
- 6/88-5/91      *Staff Physical Therapist*  
Dallmeyer Physical Therapy Center, Santa Barbara, CA
- 5/87-5/88      *Staff Physical Therapist.*  
Suburban Physical Therapy Center, Cedar Grove, NJ

### **Honors, Awards & Fellowships**

- Mary McMillan Lecture Award*, American Physical Therapy Association (2026)
- Lifetime Achievement Award*, Patellofemoral Foundation (2023)
- Marion Williams Award for Research in Physical Therapy*, American Physical Therapy Association (2020)
- Maureen Rogers Vison for Physical Therapy Lectureship*, Rancho Los Amigos Rehabilitation Center (2019)
- John P. Maley Award for Outstanding Leadership in Research*. Section on Research, APTA (2019)
- Commendation for Excellence in Teaching*, Division of Biokinesiology & Physical Therapy, USC (2014)
- Career Excellence Award in Biomechanics Research*, Section on Research APTA (2014)
- Catherine Worthingham Fellow*, American Physical Therapy Association (2011)
- Charles M. Magistro Service Award*, California Physical Therapy Association (2009)
- Royce P. Noland Award for Merit*, California Physical Therapy Association (2008)
- Distinguished Alumnus Award*, Program in Physical Therapy, Columbia University (2008)
- Standards Excellence Award*, American Society of Testing and Materials (2007)
- Helen J. Hislop Award for Outstanding Contributions to the Professional Literature*, APTA (2007)
- Lucy Blair Service Award*, American Physical Therapy Association (2006)
- Fellow*, American College of Sports Medicine (2005)
- Best Paper Award*, Society for Gait and Clinical Movement Analysis (2003)
- Innovation in Research Award*, American Society of Safety Engineers Foundation (2002)
- Best Poster Award*, Society for Gait and Clinical Movement Analysis (2002)
- Eugene Michels New Investigator Award*, American Physical Therapy Association (2002)
- Founders Award*. Research Special Interest Group, California Physical Therapy Association (2002)
- Dorothy Briggs Scientific Inquiry Award*, American Physical Therapy Association (2001)
- Best Poster Award*, Society for Gait and Clinical Movement Analysis (2001)
- Physical Therapist Researcher Award*, California Physical Therapy Association (2000)
- Rose Excellence in Research Award*, Orthopaedic Section, APTA (1999)
- Physical Therapist Publication Award*, California Physical Therapy Association (1996)
- Golden Cane Outstanding Achievement Award*, University of Southern California (1996)
- Promotion of Doctoral Studies Scholarship*, Foundation for Physical Therapy (1993-1995)
- Jacquelin Perry Scholar Award*, University of Southern California (1992)
- Outstanding Student Award*, New York Chapter, APTA/Columbia University (1987)
- Graduation with Honors*, University of California, Santa Barbara (1984)

### **Professional Memberships**

American Physical Therapy Association (1985-present)  
American College of Sports Medicine (1988-present)  
American Society of Biomechanics (2001-present)  
American Society of Testing and Materials (1999-present)  
Gait and Clinical Movement Analysis Society (1996-present)  
International Patellofemoral Study Group (2003-present)  
International Society for Biomechanics (2009-present)

### **Licenses & Certifications**

Registered Physical Therapist, CA License. #15015.  
Certified Kinesiologic Electromyographer, CA License. #20.

## **II. SCHOLARLY ACTIVITY**

### **Previous Grant Support**

2017-2019: American Society for Testing & Materials. Principal Investigator. *Standard practice for validation and calibration of walkway or shoe surface tribometers using reference surfaces* **(\$58,700)**

8/20/18-8/19/19: Southern California Clinical and Translational Science Institute. Principal Investigator. *Underlying causes of excessive hip adduction and knee valgus in runners* **(\$3,000)**

8/20/18-8/19/19: Southern California Clinical and Translational Science Institute. Principal Investigator. *The effect of lower extremity kinematics and patellar alignment on patellar tendon stress runners* **(\$3,000)**

2018: Southern California Clinical and Translational Science Institute. Principal Investigator. *The effect of lower extremity kinematics and patellar alignment on patellar tendon stress runners* **(\$3,000)**

2015-2018: NIH-NIA: R44AG052199-02A1. Co-Principal Investigator. *An innovative tool for assessment of gait dysfunction in the clinical setting* **(\$746,759)**

2015-2016: USC Division of Biokinesiology & Physical Therapy Pilot Grant. Co-Principle Investigator. *Brain connectivity associated with lower limb coordination deficits* **(\$15,000)**

2014-2016: Medhab Inc. Principle Investigator. *Comparative effectiveness of an activity-specific monitoring device (StepRite) on short term outcomes in adults after total knee arthroplasty* **(\$161,419)**

2012-2013: NIH-NICHD: R13HD074380. Co-Principal Investigator. *Regenerative Medicine in Rehabilitation* **(\$15,000)**

2011-2012: NIH-NICHD: R43HD068147-01. Co-Principal Investigator. *An innovative tool for assessment of gait dysfunction in the clinical setting* **(\$150,000)**

2011-2012: NIH-NIBIB: R13EB013939-01. Principal Investigator. *35<sup>th</sup> Annual Meeting of American Society of Biomechanics.* **(\$10,000)**

2009-2010: NIH-NICHD/NIAMS: R13HD062117-01. Principal Investigator. *New concepts on mechanisms underlying disordered movement: Force generation impairments.* **(\$8,000)**

2007-2008: DJ Orthopaedics Inc., Principal Investigator. *The effects of femoral strapping on femoral rotation in persons with patellofemoral pain.* **(\$22,600)**

2006-2008: American Society for Testing and Materials. Principal Investigator. *Standard practice for validation and calibration of walkway or shoe surface tribometers using reference surfaces* (**\$12,000**)

2005-2010: NIH-NIAMS: R01AR053073-01A1. Principal Investigator. *Mechanics of non-contact ACL injuries in female athletes.* (**\$1,002,379**)

2003-2006: Whitaker Foundation. Principal Investigator. *Biomechanical determinants of patellofemoral stress.* (**\$221,446**)

2003-2005: Department of Veteran Affairs. Paid Consultant (PI Beaupre). *Patellofemoral joint biomechanics and rehabilitation.* (**\$445,700**)

2003-2005: Foundation for Physical Therapy Inc. Co-Investigator (PI Winstein). *A clinical research network to evaluate the efficacy of physical therapist practice.* (**\$1,500,000**)

2002-2003: National Athletic Trainers Association. Principal Investigator. *Biomechanical and neuromuscular aspects of non-contact ACL injuries: The influence of gender, experience and training.* (**\$52,501**)

2001-2002: California Physical Therapy Fund Inc. Co-Investigator (PI Burnfield). *Coefficient of friction requirements during ambulation: Influence of disability and task in older persons.* (**\$2,500**)

2001-2002: DJ Orthopaedics Inc., Principal Investigator. *The Influence of the On-Track Patellofemoral Brace on Patellofemoral Stress during Functional Activities.* (**\$10,000**)

2001-2002: Foundation for Physical Therapy Inc., Principal Investigator. *The effects of a single intervention session on pain response and lumbar segmental mobility in persons with low back pain: A comparison of spine mobilization and active extension using dynamic MRI.* (**\$40,000**)

2000-2002: Breg Corp., Principal Investigator. *The influence of patellar bracing on patellofemoral alignment and contact area.* (**\$10,000**)

2000-2001: University of Southern California, James H. Zumberge Interdisciplinary Research Grant. Co-principal Investigator. *Human movement representation using subject specific modeling.* (**\$49,847**)

2000-2001: Bauerfeind Corp/ Breg Corp. Co-principal Investigator. *Evaluation of the Bauerfeind Genutrain P3 Brace and the Breg patellar stabilization brace using upright kinematic MRI: A comparison of open and closed chain exercises* (**\$40,000**)

1999-2000: American Physical Therapy Association, New Investigator Fellowship Training Initiative Grant. Co-principal Investigator. *Biomechanical Determinants of Patellofemoral Stress* (**30,000**)

1999-2000: University of Southern California, James H. Zumberge Research Grant. Principal Investigator; *Quantification of patellofemoral joint stress using an imaging-based biomechanical model* (**\$24,653**)

1998-1999: Stryker-Osteonics Inc. Co-principal Investigator. *Does femoral interlocking-compression nailing alter pain and weight bearing in the early post-operative period?* (**18,000**)

1999: California Physical Therapy Fund Inc., Co-principal Investigator. *The effects of patellofemoral pain and patellar taping on knee kinetics and vasti EMG during stair ambulation* (**\$1,466**)

1998: University of Southern California, James H. Zumberge Interdisciplinary Research Grant. Co-Principal Investigator. *Contribution of the upper limbs to dynamic posture control in post-stroke hemiparetic adults.* (**\$10,000**)

1997: California Physical Therapy Fund Inc., Co-principal Investigator (PI Burke). *The relationship between glenohumeral rhythm and subacromial impingement syndrome* (**\$2,500**).

1995: California Physical Therapy Fund Inc., Co-principal Investigator (PI Reischl). *The effects of foot pronation on transverse plane motion of the tibia and femur during free walking* (**\$2,500**).

1993: Bauerfeind Corp., Co-principal Investigator. *Evaluation of the Bauerfeind Genutrain P3 Brace by kinematic MRI, EMG, functional testing and clinical criteria* (**\$75,000**).

1993: California Physical Therapy Fund Inc., Principal Investigator. *The effects of patellar taping on functional outcomes in subjects with patellofemoral pain* (**\$2,300**).

1992: California Physical Therapy Fund Inc., Principal Investigator. *The timing of vasti activity in subjects with patellofemoral pain: An electromyographic study* (**\$2,000**).

### **Patents**

Device and method for externally rotating the femur. US & International Patent #20070219478. (License agreement with Don Joy Orthopaedics Inc. through USC Stevens Center for Innovation)

### **Published Papers in Peer-Reviewed Journals**

**h-index=93 (Google Scholar) & 65 (Web of Science)**

**\*Student/Post-doc under supervision at the time data was collected; Underline indicates senior author**

1. Briani, RV, Hoglund L, Waiteman MC, Bal GA, Boling M, Lopez HS, Alsaleh S, Batista N, Glaviano N, Tunay VB, Stefanik J, Ho KY, Blevedere C, **Powers CM**, Bazett-Jones DM, Bell J, Lucareli PRG, Holden S. Bridging the ap: A systematic evidence and gap map of risk factors and preventive strategies for patellofemoral pain. *J Orthop Sport Phys Ther.* 56:85-97, 2026
2. Demirjian T,\* Souza R, Sigward SS, **Powers CM**. Quantification of patellofemoral joint stress in females who have undergone ACL reconstruction: Implications for early onset osteoarthritis. *J Biomech.* 189:112844, 2025
3. Straub RK,\* **Powers CM**. Prediction of secondary ACL injury in female athletes using 2D video-based measurements obtained during dynamic tasks: A retrospective case-control study. *Br J Sports Med.* 59:1418-1425, 2025
4. Demirjian T, Crues J, **Powers CM**. Risk factors for patellofemoral joint osteoarthritis following ACL reconstruction: A cluster analysis of anatomy and alignment. *J Orthop Res.* 43:567-575, 2025
5. Patterson C, Asavasopon S, Gharibvand L, **Powers CM**. Influence of hip and lumbar extensor strength on squat lift mechanics: An evaluation of persons with and without low back pain. *Clin Biomech.* 122:106444, 2025
6. Elder AM, **Powers CM**. Scapular stabilization for shoulder pain: Putting the cart before the horse? *Int J Sports Phys Ther.* 20:275-282, 2025
7. Straub RK,\* Barrack AJ,\* Cannon J,\* **Powers CM**. Targeting the hip and/or knee extensors during the back squat in males and females: A repeated measures decision tree analysis using the relative difference in trunk and tibia inclination and knee flexion angle. *Phys Ther Sport.* 73:94-99, 2025

8. Demirjian T,\* Souza R, Salem G, Crues J, **Powers CM**. Females who have undergone ACL reconstruction exhibit altered patellofemoral joint contact area and alignment. *Clin Biomech*. 126:106543, 2025
9. Straub RK, **Powers CM**. Biomechanical predictors of primary ACL injury: A scoping review of prospective studies. *Gait & Posture*. 116:22-29, 2025
10. Demirjian T,\* Crues J, Ho, KY, Tsai LC, **Powers CM**. Patellar articular overlap is better associated with patellar alignment during weightbearing than traditional measures of patellar height. *Knee*. 49:176-182, 2024
11. Selkowitz DM, Souza RB, **Powers CM**. The effect of femoral strapping on hip internal rotation and pain response in females with patellofemoral pain. *Gait & Posture*. 114:222-226, 2024
12. Selkowitz DM, Beneck GJ, **Powers CM**. Comparison of electromyographic activity of the gluteal muscles and tensor fascia latae in persons with patellofemoral pain: Evaluation of selected, hip-targeted exercises using indwelling fine-wire electrodes. *Physiother Theory & Pract*. 40:1775-1783, 2024.
13. Shih Y,\* **Powers CM**, Fisher BE. Reliability of a method to assess corticomotor excitability of proximal lower extremity muscles using a normalized EMG motor thresholding procedure. *Sci Rep*. 14:2052, 2024.
14. Straub RK,\* **Powers CM**. A biomechanical review of the squat exercise: Implications for clinical practice. *Int J Sports Phys Ther*. 19:490-501, 2024.
15. Selkowitz DM, Beneck GJ, **Powers CM**. Person with patellofemoral pain exhibit altered hip abductor muscle recruitment while performing hip abductor exercises. *Physiother Theory Pract*. 40:11-20, 2024.
16. Cannon J,\* Rankin J, Lewton K, Liu J, **Powers CM**. Femoral and acetabular features explain acetabular contact pressure sensitivity to hip internal rotation in persons with cam morphology. *Clin Biomech*. 107:106025, 2023.
17. Lee-Confer JS,\* Finley JM, Kulig K, **Powers CM**. Reactive arm responses increase the margins of stability and decrease center of mass dynamics during a slip perturbation. *J Biomech*. 157:111737, 2023.
18. Straub RK, **Powers CM**. Is muscular strength a predictor for initial or secondary ACL injury? A scoping review of prospective studies. *Phys Ther Sport*. 61:91-101, 2023.
19. Park K,\* Keyak JH, **Powers CM**. The influence of isolated femur and tibia rotations on patellar tendon stress: A sensitivity analysis using finite element analysis. *J Orthop Res*. 41:271-277, 2023
20. Zheng ET, **Powers CM**, Tanaka MJ. Update on patellofemoral anatomy and biomechanics. *Oper Tech in Sports Med*. 31:151029, 2023
21. Cannon J,\* Kulig K, Weber AE, **Powers CM**. Gluteal activation during squatting reduces acetabular contact pressure in persons with femoroacetabular impingement syndrome: A patient-specific finite element analysis. *Clin Biomech*. 101:105849, 2023.
22. Park K,\* Keyak JH, Kulig K, **Powers CM**. Persons with patellar tendinopathy exhibit greater patellar tendon stress during a single-leg landing task. *Med Sci Sports Exerc*. 55:642-649, 2023.
23. **Powers CM**, Straub RK.\* Quadriceps strength asymmetry predicts ground reaction force asymmetry during running in patients who have undergone ACL reconstruction. *Phys Ther Sport*. 57:89-94, 2023.
24. Liu, J,\* Teng HL, Selkowitz DM, Asavasopon, **Powers CM**. Influence of hip and knee positions on gluteus maximus and hamstrings contributions to hip extension torque production *Phys Ther Theory & Pract*. 38:2650-2657, 2022.

25. Lee-Confer JS,\* Kulig K, **Powers CM**. Constraining the arms during a slip perturbation results in a higher fall frequency in young adults. *Hum Mov Sci*. 86:103016, 2022.
26. Park K,\* Salem G, **Powers CM**. Persons with patellar tendinopathy exhibit anatomical features that alter knee extensor mechanics: A comparison of persons with and without symptoms. *J Biomech*. 144:111343, 2022.
27. Straub RK,\* Park JM,\* Mandelbaum B, **Powers CM**. Predictors of quadriceps strength asymmetry following ACL reconstruction: A Chi-Square Automatic Interaction Detector (CHAID) decision tree analysis. *Med Sci Sports Exerc*. 54:2005-2010, 2022.
28. Straub RK,\* **Powers CM**. Does the 2D frontal plane projection angle predict frontal plane knee moments during stepping landing and change of direction tasks? *Int J Sports Phys Ther*. 17:1259-1270, 2022.
29. Straub RK,\* Della Villa F,\* Mandelbaum B, **Powers CM**. Confidence to return to play following ACL reconstruction: An evaluation of quadriceps strength symmetry and injury mechanism in male athletes. *Sports Health*. 14:758-763, 2022.
30. Liu, J\*, **Powers CM**. Classification of runners with high versus low hip adduction based on measures of pelvis and femur morphology. *Med Sci Sports Exerc*. 54:590-597, 2022.
31. Patterson CS, Asavasopon S, Dudley R, Gharibvand L, Lohman E, **Powers CM**. The influence of hip extensor and lumbar spine extensor strength on lumbar spine loading during a squat lift. *J Electromyogr Kinesiol*. 62:102620, 2022.
32. Cannon J\*, Weithman BA,\* **Powers CM**. Activation training facilitates gluteus maximus recruitment during weight-bearing strengthening exercises. *J Electromyogr Kinesiol*. 63:102643, 2022.
33. Straub RK,\* **Powers CM**. Utility of 2D video analysis for assessing frontal plane trunk and pelvis motion during stepping, landing and change in direction tasks. *Int J Sport Phys Ther*. 17:139-147, 2022.
34. Patterson CS, Lohman E, Asavasopon, S, Dudley R, Gharibvand, **Powers CM**. The influence of hip flexion mobility and lumbar spine extensor strength on lumbar spine flexion during a squat lift. *Musculoskel Sci Prac*. 58:102501, 2022.
35. Lee-Confer JS,\* Bradley NS, **Powers CM**. Quantification of arm responses to a slip perturbation. *J Biomech*. 133:11097, 2022.
36. Ho KY,\* Chen YJ,\* Farrokhi S,\* Tsai LC, Liao TC,\* Haas N,\* **Powers CM**. Selective Atrophy of the Vastus Medialis: Does it exist in females with nontraumatic patellofemoral pain? *Am J Sports Med*. 49:700-705, 2021.
37. Shih Y,\* Fisher BE, Kutch JJ, **Powers CM**. Corticomotor excitability of gluteus maximus and hip extensor strength: The influence of sex. *Hum Mov Sci*. 78:102830, 2021.
38. Della Villa F,\* Straub RK,\* Mandelbaum B, **Powers CM**. Confidence to return to play after anterior cruciate ligament reconstruction is influenced by quadriceps strength symmetry and injury mechanism. *Sports Health*. 13:304-309, 2021.
39. Straub RK,\* Barrack AJ,\* Cannon J,\* **Powers CM**. Trunk inclination during squatting is a better predictor of the knee extensor moment during squatting than shank inclination. *J Sport Rehabil*. 16:899-904, 2021
40. Stearns-Reider KM, Straub RK, **Powers CM**. Improvements in hip extensor rate of torque development influence hip and knee extensor feed-forward control. *J Motor Behav*. 53:750-757, 2021

41. DuBois AM, Marcione NA, **Powers CM**, Flanagan SP, Schroeder ET, Castle SC, Moor JL, Salem GJ. The effects of a comprehensive golf training program on measures of physical performance and dynamic balance in older military veterans. *Int J Golf Sci.* 9:1, 2021
42. Barrack AJ,\* Straub RK,\* Cannon J,\* **Powers CM**. The relative orientation of the trunk and tibia can be used to estimate the demands on the hip and knee extensors during the barbell back squat. *Int J Sport Sci Coach.* 16:1004-1010, 2021
43. Liu J, Salem GJ, **Powers CM**. Sex differences in hip adduction during the stance phase of running: A swing phase problem. *Med Sci Sports Exerc.* 53:1412-1416, 2021.
44. Atkins LT, James CR, Yang HS, Sizer PS, Brismée JM, Sawyer SF, **Powers CM**. Immediate improvements in patellofemoral pain are associated with sagittal plane movement training to improve use of gluteus maximus during single limb landing. *Phys Ther.* 101:1-7, 2021.
45. Liu J,\* Lewton KL, Colletti PM, **Powers CM**. Hip Adduction during running: Influence of sex, hip abductor strength, activation and pelvis and femur morphology. *Med Sci Sports Exerc.* 53:2346-2353, 2021.
46. Barton CJ, De Oliveira Silva D, Morton S, Collins NJ, Rathleff MS, Vicenzino B, Van Middelkoop M, Crossley KM, Callaghan M, Selfe J, Holden S, Lack S, Macri E, Bazzett-Jones DM, Earl-Boehm J, Riel H, **Powers CM**, Davis I, Morrissey D Standards for Design and REPORTing of Quantitative Patellofemoral Pain Studies. REPORT-PFP checklist: A Consensus from World Experts. *Br J Sports Med.* 55:1135-1143, 2021.
47. Straub RK,\* Horgan A, **Powers CM**. Clinical estimation of the use of the hip and knee extensors during athletic movements. *J Appl Biomech.* 37:458-462, 2021.
48. Stearns-Reider KM, Straub RK, **Powers CM**. Hip abductor rate of torque development as opposed to isometric strength predicts peak knee valgus during landing: Implications for anterior cruciate ligament injury. *J Appl Biomech.* 37:471-476, 2021.
49. Straub RK,\* Horgan A, **Powers CM**. Estimation of vertical ground reaction force parameters using 2D video. *Gait & Posture.* 90:483-488, 2021
50. Straub RK\*, **Powers CM**. Chronic Fatigue Syndrome: A Case Report Highlighting Diagnosing and Treatment Challenges and the Possibility of Jarisch–Herxheimer Reactions if High Infectious Loads Are Present *Healthcare.* 9:1537-1545, 2021.
51. Shih Y,\* Fisher BE, Smith JA, **Powers CM**. Corticomotor excitability of gluteus maximus is associated with hip biomechanics during a single leg drop-jump. *J Motor Behav.* 53:40-46, 2021.
52. Arcanjo FL, Fukuda TY, Souza CS, Guimaraes J, Aquino LM, Carvalho CG, **Powers CM**, Gomes-Neto M. Hip muscle strengthening for low back pain: A systematic review and meta-analysis. *Clin Rehabil.* 34:1368-1377, 2020.
53. Cannon J,\* Weber AE, Park S, Mayer EN, **Powers CM**. Pathomechanics underlying femoroacetabular impingement syndrome: A theoretical framework to guide clinical practice. *Phys Ther.* 100:788-797, 2020.
54. Shih Y,\* Teng HL, **Powers CM**. Leg stiffness predicts ground reaction force loading rate in heel-strike runners. *Med Sci Sports Exerc.* 51:1692-1697, 2019.
55. Bagwell J,\* **Powers CM**. Persons with cam femoroacetabular impingement exhibit altered pelvifemoral coordination during weightbearing and non-weightbearing tasks. *Clin Biomech.* 65:51-56, 2019.

56. Blanchette MG,\* **Powers CM**. The influence of footwear tread orientation on slip outcome and slip severity. *J Testing and Evaluation*. 47:3740-3750, 2019.
57. Liao, TC,\* **Powers CM**. Tibiofemoral kinematics in the transverse and frontal planes influence the location and magnitude of peak patella cartilage stress: An investigation of runners with and without patellofemoral pain. *Clin Biomech*. 62:72-28, 2019.
58. Huang CH,\* Schroeder ET, **Powers CM**. Anti-gravity treadmill training during the early rehabilitation phase following unicompartmental knee arthroplasty: A case series. *Physiother Theory Pract*. 26:1-6, 2018.
59. Bolgla LA, Boling MC, DiStefano MJ, Mace KD, Fithian DC, **Powers CM**. National Athletic Trainers's Association Position Statement: Management of Individuals with Patellofemoral Pain. *J Athl Train*. 53:820-836, 2018.
60. Liao TC,\* Keyak JH, **Powers CM**. Runners with patellofemoral pain exhibit greater peak patella cartilage stress: A finite element analysis study. *J Appl Biomech*. 34:298-305, 2018.
61. Stearns KM,\* **Powers CM**. Rate of torque development and feedforward control of the hip and knee extensors: Gender differences. *J Motor Behav*. 50:321-329, 2018.
62. Plummer HA, Oliver GD, **Powers CM**, Michener LA. Trunk lean during a single leg squat is associated with trunk lean during pitching. *Int J Sport Phys Ther*. 13:58-65, 2018.
63. Liao TC,\* Yin L,\* **Powers CM**. The influence of isolated femur and tibia rotations on patella cartilage stress: A sensitivity analysis. *Clin Biomech*. 54:125-131, 2018.
64. Collins NJ, Barton CJ, van Middelkoop M, Callaghan MJ, Rathleff MS, Vicenzino B, Davis IS, **Powers CM**, Macri EM, Hart HF, del Oliveira Silva D, **Crossley KM**. 2018 Consensus statement on exercise therapy and physical interventions (orthoses, taping and manual therapy) to treat patellofemoral pain: Recommendations from the 5<sup>th</sup> International Patellofemoral Pain Research Retreat, Gold Coast, Australia, 2017. *Br J Sports Med*. 52:1170-1178, 2018.
65. Harput G, Guney-Deniz H, Duzgun I, Toprak U, Michener L, **Powers CM**. Active scapular retraction and acromio-humeral distance at various degrees of shoulder abduction. *J Athl Train*. 53:584-589, 2018.
66. Atkins LT, James CR, Yang HS, Sizer P, Brismee JM, Sawyer S, **Powers CM**. Changes in patellofemoral pain resulting from repetitive impact landings are associated with the magnitude and rate of patellofemoral loading. *Clin Biomech*. 53:31-36, 2018.
67. Tsai LC,\* Ko YA, Hammond KE, Xerogeanes JW, Warren GL, **Powers CM**. Increasing hip and knee flexion during a drop landing task reduces tibiofemoral shear and compressive forces: Implications for ACL injury prevention training. *J Sports Sci*. 35:2405-2411, 2017.
68. **Powers CM**, Ghoddosi N, Straub RK, Khayambashi K. Hip strength as a predictor of ankle sprains in male soccer players: A prospective study. *J Athl Train*. 52:1048-1055, 2017.
69. Pollard CD,\* Sigward SM,\* **Powers CM**. ACL injury prevention training results in modification of hip and knee mechanics during a drop jump task. *Ortho J Sports Med*. 5:2325967117726267, 2017.
70. **Powers CM**, Witvrouw E, Davis I, Crossley K. Evidence-based framework for a pathomechanical model of patellofemoral pain: 2017 patellofemoral pain consensus statement from the 4<sup>th</sup> International Patellofemoral Pain Research Retreat, Manchester UK. *Br J Sports Med*. 24:1713-1723, 2017.

71. Bagwell JJ,\* **Powers CM**. The influence of squat kinematics and hip morphology on acetabular stress. *J Arthroscopy*. 33:1797-1803, 2017.
72. Crossley KM, Stefanik JJ, Selfe J, Collins NJ, Davis IS, **Powers CM**, McConnell J, Vicenzino B, Bazett-Jones DM, Esculier JF, Morrisey D, Callaghan MJ. 2016 Patellofemoral pain consensus statement from the 4<sup>th</sup> International Patellofemoral Pain Research Retreat. Part 1: Terminology, definitions, clinical examination, natural history, patellofemoral osteoarthritis and patient-reported outcome measures. *Br J Sports Med*. 50:839-843, 2016.
73. Selkowitz DM, Beneck GJ, **Powers CM**. Comparison of EM G activity of the superior and inferior portions of the gluteus maximus during common therapeutic exercises. *J Orthop Sports Phys Ther*. 46:794-799, 2016.
74. Yin L,\* Liao TC,\* Yang L, **Powers CM**. Does patella tendon tenodesis improve tibial tubercle distalization in treating patella alta? A computational study. *Clin Orthop Relat Res*. 474:2451-2461, 2016.
75. Teng HL,\* **Powers CM**. Hip extensor strength, trunk posture and use of the knee extensor muscles during running. *J Athl Train*. 51:519-524, 2016.
76. Bagwell JJ,\* Snibbe J, Gerhardt M, **Powers CM**. Comparison of hip kinematics and kinetics in persons with and without cam femoroacetabular impingement during a deep squat task. *Clin Biomech*. 31:87-92, 2016.
77. Bagwell JJ,\* Fukuda T, **Powers CM**. Sagittal plane pelvis motion influences transverse plane motion of the femur: Kinematic coupling at the hip joint. *Gait & Posture*. 43:120-124, 2016.
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214. **Powers CM**, Heino J,\* Rao S, **Perry J**. The influence of patellofemoral pain on lower limb loading during gait. *Clin Biomech*. 14:722-728, 1999.
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217. **Powers CM**. Rehabilitation of patellofemoral joint disorders: A critical review. *J Orthop Sports Phys Ther.* 28:345-354, 1998.
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### **Manuscripts Accepted/In Press**

1. Smith S,\* Sigward SS, Schweighofer N, Straub RK, **Powers CM**. Characterizing landing strategies during a drop jump task: A data-driven approach to identify ACL injury risk. *Med Sci Sports Exerc*.
2. Tate, JJ, Wassinger, CA, Sabus, C, **Powers, CM**, Willy, RW, Willson, JD, Levangie, PK, Oatis, CA, Davis, IS, Ford, KR, Heiderscheit, BC, Queen, R, Knudson, D, Thomas, S, Hewett, TE, Shanley, E, Biomechanics Core Competencies in Physical Therapist Education: A Modified Delphi Study. *J Phys Ther Educ*.

### **Manuscripts in Review/Revision**

1. Miller NM,\* Atkins LT, Florkiewicz, **Powers CM**. The relationship between ankle dorsiflexion and patellofemoral joint stress during running. *Sport Biomech*.
2. Barrack AJ,\* Salem GJ, Aguinaldo AL, **Powers CM**. The coefficient of propulsion: A novel metric for characterizing trail leg ground reaction forces during baseball pitching. *Sport Biomech*.

### **Abstracts Accepted**

1. Edon D, Straub R, Mandelbaum B, **Powers CM**. Tibial plateau morphology amplifies the biomechanical risk for ACL re-injury. *ACL Research Retreat X* (4/26)
2. Qu Y, **Powers CM**. Predictors of triple hop symmetry following ACL reconstruction: Influence of quadriceps strength symmetry and confidence. *ACL Research Retreat X* (4/26)
3. Demirjian T, Northrup G, Tu O, **Powers CM**. Quantifying subject specific patellofemoral stress during running in females post ACL reconstruction. Submitted to the 8<sup>th</sup> *International Patellofemoral Research Retreat* (5/26)
4. Barrack AJ, Nicholson KF, Salem GJ, Aguinaldo AL, **Powers CM**. The coefficient of propulsion: A novel metric for characterizing trail leg ground reaction forces during baseball pitching. *World Congress of Biomechanics* (7/26).
5. Barrack AJ, Nicholson KF, Aguinaldo AL, Michener LA, **Powers CM**. Stride phase pelvis momentum influences arm load in collegiate baseball pitchers. *World Congress of Biomechanics* (7/26).

### **Published Abstracts Last 5 Years (296 since 1991)**

1. Tate, JJ, Wassinger, CA, Sabus, C, **Powers, CM**, Willy, RW, Willson, JD, Levangie, PK, Oatis, CA, Davis, IS, Ford, KR, Heiderscheit, BC, Queen, R, Knudson, D, Thomas, S, Hewett, TE, Shanley, E, Biomechanics Core Competencies in Physical Therapist Education: A Modified Delphi Study. Proceedings of the Combined Sections Meeting of the American Physical Therapy Combined Sections meeting (2/25).
2. Demirjian T, Tu O, Northrup G, **Powers CM**. Females who have undergone ACL reconstruction exhibit altered patellofemoral joint contact area and patella alignment: Implications for early onset osteoarthritis. Proceedings of the Annual meeting of the Southwest American College of Sports Medicine (10/24).
3. Demirjian T, Tu O, Northrup G, , **Powers CM**. Patellofemoral joint loading in females who have undergone ACL reconstruction. Proceedings of the *American Society of Biomechanics* (8/24).
4. Smith S, Schweighofer N, Sigward S, **Powers CM**. Characterizing landing strategies during a drop jump: Application of K-means clustering to establish ACL injury risk. Proceedings of the *American Society of Biomechanics* (8/24).
5. Selkowitz DM, Souza RB, **Powers CM**. The effect of femoral strapping on excessive internal rotation and pain response in females with patellofemoral pain. Proceedings of the *Annual Meeting of the International Society of Electrophysiology and Kinesiology* (6/24).

6. Selkowitz DM, Beneck GJ, **Powers CM**. Comparison of Electromyographic Activity of the Gluteal Muscles and Tensor Fascia Lata between Persons with and without Patellofemoral Pain during a Step-Down Activity, Using Indwelling Fine-Wire Electrodes. Proceedings of the *Annual Meeting of the International Society of Electrophysiology and Kinesiology* (6/24).
7. Demirjian T, Northrup G, Crues J, **Powers CM**. Persons Who Have Undergone ACL Reconstruction Exhibit Altered Patellofemoral Joint Contact Area: Implications for Early Onset Patellofemoral Joint Arthritis. *Med Sci Sports Exerc.* 56:S63, 2024
8. Demirjian T, Northrup G, Tu O, **Powers CM**. Higher rates of patellofemoral joint loading are associated with lower patellar cartilage volume in females who have undergone ACL reconstruction. *Osteoarthritis & Cartilage* 32:S379-S380, 2024
9. Demirjian T, Northrup G, Crues J, **Powers CM**. Do females who have undergone ACL reconstruction exhibit patellar malignment and anatomical risk factors for patellofemoral joint arthritis? *Osteoarthritis & Cartilage* 32:S246-S247, 2024
10. Selkowitz DM, Beneck GJ, **Powers CM**. Persons with patellofemoral pain exhibit altered hip abductor muscle recruitment during running. Proceedings of the *Combined Sections Meeting of the American Physical Therapy Association* (2/24).
11. Demirjian TA, **Powers CM**. Patellofemoral joint stress in persons who have undergone ACL reconstruction. Proceedings of the *7<sup>th</sup> International Patellofemoral Research Retreat* (6/23).
12. Selkowitz DM, Beneck GJ, **Powers CM**. Comparison of Electromyographic Activity between the Gluteal Muscles and Tensor Fascia Lata in Persons with Patellofemoral Pain: Evaluation of Selected, Hip-Focused Exercises Using Indwelling Fine-Wire Electrodes. Proceedings of the *7<sup>th</sup> International Patellofemoral Research Retreat* (6/23).
13. Demirjian TA, Crues JV, **Powers CM**. The patella trochlear index is a better predictor of lateral patellar tilt compared to the Insall-Salvati ratio: A preliminary study. Proceedings of the *Annual Meeting of the Society of Skeletal Radiology* (2/23)
14. Straub RK, Barrack A, **Powers CM**. The frontal plane projection angle predicts frontal plane knee moments during landing/change of direction tasks. Proceedings of the *Combined Sections Meeting of the American Physical Therapy Association.* (2/23)
15. Straub RK, **Powers CM**. Diminished strength of the hip extensors relative to the knee extensors predicts ACL re-injury in female athletes: A retrospective case-control study. *J Athlet Train.* 57:997, 2022
16. Barrack AJ, Michener LA, Nicholson K, **Powers CM**. Trail leg hip power: Influence on elbow varus torque in baseball pitchers. *Med Sci Sports Exerc.* 54:286, 2022
17. Straub RK, **Powers CM**. Use of the knee extensors relative to the hip extensors predicts ACL re-injury in females. *Med Sci Sports Exerc.* 54:354, 2022
18. Lee, JS, Kulig K, Lo MK, **Powers CM**. Arm movements reduce center of mass excursion during a slip perturbation. Proceedings of the *North American Congress on Biomechanics* (8/22).
19. Cannon J, Lewton K, Rankin J, **Powers CM**. Femoral and acetabular structural features explain acetabular contact pressure sensitivity to hip internal rotation in persons with cam morphology: A finite element analysis. Proceedings of the *North American Congress on Biomechanics* (8/22).

20. Demirjian, **Powers CM**. Patellofemoral stress in persons who have undergone ACL reconstruction: A pilot study. *J Orthop Sport Phys Ther*. 1:2-3. 2022
21. Atkins LT, James CR, Yang HS, Sizer PS, Brismée JM, Sawyer SF, **Powers CM**. Sagittal plane movement training to improve of gluteus maximus use during single limb landing is associated with patellofemoral pain. Proceedings of the *Combined Sections Meeting of the American Physical Therapy Association* (2/22).
22. Straub RK, Mosesian L, **Powers CM**. Quadriceps strength symmetry predicts peak vertical ground reaction force running symmetry 6 months post ACL reconstruction. *J Orthop Sports Phys Ther*.52:CSM20, 2022.
23. Straub RK, Barrack AJ, Cannon J, **Powers CM**. Maximizing use of the hip extensors relative to the knee extensors during squatting: A classification and regression tree analysis. *26<sup>th</sup> Congress of the European College of Sport Science* (9/21).
24. Cannon J, **Powers CM**. Acetabular contact pressure is sensitive to frontal and transverse plane hip rotation in femoroacetabular impingement syndrome: A finite element analysis. *45<sup>th</sup> Meeting of the American Society of Biomechanics* (8/21).
25. Straub RK, Horgan A, Mosesian L, **Powers CM**. Clinical estimation of the use of the hip and knee extensors during athletic movements: *Annual Meeting of the European Society of Biomechanics* (7/21).
26. Straub RK, Horgan A, Barrack AJ, Zhuang F, Cuellar R, **Powers CM**. Clinical estimation of movement behavior predictive of vertical ground reaction forces during athletic tasks. *XXVIII Congress of the International Society of Biomechanics* (7/21).
27. Cannon J, **Powers CM**. Gluteal activation cues reduce peak acetabular contact pressure during squatting in persons with femoroacetabular impingement syndrome: A finite element analysis study. *XXVIII Congress of the International Society of Biomechanics* (7/21).
28. Straub RK, Stearns-Reider KM, **Powers CM**. Hip abductor rate of torque development predicts knee valgus during landing: Implications for ACL injury. *Annual Meeting of the American College of Sports Medicine*. (6/21).
29. Straub RK, Stearns-Reider KM, **Powers CM**. Improvements in hip extensor rate of torque development influence hip and knee extensor feed-forward control: A neuromuscular training Study. *Annual Meeting of the Society for the Neural Control of Movement* (4/21).
30. Straub RK, Mandelbaum B, **Powers CM**. Restoration of quadriceps strength following anterior cruciate ligament reconstruction: A comparison among graft types during the early and late post-operative period. *30<sup>th</sup> Annual Mayo Clinic Sports Medicine Symposium*. (3/21).

#### **Published Books, Chapters & Monographs**

1. Davis IS, **Powers CM**, Tenforde A, Sing JR. A Tale of two treatments for patellofemoral pain. *Phys Med Rehabil*. 9:1283-1289, 2017
2. **Powers CM**, Souza RB, Fulkerson JP. Patellofemoral Joint. In: Magee DJ, Zachezewski JE, Quillen WS, Manske RC (eds), *Pathology and Intervention in Musculoskeletal Rehabilitation*, 2<sup>nd</sup> Ed. Elsevier, Maryland Heights, MD, 2016, pf. 798-835.
3. Khan N, Fithian D, **Powers CM**. Nonoperative rehabilitation of patella instability. In: Reider BC, Davies GJ & Provencher MT (Eds), *Orthopaedic Rehabilitation of the Athlete: Getting Back in the Game*. Elsevier, New York, NY, 2015, pg. 931-934.

4. Suzuki K, Pifer M, Khan N, Fithian D, **Powers CM**. Postoperative rehabilitation after proximal realignment procedures and medical patellofemoral ligament (MPFL) reconstruction. In: . In: Reider BC, Davies GJ & Provencher MT (Eds), *Orthopaedic Rehabilitation of the Athlete: Getting Back in the Game*. Elsevier, New York, NY, 2015, pg. 934-940.
5. Van der Wees, PJ, Maher CG, Moore AP, **Powers CM**, Stewart A, Nijhuis-vander Sanden M, De Bie RA. Development of clinical guidelines in physical therapy: Perspective for international collaboration *Phys Ther*. 91:1551-1563, 2011.
6. Goldstein MS, Scalzitti DA, Bohmert JA, Brennan GP, Craik RL, Delitto A, Field-Fote EC, Magistro CM, **Powers CM**, Shields RK. Vitalizing practice through research and research through practice: The outcomes of a conference to enhance delivery of care. *Phys Ther*. 91:1275-1284, 2011.
7. **Powers CM**, Berke GM, Clary MD, Fredericson M. Patellofemoral pain: Is there a role for orthoses? *Phys Med Rehabil*. 2:771-776, 2010.
8. **Powers CM**, Souza RB, Fulkerson JP. Patellofemoral Joint. In: Magee DJ, Zachazewski JE, Quillen WS (Eds) *Pathology and Intervention in Musculoskeletal Rehabilitation*. Saunders Elsevier, St. Louis, MO, 2008, pg. 601-636
9. **Powers CM**, Pollard CD, Sigward SM. Effect of Prevention Programs on Performance. In: Hewett TE, Shultz SJ, Griffin LY (Eds) *Understanding and Preventing Noncontact ACL Injuries*. Human Kinetics, Champaign, IL, 2007, pg. 103-108.
10. Cormack J, **Powers CM**. Is there evidence that botulinum toxin injections are more effective than phenol injections in relieving post-stroke reflex activity during plantarflexion, thereby increasing ankle range of motion and improving gait function? *Phys Ther*. 84:76-84, 2004.
11. Redfern MS, Cham R, Gielo-Perczak K, Gronqvist R, Hirvonen M, Lanshammar H, Marpet M, Pai YC, **Powers CM**. Biomechanics of slips. In: Chang WR, Courtney TK (Eds) *Measuring Slipperiness: Human Locomotion and Surface Factors*. Taylor & Francis, New York, NY, 2003, pg. 37-66.
12. **Powers CM**, Farrokhi, S, Moreno J. Can exercise reduce the incidence of falls in the elderly, and, if so what form of exercise is most effective? *Phys Ther*. 82:1124-1130, 2002.
13. **Powers CM**, Burnfield JM. Normal and Abnormal Gait. In: Placzek J, Boyce D (Eds) *Orthopaedic Physical Therapy Secrets*. Lamsback, Hanley & Belfus Inc. Philadelphia, PA, 2001, pg. 98-104.
14. **Powers CM**. Preventing the Effects of Deconditioning: Exercise Prescription for the Elderly. In: Mezey MD, Bottrell MM, Berkman BJ, Callahan CM, Fulmer TT, Mitty EL, Paveeza GJ, Siegler EL, Strumpf NE (Eds) *Encyclopedia of Care of the Elderly: The Comprehensive Resource on Geriatric and Social Care*. Springer Publishing Co, New York, NY. 2001, pg. 186-188.
15. Shellock FG, **Powers CM** (Eds). *Kinematic MRI of the Joints: Functional anatomy, kinesiology and clinical applications*. CRC Press, Boca Raton, FL. 2001.
16. **Powers CM**. The Patellofemoral Joint: Normal anatomy and kinesiology. In Shellock FG, Powers CM (Eds) *Kinematic MRI of the joints: Functional Anatomy, Kinesiology and Clinical Applications*. CRC Press, Boca Raton, FL. 2001, pg. 149-164.
17. Shellock FG, **Powers CM**. Kinematic MRI of the Patellofemoral Joint. In Shellock FG, Powers CM (Eds) *Kinematic MRI of the Joints: Functional Anatomy, Kinesiology and Clinical applications*. CRC Press, Boca Raton, FL. 2001, 165-204.

18. **Powers CM.** Patellofemoral Joint Disorders. In: Wadsworth C, Shankman G (Eds) *The Knee: A Home Study Course*. Orthopaedic Section, American Physical Therapy Association, 2000, pg. 1-29.

### **Invited Commentaries & Editorials**

1. Lumbopelvic manipulation for the treatment of patients with patellofemoral pain syndrome: Development of a clinical prediction rule. (Invited commentary). *J Orthop Sports Phys Ther.* 38:309-310, 2008.
2. Priorities for orthopaedic and sports physical therapy research: Assessing outcomes or understanding mechanisms? (Guest editorial). *J Orthop Sport Phys Ther.* 33:219-220, 2003.
3. Who is responsible for the science of orthopaedic and sports physical therapy? (Guest editorial). *J Orthop Sport Phys Ther.* 27:329-330, 1998.

### **Scientific Presentations**

1. Biomechanics in the clinic: Implications for the evaluation and treatment of movement related knee pain and injury. *Combined Sections Meeting of the American Physical Therapy Association.* Houston, TX (2/25).
2. Biomechanical Aspects of Tendon Injury *Combined Sections Meeting of the American Physical Therapy Association.* Houston, TX (2/25).
3. Risk factors for patellofemoral joint osteoarthritis following ACL reconstruction: A cluster analysis of anatomical features and patella alignment. *International Patellofemoral Joint Study Group Meeting,* Big Sky, MT (8/24).
4. Why the gluteal muscles: Why is strengthening of the gluteal muscles so difficult? *Combined Sections Meeting of the American Physical Therapy Association.* Boston, MA (2/24).
5. Local and proximal factors associated with patellofemoral pain? *Combined Sections Meeting of the American Physical Therapy Association.* Boston, MA (2/24).
6. Hip and knee strengthening for patellofemoral pain: Biomechanical considerations. *Annual Conference of the California Chapter of the American Physical Therapy Association,* Long Beach, CA (10/23).
7. Putting biomechanics in the chronic pain narrative: Getting to the root cause of the problem. *Combined Sections Meeting of the American Physical Therapy Association.* San Diego, CA (2/23).
8. Quadriceps strength symmetry predicts peak vertical ground reaction force running symmetry 6 months post ACL reconstruction. *Combined Sections Meeting of the American Physical Therapy Association.* San Antonio Tx (2/22).
9. Diminished strength of the hip extensors relative to the knee extensors predicts ACL re-injury in female athletes: A retrospective case-control study. *ACL Research Retreat IX* (3/22).
10. Biomechanics associated with knee injury: A case for changing movement. *Combined Sections Meeting of the American Physical Therapy Association.* Virtual conference (2/21).
11. Tibiofemoral kinematics in the transverse & frontal planes influence the location and magnitude of patella cartilage stress: An evaluation of runners with and without patellofemoral pain. *International Patellofemoral Joint Study Group Meeting,* Banff, Canada (10/19).
12. Movement analysis of the shoulder: It is not as easy as it looks. *Combined Sections Meeting of the American Physical Therapy Association.* Washington DC (1/19).

13. The impact of faulty trunk and lower extremity biomechanics on patellofemoral joint function: Implications for clinical practice. *Combined Sections Meeting of the American Physical Therapy Association*. Washington DC (1/19).
14. Motor skill training: Implications for ACL injury risk. *Combined Sections Meeting of the American Physical Therapy Association*. Washington DC (1/19).
15. Using biomechanical principles to guide treatment approaches for patellofemoral pain. *Combined Sections Meeting of the American Physical Therapy Association*. Washington DC (1/19).
16. Sports motion analysis: Assessing lower extremity biomechanics & ACL injury risk. *Annual meeting of the Gait and Clinical Movement Analysis Society*. Indianapolis, IN (5/18)
17. Femoroacetabular Impingement: A theoretical framework to guide clinical practice. *Combined Sections Meeting of the American Physical Therapy Association*. New Orleans, LA (2/18).
18. Recreational runners with patellofemoral pain exhibit greater patella cartilage stress: A finite element analysis study. *5<sup>th</sup> International Patellofemoral Pain Research Retreat*. Gold Coast, Australia (7/17)
19. Is use of a single coefficient of friction threshold appropriate to establish whether a walkway is safe? *ASTM International Workshop on the Multifactorial Analysis of Slip and Fall Events*. West Conshohocken, PA (1/17).
20. Transforming society by optimizing movement: An Achievable vision for the profession? *Combined Sections Meeting of the American Physical Therapy Association*. San Antonio, TX (2/17).
21. A cognitive-biomechanical perspective for the management of common chronic musculoskeletal conditions. *Combined Sections Meeting of the American Physical Therapy Association*. San Antonio, TX (2/17).
22. Risk factors and conservative treatment for patella instability. *Patella Instability Workshop, American Orthopaedic Society for Sports Medicine*. Chicago, IL (9/16)
23. The core of the body: The role of the gluteal muscles in providing hip, pelvis and trunk stability. *Combined Sections Meeting of the American Physical Therapy Association*. Anaheim, CA (2/16).
24. Biomechanical analysis of tibial tubercle distalization and tibial tubercle distalization with patella tendon tenodesis for the treatment of patella alta. *International Patellofemoral Joint Study Group Meeting*, Chicago, IL (9/15).
25. Hip muscle strength predicts non-contact ACL injury in male and female athletes: A prospective study. *ACL Research Retreat VII*, Greensboro, NC (3/15)
26. Retraining movement behavior for ACL injury prevention and rehabilitation: A matter of strength or motor control? *Combined Sections Meeting of the American Physical Therapy Association*. Las Vegas, NV (2/14).
27. Biomechanical factors related to mechanical low back pain. *Combined Sections Meeting of the American Physical Therapy Association*. Las Vegas, NV (2/14).
28. Synopsis of the 3<sup>rd</sup> International Patellofemoral Research Retreat: Local Factors. *Combined Sections Meeting of the American Physical Therapy Association*. Las Vegas, NV (2/14).

29. Females exhibit increased feed-forward activation and diminished rate of torque development of the hip and knee extensors: Implications for ACL injury. *Combined Sections Meeting of the American Physical Therapy Association*. Las Vegas, NV (2/14).
30. Recreational runners with patellofemoral pain exhibit elevated patella water content. *3<sup>rd</sup> International Patellofemoral Research Retreat*, Vancouver, Canada (9/13).
31. Proximal factors related to knee injury: Biomechanical influences. *Combined Sections Meeting of the American Physical Therapy Association*. Chicago, IL (2/13).
32. Functional biomechanics of the knee, hip and pelvis. *Annual Meeting of the American Physical Therapy Association*. Tampa, FL (6/12).
33. Select interventions for functional retraining of the hip, pelvis and knee. *Annual Meeting of the American Physical Therapy Association*. Tampa, FL (6/12).
34. Biomechanical basis of conservative treatment for patellofemoral pain. *Combined Sections Meeting of the American Physical Therapy Association*. Chicago, IL (2/11).
35. Dynamic evaluation of the lower extremity: Implications for patellofemoral joint dysfunction. Annual meeting of the *International Patellofemoral Joint Study Group*, San Diego, CA (7/11).
36. Bone and cartilage imaging: Insights into the mechanisms underlying patellofemoral pain. Annual meeting of the *International Patellofemoral Joint Study Group*, San Diego, CA (7/11).
37. Dynamic stabilization of the patellofemoral joint: Stabilization from above and below. Annual meeting of the *International Patellofemoral Joint Study Group*, San Diego, CA (7/11).
38. The dynamic Q-angle: Lower chain influences. Annual meeting of the *International Patellofemoral Joint Study Group*, San Diego, CA (7/11).
39. Development of evidence based recommendations for physical therapy diagnosis and treatment. *World Congress of Physical Therapy*. Amsterdam, Netherlands (6/11).
40. A review of common interventions for patellofemoral joint dysfunction: A biomechanical approach. *Annual meeting of the American College of Sports Medicine*. Denver, CO (6/11).
41. Biomechanical factors underlying running injuries: Proximal and distal factors. *Combined Sections Meeting of the American Physical Therapy Association*. New Orleans, LA (2/11).
42. Movement dysfunction and lower extremity injury: A top down perspective. *Annual meeting of the American Physical Therapy Association*. Boston, MA (6/10)
43. Injury prevention training results in biomechanical changes consistent with decreased knee loading in female athletes during landing. *Annual Meeting of the American Society of Biomechanics*. College Station, PA (8/09).
44. The influence of relative hip and knee extensor strength on lower extremity biomechanics during a drop landing task. *Annual Meeting of the American Society of Biomechanics*. College Station, PA (8/09).
45. Tibiofemoral control: A matter of weakness. *Combined Sections Meeting of the American Physical Therapy Association*. Las Vegas, NV (2/09).

46. Patellofemoral joint stress: Patellofemoral pain, cartilage morphology & cartilage composition. Annual meeting of the *International Patellofemoral Joint Study Group*, Capetown South Africa (10/08).
47. The dynamic quadriceps angle: A comparison of persons with and without patellofemoral pain. Annual meeting of the *International Patellofemoral Joint Study Group*, Capetown South Africa (10/08).
48. Femoral rotation & patellofemoral joint kinematics: A comparison of females with and without patellofemoral pain using weightbearing MRI. Annual meeting of the *International Patellofemoral Joint Study Group*, Capetown South Africa (10/08).
49. The influence of abnormal hip mechanics on non-Contact ACL injuries. *Annual meeting of the American College of Sports Medicine*. Indianapolis, IN (5/08).
50. The biomechanics and muscle physiology of knee rehabilitation exercises. *Combined Sections Meeting of the American Physical Therapy Association*. Nashville, TN (2/08).
51. Abnormal lower extremity mechanics & patellofemoral dysfunction: Implications for treatment. *World Confederation of Physical Therapy*, Vancouver, Canada (6/07).
52. Changes in lower extremity movement patterns are accompanied by motor cortex neuroplasticity: A case report. *World Confederation of Physical Therapy*, Vancouver, Canada (6/07).
53. The contribution of abnormal hip mechanics to knee injury: A top-down perspective. *Combined Sections Meeting of the American Physical Therapy Association*. Boston, MA (2/07).
54. Pathomechanics of ACL injury: Implications for prevention and rehabilitation strategies. *Annual Meeting of the American Physical Therapy Association*. Orlando FL (6/06).
55. Influence of femoral anteversion on thigh segment kinematics in persons with patellofemoral pain during running. Annual meeting of the *International Patellofemoral Joint Study Group*, Boston, MA (5/06).
56. Assessment of walkway tribometer readings in evaluating slip resistance: A gait based approach. 19<sup>th</sup> Annual meeting of the *International Society for Occupational Ergonomics & Safety*, Las Vegas, NV (6/05).
57. Quantification of three-dimensional patellofemoral joint reaction forces during gait: A subject specific modeling approach. Annual meeting of the *International Patellofemoral Joint Study Group*, Lausanne, Switzerland (4/05).
58. Mechanics of knee injuries: Implications for rehabilitation. *Combined Sections Meeting of the American Physical Therapy Association*, New Orleans, LA, (2/05).
59. Weightbearing vs. non-weightbearing exercises for patellofemoral joint disorders. *Combined Sections Meeting of the American Physical Therapy Association*, New Orleans, LA, (2/05).
60. The influence of gender on knee kinematics, kinetics and muscle activation patterns during side-step cutting. Annual meeting of the *National Athletic Trainers Association*, Baltimore, MD, (6/04).
61. The influence of an ACL injury training program on knee mechanics during a side-step cutting maneuver. Annual meeting of the *National Athletic Trainers Association*, Baltimore, MD, (6/04).
62. Influence of hip mechanics on overuse injuries of the knee. *Combined Sections Meeting of the American Physical Therapy Association*, Nashville, TN, (2/04).

63. Insight into the lumbar spine's segmental mobility and manual assessment using dynamic MRI. *International Federation of Sports Physiotherapists*. Maastricht, Holland (12/03).
64. Assessment of abnormal lower extremity mechanics using observational gait analysis: A biomechanical approach. *International Federation of Sports Physiotherapists*. Maastricht, Holland (12/03).
65. Patellofemoral kinematics during weightbearing and non-weightbearing knee extension in persons with lateral subluxation of the patella: A preliminary study. Annual meeting of the *International Patellofemoral Joint Study Group*, Tampa, FL, Switzerland (7/03).
66. The effect of bracing on patellofemoral joint stress during stair ascent and descent in persons with patellofemoral pain. Annual meeting of the *American Physical Therapy Association*, Washington DC, (6/03).
67. Influence of hip mechanics on patellofemoral joint dysfunction: Implications for treatment. Annual meeting of the *American College of Sports Medicine*. San Francisco, CA (5/03).
68. The effects of a single intervention session on pain response and lumbar segmental mobility in persons with and without low back pain. *Combined Sections Meeting of the American Physical Therapy Association*, Tampa, FL (2/03).
69. Epidemiology of non-contact ACL injuries. *Combined Sections Meeting of the American Physical Therapy Association*, Tampa, FL (2/03).
70. Influence of the lower kinetic chain in contributing to patellofemoral disorders. *Combined Sections Meeting of the American Physical Therapy Association*, Boston, MA (2/02).
71. Assessment of patellofemoral joint mechanics using kinematic magnetic resonance imaging: Implications for clinical practice. Annual meeting of the *American Physical Therapy Association*, Anaheim, CA (6/01).
72. Comparison of utilized coefficient of friction requirements across walking conditions. *Symposium on Metrology of Pedestrian Locomotion and Slip Resistance*, West Conshohocken, PA (6/01).
73. Comparison of foot pronation and lower extremity rotation in persons with and without patellofemoral pain. *Combined Sections Meeting of the American Physical Therapy Association*, San Antonio, TX (2/01).
74. Current controversies in patellofemoral joint rehabilitation: Is emphasis on the VMO necessary? *Combined Sections Meeting of the American Physical Therapy Association*, San Antonio, TX (2/01).
75. Biomechanics of patellofemoral pain. Annual Meeting of the *Southwest Chapter of the American College of Sports Medicine*, San Diego, CA (11/00).
76. Comparison of coefficient of friction requirements during gait to tribometry measurements: Evaluation of shod and barefoot conditions at various walking speeds. *National Occupational Injury Research Symposium*, Pittsburgh, PA (10/00).
77. Patellofemoral joint kinetics during squatting in collegiate women athletes. Annual Meeting of the *American Physical Therapy Association*, Indianapolis, IN (6/00).
78. The effects of wearing shoes on the required coefficient of friction during walking. Annual Meeting of the *American Society of Testing and Materials*, West Conshohocken, PA, (6/00).
79. The vastus medialis oblique: Anatomical structure, anomaly, or myth? Annual Meeting of the *American College of Sports Medicine*, Indianapolis, IN, (6/00).

80. The influence of segmental coupling on patellofemoral joint mechanics. Annual Meeting of the *American College of Sports Medicine*, Indianapolis, IN, (6/00).
81. Comparison of coefficient of friction requirements during gait to standard tribometry measurements. Annual Meeting of the *American Academy of Forensic Science*, Reno, NV (2/00).
82. The influence of lower quarter mechanics on patellofemoral joint dysfunction. *Combined Sections meeting of the American Physical Therapy Association*, New Orleans, LA (2/00).
83. The effect of walking velocity on lower extremity impact angle and the required coefficient of friction. Annual meeting of the *American Society for Testing and Materials* (Committee F-13), West Conshohocken, NJ, (6/99).
84. The use of biomechanical modeling to characterize patients with patellofemoral pain: Implications for treatment and patient management. Annual meeting of the *American Physical Therapy Association*, Washington DC (6/99)
85. The effects of patellar taping on loading characteristics in subjects with patellofemoral pain. *Combined Sections meeting of the American Physical Therapy Association*, Seattle, WA (2/99).
86. Management of the patient with patellofemoral pain: A comparison of treatment strategies. *Combined Sections meeting of the American Physical Therapy Association*, Seattle, WA (2/99).
87. Precision and bias of the English XL and Mark II tribometers. Annual meeting of the *American Society for Testing and Measures* (Committee F13), West Conshohocken, NJ, 6/98.
88. The patellofemoral joint revisited: Controversies, challenges and clinical applications. Annual meeting of the *American Physical Therapy Association*, Orlando, FL, 6/98.
89. The effects of patellar bracing on clinical changes and gait characteristics in subjects with patellofemoral pain. Annual meeting of the *American Physical Therapy Association*, Orlando, FL, 6/98.
90. The effects of bracing on patellar kinematics in patients with patellofemoral pain. Annual Meeting of the *American College of Sports Medicine*, Orlando, FL, 6/98
91. Knee kinetics in trans-tibial amputee gait. Annual Meeting of the *North American Society for Gait and Clinical Movement Analysis*, San Diego, CA, 4/98.
92. The influence of bony stability on patellar tracking. Annual Meeting of the *American Academy of Orthopaedic Surgery*, New Orleans, LA, 3/98.
93. Biomechanical considerations in patients with neurologic dysfunction. *Combined Sections Meeting of the American Physical Therapy Association*, Boston, MA, 2/98.
94. Direct and indirect measures of knee joint demand. Annual Meeting of the *Biomedical Engineering Society*, San Diego, CA, 10/97.
95. The validity of an external measurement in determining the medial/lateral component of patellar orientation. Annual conference of the *American Physical Therapy Association*, San Diego, CA, 6/97.
96. The relationship between vasti EMG patterns and patellar tracking during active knee extension: Annual Meeting of the *American College of Sports Medicine*, Denver, CO, 5/97.

97. Quantification of foot pronation using 3D motion analysis. *Combined Sections Meeting of the American Physical Therapy Association*, Denver, CO, 2/97.
98. Biomechanical analysis of human motion: Implications for orthopaedic and neurologic rehabilitation. Annual Conference of the *Colorado Chapter of the American Physical Therapy Association*, Denver, CO, 11/96.
99. Factors contributing to abnormal patellofemoral joint mechanics: Implications for clinical practice. Annual Conference of the *California Chapter of the American Physical Therapy Association*, San Francisco, CA, 10/96.
100. The reliability of obtaining VL:VMO and VL:VML EMG ratios using indwelling wire electrodes. Annual Conference of the *American Physical Therapy Association*, Minneapolis, MN, 6/96.
101. Stair ambulation in individuals with trans-tibial amputations. Annual Meeting of the *North American Society of Gait and Clinical Movement Analysis*, Birmingham, AL, 4/96.
102. Quantification of patellar tracking using dynamic magnetic resonance imaging: Implications for research and clinical assessment. *Combined Sections Meeting of the American Physical Therapy Association*, Atlanta, GA, 2/96.
103. The effects of patellar bracing on gait parameters in subjects with patellofemoral pain. Annual Conference of the *California Chapter of the American Physical Therapy Association*, San Diego, CA, 10/95.
104. The effects of patellar taping on loading characteristics in subjects with patellofemoral pain. *12th International Meeting of the World Confederation for Physical Therapy*, Washington D.C., 6/95.
105. The effects of patellar taping on knee motion and stride characteristics in subjects with patellofemoral pain. *12th International Meeting of the World Confederation for Physical Therapy*, Washington D.C., 6/95.
106. Loading characteristics in subjects with patellofemoral pain. Annual Meeting of the *North American Gait Conference*, Waterloo, Ontario, Canada, 6/95.
107. The relationship between muscle strength and stride characteristics in dysvascular below-knee amputees. Annual Meeting of the *American Congress of Rehabilitation Medicine*, Arlington, VA, 6/95.
108. The effects of prosthetic foot design on sound limb loading in below-knee amputees. Annual Meeting of the *Orthopaedic Research Society*, New Orleans, LA, 2/94.
109. Prosthetic foot design for the dysvascular amputee. Annual Meeting of the *American Orthotics and Prosthetics Association*, Reno, NV, 10/93.

#### **Invited Lectures & Keynote Addresses**

1. *Lower Extremity Biomechanics: Implications for Knee Pain & Injury* (Invited speaker). Alaska Chapter of the American Physical Therapy Association. Anchorage AK (5/24).
2. *Mechanisms Underlying Knee pain and Injury* (Invited Speaker). Northwestern University. Chicago Il. (6/24)
3. *Unraveling Non-contact ACL Injuries: Biomechanical-Anatomical Risk Factor Interactions* (Invited Speaker). Annual Isokinetic Conference. Madrid, Spain (5/24)
4. *Comprehensive Return to Sport Testing Following ACL Reconstruction: Biomechanics into Practice* (Invited Speaker). Annual Isokinetic Conference. Madrid, Spain (5/24)

5. *Treatment of Patellofemoral Joint Disorders: A Proximal Approach* (Invited Speaker). Annual Isokinetic Conference. Madrid, Spain (5/24)
6. *Patellofemoral Pain: An Oasis for Rehabilitation* (Invited Speaker). Annual Isokinetic Conference. Madrid, Spain (5/24)
7. *The Evolution of Treatment Approaches for Patellofemoral Pain* (Invited speaker). 7<sup>th</sup> International Patellofemoral Research Retreat Clinical Symposium. Bologna, Italy (6/23).
8. *Application of the Movement System Concept to the Patient with Knee or Shoulder Pain: Challenges and Opportunities* (Invited speaker). Annual meeting of the California Physical Therapy Association. Anaheim, CA (9/22).
9. *Evaluation of the Injured Runner*. (Invited speaker). Long Beach South Bay District, California Physical Therapy Association. Invited Speaker Virtual presentation (3/22)
10. *Transforming Society by Optimizing Movement: An Achievable Vision for Physical Therapy?* (Keynote Speaker) Annual Meeting of the Washington Physical Therapy Association, Tacoma WA (10/21).
11. *Sports Motion Analysis: Assessing Lower Extremity Biomechanics and ACL Injury Risk* (Invited Speaker). Shriners Hospital Sports Consortium Meeting. Chicago, IL (9/21)
12. *Pathomechanics of femoro-acetabular impingement: Implications for Rehabilitation*. Trata Sports Medicine Conference. Invited Speaker Virtual presentation (10/20)
13. *Mechanisms of ACL injury: Implications for evidence-based rehabilitation, injury prevention & return to sport decisions*. Johns Hopkins Sports Medicine, . Invited Speaker Virtual presentation (4/20).
14. *Mechanisms of ACL injury: Implications for evidence-based rehabilitation, injury prevention & return to sport decisions*. UCLA Sports Medicine, Virtual presentation (5/20).
15. *Mechanisms of ACL injury: Implications for evidence-based rehabilitation, injury prevention & return to sport decisions*. George Fox University, Newberg, OR (10/19).
16. *Mechanisms of ACL injury: Implications for evidence based rehabilitation, injury prevention & return to sport decisions*. Annual meeting of the New Jersey Physical Therapy Association, Monroe, NJ (10/18)
17. *A cognitive-mechanical approach to the management of common chronic musculoskeletal conditions* (Invited speaker). Annual meeting of the California Physical Therapy Association. Santa Clara, CA (9/18).
18. *Mechanisms of ACL injury: Implications for evidence based rehabilitation and return to sport decisions*. (Invited speaker). Orange County District, California Physical Therapy Association. Fountain Valley, CA (5/18).
19. *A pathomechanical model of patellofemoral pain*. Physical Stresses Symposium. Department of Rehabilitation Sciences, University of Oklahoma Health Sciences Center, Oklahoma City, OK (2/18)
20. *Mechanisms of ACL injury: Implications for evidence based rehabilitation and return to sport decisions*. (Invited speaker). Greater Los Angeles District, California Physical Therapy Association. Los Angeles, CA (10/17).
21. *Lower extremity movement impairments related to knee injury: Implications for injury prevention & rehabilitation*. Tricounties District, California Physical Therapy Association. Moorpark, CA (2/17).

22. *Mechanisms Underlying patellofemoral joint dysfunction: Insights through musculoskeletal imaging* (Invited speaker). Department of Rehabilitation Science, George Mason University. Fairfax, VA (11/16).
23. *Patellofemoral pain during running: A case for a proximal approach*. Annual meeting of the American Academy of Physical Medicine & Rehabilitation. New Orleans, LA (10/16).
24. *Retraining movement behavior for ACL injury prevention and rehabilitation: A matter of strength or motor control?* (Invited speaker). Annual meeting of the California Physical Therapy Association. Santa Clara, CA (10/16).
25. *Mechanisms Underlying patellofemoral joint dysfunction: Insights through musculoskeletal imaging* (Invited speaker). Radiological Sciences Seminar, University of California Irvine. Irvine, CA (10/16).
26. *Mechanisms of ACL injury: Implications for evidence based rehabilitation and return to sport decisions*. (Invited speaker). San Gabriel Valley District, California Physical Therapy Association. Duarte, CA (9/16).
27. *Mechanisms of ACL injury: Implications for evidence based rehabilitation and return to sport decisions*. (Invited speaker). Hoag Hospital Orthopaedic Grand Rounds, Irvine CA (5/16).
28. *Evaluation and treatment of movement dysfunction: A biomechanical approach* (Invited speaker). California Physical Therapy Fund Research Symposium. California Chapter American Physical Therapy Association. San Francisco, CA (12/15).
29. *Mechanisms Underlying Patellofemoral Joint Pain: What have we learned over the last 20 years?* (Invited speaker). 31<sup>st</sup> Annual Hawkeye Sports Medicine Symposium. Iowa City, IA (12/15).
30. *Mechanisms Underlying Patellofemoral Joint Pain: What have we learned over the last 20 years?* (Invited speaker). 25<sup>th</sup> Annual Mayo Clinic Symposium on Sports Medicine. Rochester, MN (11/15).
31. *Transforming Society by Optimizing Movement: An Achievable Vision for Physical Therapy?* (Invited Speaker). 2<sup>nd</sup> Annual Shirley Sahrman Lectureship. Program in Physical Therapy, Washington University, St. Louis, MO (10/15).
32. *Lower Extremity Pathomechanics: A Matter of Strength or Motor Control* (Keynote speaker). International Spine of Pain Institute. Minneapolis, MN (6/15).
33. *Rothstein Roundtable- "Putting all of our eggs in one basket: The human movement system"* (Invited speaker). NEXT Conference & Exposition, American Physical Therapy Association. National Harbor, MD (6/15).
34. *The Human Movement System: Physical therapist practice, education and research* (Invited speaker). NEXT Conference & Exposition, American Physical Therapy Association. National Harbor, MD (6/15).
35. *Mechanisms of ACL injury: Implications for evidence based rehabilitation and return to sport decisions*. (Keynote speaker). Current Concepts in Sports Medicine 2015, Fairview Sports Medicine. Minneapolis, MN (5/15).
36. *Mechanisms underlying patellofemoral joint pain: What have we learned over the last 20 years?* (Invited speaker). Department of Physical Therapy, University of Minnesota, Minneapolis, MN (4/15).
37. *Biomechanical factors underlying patellofemoral pain* (Invited Speaker). 7<sup>th</sup> World Congress of Biomechanics, Boston, MA (7/14).

38. *Mechanisms of ACL injury: Implications for evidence based rehabilitation and return to sport decisions.* (Invited speaker). Long Beach-South Bay District, California Physical Therapy Association. Torrance, CA (7/14).
39. *Return to sport testing following ACL injury: A biomechanical approach* (Keynote speaker). Sanford Sports Medicine Symposium, Sanford Medical Center, Sioux Falls, SD (5/14).
40. *Pathomechanics of the lower extremity: Proximal influences* (Invited speaker). Clinical Updates in Sports Medicine and Women's Health, Rehabilitation Institute of Chicago, Chicago, IL (5/14).
41. *Hip strategies for ACL injury prevention* (Invited speaker). XXIII International Conference on Sports Rehabilitation and Traumatology, Milan Italy (3/14).
42. *Mechanisms underlying patellofemoral joint pain: What have we learned over the last 20 years?* (Invited speaker). Rizzoli Orthopaedic Institute, Bologna, Italy (3/14).
43. *Mechanisms underlying patellofemoral joint pain: What have we learned over the last 20 years?* (Keynote speaker). Ostrow School of Dentistry Research Day, University of Southern California, Los Angeles, CA (3/14).
44. *Mechanisms underlying patellofemoral joint pain: What have we learned over the last 20 years?* (Invited speaker). Annual Movement Science Symposium. Department of Physical Therapy, Washington University, St. Louis, MO (3/14).
45. *Biomechanical Basis of Conservative Treatment for Patellofemoral Pain.* (Invited speaker). Department of Physical Therapy, University of Nevada, Las Vegas. Las Vegas, NV (11/13).
46. *Pathomechanics of running injuries* (Invited speaker). Science of Running Symposium. California Chapter American Physical Therapy Association. Los Angeles, CA (11/13).
47. *Biomechanical Risk Factors Related to ACL Injury: Implications for Return to Sport Decisions Post ACL-Reconstruction* (Invited speaker). Annual Meeting of the International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine, Toronto, Canada (5/13).
48. *Proximal Factors Related to Knee Injury; Biomechanical Influences* (Invited speaker). Noraxon Research Symposium. Los Angeles, CA (4/13)
49. *Functional Biomechanics of the lower quarter: Implications for movement dysfunction and musculoskeletal injury* (Invited speaker). Annual Meeting of the Pennsylvania Chapter of the American Physical Therapy Association, Lancaster, PA (10/12)
50. *ACL injury mechanics & injury prevention training: implications for rehabilitation following ACL reconstruction* (Invited speaker). Orthopaedic Grand Rounds, Department of Orthopaedic Surgery, University of Southern California, Los Angeles, CA (6/12).
51. *Proximal factors contributing to running injuries* (Keynote speaker). Boston Sports Medicine Group. Northeastern University, Boston, MA (5/12).
52. *Biomechanical Basis of Conservative Treatment for Patellofemoral Pain.* (Invited speaker). Annual Meeting of the New Zealand Physiotherapy Association. Wellington, New Zealand (5/12).
53. *Biomechanical Basis of Conservative Treatment for Patellofemoral Pain.* (Invited speaker). Physical Medicine & Rehabilitation Grand Rounds, Johns Hopkins Medical Center, Baltimore, MD (4/12).

54. *Pathomechanics of lower extremity injury: A case for impaired proximal control* (Keynote speaker). Advancement in Physical Therapy Rehabilitation Symposium, Jeddah, Saudi Arabia (1/12).
55. *ACL injury mechanics & injury prevention training: implications for rehabilitation following ACL reconstruction* (Invited speaker). Major League Soccer Medical Symposium, Fort Lauderdale, FL (1/12).
56. *ACL injury mechanics & injury prevention training: implications for rehabilitation following ACL reconstruction* (Invited speaker). 2012 Baseball Medicine Conference, Phoenix, AZ (1/12).
57. *Lower extremity mechanics and patellofemoral joint dysfunction: A top down perspective* (Invited speaker). 2012 Baseball Medicine Conference, Phoenix, AZ (1/12).
58. *Patellofemoral pain: A critical review of evaluation and treatment techniques for physical therapists* (Invited speaker). Hip, Knee and Sports group Santa Casa de Sao Paulo, Sao Paulo, Brazil (12/11).
59. *Movement dysfunction and lower extremity injury: A top down perspective* (Invited speaker). Rendez-vous Physio 2011, Montreal, Canada (9/11).
60. *Mechanisms of Patellofemoral Pain: Lessons learned over the past 20 years* (Keynote speaker). International Patellofemoral Pain Retreat, Ghent, Belgium (8/11).
61. *Proximal factors contributing to running injuries* (Invited speaker). Tricounties District, California Physical Therapy Association. Santa Barbara, CA (5/11).
62. *Biomechanical factors underlying patellofemoral Pain: Implications for conservative care* (Invited speaker). Orthopaedic Grand Rounds, Department of Orthopaedic Surgery, University of Southern California, Los Angeles, CA (4/11).
63. *The dynamic Q-angle: Lower chain influences* (Invited speaker). Patellofemoral symposium sponsored by the Andrews Institute, Gulf Breeze, FL (11/10).
64. *Dynamic stabilization of the patellofemoral joint: Stabilization from above and below* (Invited speaker). Patellofemoral symposium, Andrews Institute, Gulf Breeze, FL (11/10).
65. *Movement dysfunction and lower extremity injury: A top down perspective* (Invited speaker). Southwest Chapter, American College of Sports Medicine. San Diego, CA (10/10).
66. *ACL Injury and Prevention: An Evidence Based Model for Clinical Practice* (Invited speaker). Annual meeting of the California Chapter of the American Physical Therapy Association. Oakland, CA (10/10).
67. *Movement dysfunction and lower extremity injury: A top down perspective* (Invited speaker). Orange County District, California Physical Therapy Association. Orange, CA (9/10).
68. *Patellofemoral pain: A critical review of evaluation and treatment techniques for physical therapists* (Invited Speaker). Annual meeting of the Thai Physiotherapy Association, Bangkok, Thailand (4/10).
69. *The influence of proximal weakness on patellofemoral joint dysfunction* (Keynote speaker). Emirates Physiotherapy Conference. Dubai, United Arab Emirates (4/10).
70. *Biomechanical and neuromuscular risk factors associated with ACL injury: Implications for prevention.* (Keynote speaker). Emirates Physiotherapy Conference. Dubai, United Arab Emirates (4/10).

71. *Mechanisms underlying ACL injury prevention training: The brain-behavior relationship* (Keynote speaker). ACL Research Retreat V. Greensboro, NC (3/10).
72. *Movement dysfunction and lower extremity injury: A top down perspective* (Invited speaker). Department of Family Medicine/Sports Medicine, Kaiser Permanente, Los Angeles, CA (3/10).
73. *Movement dysfunction and lower extremity injury: A top down perspective* (Invited Speaker). Physical Therapy: A World of Knowledge. Macabe Healthcare System. Tel-Aviv, Israel (1/10).
74. *Rehabilitation of the sporting knee: Biomechanical considerations* (Keynote speaker). Annual meeting of the Australian Physiotherapy Association, Sydney Australia (10/09).
75. *Proximal contributions to patellofemoral pain* (Keynote speaker). Annual meeting of the Australian Physiotherapy Association, Sydney, Australia (10/09).
76. *Proximal weakness and lower extremity injuries: A biomechanical perspective* (Invited speaker). Akron Children's Hospital, Akron, OH (9/09).
77. *Proximal weakness and lower extremity injuries: A biomechanical perspective* (Invited speaker). Tri-City Wellness Sports Medicine Symposium, Tri-City Medical Center Carlsbad, CA (6/09)
78. *The influence of lower extremity mechanics on patellofemoral joint dysfunction: A top down perspective* (Invited speaker). Annual meeting of the Canadian Physiotherapy Association, Calgary, Alberta, Canada (5/09).
79. *Bridging the gap between biomechanics and ACL injury prevention* (Invited speaker). Annual meeting of the Canadian Physiotherapy Association, Calgary, Alberta, Canada (5/09).
80. *Proximal weakness and lower extremity injuries: A biomechanical perspective* (Keynote speaker). Sanford Sports Medicine Symposium, Sanford Medical Center, Sioux Falls, SD (5/09).
81. *Lower extremity Rehabilitation: A top down perspective* (Keynote speaker). Sanford Sports Medicine Symposium, Sanford Medical Center, Sioux Falls, SD (5/09).
82. *Mechanisms of patellofemoral joint dysfunction: What have we learned over the last 15 years* (Invited speaker). Department of Biomedical Engineering, University of Southern California, Los Angeles, CA (4/09).
83. *The Influence of lower extremity mechanics on knee injury: Implications for rehabilitation and prevention* (Keynote speaker). 3<sup>rd</sup> Annual Current Concepts in Sports Medicine. Hospital for Special Surgery, New York, NY (4/09).
84. *Biomechanical factors contributing to overuse injuries of the lower quarter: A top down perspective* (Keynote speaker). 6<sup>th</sup> Annual Running Medicine Conference, Department of Physical Medicine & Rehabilitation, University of Virginia, Charlottesville, VA (4/09).
85. *The Influence of lower extremity mechanics on knee injury: Implications for rehabilitation and prevention* (Invited speaker). Department of Family Medicine/Sports Medicine, Kaiser Permanente, Los Angeles, CA (3/09).
86. *Current perspectives on mobilization and spine mechanics* (Invited speaker). Israeli Physiotherapy Society. Tel-Aviv, Israel (1/09).
87. *Overuse Injuries of the knee: Pathomechanics & Evaluation* (Keynote speaker). The 25<sup>th</sup> International Jerusalem symposium on Sports Medicine. Jerusalem, Israel (1/09).

88. *Pathomechanics of the lower extremity: A top down perspective* (Keynote speaker). The 25<sup>th</sup> International Jerusalem symposium on Sports Medicine. Jerusalem, Israel (1/09).
89. *The influence of proximal weakness on lower extremity mechanics: Implications for knee injury* (Invited speaker). Department of Sport Rehabilitation, Beijing Sports University. Beijing, China (11/08).
90. *Pathomechanics of the lower extremity: A top down perspective* (Keynote speaker) Aurora Sports Medicine Symposium. Milwaukee WI (10/08).
91. *Pathomechanics of the patellofemoral joint: A top down perspective* (Keynote speaker) Aurora Sports Medicine Symposium. Milwaukee WI (10/08).
92. *The influence of lower extremity mechanics on ACL injury: A top down perspective* (Keynote speaker) Aurora Sports Medicine Symposium. Milwaukee WI (10/08).
93. *Intervention and injury prevention strategies: A top down approach* (Keynote speaker) Aurora Sports Medicine Symposium. Milwaukee WI (10/08).
94. *Mechanisms of patellofemoral joint dysfunction: What have we learned over the last 15 years* (Invited speaker). Department of Physical Therapy & Human Movement Science. Northwestern University, Chicago, IL (10/08).
95. *Pathomechanics of the patellofemoral joint: A top down perspective* (Invited speaker). Drayer Physical Therapy Institute's National Conference. Hilton Head, NC (10/08).
96. *Lower quarter rehabilitation: A top down perspective* (Invited speaker). Drayer Physical Therapy Institute's National Conference. Hilton Head, NC (10/08).
97. *Mechanisms of patellofemoral joint dysfunction: What have we learned over the last 15 years* (Invited speaker). Department of Kinesiology, University of Michigan. Ann Arbor, MI (9/08).
98. *The influence of lower extremity mechanics on knee injury: Implications for the female athlete* (Keynote speaker). Central California Sports Medicine Institute, California State University Fresno, Fresno, CA (9/08).
99. *Intervention and injury prevention strategies for the female athlete* (Keynote speaker). Central California Sports Medicine Institute, California State University Fresno, Fresno, CA (9/08).
100. *The influence of lower extremity mechanics on knee injury: Implications for prevention and rehabilitation* (Invited speaker). Orthopaedic Grand Rounds, Department of Orthopaedic Surgery, University of California San Diego, San Diego, CA (7/08).
101. *Non-contact ACL injuries: Relevant biomechanics & prevention strategies* (Keynote speaker). Sanford Sports Medicine Symposium, Sanford Medical Center, Sioux Falls, SD (5/08).
102. *Current trends in the treatment and prevention of lower extremity injuries: The hip-knee connection* (Invited speaker). Department of Physical Therapy, Cleveland Clinic, Cleveland OH (2/08).
103. *Current trends in the treatment and prevention of lower extremity injuries: The hip-knee connection* (Invited speaker). Department of Family Medicine/Sports Medicine, Kaiser Permanente, Los Angeles, CA (1/08).

104. *Current trends in the treatment and prevention of lower extremity injuries: The hip-knee connection* (Invited speaker) Inland Counties District of the California Chapter, American Physical Therapy Association, Loma Linda, CA (11/07).
105. *ACL injury prevention programs: What is important? Why do they work?* (Invited speaker) Drayer Physical Therapy Institute's National Conference. Hilton Head, NC (10/07).
106. *Pathomechanics of the patellofemoral joint: Implications for treatment* (Invited speaker). Drayer Physical Therapy Institute's National Conference. Hilton Head, NC (10/07).
107. *ACL injury prevention programs: What is important? Why do they work?* (Invited speaker) Annual meeting of the California Physical Therapy Association. Los Angeles, CA (9/07)
108. *Current trends in the treatment and prevention of lower extremity injuries: The hip-knee connection* (Invited speaker) Department of Physical Therapy, Bunkyo-Gaukin University, Tokyo, Japan (9/07).
109. *Current concepts on patellofemoral joint mechanics and intervention strategies* (Invited speaker). Annual Meeting of the National Athletic Trainers Association. Anaheim, CA (6/06).
110. *Essentials of gait analysis for orthopaedic conditions* (Invited speaker). Annual Meeting of the National Athletic Trainers Association. Anaheim, CA (6/06).
111. *The contribution of abnormal hip mechanics to knee injury: A top down perspective.* (Invited speaker). Orthopaedic Grand Rounds, Department of Orthopaedic Surgery, University of Southern California, Los Angeles, CA (3/07).
112. *ACL injury prevention: An evidence based model for clinical practice* (Invited speaker). Combined Sections Meeting of the American Physical Therapy Association. Boston, MA (2/07).
113. *Current trends in patellofemoral joint rehabilitation: A scientific approach* (Invited speaker). 16<sup>th</sup> Annual Mayo Clinic Symposium on Sports Medicine. Rochester, MN (11/06).
114. *Current trends in patellofemoral joint rehabilitation* (Invited speaker). Annual meeting of the American Academy of Orthopaedic Manual Therapists. Charlotte, NC (10/06).
115. *Beyond clinical prediction rules: The role of mechanistic research in guiding rehabilitation and injury prevention programs* (Invited speaker). Annual meeting of the American Academy of Orthopaedic Manual Therapists. Charlotte, NC. (10/06).
116. *Functional rehabilitation of the lower extremity* (Invited speaker). Drayer Physical Therapy Institute's National Conference. Hilton Head, NC (10/06).
117. *Disorders of the patellofemoral joint* (Invited speaker). Drayer Physical Therapy Institute's National Conference. Hilton Head, NC (10/06).
118. *Biomechanics of the patellofemoral joint* (Invited speaker). International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine. Stellenbosch, South Africa (10/06).
119. *Evaluation of joint function using kinematic magnetic resonance imaging: Research and clinical applications* (Invited speaker). Annual meeting of the American Society of Biomechanics. Blacksburg, VA (9/06)
120. *ACL injury prevention programs: Why do they work?* (Invited speaker). Annual Meeting of the National Athletic Trainers Association. Atlanta, GA (6/06).

121. *Pathomechanics of patellofemoral joint dysfunction* (Invited speaker). Annual Meeting of the National Athletic Trainers Association. Atlanta, GA (6/06).
122. *Biomechanics of non-contact ACL injuries: The gender bias* (Invited speaker). 9<sup>th</sup> Annual Lake Tahoe Knee & Shoulder Update, University of Nevada & Lake Tahoe Orthopaedic Institute, Lake Tahoe, CA (4/06).
123. *Rehabilitation of Patellofemoral Joint Disorders* (Invited speaker). 9<sup>th</sup> Annual Lake Tahoe Knee & Shoulder Update, University of Nevada & Lake Tahoe Orthopaedic Institute, Lake Tahoe, CA (4/06).
124. *Pathomechanics of patellofemoral joint dysfunction* (Invited speaker). Annual Meeting of the Medical College of Wisconsin Sports Medicine Symposium. Milwaukee, WI (3/06).
125. *An overview of the patellofemoral joint for the orthopaedic surgeon* (Invited speaker). Orthopaedic Grand Rounds, Department of Orthopaedic Surgery, University of Southern California, Los Angeles, CA (2/06).
126. *Using research to promote your practice: Marketing evidence based interventions* (Invited speaker) Annual Meeting of the APTA, Orlando, FL (6/06).
127. *Using research to promote your practice: Marketing evidence based interventions* (Invited speaker) Combined Sections Meeting of the APTA, San Diego, CA (2/06).
128. *Bracing for patellofemoral joint dysfunction: Current concepts and research.* (Invited speaker) Combined Sections Meeting of the American Physical Therapy Association, San Diego, CA (2/06).
129. *Abnormal lower extremity mechanics: Implications for the treatment and prevention of knee injuries* (Invited speaker). Annual meeting of the Nevada Physical Therapy Association, Las Vegas, NV (11/05).
130. *Using research to promote your practice: Marketing evidence based interventions* (Invited speaker) Annual meeting of the Colorado Physical Therapy Association, Denver, CO (11/05).
131. *Biomechanics of the lower extremity* (Invited speaker). Annual meeting of the Wisconsin Physical Therapy Association, Stevens Point, WI (11/05).
132. *The role of abnormal lower extremity motions in contributing to patellofemoral dysfunction: Implications for rehabilitation* (Keynote speaker). Congresso Brasileiro de Fisioterapia, Sao Paulo, Brazil (10/05).
133. *Abnormal lower extremity mechanics: Implications for the treatment and prevention of knee injuries* (Invited speaker). Annual meeting of the California Physical Therapy Association, Ontario, CA (10/05).
134. *Biomechanical considerations in patellofemoral joint rehabilitation* (Invited speaker) Casa Colina Hospital, Department of Physical Rehabilitation, Pomona, CA (9/05)
135. *Biomechanical considerations in patellofemoral joint rehabilitation* (Invited speaker). University of Central Arkansas, Department of Physical Therapy, Conway, AR (9/05)
136. *Abnormal lower extremity mechanics: Implications for the treatment and prevention of knee injuries* (Invited speaker). Annual meeting of the *International Patellofemoral Joint Study Group*, Laussane, Switzerland (4/05).
137. *Essentials of gait: Understanding mechanics for the treatment of the lower extremity* (Invited speaker). Sport and Spine rehabilitation symposium. Rehabilitation Institute of Chicago. Chicago, IL (4/05).

138. *Abnormal lower extremity mechanics: Implications for the treatment and prevention of knee injuries* (Invited speaker). 8<sup>th</sup> Annual Lake Tahoe Knee & Shoulder Update, Lake Tahoe Orthopaedic Institute, Lake Tahoe, CA (4/05).
139. Current trends in patellofemoral joint rehabilitation (Invited speaker). 8<sup>th</sup> Annual Lake Tahoe Knee & Shoulder Update, Lake Tahoe Orthopaedic Institute, Lake Tahoe, CA (4/05).
140. *Pathomechanics of patellofemoral pain syndrome* (Invited speaker). University of Washington Musculoskeletal and Sports Medicine Symposium. University of Washington School of Medicine. Seattle, WA (4/05).
141. *Current trends in patellofemoral joint rehabilitation: An evidenced based approach* (Invited speaker). University of Washington Musculoskeletal and Sports Medicine Symposium. University of Washington School of Medicine. Seattle, WA (4/05).
142. *Current trends in patellofemoral joint rehabilitation* (Invited speaker). Department of Physical Therapy, Tel-Aviv University, Tel-Aviv, Israel (3/05).
143. *Insight into lumbar spine's segmental mobility and manual assessment using dynamic MRI* (Invited speaker). Department of Experimental Anatomy, Vrije University of Brussels. Brussels, Belgium (3/05).
144. *Abnormal lower extremity mechanics in female athletes: Implications for the treatment and prevention of knee injuries* (Invited speaker). Long Beach/South Bay District of the California Chapter, American Physical Therapy Association, Long Beach, CA (3/05).
145. Biomechanical considerations in patellofemoral joint rehabilitation (Invited speaker). Orthopaedic Grand Rounds, Department of Orthopaedic Surgery, University of Southern California, Los Angeles, CA (2/05).
146. *Do ACL injury prevention programs influence performance?* Hunt Valley II ACL Consensus Conference. American Orthopaedic Society for Sports Medicine. Atlanta, GA (2/05).
147. *Using research to promote your practice: Marketing evidence based interventions* (Invited speaker) Annual meeting of the Private Practice Section APTA, Colorado Springs, CO (11/04).
148. *Mechanisms of knee injury: Implications for prevention and rehabilitation* (Invited speaker). Annual meeting of the New York Physical Therapy Association, Long Island, NY (10/04).
149. *Mechanisms of knee injury: Implications for prevention and rehabilitation* (Invited speaker). Annual meeting of the Ohio Physical Therapy Association, Columbus, OH (10/04).
150. *Pathomechanics of patellofemoral pain* (Invited speaker). San Jose District of the California Chapter, American Physical Therapy Association, San Jose, CA (10/04).
151. *Mechanisms of knee injury: Implications for prevention and rehabilitation* (Invited speaker). Mike Hage Memorial Lecture, Rehabilitation Institute of Chicago, Chicago, IL (6/04).
152. *Abnormal lower extremity mechanics in female athletes: Implications for the treatment and prevention of knee injuries* (Invited speaker). Orthopaedic Grand Rounds, Department of Orthopaedic Surgery, University of Southern California, Los Angeles, CA (5/04).
153. *Abnormal lower extremity mechanics in female athletes: Implications for the treatment and prevention of knee injuries* (Invited speaker). International Federation of Sports Physiotherapists. Maastricht, Holland (12/03).

154. *Current trends in patellofemoral joint rehabilitation* (Invited speaker). California Physical Therapy Association. Sacramento, CA (11/03).
155. *Managing in the world of evidence based practice: Is it possible?* (Keynote speaker) Annual meeting of the Nebraska Physical Therapy Association. Lincoln, NE (9/03).
156. *Understanding the challenges and opportunities for private practice: What will evidence based practice change for you?* (Invited speaker) 14<sup>th</sup> International meeting of the World Confederation for Physical Therapy. Barcelona, Spain (6/03).
157. *Current trends in patellofemoral joint rehabilitation* (Invited speaker). California Society of Physical Medicine and Rehabilitation. San Diego CA (6/03).
158. *Developing treatment strategies for persons with patellofemoral pain: A biomechanical approach* (Keynote speaker). Southern California Conference on Biomechanics. Pepperdine University, Malibu, CA. (3/03).
159. *Developing treatment strategies in persons with patellofemoral pain: A mechanistic approach* (Invited speaker) Eugene Michels Forum, Combined Sections Meeting of the American Physical Therapy Association (2/03).
160. *Current concepts in patellofemoral joint rehabilitation* (Invited speaker). 2003 Kaiser Permanente Daniel Dale Orthopaedic Symposium, Anaheim, CA (1/03).
161. *Rehabilitation of the patellofemoral joint disorders* (Invited speaker). 7<sup>th</sup> Annual Lake Tahoe Knee & Shoulder Update, Duke University School of Medicine & Lake Tahoe Orthopaedic Institute, Lake Tahoe, CA (12/02).
162. *Normal and pathological gait* (Invited speaker). Medica 2002 International Congress, Düsseldorf, Germany (11/02).
163. *The role of abnormal lower extremity mechanics in patellofemoral joint dysfunction: Implications for the treatment and prevention of patellofemoral pain* (Keynote speaker). European Congress for the Prevention of Disease Through Physiotherapy. Association of Austrian Physiotherapists. Vienna, Austria. (11/02).
164. *Pathomechanics of patellofemoral pain* (Invited speaker). Long Beach/South Bay District of the California Chapter, American Physical Therapy Association, Torrance, CA (9/02).
165. *Biomechanical modeling of the patellofemoral joint* (Invited speaker). Department of Biomechanics and Movement Science, University of Delaware, Wilmington, DE. (9/02).
166. *Conservative treatment of patellofemoral pain: A paradigm shift* (Invited speaker). Orthopaedic Grand Rounds, Department of Orthopaedic Surgery, University of Southern California, Los Angeles, CA (6/02).
167. *Putting evidence into practice: Overcoming the barriers* (Invited speaker). Madonna Rehabilitation Hospital, Lincoln, NE (3/02).
168. *Normal and Pathological Gait* (Invited speaker). Medica 2001 International Congress, Düsseldorf, Germany (11/01).
169. *Rehabilitation of the patellofemoral joint: Exercise treatment for the patient with patellofemoral pain* (Invited speaker). 6<sup>th</sup> Annual Lake Tahoe Knee & Shoulder Update, Duke University School of Medicine & Lake Tahoe Orthopaedic Institute, Lake Tahoe, CA (12/01).

170. *Kinematic and kinetic analysis of sidestep cutting: A comparison of males and females.* (Invited speaker). Annual Resident Research Symposium, Department of Orthopaedic Surgery, University of California at Irvine, Irvine, CA (6/01).
171. *Mechanical determinants of patellofemoral stress: Evaluation using an imaging based biomechanical model* (Invited speaker). Dept. Kinesiology, California State University, Los Angeles, CA (5/01).
172. *“Hooked on Evidence”: An overview of the systematic collection of outcomes research related to physical therapist practice* (Invited speaker). World Congress of Physical Therapy, Evidence Based Medicine Symposium, London England, (11/01).
173. *Hooked on Evidence”: An overview of the systematic collection of outcomes research related to physical therapist practice* (Invited speaker). Annual Meeting of the California Chapter, APTA, Santa Clara, CA (10/01).
174. *Hooked on Evidence”: An overview of the systematic collection of outcomes research related to physical therapist practice* (Invited speaker). Annual Meeting of the American Physical Therapy Association, Anaheim, CA (6/01).
175. *Hooked on Evidence”: An overview of the systematic collection of outcomes research related to physical therapist practice* (Invited speaker). Tri-counties District of the California Chapter, APTA, Santa Barbara, CA (3/01).
176. *Rehabilitation of the patellofemoral joint: Relevant Biomechanics* (Invited speaker). 5<sup>th</sup> Annual Lake Tahoe Knee & Shoulder Update, Duke University School of Medicine & Lake Tahoe Orthopaedic Institute, Lake Tahoe, CA (12/00).
177. *Infusing Scientific Evidence into Physical Therapy Clinical Practice* (Invited speaker). Greater Los Angeles District of the California Chapter, American Physical Therapy Association, Downey, CA (11/00).
178. *Current Controversies in Patellofemoral Joint Rehabilitation.* (Invited speaker). Orange County District of the California Chapter, American Physical Therapy Association, Irvine, CA (10/00).
179. *Exercise and rehabilitation approaches to reduce fall risk factors* (Invited speaker). Annual symposium sponsored by the Geriatric Research Education and Clinical Center, Sepulveda VA Medical Center, Marina del Rey, CA. (9/00).
180. *Factors contributing to patellofemoral stress in individuals with patellofemoral pain: Evaluation using an in-vivo biomechanical model* (Invited speaker). Annual Resident Research Symposium, Department of Orthopaedic Surgery, University of California at Irvine, Irvine, CA (6/00).
181. *Patellofemoral Pain Syndrome: Evidenced-based physical therapy* (Keynote speaker). Marge Barre Symposium, University of Texas-Southwestern, Dallas, TX. (3/00).
182. *Current update in patellofemoral joint research* (Invited speaker). National Yang Ming University, Taipei, Taiwan (12/99).
183. *Patients, case reports and clinical communication* (Invited speaker). California Chapter American Physical Therapy Association, Palm Springs, CA. (10/99).
184. *Patellofemoral joint biomechanics: Implications for the orthopaedic surgeon* (Invited speaker). Orthopaedic Grand Rounds, Department of Orthopaedic Surgery, University of Southern California, Los Angeles, CA (6/99).

185. *How to get involved in clinical research* (Invited speaker). Tri-counties District of the California Chapter, American Physical Therapy Association, Santa Barbara, CA (3/99).
186. *Current topics in patellofemoral joint research* (Invited speaker). Inland Empire District of the California Chapter, American Physical Therapy Association, Loma Linda, CA (3/98).
187. *Below-knee amputee gait: Recent research and implications for clinical practice* (Invited speaker) Annual Gait Conference. UCLA Department of Physical Medicine and Rehabilitation, Los Angeles, CA (5/97).
188. *Considerations for loading of the extensor mechanism in the assessment of patellofemoral joint mechanics* (Invited speaker) Orthopaedic Bioengineering Symposium, Long Beach, CA (11/95).

### **III. ACADEMIC, ADMINISTRATIVE & SERVICE ACTIVITIES**

#### **Administrative Appointments**

- 2/20-current      *Associate Chair*  
 Division of Biokinesiology & Physical Therapy  
 University of Southern California, Los Angeles, CA
- 7/03-present      *Director, Program in Biokinesiology*  
 Division of Biokinesiology & Physical Therapy  
 University of Southern California, Los Angeles, CA.
- 7/97-present      *Co-Director Musculoskeletal Biomechanics Research Laboratory*  
 Division of Biokinesiology & Physical Therapy,  
 University of Southern California, Los Angeles, CA.
- 7/99-6/03      *Director, Doctor of Physical Therapy Program,*  
 Department of Biokinesiology & Physical Therapy  
 University of Southern California, Los Angeles, CA.

#### **Courses Developed & Taught**

- PT 582 Fundamentals of Movement Analysis (2 units)  
 Division of Biokinesiology & Physical Therapy, University of Southern California.
- PT 574 Applied Movement Analysis (2 units)  
 Division of Biokinesiology & Physical Therapy, University of Southern California.
- PT 582 Mechanics of Human Gait (2 units)  
 Division of Biokinesiology & Physical Therapy, University of Southern California.
- PT 574 Clinical Biomechanics (3 units)  
 Division of Biokinesiology & Physical Therapy, University of Southern California.
- BKN 563 Biomechanics of Human Motion (3 units)  
 Division of Biokinesiology & Physical Therapy, University of Southern California.
- BKN 575 Principles Musculoskeletal Imaging (2 units)  
 Division of Biokinesiology & Physical Therapy, University of Southern California.

## **Student Mentoring**

### *Post-Doctoral Fellows*

Gretchen Salsich (2001)  
Christine Pollard (2005)  
Yiu-Ming Wong (2010)  
Thiago Fukuda (2013)  
Seol Park (2020)

### *Research Fellows*

Susumu Ota (2003)  
Chatchada Chinkulprasert (2010)  
Theresa Nakagawa (2012)  
Yunfeng Han (2013)  
Li Yin (2015)  
Roberta Brunelli (2016)  
Francesco Della Villa (2018)

### *PhD students*

Jacki Heino-Brechter (2000)  
Kathleen Ganley (2003)  
Judith Burnfield (2003)  
Samuel Ward (2003)  
Susan Sigward (2004)  
Yi-Ju Tsai (2007)  
Richard Souza (2008)  
Yu-Jen Chen (2008)  
Shawn Farrokhi (2009)  
Liang-Ching Tsai (2011)  
Mark Lyle (2012)  
Kristen Stearns (2012)  
Szu-Ping Lee (2012)  
Kai-Yu Ho (2012)  
Mark Blanchette (2013)  
Hsiang-Ling Teng (2013)  
Jennifer Bagwell (2015)  
Tzu-Chieh Liao (2017)  
Yo-Shih (2019)  
Jia Liu (2020)  
Jonathan Lee (2021)  
Kyungmi Park (2022)  
Jordan Cannon (2022)  
Rachel Straub (2022)  
Thomas Demirjian (2024)  
Adam Barrack (2025)  
Stanley Smith (Current)  
Dan Edon (Current)

### *Masters Students*

Steve Reischl (1997)  
Gary Souza (1998)  
Dan Farwell (1999)  
Wendy Burke (1999)  
Pon-Yo Chen (2000)

Lider Chan (2000)  
Maria Stefanou (2006)  
Mark Blanchette (2007)  
Diana Pinto (2007)  
Alicia Foster (2010)  
Yi-Chen Chou (2010)  
Scott Bogdanoff (2011)  
Anna Southam (2013)  
Rachel Straub (2013)  
Chun-Hao Huang (2016)  
Adam Barrack (2019)  
Beverly Weithman (2020)  
Shannon Rock (2022)  
Vanessa Taylor (2025)  
Yanyi Qu (current)

### **University Service**

#### *Division of Biokinesiology & Physical Therapy*

Director, Doctor of Physical Therapy program (1993-2003)  
Curriculum committee (2015)  
Faculty Affairs committee (2015-2016)  
Director program in Biokinesiology (2004-present)  
Executive committee (2010-present)

#### *School of Dentistry*

Appointments & Promotions Committee (2016-2023)

### **Activities in Professional Organizations**

#### *American Physical Therapy Association*

##### Section on Research:

President (2008-2012)  
President-elect (2007-2008)  
Vice-President (2000-2006)  
By-laws Chair (2006-2007)  
Delegate to House of Delegates (2000-2001)

##### Orthopaedic Section:

Grant Reviewer (1999-2002)  
Education Committee (1998-2008)  
Research Agenda Task Force (2008-present)  
Advisory Panel on Research (1999-2001)  
Task group for Basic Science Research (2004-2006)  
Movement System Board Work Group (2013-2015)  
Annual Conference Programming: Orthopaedic subcommittee (2001-2003)  
Media Spokesperson (2009-2012)  
Legislative Key Contact (2012-present)

#### *California Chapter American Physical Therapy Association*

President (2014-2019)  
Vice President (2003-2007)  
Speaker of the Assembly (2003-2007)  
Board of Directors (2002-2003)  
Delegate to APTA House of Delegates (2002-present)  
Committees

Practice and Quality Service Committee (1999-2001)  
Communications Committee (2002-2005)  
Education Committee (2006-2007)  
Reference Committee (2008-2011; 2023-present)

Task forces

Term of office (2006)  
Education plan (2008)  
Expert Resource Panel (1999-present)  
Legislative Key Contact (2005-2012)  
Research Special Interest Group  
Director (1997)  
Chair (1998-2001)  
Research council (2022-present)

*California Physical Therapy Fund*

Board member (2008-present)  
President (2011-2013)

*Foundation for Physical Therapy*

Scientific Review Committee (2005-2007)  
Scientific Advisory Committee (2008-2012)  
Board of Trustees (2022-2025)  
Research Committee chair (2025-present)  
Vice President (2026-present)

*Gait and Clinical Movement Analysis Society*

Program committee (2004-2005)

*Kaiser Residency Program in Orthopaedic Physical Therapy*

Faculty (2000-present).

*National Institutes of Health*

Special Emphasis Panel Grant Reviewer-NIAMS (2012)  
Early Independence Grant Reviewer-NIAMS (2014)  
Grant Reviewer: NIAMS-AMSC conflict review panel (2015-2016)  
Mechanistic Ancillary Studies Review Panel-NIAMS (2017)  
Special Emphasis Panel on Small Business: Musculoskeletal Rehabilitation Sciences (2018)  
Special Emphasis Panel-MOSS (2021)

*National Youth Sports Health and Safety Institute*

Leadership board (2012-2017)

*Pacific 12 Athletic Conference*

Grant reviewer (2018)

*World Confederation of Physical Therapy*

Evidence Based Practice Advisory Panel (2002-2006)  
Congress Abstract Review Panel (2006-2007)  
Congress Focused Symposium Review Panel (2009-2010)

### **External Promotion and/or Tenure Reviewer**

University of Minnesota, 2025  
Texas Tech university, 2025  
Mayo Clinic, 2023  
Boston University, 2023  
University of Hong Kong, 2023  
University of British Columbia, 2021  
University of Virginia, 2019  
University of Iowa, 2018  
University of Tennessee Knoxville, 2018  
University of the Pacific, 2017  
University of Wyoming, 2016  
Pennsylvania State University, 2016  
University of Denver, 2015  
Boston University, 2015  
University of Florida, 2015  
Auburn University, 2015  
Temple University, 2014  
University of Minnesota, 2014  
New York University, 2013  
University of Virginia, 2013  
University of Michigan, 2013  
University of British Columbia, 2013  
Western University of Health Sciences, 2013  
Washington University, 2012  
University of North Florida, 2012  
Hong Kong Polytechnic University, 2012  
University of Pittsburg, 2012  
Brigham Young University, 2012  
Washington University, 2011  
Northwestern University, 2011  
University of Iowa, 2010  
University of North Carolina, Chapel Hill, 2010  
University of Michigan, 2009  
Ohio State University, 2009  
Case Western University, 2009  
University of Wisconsin, Madison, 2008  
University of Utah, 2005  
Ithaca College, 2004

### **Journal Editorial Boards**

*Foot & Ankle International*

Associate Editor: 2004-2006

*Journal of Applied Biomechanics*

Associate Editor: 2002-2011

*Journal of Athletic Training*

Editorial Board Member: 2004-2014

*Journal of Orthopaedic and Sports Physical Therapy*

Editorial Board Member: 1997-1998

Associate Editor: 1998-2010

Editor 2011-2018

*Physical Therapy*

Associate Editor: 2002-2008