

CURRICULUM VITAE

KORNELIA KULIG, PhD, PT, FAPTA

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1. BIOGRAPHICAL INFORMATION

PERSONAL INFORMATION:

Office Address: Musculoskeletal Biomechanics Research Laboratory, Co-Director
Division of Biokinesiology and Physical Therapy
University of Southern California
1540 East Alcazar Street
Los Angeles, CA 90033
Telephone (1) 323-442-2911 Fax: (1) 323-442-1515
Email: kulig@usc.edu
Lab website: <http://pt2.usc.edu/labs/mbrl/>

UNIVERSITY EDUCATION:

1972-1976 M.S., Physical Therapy and Physical Education, Academy of Physical Education
Wroclaw, Poland

1977-1982 Ph.D., Biomechanics, Academy of Physical Education Wroclaw, Poland

1982-1983 Postdoctoral Fellow, Biomechanics, Biomechanics Laboratory, The University of Iowa
Iowa City, Iowa

1985-1986 B.S., Physical Therapy, Oakland University, Rochester, Michigan

ACADEMIC APPOINTMENTS:

2012-present Professor, Clinical Scholar, University of Southern California (USC)

2013-2014 Adjunct Appointment, National Cheng Kung University, Tainan, Taiwan, RoC
2011-2012

2006-2019 Joint appointment, Department of Orthopaedic Surgery, Keck School of Medicine, USC

2005-pres. Co-Director of the Musculoskeletal Biomechanics Research Laboratory, Division of
Biokinesiology and Physical Therapy, USC

2004-2005 Director of the Musculoskeletal Rehabilitation Research Laboratory, Department of
Biokinesiology and Physical Therapy, USC

1997-2012 Associate Professor of Clinical Physical Therapy, Department of Biokinesiology and Physical
Therapy, USC

1998-2003 Co-Director, Orthopedic Physical Therapy Residency Program, Department of Biokinesiology
and Physical Therapy, USC

1996-1997 Associate Director of Post-Professional Studies, Program in Physical Therapy, Oakland University
Rochester, Michigan

1995 Associate Professor (Jan to Aug.) (On sabbatical leave from Oakland U.), Department of

Biokinesiology and Physical Therapy, USC

- 1993-1997 Associate Professor (with tenure), Program in Physical Therapy, Oakland University, Rochester, Michigan
- 1991-1996 Coordinator of the Orthopedic Manual Physical Therapy Program, Program in Physical Therapy Oakland University, Rochester, Michigan
- 1986-1993 Assistant Professor, Program in Physical Therapy, Oakland University, Rochester, Michigan
- 1991- 1997 Adjunct Assistant Professor, Physical Therapy Program, College of Pharmacy and Allied Health Professions, Wayne State University, Detroit, Michigan

OTHER PREVIOUS EMPLOYMENT:

- 1986-1989 Staff Physical Therapist (part-time), Oakland Physical Therapy, P.C., Novi, Michigan
- 1984-1985 Coordinator of Work Hardening Program, Rehabilitation Medicine, P.C., Gainesville, Florida
- 1982-1983 Assistant Professor (On leave), Biomechanics Laboratory, Academy of Physical Education, Wroclaw, Poland
- 1978-1982 Teaching and Research Assistant II , Biomechanics Laboratory, Academy of Physical Education Wroclaw, Poland
- 1976-1978 Teaching and Research Assistant I, Biomechanics Laboratory, Academy of Physical Education Wroclaw, Poland

HONORS, AWARDS, AND FELLOWSHIPS:

- 2019 Division of Biokinesiology and Physical Therapy Teaching Award, referred to as the “Tommy Teaching Award”
- 2019 USC Mentoring Award, “Faculty Mentoring Faculty, Postdoctoral Scholars, Medical Residents, and Fellows”
- 2015 Royce P Noland Award of Merit, 16th Noland Award Address (2016), California Chapter of the APTA
- 2015 Helen J. Hislop Award for Outstanding Contribution to Professional Literature of the American Physical Therapy Association
- 2014 3rd Annual Distinguished Lectureship Award of American Academy of Orthopaedic Manual Physical Therapists
- 2014 Residency Mentorship Award, Orthopedic Physical Therapy Residency, Division of Biokinesiology and Physical Therapy, USC
- 2013 18th HP John Maley Lectureship of the American Physical Therapy Association
- 2010 Catherine Worthingham Fellow of the American Physical Therapy Association (FAPTA)
- 2009 Honorary Fellow of the American Academy of Orthopedic Manual Physical Therapists (FAAOMPT Hon)

- 2009 Physical Therapist Research Award – Faculty, California Chapter of the APTA 2009, for a publication: Kulig K, Reischl SF, Pomrantz AB, Burnfield JM, Mais-Requejo S, Thordarson DB, Smith RW: Non-operative management of tibialis posterior tendon dysfunction using orthoses and resistive exercise: a randomized clinical trial. *Physical Therapy*, 89:26-36.
- 2008 Physical Therapist Research Award – Faculty, California Chapter of the APTA 2008, for a publication: Landel RF, Kulig K, Fredricson M, Li B, Powers CM: Intertester reliability and validity of manual lumbar spine segmental motion testing. *Physical Therapy*, 88:43-49.
- 2005 Physical Therapist Research Award – Clinical Faculty, California Chapter of the APTA 2007, for a publication: Davenport TE, Kulig K; Matharu Y, Blanco CE: The EdUReP model for non-surgical management of tendinopathy. *Physical Therapy*: 85:1093-1103.
- 2005 Physical Therapist Research Award – Clinician, California Chapter of the APTA 2007, for a publication: Davenport TE, Watts H, Kulig K, Resnik C: Current status and correlates of physicians' referral diagnoses for physical therapy. *Journal of Orthopedic and Sports Physical Therapy*, 35:572-579.
- 2004 Dorothy E. Baethke – Eleanor J. Carlin Award for Excellence in Academic Teaching. American Physical Therapy Association.
- 2002 Outstanding Teacher of the Year, Department of Biokinesiology and Physical Therapy, University of Southern California.
- 2002 James A. Gould Excellence in Teaching, Orthopaedic Physical Therapy Award, Orthopaedic Section of the APTA.
- 2001 Physical Therapist Research Award – Faculty, California Chapter of the APTA 2001, for a publication: Kulig K, Powers CM, Shellock F, Terk M: Muscle activation mediated by the velocity of the eccentric component of isotonic exercise: evaluation by MRI. *MSSE*, 33:196-200.
- 1997 Teaching Excellence Award, Nominated, Oakland University.
- 1996 Outstanding Teacher Award, Honorable Mention, Golden Key National Honor Society, Oakland University.
- 1992 E. Darnell Research Award presented by Michigan Physical Therapy Association Institute for Education and Research, Inc.
- 1994 Merit Award, Oakland University, School of Health Sciences, 1989, 1990, 1991
- 1989 Research Productivity Award (IBM PC computer) IBM and Oakland University, School of Health Sciences.
- 1982 Research Award, The Ministry of Physical Education in Sports, Level II, Poland.
- 1979 Research and Teaching Award, The Ministry of Physical Education and Sports, Level III, Poland.

PROFESSIONAL ORGANIZATIONS:

International Society of Biomechanics
 American Society of Biomechanics
 American College of Sports Medicine
 American Alliance for Health, Physical Education, Dance and Recreation
 American Physical Therapy Association
 Michigan Physical Therapy Association

II. ADMINISTRATIVE AND SERVICE ACTIVITIES

UNIVERSITY SERVICE:

University (University of Southern California)

2020 USC Mentoring Award Selection Committee.

2013-2015 Conflict of Interest Review Committee

2004 USC University Senate

School (Ostrow School of Dentistry)

2015-present Faculty Development Committee

School (Keck School of Medicine)

2001-2004 Orthopedic Curriculum of the Keck School of Medicine

2001-2002 Co-editor, Health Sciences Women Faculty Association Newsletter

1999-2000 Distance Learning Task Force for the Independent Health Professions

1998-2000 Committee on Medical Faculty Women's Issues

1997-2000 Committee for Handicapped Persons Accessibility

Division of Biokinesiology and Physical Therapy

2013; 2018 Chair, Faculty Search Committee

2010 Faculty Search Committee

2008-present Chair, Research, Teaching, Practice and Clinical Track Appointments and Promotions Committee, Division of Biokinesiology and Physical Therapy

2006-present Awards Committee, Division of Biokinesiology and Physical Therapy

2005 Faculty Search Committee

2004 Faculty Search Committee

2003-2006 Executive Committee

2003 Faculty Search Committee

2002 Faculty Search Committee

2001-2006 Merit Committee

1998 Merit Committee

JOURNAL PAPERS REVIEW:

2016 Archives of Physical Medicine and Rehabilitation

2015	Journal of Orthopaedic and Sports Physical Therapy Human Movement
2014	Archives of Physical Medicine Physical Therapy Journal of Orthopaedic and Sports Physical Therapy Scandinavian Journal of Sports Medicine Clinical Biomechanics Human Movement
2013	Journal of Orthopaedic and Sports Physical Therapy Human Movement Clinical Biomechanics
2012	Journal of Biomechanics Physical Therapy Human Movement Clinical Biomechanics Scandinavian Journal of Sports Medicine Journal of Orthopaedic and Sports Physical Therapy
2011	Acta of Bioengineering and Biomechanics BMC Musculoskeletal Disorders Physical Therapy Archives of Physical Medicine and Rehabilitation Clinical Biomechanics Journal of Orthopedic and Sports Physical Therapy
2010	Diabetic Medicine BMC Musculoskeletal Disorders Physical Therapy Journal of Applied Biomechanics Archives of Physical Medicine and Rehabilitation Clinical Biomechanics Journal of Orthopedic and Sports Physical Therapy
2009	BMC Musculoskeletal Disorders Journal of Biomechanics Physical Therapy Clinical Biomechanics Journal of Orthopedic and Sports Physical Therapy
2008	BMC Musculoskeletal Disorders Journal of Biomechanics Physical Therapy Clinical Biomechanics Journal of Orthopedic and Sports Physical Therapy
2007	Physical Therapy Clinical Biomechanics Journal of Orthopedic and Sports Physical Therapy
2006	Physical Therapy Clinical Biomechanics Journal of Orthopedic and Sports Physical Therapy

2005	Journal of NeuroEngineering and Rehabilitation Clinical Biomechanics Journal of Orthopedic and Sports Physical Therapy
Before 2004	Clinical Biomechanics Journal of Orthopedic and Sports Physical Therapy, Editorial Review Board

SERVICE PROFESSIONAL ORGANIZATIONS (elected by membership)

2014-2017	Michels Forum Committee of the Section on Research of the American Physical Therapy Association
2015-2018	APTA's Lectureship Selection Committee
2014	Reviewer, InnovationSummit2013 American Physical Therapy Association, Grant Proposals
2009-2012	Director, Board of Directors, Orthopaedic Section of the American Physical Therapy Association
1991-1993	Member-at-Large, American Academy of Orthopaedic Physical Therapists

III. SCHOLARLY ACTIVITIES

PUBLICATIONS:

PUBLICATIONS (peer reviewed)

(* indicates USC students under Dr. Kulig's mentorship, Senior Author is underlined)

1. Kurihara T, Rowley KM, Reischl SF, Baker LL and Kulig K: Interaction between foot type and a task's postural demand on medial longitudinal arch deformation and activation of foot intrinsics and extrinsic musculature (accepted , Acta of Bioengineering and Biomechanics, July 28, 2020)
2. Kulig K, Chang Y-J, Ortiz-Weissberg D*: A perspective on reversibility of tendinosis-induced multilevel adaptations. Front. Physiol. 11:651 doi: 10.3389/phys.2020.00651
3. Jarvis DN and Kulig K: What goes up must come down: Consequences of jump strategy modification on dance leap takeoff biomechanics. Journal Sports Sci. doi: 10.1080/02640414.2020.1756710. Online ahead of print. PMID: 32362240
4. Jarvis, DN and Kulig K. Achieving the split position in a saut de chat leap. Medical Problems of Performing Artists. 35 (2): 68-72, 2020.
5. Derian JM, Armour Smith J, Wang Y, Lam W and Kulig K: Biomechanical Characteristics of Lumbar Spine Manipulation in Expert, Resident, and Student Therapists. Musculoskeletal Science and Practice, 2020 Mar 11;48:102150. doi: 10.1016/j.msksp.2020.102150. [Epub ahead of print]
6. Rowley KM*, Winstein CJ and Kulig K: Persons in remission from recurrent low back pain alter trunk coupling during a dynamic balance task under dual-task interference while modulating task performance with prioritization instructions. Exp Brain Res. 238: 957–968, 2020.
7. Muller J, Martinez-Valdes E, Mueller S, Kulig K, Meyer E: Sudden gait perturbations elicit sex-specific neuromuscular trunk responses in persons with low back pain J Biomech. 10962020 Jan 16:109646. doi: 10.1016/j.jbiomech.2020.109646. [Epub ahead of print] 2020.
8. Rowley KM, Engel T and Kulig K: Trunk and hip muscle activity during the Balance-Dexterity Task in persons with and without recurrent low back pain J Electromyogr Kinesiol. Nov 20;50:102378. doi: 10.1016/j.jelekin.2019.102378. [Epub ahead of print] xxx; 2020.

9. Fietzer AL* Koyama Y and **Kulig K**: Movement variability responses to change in hopping rate. *Acta of Bioengineering and Biomechanics*, 21(4):37-45, 2019.
10. Ho KY, Baquet A, Chang YJ, Chien LC, Evers M, Bashford GB, **Kulig K**: Factors related to intra-tendinous morphology of Achilles tendon in runners. *PLoS ONE* 14(8): e0221183.
<https://doi.org/10.1371/journal.pone.0221183>
11. Rowley KM*, Smith JA and **Kulig K**: Reduced trunk coupling in persons with recurrent low back pain is associated with greater deep-to-superficial trunk muscle activation ratios during the Balance-Dexterity Task. *Journal of Orthopedic and Sports Physical Therapy* 49(12),887-898, 2019.
12. Cassel M, Risch L, Mayer F, Kaplick H, Engel A, **Kulig K** and Bashford GR: Achilles tendon morphology assessed using image based spatial frequency analysis is altered among healthy elite adolescent athletes compared to recreationally active controls. *Journal of Science and Medicine in Sport* 22 (8) 882-86, 2019.
13. Mikkelsen P, Jarvis DN and **Kulig K**: Heeled Shoes Increase Knee Demand during a Rate-Controlled Bipedal Dance Jump. *Medical Problems in Performing Artists*, 33(4):243-251, 2018.
14. Fietzer AL* Winstein CJ and **Kulig K**: An external focus of attention preferentially increases performance-stabilizing variability over performance-destabilizing variability. *Human Movement Science* 62:14-24, 2018.
15. Rowley KM* Gordon J and **Kulig K**: Characterizing the Balance-Dexterity Task to investigate trunk control during dynamic balance. *Journal of Biomechanics*, 77:211-217, 2018.
16. Shih HJ*, Jarvis DN, Mikkelsen P and **Kulig K**: Interlimb force coordination in rate-controlled dance specific bipedal jumps: comparison between experts and novices. *Journal of Applied Biomechanics*, 34:462-468, 2018.
17. Yani MS, Wondolowski JH, Eckel SP, **Kulig K**, Fisher BE, Gordon JE, Kutch JJ. Distributed representation of pelvic floor muscles in human motor cortex. *Scientific Reports*. 8:8(1):7213, 2018.
18. Armour Smith J*, Gordon J, **Kulig K**: The influence of divided attention on walking turns: effects on gait control in young adults with and without a history of low back pain. *Gait and Posture*, 58:498-503, 2017.
19. Heredia-Jimenez J, Orantes-Gonzalez E, Rowley KM, **Kulig K**: Pulling, pushing and lateral use of a trolley vs. carrying a backpack: a pilot study. *Gait and Posture* 49:43-44, 2016.
20. O'Donnell M, Armour-Smith J, Abzug A, **Kulig K**: How should we teach lumbar manipulation? A consensus study. *Manual Therapy* 25(9):1-10, 2016.
21. Jarvis DN* and **Kulig K**: Lower extremity biomechanical demands during saut de chat leaps. *Medical Problems of Performing Artists* 31(4):211-217, 2016.
22. Davenport TE, Cleland JA, Yamada KA, **Kulig K**: Measurement properties of the Low Back Activity Confidence (LoBACKS). *Evaluation and the Health Professions* 39(2) 204-214, 2016.
23. Fisher BE, Piraino A, Armour Smith J, Lee YY, Johnson S, Davenport TE, **Kulig K**: The effect of velocity of joint mobilization on corticospinal excitability in individuals with history of ankle sprain. *Journal of Orthopedic and Sports Physical Therapy* 46(7), 562-570, 2016.
24. Armour-Smith J* and **Kulig K**: Trunk-pelvis coordination during turning: a cross sectional study of young adults with and without a history of low back pain. *Clinical Biomechanics* 36:58-64, 2016.
25. Armour-Smith J* and **Kulig K**: Altered multifidus recruitment during walking in young asymptomatic individuals with a history of low back pain. *Journal of Orthopedic and Sports Physical Therapy* 46(5): 365-374, 2016.

26. **Kulig K**, Chang Y-J, Winiarski S, Bashford GR: Ultrasound based tendon micromorphology predicts mechanical characteristics of degenerated tendons. *Ultrasound in Medicine and Biology*, 42(3), 664-673, 2016.
27. Jarvis DN and **Kulig K**: Kinematic and Kinetic Analyses of the Toes in Dance Movements. *Journal of Sport Sciences*. 34(17):1612-18, 2016.
28. Ho KY and **Kulig K**: Changes in patellar tendon water content in response to an acute bout of eccentric loading: a case report. *Physiother Theory Pract*. 32(7):566-570, 2016.
29. Michener LA and **Kulig K**: Not all tendons are created equal – implications for differing treatment approaches. *Journal of Orthopedic and Sports Physical Therapy*, 45(11): 829-831, 2015.
30. **Kulig K**, Noceti-DeWit L, Reischl SF, Landel RF: Physical Therapists' Role in Prevention and Management of Patellar Tendinopathy Injuries in Youth, Collegiate and Middle-aged Indoor Volleyball Athletes: *Braz. J. Phys. Ther.* 19(5): 410-420, 2015.
31. Rowley KM*, Jarvis DN*, Kurihara T, Fietzer AL*, Chang YJ*, **Kulig K**: Toe flexor strength, flexibility and function and flexor hallucis longus tendon morphology in dancers and non-dancers. *Med Probl Perform Art*. 30(3):152-156, 2015.
32. Chang Y-J* and **Kulig K**: The Neuromechanical Adaptations to Achilles Tendinosis. *J Physiol*. 593(15) 3373-3387, 2015.
33. Sutton-Traina K*, Armour Smith J*, Jarvis DN*, Lee SP, **Kulig K**: Exploring active and passive contributors to turn out in dancers and non-dancers. *Med Probl Perform Art*. 30(2):78-83, 2015.
34. Jarvis DN* and **Kulig K**. Pointing the foot without sickling: an examination of ankle movement during jumping. *Med Probl Perform Art*. 30(1):61-5, 2015.
35. Armour-Smith J* and **Kulig K**: Does insertion of intramuscular electrodes alter motor behavior during locomotion? *J Electromyogr Kinesiol*. 25(3):431-7, 2015.
36. **Kulig K**, Lee SP, Reischl SF, Noceti-DeWit L: Effect of Tibialis Posterior Tendon Dysfunction on Unipedal Standing Balance Test. *Foot and Ankle International*, 36(1):83-9, 2015.
37. **Kulig K**, Joiner DG*, Chang YJ*: Elite Male Volleyball Athletes with Patellar Tendinopathy Land at a More Acute Angle than those with Asymptomatic Patellar Tendons. *International Journal of Sports Medicine*, 36(5):400-406, 2015.
38. **Kulig K**, Oki K,* Chang Y-J*, Bashford GR: Achilles and patellar tendon morphology in dancers with and without tendinopathy. *Medical Probl Perform Art.*, 29(4):221-228, 2014.
39. Jarvis DN*, Armour Smith J*, **Kulig K**: Trunk Coordination in Dancers and Non-Dancers. *Journal of Applied Biomechanics*, 30(4)547-554, 2014.
40. Armour Smith J*, Popovich JM Jr., **Kulig K**: The effect of hip strength on the lower limbs and trunk during walking and hopping, *Journal of Orthopedic and Sports Physical Therapy*, 44:525-531, 2014.
41. Beneck GJ*, Popovich JM Jr.*, Selkowitz DM, Azen S, **Kulig K**, and Physical Therapy Clinical Research Network (PTClinResNet), Intensive, Progressive Exercise Improves Quality of Life Following Lumbar Microdiscectomy: A Randomized Controlled Trial. *Clinical Rehabilitation*, 28(9)892-901, 2014.
42. **Kulig K**: Residencies Education in Every Town: Is it Just so Simple? *Physical Therapy*, 94:151-161, 2014.
43. Poppert EM, **Kulig K**: High volume exercise training following microdiscectomy (LEAP). *Physical Therapy*, 93:591-596, 2013.

44. Popovich JM*, Jr., Welcher JW, Hedman TP, Tawackoli W, Anand N, Chen TC, **Kulig K**: Lumbar facet joint and intervertebral disc loading during simulated frontal plane pelvic obliquity. *The Spine Journal*, 13:1581-1589, 2013.
45. **Kulig K**, Landel RF, Chang EY*, Hannanvash N*, Reischl SF, Song PF, Bashford GR: Patellar Tendon Morphology in Volleyball Athletes with and without Patellar Tendinopathy. *Scandinavian Journal of Medicine and Science in Sports*, 23:81-88, 2013.
46. Beneck GJ*, Baker LL, **Kulig K**: Fatigability assessment of the lumbar extensors in persons with chronic low back pain: an EMG spectral analysis using intramuscular electrodes. *Journal of Electromyography and Kinesiology*, 23:70-77, 2013.
47. Fietzer AL, Chang YJ*, **Kulig K**: Dancers with patellar tendinopathy exhibit higher vertical and braking ground reaction forces during landing. *Journal of Sports Sciences*, 30:1157-1163, 2012.
48. Hassett EK*, **Kulig K**, **Colletti PM**: Xanthomatous Tendinosis, *Journal of Orthopaedic and Sports Physical Therapy*, 42:379, 2012.
49. Beneck GJ*, **Kulig K**: Localized and bilateral multifidus atrophy in active persons with chronic unilateral low back pain. *Archives of Physical Medicine and Rehabilitation*, 93:300-306, 2012.
50. Armour Smith J*, Siemienski A, Popovich JM Jr*, **Kulig K**: Intra-task variability of trunk coordination during a rate-controlled bipedal dance jump. *Journal of Sports Sciences*, 30:139-147, 2012.
51. Popovich JM Jr.*, **Kulig K**: Lumbopelvic landing kinematics and EMG in women with contrasting hip strength. *Medicine and Science in Sports and Exercise*, 41:146-153, 2012.
52. Mulroy SJ, **Winstein CJ**, **Kulig K**, Beneck GJ*, Fowler E, DeMuth S, Sullivan KJ, Brown DA, Lane C: The Effect of Physical Therapy on the Disablement-Enablement Process: Insights from the PTClinResNet Database. *Physical Therapy*, 91:1766-1779, 2011.
53. Yamada KA, Lewthwaite R, Popovich JM Jr*, Beneck GJ*, **Kulig K**: The Low Back Activity Confidence Scale (LoBACS): Preliminary Validity and Reliability. *Physical Therapy*, 91:1592-1603, 2011.
54. **Kulig K**, Popovich JM Jr.*, Nocetti-DeWit L, Reischl SF, Kim D*: Persons with Posterior Tibial Tendon Dysfunction have Diminished Hip Muscle Performance. *Journal of Orthopedic and Sports Physical Therapy*, 41:687-694, 2011.
55. **Kulig K**, Loudon JK, Popovich JM Jr.*, Pollard CD, Winder BR*: Dancers with Achilles tendinopathy demonstrate altered lower extremity take-off kinematics. *Journal of Orthopedic and Sports Physical Therapy*, 41:606-613, 2011.
56. Poppert E and **Kulig K**: Hip Osteoarthritis in a Patient Presenting with Medial Knee Pain. *Journal of Orthopedic and Sports Physical Therapy*, 41:33, 2011.
57. **Kulig K**, Fietzer AL, Popovich JM Jr.* Takeoff and Landing Ground Reaction Forces and Knee Mechanics during a Saut de Chat. *Journal of Sports Sciences*, 29:125-131, 2011.
58. **Kulig K**, Harper-Hanigan K*, Souza RB*, Powers CM. Femoral torsion measured by ultrasound and magnetic resonance imaging: concurrent validity. *Physical Therapy*, 90:1641-1648, 2010.
59. Davenport TE, **Kulig K**, **Fisher BE**: Ankle manual therapy for individuals with post-acute ankle sprains: description of a randomized, placebo-controlled clinical trial. *BMC Complementary and Alternative Medicine*, 2010, 10:59.

60. Sorenson SC*, Arya S*, Souza RB*, Pollard CD, Salem GJ, **Kulig K**: Altered Knee Extensor Dynamics in the Volleyball Approach Jump: The Influence of Patellar Tendinopathy. *Journal of Orthopedic and Sports Physical Therapy*, 40:568-576, 2010.
61. Souza R*, Arya S*, Pollard CD, Salem GJ, **Kulig K**: Patellar Tendinopathy Alters the Distribution of Lower Extremity Joint Effort during Hopping. *Journal of Applied Biomechanics*, 26, 249-255, 2010.
62. Flanagan SP, **Kulig K**: Time Courses of Adaptation in Lumbar Extensor Performance of Patients with a Single Level Microdiscectomy during a Physical Therapy Exercise Program. *Journal of Orthopedic and Sports Physical Therapy*, 40:336-344, 2010.
63. Arya S* and **Kulig K**: Tendinopathy Alters Mechanical and Material Properties of the Achilles Tendon. *Journal of Applied Physiology*, 108: 670-675, 2010.
64. Cleland JA, Fritz JM, **Kulig K**, Davenport TE, Eberhart S, Magel J, Childs J: Comparison of the Effectiveness of Three Manual Physical Therapy Techniques in a Subgroup of Patients with Low Back Pain Who Satisfy a Clinical Prediction Rule: A Randomized Clinical Trial. *Spine*, 34:2720-2729, 2009.
65. **Kulig K**, Beneck GJ*, Selkowitz DM, Popovich JM Jr.*, Ge TT, Flanagan SP*, Poppert EM, Yamada K, Powers CM, Azen S, Winstein CJ, Gordon J, Samudrala S, Chen TC, Shamie N, Khoo L, Spoonamore MJ, Wang JC and Physical Therapy Clinical Research Network (PTClinResNet), The effect of an intensive, progressive exercise program on functional performance in patients post single-level lumbar microdiscectomy. *Physical Therapy*, 89:1145-1157, 2009.
66. Johnson SD*, **Kulig K**: Patellar tendon rupture following an acute knee injury. *Journal of Orthopedic and Sports Physical Therapy*, 90:825, 2009.
67. **Kulig K**, Lederhaus E*, Reischl SF, Arya S*, Bashford GB: Does a 10-week tendon specific eccentric exercise program alter the degenerated tibialis posterior tendon? *Foot and Ankle International*.30:877-885, 2009.
68. Fisher BE, Davenport TE, **Kulig K**, Wu AD: Identification of potential neuromotor mechanisms of manual therapy in patients with musculoskeletal disablement: rationale and description of a clinical trial. *BMC Neurology*, 9:20, 2009.
69. **Kulig K**, Reischl SF, Pomrantz AB, Burnfield JM, Mais-Requejo S, Thordarson DB, Smith RW: Non-operative management of tibialis posterior tendon dysfunction using orthoses and resistive exercise: a randomized clinical trial. *Physical Therapy*, 89:26-36, 2009.
70. **Kulig K**, Scheid AR*, Beauregard R*, Popovich JM*, Beneck GJ*, Colletti PM: Multifidus morphology in persons scheduled for single level microdiscectomy: qualitative and quantitative assessment with anatomical correlates. *American Journal of Physical Medicine & Rehabilitation*, 88:355-361, 2009.
71. Winstein CJ, Pate P, Ge T, Ervin C, Baurley J, Sullivan, K, Underwood SJ, Fowler, E, Mulroy S, Brown D, **Kulig K**, Gordon J, Azen S, The Physical Therapy Clinical Research Network (PTClinResNet): Methods, Efficacy and Benefits of a Rehabilitation Research Network. *American Journal of Physical Medicine & Rehabilitation*, 87:937-950, 2008.
72. **Kulig K**, Burnfield JM: The Role of Biomechanics in Orthopedic and Neurological Rehabilitation *Acta of Bioengineering and Biomechanics*, 10:3-14, 2008.
73. Bober T, Dziuba A, Kobel-Buys K, **Kulig K**: Gait characteristics following Achilles tendon elongation: the foot rocker perspective. *Acta of Bioengineering and Biomechanics*, 10:37-42, 2008.
74. Bashford GR, Tomsen N, Arya S*, Burnfield JM, **Kulig K**: Tendinopathy determination by use of spatial frequency parameters in ultrasound B-mode images. *IEEE Trans. Med Imaging*, 27:608-615, 2008.

75. Powers CM, Beneck GJ*, **Kulig K**, Landel R, Fredricson M: The effects of a single session of posterior to anterior spinal mobilization on pain response and lumbar segmental extension in persons with nonspecific low back pain. *Physical Therapy*, 88:485-493, 2008.
76. Landel RF, **Kulig K**, Fredricson M, Li B, Powers CM: Intertester reliability and validity of manual lumbar spine segmental motion testing. *Physical Therapy*, 88:43-49, 2008.
77. Flanagan SP, **Kulig K**: Assessing musculoskeletal performance of the back extensors following a single-level microdiscectomy. *Journal of Orthopedic and Sports Physical Therapy*, 37:356-363, 2007.
78. **Kulig K**, Powers CM, Landel R, Chen K, Fredricson M, Guillet M, Butts K: Segmental lumbar mobility in individuals with central low back pain: In vivo assessment during passive and active motion using dynamic MRI. *BMC Musculoskeletal Disorders*. 8:8, 2007.
79. Selkowitz DM, **Kulig K**, Poppert EM, Flanagan SP, Matthews ND, Beneck GJ*, Popovich Jr. JM*, Lona JR, Yamada KA, Burke WS, Ervin C, Powers CM, and PTClinResNet. The immediate and long-term effects of exercise and patient education on physical, functional, and quality of life outcome measures after single-level lumbar microdiscectomy: a randomized controlled trial protocol (NCT00306423). *BMC Musculoskeletal Disorders*. 7:70, 2006.
80. **Kulig K**, Pomrantz AB, Burnfield, JM, Reischl SF, Mais-Requejo, S, Thordarson DB, Smith RW: Non-operative management of posterior tibialis tendon dysfunction: design of a randomized clinical trial (NCT00279630), *BMC Musculoskeletal Disorders*. 7:49, 2006.
81. Cleland JA, Fritz JM, Childs J, **Kulig K**: Comparison of the Effectiveness of Three Manual Physical Therapy Techniques in a Subgroup of Patients with Low Back Pain Who Satisfy a Clinical Prediction Rule: A Randomized Clinical Trial. (NCT00257998), *BMC Musculoskeletal Disorders*. 10;7(1):11, 2006.
82. Davenport TE, **Kulig K**, Resnik C: Diagnosing pathology to decide the appropriateness of physical therapy: What's our role. *Journal of Orthopedic and Sports Physical Therapy*, 36:1-2, 2006.
83. Davenport TE, Watts H, **Kulig K**, Resnik C: Current status and correlates of physicians' referral diagnoses for physical therapy. *Journal of Orthopedic and Sports Physical Therapy*, 35:572-579, 2005.
84. Davenport TE*, **Kulig K**, Matharu Y, Blanco CE: The EdUReP model for non-surgical management of tendinopathy. *Physical Therapy*: 85:1093-1103, 2005.
85. Beneck GJ*, **Kulig K**, Landel RF, Powers CM. The relationship between lumbar segmental motion and pain response in persons with low back pain. *Journal of Orthopedic and Sports Physical Therapy*, 35:203-209, 2005.
86. **Kulig K**, Burnfield JM, Reischl SF, Requejo SM, Blanco CE, Thordarson D: The effects of arch height and foot orthoses on lower leg muscle activation. Evaluation by MRI. *Medicine & Science in Sports & Exercise*: 37:24-29, 2005.
87. **Kulig K**, Burnfield JM, Requejo SM, Sperry M, Terk MR: Selective Activation of Tibialis Posterior: Evaluation by Magnetic Resonance Imaging. *Medicine & Science in Sports & Exercise*, 36: 862-867, 2004.
88. Placzek J, Roubal P, **Kulig K**, Freeman C, Nasser S, Pagett B: Glenohumeral translational manipulation - a description of techniques. *American Journal of Orthopedics*, 33:173-179, 2004.
89. **Kulig K**, Landel R, Powers CM: Assessment of lumbar spine kinematics using dynamic MRI: A proposed mechanism of sagittal motion induced by manual posterior to anterior mobilization. *Journal of Orthopedic and Sports Physical Therapy*, 34:57-64, 2004.
90. Doubleday K, **Kulig K**, Landel R: Conservative management of unilateral testicular pain in thoracolumbar dysfunction. *Archives of Physical Medicine & Rehabilitation*, 84:1903-1905, 2003.

91. Powers CM, **Kulig K**, Harrison J, Bergman G: Segmental mobility in the normal lumbar spine measured by dynamic MRI. *Clinical Biomechanics*, 18:80-83, 2003.
92. Bober T, **Kulig K**, Burnfield JM, Pietraszewski B: Development of predictive equations for dynamic torque characteristics generated by appendicular musculature. *Acta of Bioengineering and Biomechanics* 4:49-60, 2002.
93. Mais Requejo S, Barnes R, **Kulig K**, Landel R, Gonzalez S: An effective use of joint mobilization in the comprehensive treatment of back pain during pregnancy: A case report. *Journal of Orthopedic and Sports Physical Therapy*, 32:318-326, 2002.
94. Mayer J, **Kulig K**, Landel R: Differential diagnosis and management of subcalcaneal heel pain: A case report. *Journal of Orthopedic and Sports Physical Therapy*, 32:114-124, 2002.
95. **Kulig K**, Newsom C, Mulroy S, Rao, S, Gronley J, Bontrager E, Perry J: Shoulder joint kinetics during wheelchair propulsion in subjects with spinal cord injury. *Clinical Biomechanics*, 16:17-24, 2001.
96. **Kulig K**, Powers CM, Shellock F, Terk M: The effects of eccentric velocity on activation of elbow flexors: Evaluation by magnetic resonance imaging. *Medicine & Science in Sports & Exercise*, 33:196-200, 2001.
97. Meszaros T, Olson R, **Kulig K**, Creighton D, Czarnecki E: The effect of 10%, 30% and 60% body weight traction on the straight leg raise test of symptomatic patients. *Journal of Orthopedic and Sports Physical Therapy*, 30:595-601, 2000.
98. Mais S, **Kulig K**, Thordarson D: Management of traumatic injuries to accessory foot bones. *Journal of Orthopedic and Sports Physical Therapy*, 30:580-594, 2000.
99. Yip-Menck J, Mais S, **Kulig K**: Consideration of thoracic spine dysfunction in upper extremity Complex Regional Pain Syndrome Type I: A case report. *Journal of Orthopedic and Sports Physical Therapy*, 30:401-409, 2000.
100. Powers CM, **Kulig K**, Flynn J, Brault JR: Repeatability and bias of two walkway safety tribometers. *Journal of Testing and Evaluation*, 27:368-374, 1999.
101. **Kulig K**, Rao S, Mulroy S, Newsam C, Gronley J, Bontrager E, Perry J: Shoulder joint kinetics during the push phase of wheelchair propulsion. *Clinical Orthopedics and Related Research*, 354:132-143, 1998.
102. Placzek J, Roubal P, Freeman C, **Kulig K**, Nasser S, Pagett B: Long term effectiveness of translational manipulation for adhesive capsulitis. *Clinical Orthopedics and Related Research*, 356:181-191, 1998.
103. Jarski RW, **Kulig K**, Olson RE: The clinical teaching of physician assistants. *Physician Assistant*, 3:525-528, 1990.
104. Jarski RW, **Kulig K**, Olson RE: Clinical teaching in physical therapy: Student and teacher perceptions. *Physical Therapy*, 70:173-178, 1990.
105. Jarski RW, **Kulig K**, Olson RE: Allied health perceptions of effective clinical instruction. *Journal of Allied Health*, 18:469-478, 1989.
106. **Kulig K**, Andrews JG, Hay JG: Human strength curves. In: Terjung, R.L. (Ed.) *Exercise and Sport Science Reviews*, Lexington, Massachusetts: The Collamore Press, 12:417-466, 1984.
107. **Kulig K**: Displacement of the instantaneous center of rotation of the shoulder joint in the sagittal plane. *Probl. Tech. Med.*, 12:125-141, 1981.

108. **Kulig K**: Biomechanical analysis of cross-country skiing techniques. *Sport Wyczynowy*, 9-10:50-57, 1979.

109. **Kulig K**, Suska M, Zawadzki J: Experiments on the coordination of fast movements in the forearm. *Wychowanie Fizyczne i Sport*, 2:27-23, 1978.

PUBLICATIONS (others)

1. Fisher BE, Lee YY, Davenport TE, Reischl SF, Ruckert E, **Kulig K**: Within-day Test-retest Reliability of Transcranial Magnetic Stimulation Measurements of Corticomotor Excitability for Gastrocnemius and Tibialis Anterior Muscles, *Orthopedic Practice*, volume 26;3:14.
2. **Kulig K**, Burnfield JM: Mechanistic and Interventional Aspects of Movement Disorders: The Role of Biomechanics, International Congress of the Polish Society of Biomechanics, 2008.
3. Kevelin A, **Kulig K**, Szemer W: Instantaneous center of rotation of the knee during isokinetic exercises. *Biomechanics XIII*, Congress Proceedings, Perth, Australia, Abstract # 224, 1991.
4. **Kulig K**, Cathers R, Erickson C: The effects of seat position and lower extremity kinematics on automobile brake pedal force capability. *Biomechanics XII*, Congress Proceedings, XII International Congress of Biomechanics, UCLA, Los Angeles, CA, Abstract # 174, 1989.
5. **Kornecki S**, **Kulig K**, Mularczyk W, Trzcinski M: The relationship between force produced against objects of different mobility during static and dynamic conditions. *Biomechanics XII*, Congress Proceedings, XII International Congress of Biomechanics, UCLA, Los Angeles, CA, Abstract # 365, 1989.
6. **Bober T**, **Kulig K**: Factors determining the release of high velocity movements in a kinematic chain. In: Bober, T. (Ed.) *Potencjal ruchowy czlowieka (Human movement potential)*, Warsaw: Rozprawy Naukowe AWF, 1986.
7. **Kornecki S**, **Kulig K**, Zawadzki J: Biomechanical implications of artificial and natural strengthening of wrist joint structures. *Biomechanics IX*, Champaign, Illinois: Human Kinetics Publishers, Inc., 118-122, 1985.
8. **Kulig K**: Coordination of the upper extremity segments during movements requiring maximal velocity. *Rozprawy Naukowe AWF*, 18:61-96, 1984.
9. **Kulig K**, **Bober T**, Nowacki Z: Synchronization of partial impulses as a biomechanical principle. *Biomechanics VIII*, Champaign, Illinois: Human Kinetics Publishers, Inc., 1145-1151, 1983.
10. **Kulig K**: Coordination of the upper extremity segments during movements requiring maximal velocity (Doctoral dissertation). Wroclaw: Academy of Physical Education, 1982.
11. **Bober T**, **Kulig K**: The importance of technique in endurance sports. Symposium: Technique and Endurance, Rynia, November 1981.
12. **Bober T**, **Kulig K**: Analysis of elite cross-country skiing techniques in the years 1978-1979, especially of Jozef Luszczek's technique. Report: 105-00-00-01:48:05:80, Academy of Physical Education, Wroclaw, 1980.
13. **Kulig K**: Coordination of movements against a small external resistance. Report: 105-06-03-03-01 and 07:05:79, Academy of Physical Education, Wroclaw, 1979.
14. **Kulig K**: Development of methods for examining the phenomenon of upper limb movements. Report: 105-06-03-03-07:05:78, Academy of Physical Education, Wroclaw, 1978.
15. **Bober T**, Rutkowska-Kucharska A, **Kulig K**: Investigation of the consistency of movements of elite judo athletes. International Symposium on Sport Biology, Vierumaki, Finland, 1979.

16. **Kulig K**, Suska M, Zawadzki J: Goniometric and electromyographic experiments on fast movements of the forearm. *Prace Naukowe Instytutu Organizacji i Zarządzania Politechniki Wrocławskiej*, Volume 17, Conference 5, 1977.
17. **Kulig K**: The occurrence of pes planus in children of ages 3-6 (Master's thesis). Wrocław: Academy of Physical Education, 1976.

BOOKS and BOOK CHAPTERS

1. Flanagan S, **Kulig K**: Biomechanics, Chapter 2, in: *Orthopedic Secrets*. 3rd Edition 2016.
2. Davenport TE, **Kulig K**, Sebelski C, Gordon J, Watts H: *Diagnosis for Physical Therapists. A Symptom-Based Approach*. FA Davis, 2012.
3. Flanagan S, **Kulig K**: Biomechanics, Chapter 2, in: *Orthopedic Secrets*. 2nd Edition 2006.
4. **Kulig K**: Functional anatomy of the lumbar spine. In: *Kinematic MRI of the joints: Functional Anatomy and Clinical Applications*. Eds. Shellock F, Powers CM. Ch. 1, 3-17, CRC Publishers, 2001.
5. **Kulig K**: Functional anatomy of the cervical spine. In: *Kinematic MRI of the joints: Functional Anatomy and Clinical Applications*. Eds. Shellock F, Powers, CM. Ch. 4, 61-79, CRC Publishers, 2001.
6. Placzek J, **Kulig K**: Translational manipulation under anesthesia: New concepts in adhesive capsulitis management. In: *Orthopaedic Physical Therapy Clinics of North America* 7:4(541-564), 1998.
7. Krauss J, **Kulig K**: The role of manipulation in management of distal upper extremity disorders. In: *Orthopaedic Physical Therapy Clinics of North America* 7:4(581-600), 1998.

RESEARCH PRESENTATIONS AT SCIENTIFIC MEETINGS (abstracts)

1. Risch L, Bashford G, **Kulig K**, Kaplick H, Mayer F, Cassel M (2020): Spatial frequency analysis identifies altered local micromorphology in adolescent athletes with Achilles tendinopathy. *Medicine & Science in Sports & Exercise* Vol.52 No. 5 Supplement, S64.
2. Shih HJS*, Rowley KM, **Kulig K**. (2020) Lower limb contact posture during saut de chat takeoff differs in dancers with and without flexor hallucis longus tendinopathy. *International Association for Dance Medicine and Science*. iConference Online. Platform.
3. Fietzer AL and **Kulig K**. (2020) Altered neuromotor control in Achilles tendinopathy. *American Physical Therapy Association combined sections meeting XLIV*, Denver CO USA, 2020. Platform presentation.
4. Ortiz DW*, Laine CM, Shih HJS*, Yamaguchi AC*, **Kulig K**. (2020) Influences of Continuous Physical Activity on Muscle Recruitment: Findings from Rate-Controlled Sauté Jumps in Dancers. *American Physical Therapy Association Combined Sections Meeting*. Denver, CO, USA. Poster.
5. Shih HJS*, Rowley KM, **Kulig K**. (2020) Dancers with flexor hallucis longus tendinopathy maintain performance despite altered lower extremity dynamics. *American Physical Therapy Association Combined Sections Meeting*. Denver, CO, USA. Platform.
6. Yamaguchi AC, Shih HJS, Trejo LH, **Kulig K**. (2019) Lower Extremity Mechanical Energy Expenditure in Sautés Following Dance Specific Exertion. *The 26th Congress of International Society of Biomechanics*. Calgary, Canada. Poster.
7. Shih HJS* and **Kulig K**. (2019) Trunk control in and out of an episode of recurrent low back pain. *International Society of Biomechanics/American Society of Biomechanics*. Calgary, Canada.

8. Ortiz D, Shih HJS, Yamaguchi AC, **Kulig K.** (2019). Exertion due to dance creates phase-specific alterations of interlimb force coordination. XXVII Congress of the International Society of Biomechanics/43rd Annual Meeting of the American Society of Biomechanics. Calgary, Canada
9. Shih HJS and **Kulig K.** (2019) The modulation of trunk coordination for various step widths. International Society of Posture & Gait. Edinburg, Scotland. Poster.
10. Andersen A, Rowley KM, Shih HJS, **Kulig K.** (2019) Flexor Hallucis Longus Tendon Morphology in Dancers with and without Tendinopathy. American Physical Therapy Association Combined Sections Meeting. Washington, D.C., USA. Platform Presentation.
11. Yu B, Rowley KM, Andersen A, Shih HJS, and **Kulig K.** (2019) Comparing Imaging Methods in Flexor Hallucis Longus Tendinopathy. American Physical Therapy Association Combined Sections Meeting. Washington, D.C., USA. Poster.
12. Derian JM, Armour Smith J, Wang Y, Lam W and **Kulig K.** (2019). Biomechanical Characteristics of Lumbar Spine Manipulation in Expert, Resident, and Student Therapists. American Physical Therapy Association Combined Sections Meeting. Washington, D.C., USA.
13. Shih HJS* and **Kulig K.** (2019) Trunk control in response to changing step width during gait in young adults with active low back pain. American Physical Therapy Association Combined Sections Meeting. Washington, D.C., USA.
14. Jarvis D.N., **Kulig K.** (2018) Achieving the split position in a saut de chat leap. International Association for Dance Medicine and Science Annual Meeting, Helsinki, Finland.
15. Trejo L, Shih HJS, Rowley KM, **Kulig K.** (2018) Dancers with unilateral FHL tendinopathy show signs of overuse during the propulsive phase of sautés. 8th World Congress of Biomechanics. Dublin, Ireland. July 2018. Podium
16. Shih HJS*, Trejo L, Rowley KM, and **Kulig K.** (2018) Mechanism of metatarsophalangeal joint overload in dancers with flexor hallucis longus tendinopathy. International Association for Dance Medicine and Science, Helsinki, Finland. Podium.
17. Shih HJS* and **Kulig K.** (2018) Effect of different step widths during gait reveal altered trunk kinematic coordination during low back pain remission. American Society of Biomechanics. Rochester, MN. Poster.
18. Baquet A, Ho KY, Chang YJ, Fietzer A, Evers M, Strassberg CE and **Kulig K.** 2D Ultrasound-Based Characterization of Achilles Tendon Micromorphology in Runners Using Spatial Frequency Parameters. American College of Sports Medicine annual meeting, Minneapolis MN USA, 2018.
19. Strassberg CE, Fietzer A, **Kulig K.** Limb and Joint Stiffnesses Differ Between Tendinopathic and Uninvolved Limbs in Unilateral Achilles Tendinopathy. American Physical Therapy Association combined sections meeting, New Orleans LA USA, 2018.
20. Almansouri SY, **Kulig K.**, Enfinger D, Gahan A, and Sigward SM. Patellar Tendon Macro- and Micro-Morphology Following Partial Resection for Anterior Cruciate Ligament Reconstruction. American Physical Therapy Association Combined Sections Meeting. New Orleans, LA, USA, 2018.
21. Jarvis DN and **Kulig K.** Coordination of the ankle and toe joints in dancers. American Society of Biomechanics, Boulder, CO, August 2017.
22. Rowley KM and **Kulig K.** Perturbation of systems contributing to control of posture in persons with LBP. American Society of Biomechanics. Boulder, CO, USA, 2017.

23. Fietzer AL and **Kulig K**: Tales From the Uninvolved Limb: Motor Control in Unilateral Achilles Tendinopathy. American Society of Biomechanics. Boulder, CO, USA, 2017.
24. Fietzer AL, Koyama Y, **Kulig K**. Changes in movement variability with increased mechanical demand may be influenced by limb preference. International Society of Biomechanics congress XXVI, Brisbane Australia, 2017.
25. Rowley KM, Gordon J, and **Kulig K**. Associations between task performance and trunk coupling during a balance-dexterity task. International Society of Posture and Gait Research, Fort Lauderdale, FL, USA, 2017.
26. Shih HJS, Trejo L, Rowley KM, Jarvis DN, **Kulig K**. Investigating potential mechanisms of overuse during dance leaps in a dancer with flexor hallucis longus tendinopathy. The 26th Congress of the International Society of Biomechanics. Brisbane, Australia. July, 2017.
27. Fietzer AL, **Kulig K**. Attentional focus manipulation alters variability response to increased mechanical demand in hopping. Society for the Neural Control of Movement annual meeting XXVII, Dublin Ireland, 2017.
28. Backiev L, Rowley KM, Shih HJ, **Kulig K**. An initial investigation into a clinically feasible measure of medial longitudinal arch flexibility. American Physical Therapy Association Combined Sections Meeting, San Antonio, TX, USA, February 2017.
29. Shih HJ, Rowley KM, **Kulig K**. Flexor Hallucis Longus Activation in a Dancer's Modified Heel Raise – Preliminary Results. American Physical Therapy Association Combined Sections Meeting, San Antonio, TX, USA, February 2017.
30. Fietzer AL, **Kulig K**. Motor control differs between tendinopathic and uninvolved limbs in unilateral Achilles tendinopathy – Preliminary results. American Physical Therapy Association combined sections meeting, San Antonio TX USA, 2017.
31. Heredia-Jimenez J, Orantes-Gonzalez E, Rowley KM, **Kulig K**. Pulling, pushing and lateral use of a trolley vs. carrying a backpack. A pilot study. 25th European Society for Movement Analysis in Adults and Children (ESMAC) annual meeting. Seville (Spain). September 28th-Oct 1st, 2016.
32. Fietzer AL, Koyama Y, **Kulig K**. Shifted focus of attention alters the structure of variability during hopping. Motor Control. Wisla, Poland, 2016.
33. Shih HJ, Rowley KM, **Kulig K**. Flexor hallucis longus activation and plantarflexors' muscle coordination in modified dancer's relevé – a pilot study. The 6th Annual Healthy Approaches in the Training of Performing Artists Conference, Chapman University. Los Angeles, CA. September, 2016.
34. Shih HJ, Jarvis DN, Mikkelsen P, **Kulig K**. Interlimb force coordination in a bipedal rate-controlled task. The 40th Annual Meeting of the American Society of Biomechanics. Raleigh, NC. August, 2016.
35. Fietzer A and **Kulig K**. Increasing task demand shifts the structure of variability in hopping. Annual Meeting of the American Society of Biomechanics. Raleigh NC USA, 2016.
36. Rowley KM and **Kulig K**. The effect of dual-task interference on dynamic trunk control. American Society of Biomechanics, Raleigh, NC, USA, 2016.
37. Rowley KM, Shih H, Jarvis DN, and **Kulig K**. Activation of the flexor hallucis longus in a dancer's relevé. International Association for Dance Medicine and Science, Hong Kong, 2016.
38. Armour Smith J, Ahmed N and **Kulig K**: An inverted pendulum model of center of mass control during turning. ASB, 2016.

39. Fietzer AL, Solnik S, Babikian S, **Kulig K**. Variability structure measures differ between uninvolved and tendinopathic limbs; typical kinematic measures do not. *Med Sci Sport Exerc.* 2016;48(5):supplement.
40. Derian JM, O'Donnell M, Armour Smith J, Abzug A, **Kulig K**: Ground Reaction Force Profiles During Side-lying Lumbar Manipulation: A Comparison of Expert and Novice Manual Therapists. CSM, Anaheim, CA, 2016.
41. O'Donnell M, Armour Smith J, Abzug A, Derian J, **Kulig K**: How should we teach lumbar manipulation? A consensus study. CSM, Anaheim, CA, 2016.
42. Derian JM, Armour Smith J, O'Donnell M, Abzug A, **Kulig K**: Expert and Novice Clinicians Performing Side-lying Lumbar Manipulation: what are the Differences in Movement Dynamics? IFOMPT Conference, Glasgow, Scotland. 2016.
43. Kurihara T, Rowley MK*, Baker LL, Reischl SF, **Kulig K**: Intrinsic and extrinsic foot muscles have unique roles in functional standing postures. ASB, Cleveland, Ohio, 2015.
44. Rowley KM*, Jarvis DN*, Kurihara T, Chang YJ, Fietzer AL*, and **Kulig K**: Toe flexor strength, flexibility and function and flexor hallucis longus tendon morphology in dancers and non-dancers. International Association for Dance Medicine and Science. Pittsburgh, PA, USA, 2015.
45. Chang YJ*, **Kulig K**: The Neuromechanical Adaptations to Achilles Tendinosis. 25th Congress of the International Society of Biomechanics, Glasgow, UK, 2015.
46. Chang YJ*, Bashford GR, **Kulig K**: Ultrasound Based Tendon Micromorphology Predicts Mechanical Characteristics of Degenerated Tendons. Orthopedic Research Society, Las Vegas, NV, 2015.
47. Jarvis DN*, **Kulig K**: Jump strategy modification results in altered biomechanical demands during dance leap takeoffs. NATA, St. Louis, MS, 2015.
48. Jarvis DN*, **Kulig K**: Lower extremity kinetic demands during dance leap takeoffs and landings. ACSM, San Diego, CA, USA, 2015.
49. Rowley KM, Kurihara T, Reischl SF, Baker L, and **Kulig K**. (2015) Flexible foot longitudinal arches are lowered more in passive loading and lifted more during single-leg stance compared to rigid arches although muscle activations are similar. 25th Congress of the International Society of Biomechanics. Glasgow, Scotland, 2015.
50. Mikkelsen P*, Jarvis DN*, **Kulig K**. Increased work at the knee in dancers wearing heeled character shoes compared to barefoot while jumping. APTA Combined Sections Meeting, Indianapolis, USA, 2015.
51. Armour Smith, J. *, **Kulig K**. Do kinematic impairments persist between symptomatic episodes in young adults with persistent low back pain? APTA Combined Sections Meeting, Indianapolis, USA, 2015.
52. Kuo, YL, Martinez CA, Dubuc T, Winstein CJ, Schweighofer N, **Kulig K**, Fisher BE: Reliability of ipsilateral silent period to measure interhemispheric inhibition: preliminary results in non-disabled young adults. Society for Neuroscience, Washington, DC, 2014.
53. Jarvis DN*, **Kulig K**. Lower extremity joint demands in relevés and sautés. International Association of Dance Medicine and Science Annual Meeting, Basel, Switzerland, October 2014.
54. Armour Smith J* and **Kulig K**: Evidence for Control of Center of Mass During Walking Turns. WCB 2014.
55. Jarvis DN* and **Kulig K**: Kinematic and Kinetic Analyses of the Toes in Dance Movements. FWNATA 2014.

56. Chang YJ* and **Kulig K**: Neuromechanical Adaptations to Achilles Tendinosis. Combined Sections Meeting, APPTA, Las Vegas, NV, February, 2014.
57. Armour Smith, J* and **Kulig, K**. Paraspinal activity during locomotor perturbations with varying mechanical demands: a window into recurrent low back pain. APTA Combined Sections Meeting, Las Vegas, NV, 2014.
58. Armour Smith, J* and **Kulig, K**. Does insertion of intramuscular EMG electrodes affect kinematics during locomotion? APTA Combined Sections Meeting, Las Vegas, NV, 2014.
59. Lee SP*, Noceti-DeWit, Reischl SF, **Kulig K**: Individuals with Posterior Tibial Tendon Dysfunction Exhibit Diminished Ability in Maintaining Unipedal Balance, Combined Sections Meeting, APPTA, Las Vegas, NV, February, 2014.
60. Jarvis DN*, **Kulig K**. Pointing the foot without sickling: an examination of ankle movement during dance jumps. International Association of Dance Medicine and Science Annual Meeting, Seattle, WA, October 2013.
61. Armour Smith J* and **Kulig K**: Modulation of trunk kinematics in response to changing task constraints in young adults with a history of low back pain and healthy controls. American Society of Biomechanics Annual Conference, Nebraska, USA, 2013.
62. Armour Smith, J* and **Kulig, K**. The effect of divided attention on axial plane trunk kinematics during locomotion in healthy young adults and persons with a history of recurrent low back pain. 2nd Joint World Congress of ISPGR and Gait and Mental Function, Akita, Japan, 2013.
63. Jarvis DN*, Armour Smith J*, **Kulig K**: Coordination Variability is Higher in Non-Dancers Than in Dancers During A Jumping Task, National Athletic Trainers' Association, Los Vegas, NV, June 2013
64. Joiner DG*, Chang YJ*, Reischl SF, **Kulig K**. Differing weight acceptance dynamics during takeoff and landing in elite volleyball athletes and the additional influence of patellar tendinopathy. APTA Combined Sections Meeting; San Diego, CA: January 2013
65. Lee YY, Davenport TE, **Kulig K**, Piraino A, Johnson S, **Fisher BE**. Changes in corticospinal motor excitability following ankle joint manipulation. Society for Neuroscience, New Orleans, LA: October 2012.
66. Armour Smith*, J., Gordon, J., **Kulig, K**. Inter-segmental coordination variability during locomotion - do different analytical approaches tell the same story? American Society of Biomechanics Annual Conference, Florida, USA, 2012.
67. Joiner DG*, Chang YJ*, Paulseth S, **Kulig K**. Elite male volleyball athletes with patellar tendinopathy exhibit a more acute landing angle than those without patellar tendinopathy. APTA Annual Conference, Tampa, FL: June 2012.
68. Armour Smith J*, Beneck GJ*, **Kulig K**. Neuromuscular control and kinematics in people with recurrent low back pain during anticipated walking turns. APTA Combined Sections Meeting, Chicago, IL, 2012.
69. Armour Smith J*, Beneck GJ*, **Kulig K**. Anticipated walking turns in people with recurrent low back pain: a kinematic study. American Society of Biomechanics Annual Meeting, Long Beach, CA, 2011.
70. Sutton KR*, Armour Smith, J*, Jarvis DN*, Oki KC*, Lee S-P*, **Kulig K**: The relationship between long bone morphology, dance history and turnout: an exploratory study. International Association for Dance Medicine and Science, Washington, DC, October 2011.
71. Fietzer AL, Chang YC, **Kulig K**: Knee Joint Angular Stiffness during Landing in Males With and Without Patellar Tendinopathy. American College of Sports Medicine, Denver, CO 2011.

72. Beneck GJ*, **Kulig K**: Fatigability assessment of the lumbar extensors in persons with chronic low back pain: an EMG spectral analysis using intramuscular electrodes. APTA Combined Sections Meeting, New Orleans, LA, 2011.
73. Beneck GJ*, **Kulig K**: Selective impairment of feedforward activity in persons with chronic low back pain APTA Combined Sections Meeting, New Orleans, LA, 2011.
74. Nocetti-DeWit L, Popovich JM Jr.*, Reischl SF, **Kulig K**: Women with Posterior Tibial Tendon Dysfunction have Diminished Hip Muscle Performance. APTA Combined Sections Meeting, New Orleans, LA, 2011.
75. Oki KC*, Chang YJ*, Lim A*, Heredia-Jimenez JM*, Mills J, Bashford G, **Kulig K**. Achilles and patellar tendon morphology in young dancers with and without tenalgia. APTA Combined Sections Meeting, New Orleans, LA, 2011.
76. Hannanvash N*, Chang YJ*, Song P, Bashford GB, **Kulig K**. Patellar Tendon Morphology in Elite Male Volleyball Athletes with and without Patellar Tendinopathy. APTA Combined Sections Meeting, New Orleans, LA, 2011.
77. Leung K*, Lee SP*, Popovich JM Jr.*, Reischl SF, **Kulig K**. A Comprehensive Foot, Ankle, and Hip Intervention for Patients with Posterior Tibial Tendon Dysfunction: A Case Series. APTA Combined Sections Meeting, New Orleans, LA, 2011.
78. Armour Smith J*, Sieminski A, Popovich JM Jr.*, **Kulig K**: Trunk segment coordination during a jumping task in Elite dancers: an exploration using vector coding. ASB, Providence, RI, 2010.
79. Armour Smith J*, Popovich JM Jr.*, **Kulig K**: Sagittal plane spinal kinematics during sautes. IADMS, Birmingham, UK, 2010.
80. Chang YJ*, Siemiński A, Gregor RJ, **Kulig K**: Ankle actuator deficits in the presence of Achilles tendinopathy. ASB, Providence, RI, 2010.
81. Chang YJ*, Arya S*, Gregor RJ, **Kulig K**: Lower extremity movement strategies in individuals with Achilles tendinopathy. i-FAB, Seattle, WA, 2010.
82. Popovich, J.M., Jr.*, and **Kulig, K**. Lumbopelvic kinematics in the presence of diminished hip muscle performance. APTA Combined Sections Meeting, San Diego, CA, 2010.
83. Urisaka MC*, Popovich JM Jr.*, Arya S*, Asami DK*, Chang YJ*, Souza RB*, **Kulig K**. Is support moment during slow single-legged hopping influenced by patellar tendinopathy. CSM, San Diego, CA, 2010.
84. Loudon J, Popovich JMP Jr.*, Winder BR,* Pollard CD, **Kulig K**. Lower extremity kinematics in the presence of Achilles tendinopathy during a *saut de chat* performed by elite dancers. CSM, San Diego, CA, 2010.
85. Burnfield JM, Rawat M*, Song P, Arya S*, Bashford GR, **Kulig K**. Morphological adaptations in lower extremity tendons following spinal cord injury, CSM, San Diego, CA, 2010.
86. Beneck GJ*, Colletti PM, **Kulig K**. Multifidus muscle volume in persons with and without chronic unilateral low back pain, CSM, San Diego, CA, 2010.
87. Rawat M*, Arya S*, Song P, Burnfield JM, Bashford GR, **Kulig K**. Macro- and micro-morphology of Achilles tendon in runners with and without history of tendinopathy, CSM, San Diego, CA, 2010.
88. Reischl SF, Lee YY*, Davenport TE, **Kulig K**, Wu A, Ruckert E, Fisher BE. Peripheral and central responses to ankle joint manipulation or stretching. CSM, San Diego, CA, 2010.

89. Chang YJ*, Popovich JM*, **Kulig K**: Joint contributions to support moment during running and hopping in runner with Achilles tendinopathy: an interlimb comparison. ASB, University Park, PA, 2009.
90. Song P, Linstrom K, Boye J, **Kulig K**, Burnfield JM, Bashford GR: Tendinopathy discrimination using spatial frequency parameters and artificial neural networks. IEEE International Ultrasonic Symposium, Rome, Italy, (IUS), pp.1902-1905, 20-23 Sept. 2009.
91. Nelson CA, Provorse AR, Bashford GB, Burnfield JM, **Kulig K**: An Under-Actuated 5-DOF Robotic Manipulator for Ultrasound Transducer Guidance using a Passive Four-Bar Linkage IDETC/CIE, San Diego, 2009.
92. Davenport TE, **Kulig K**, Resnik K: Roles and barriers for direct access to physical therapy in the development of a culture of patient-centered efficiency in the United States health care system, AAOMPT, Washington, DC, 2009
93. Fietzer AL, Popovich JM Jr.*, Cabot A, Ickes D, Shrier G, Tyler K, Hemphill S, **Kulig K**. Ground reaction forces during the landing phase of a saut de chat: a comparison of healthy dancers and dancers with patellar tendinopathy. IADMS Annual Meeting, The Hague, Netherlands, 2009.
94. Harper KL*, Souza RB*, Powers CM, **Kulig K**: Femoral torsion measured by ultrasound: test –retest reliability and concurrent validity. CSM, Las Vegas, 2009.
95. Lederhaus E*, Reischl SF, Arya S*, **Kulig K**: Does a 10-week tendon specific eccentric exercise program alter the degenerated tibialis posterior tendon? CSM, Las Vegas, 2009.
96. Fietzer AL, Asami D*, Pollard CD, Arya S*, Souza RB*, Popovich JM Jr.*, **Kulig K**. Ground reaction forces and knee net joint moments during the takeoff and landing phases of grand jeté, CSM, Las Vegas, 2009.
97. Winder BR*, Asami DK*, Pollard CD, Souza RB*, Arya S*, Popovich JM Jr.*, **Kulig K**. Lower extremity joint kinetics during the takeoff phase of a grand jeté performed by elite dancers, CSM, Las Vegas, 2009.
98. Davenport TE, Cleland J, **Kulig K**: Patient classification based on psychosocial variables predict treatment outcome in patients with lower back pain who meet a clinical prediction rule. CSM, Las Vegas, 2009.
99. Davenport T E, Cleland J, Lewthwaite R, Yamada, K*, **Kulig K**: Validity of the low back activity confidence scale in a subgroup of patients with lower back pain who will meet a clinical prediction rule. CSM 2009 CSM, Las Vegas, 2009.
100. Cleland J, Fritz J, Childs J, **Kulig K**, Eberhart S, Davenport T, Magel J. Landel RF. Generalizability of clinical prediction rule for identifying patients with low back pain who are likely to respond rapidly and dramatically to thrust manipulation. AAOMPT 2008.
101. **Kulig K**, Burnfield JM: The role of biomechanics in orthopedic and neurological rehabilitation, International Congress of the Polish Society of Biomechanics, Wroclaw 2008.
102. Arya S*, **Kulig K**: Tendinopathy alters mechanical properties of the Achilles tendon. ASB 2008.
103. Souza RB*, Arya S*, Pollard CD, Salem GJ, **Kulig K**: Patellar tendinopathy alters the distribution of lower extremity joint effort during hopping. ASB, 2008.
104. Sorenson SC*, Arya S*, Souza SB*, Pollard CD, Harper KL*, Paulseth SG, Salem GJ, **Kulig K**: Altered Knee Extensor Dynamics in the Volleyball Approach Jump: The Influence of Patellar Tendinopathy. ACSM 2008.
105. Arya S*, Souza RB*, Pollard CD, Sorenson SC*, Salem GJ, **Kulig K**: Energetics of Single-Legged Hopping in the Presence of Patellar Tendinopathy. ACSM 2008.

106. Davenport TE, Cleland JA, Lewthwaite R, Yamada KA, Childs J, Fritz J, **Kulig K**: Responsiveness of the Lower Back Self-Efficacy Scale: Preliminary Analysis, CSM 2008.
107. Husain A, Burke W, **Kulig K**: Relationship of Core Stability Measures in Baseball Players with Shoulder or Elbow Injuries During a Season, AOSSM, Calgary, Canada 2007.
108. Popovich JM*, Welcher JW, **Kulig K**, Pelled G, Gazit D, Tawackoli W: The effects of loading rate on porcine lumbar spinal segments: an in-vivo biomechanical study. ASB, Stanford, CA, 2007.
109. Arya, S*, **Kulig K**: Mechanical properties of the Achilles tendon in the presence of tendinosis. ISB XXI, Taipei, Taiwan 2007.
110. Beneck GJ*, Kurihara D, Garvin R, Samudrala S, Chen TC, **Kulig K**: The effect of an intensive training program on lumbar multifidus following microdiscectomy. ISB XXI, Taipei, Taiwan 2007
111. Beauregard R, Popovich JM*, Beneck GJ*, **Kulig K** and PTcliResNet: A better method to identify lumbar multifidus atrophy accompanying L4/L5 disc herniation visualized on magnetic resonance images NASS 2007.
112. Yamada KA, Lewthwaite R, Popovich JM*, Beneck GJ*, Selkowitz DM, **Kulig K**. The Low Back Activity Confidence Scale (LoBACS): development, test-retest reliability, and preliminary validation. CSM 2007.
113. Arya S*, Solnik S, **Kulig K**: Influence of Achilles Tendinopathy on Lower Extremity Joint Stiffness Strategies during Single-Legged Hopping, World Congress of Biomechanics, Munich, 2006.
114. **Kulig K**, for the MUSSEL team of the PTcliResNet: Patient Perspectives and Quality of Life: Early PTcliResNet Outcomes, CSM, San Diego, 2006.
115. Beauregard R*, Kurihara D, Popovich JM*, **Kulig K**: Asymmetry of the Psoas Major and Multifidus Muscles in Patients Undergoing Single Level Lumbar Microdiscectomy. CSM, San Diego, 2006.
116. Flanagan S, Villareal J, Lona RJ, **Kulig K**: Modifying the Sorensen Back Extensor Test. CSM, San Diego, 2006.
117. Flanagan S, Yamada K, Sutton T, **Kulig K**: Predicting the Number of Sessions Necessary to Improve Back Extensor Endurance Following Single Level Microdiscectomy. CSM, San Diego, 2006.
118. Pomrantz A, Reischl S, Requejo S, Burnfield J, **Kulig K**: Long-term effectiveness of progressive resistive exercise on posterior tibialis tendon dysfunction: a randomized clinical trial. CSM, San Diego, 2006.
119. **Kulig K**, for the MUSSEL of the PTcliResNet: Microtopography of an intervention in a randomized clinical trial: preliminary data. CCAPTA October 2005.
120. Beneck GJ*, **Kulig K**, Burke W, Beauregard R, Chen TC, Samudrala S: Does disc quality influence function and disability status in persons who received comprehensive spine care? Edinburgh, UK, September, 2005.
121. Popovich JM*, Nunnery J*, Kurihara D, **Kulig K**: Lumbar spine morphology and clinical characteristics in microdiscectomy patients: A pre-surgical perspective. World Congress of the International Society for Physical Medicine and Rehabilitation, San Paolo, Brazil, April 2005.
122. **Kulig K**: Development of a person specific post-surgical rehabilitation program: A micro-topography of interventions in a randomized clinical trial. CSM, New Orleans, February 2005.
123. Andersen M, Lee D, Garvin R, Park K, Beneck GJ*, Colletti PM, **Kulig K**. Morphology of the lumbar multifidus in persons with back pain: A quantitative analysis and qualitative assessment. CSM, New Orleans, February 2005

124. Weimer K,* Reischl SF, Requejo SM, Burnfield JM, **Kulig K**. Non-operative treatment of posterior tibialis tendon dysfunction: a randomized clinical trial. CSM, New Orleans, February 2005
125. Sum J*, Popovich JM*, Poppert E, Colletti PM, **Kulig K**. The role of axial loading in early diagnosis of lumbar disc injury: a biomechanical interpretation using magnetic resonance imaging: a pilot study. CSM, New Orleans, February 2005
126. Davenport T, Watts H, **Kulig K**, Resnik C. Current status and correlates of physicians' referrals to physical therapy. CSM, New Orleans, February 2005.
127. **Kulig K**, Poppert E: Microtopography of an intervention in a randomized clinical trial; low back pain. CCAPTA October 2004.
128. **Kulig K**: Clinical Trials in PT: Lessons from the past, possibilities for the future. CSM, Nashville, February 2004.
129. Beneck GJ*, **Kulig K**, Landel RF, Powers CM. The relationship between lumbar segmental motion and pain response in persons with low back pain. CSM, Nashville, February 2004.
130. Requejo MS, Limcay M, **Kulig K**: Effectiveness of an eccentric program on function and disability in a patient with posterior tibial tendon dysfunction (PTTD) CSM, Nashville, February 2004.
131. Liao G, **Kulig K**, Burnfield JM, Mais-Requejo S, Reischl S: Can An Orthosis Alter Tibialis Posterior Activation in Persons with Pes Planus? CSM, Nashville, February 2004.
132. **Kulig K**, Landel R, Powers CM: A proposed mechanism of sagittal motion induced by manual posterior to anterior mobilization: assessment of lumbar spine kinematics using dynamic MRI. ASB, Toledo, September 2003.
133. Sperry M, Burnfield JM, Mais SR, Reischl SF, Thordarson D, Terk M, **Kulig K**: MRI evaluation of muscle activation associated with three posterior tibialis exercises. MSSE, 35(5) 1532, Suppl. 2003.
134. Landel RF, **Kulig K**, Fredricson M, Guillet M, Powers CM: Manual spinal segmental motion testing: Inter-rater reliability using a dichotomous within-subject scale, and testing accuracy determined by dynamic MRI. CSM, Orlando, FL, February, 2003.
135. **Kulig K**, Powers CM, Landel RF, Fredricson M, Guillet M: Are persons with centralized low back pain more likely to present with altered segmental lumbar mobility? In vivo assessment using dynamic MRI. CSM, Orlando, FL, February, 2003.
136. Powers CM, **Kulig K**, Landel RF, Fredricson M, Guillet M, Butts K: The effects of a single intervention session on pain response and lumbar segmental mobility in persons with low back pain. CSM, Orlando, FL, February, 2003.
137. Farrokhi S*, **Kulig K**, Burnfield, JM, Powers, CM: In vivo assessment of the lumbar spine's instantaneous axes of rotation in symptomatic and asymptomatic subjects, WCB, Calgary, August, 2002.
138. **Kulig K**, Powers CM, Landel R, Chen HW, Fredricson M, Guillet M, Butts K: Segmental mobility of the lumbar spine during a prone press-up maneuver in symptomatic and asymptomatic subjects: Assessment using dynamic MRI, WCB, Calgary, August, 2002.
139. Doubleday K*, **Kulig K**, Landel R: Conservative management of unilateral testicular pain in thoracolumbar dysfunction. CSM, Boston, February, 2002.
140. Landel RF, **Kulig K**, Powers CM, Fredricson M, Guillet M: Spinal segmental motion testing using a dichotomous segmental within subject scale. CSM, Boston, February, 2002.

141. Powers CM, Requejo P, Lim P, Flynn J, Brault JR, **Kulig K**: Comparison of coefficient of friction requirements during gait to standard tribometry measurements. AAFC, Reno, Nevada, February, 2000.
142. **Kulig K**, Powers CM, Terk M, Shellock F: Does velocity of the eccentric component of isotonic exercise influence magnetic resonance signal intensity in muscle?. ACSM, Seattle, WA, June, 1999.
143. Yip-Menck J*, Mais S, **Kulig K**: Consideration of thoracic spine dysfunction in upper extremity Complex Regional Pain Syndrome Type I: A case report. CSM, Seattle, WA, February, 1999.
144. Cady D*, Zawislak J*, Rau C*, Lee M*, **Kulig K**, Drouin J: The effects of dexamethasone iontophoresis on acute inflammation using a sports model of treatment. 69th APTA Congress, Minneapolis, MN, June, 1996.
145. Narula M*, Jackson O, **Kulig K**: The effects of a six week Feldenkreis method on selected functional parameters in subjects with rheumatoid arthritis. Second joint APTA/CPA Congress, Toronto, Canada, June, 1994.
146. Narula M*, **Kulig K**, Jackson O: Effects of a three month intense aerobic walking program on the hip abductor strength in the elderly. Second joint APTA/CPA Congress, Toronto, Canada, June, 1994.
147. VanSwol A, **Kulig K**, Jones P, Taylor A: Comparison of the analgesic effects of three transcutaneous electrical nerve stimulation protocols. Second joint APTA/CPA Congress, Toronto, Canada, June, 1994.
148. Szajbach M*, Koornneef J*, Hippler K*, Weber J*, **Kulig K**: Vertical jump and knee flexion and extension strength characteristics in figure skaters and non-skaters. Second joint APTA/CPA Congress, Toronto, Canada, June, 1994.
149. Jarski RW, Dibble T, **Kulig K**: Clinical aspects of stress management: Patients reported stress versus their actual stress measured across organ systems. 21st Annual Physician Conference, Miami, FL, 1992.
150. Carter L, Julien C, Walter J, **Kulig K**: A comparison of hemiplegic cerebral palsy walking patterns to normal gait patterns in children age 5: A pilot study. 67th APTA Conference, Denver, Colorado, June, 1992.
151. Kingsbury N*, Majewski C*, **Kulig K**, Andrews D: An assessment of the effects of hand preference on standing posture. 67th APTA Conference, Denver, Colorado, June, 1992.
152. Weiss M*, Clark T*, Wolcott C*, Dudek D*, **Kulig K**: A comparison of subjective and objective measures of delayed onset muscle soreness. 67th APTA Conference, Denver, Colorado, June, 1992.
153. Whipple-Ellsworth A*, Klebba M*, Walden J*, **Kulig K**: A comparison of the analgesic effects of ice massage and brief intense transcutaneous electrical stimulation. 67th APTA Conference, Denver, Colorado, June, 1992.
154. Priestap R*, **Kulig K**, Eveningred M*: Local analgesia using brief intense transcutaneous electrical stimulation (BIT) and two electrode types. 67th APTA Conference, Denver, Colorado, June, 1992.
155. Narula M*, Jackson O, **Kulig K**: The effects of a six week Feldenkreis method on selected functional parameters in a subject with rheumatoid arthritis. 67th APTA Conference, Denver, Colorado, June, 1992.
156. Kevelin A*, **Kulig K**, Szemer W: Instantaneous center of rotation of the knee during isokinetic exercises. XIII International Congress of Biomechanics, Perth, Australia, 1991.
157. Dibble T, Jarski R, **Kulig K**: Evaluating stress management interventions through physiological reactions and psychological effects. National Wellness Conference, University of Wisconsin, Stevens Point, WI, July, 1991.
158. Eveningred M*, **Kulig K**, Priestap R: A comparison of treatment protocols and electrodes in producing analgesia. Annual MPTA Conference, Grand Rapids, October, 1991.

159. Jarski RW, Dibble T, **Kulig K**: Customizing stress management interventions through physiological reactions and psychological effects. National Wellness Conference, University of Wisconsin, Stevens Point, July, 1990.
160. **Kulig K**, Jarski RW, Drewek E, Bianco D: The effects of microcurrent stimulation on CPK and delayed onset muscle soreness. 66th APTA Conference, Boston, Massachusetts June, 1991.
161. Rapaski D*, Isles S*, **Kulig K**: Microcurrent electrical stimulation: Comparison of two protocols in reducing delayed onset muscle soreness. 66th APTA Conference, Boston, Massachusetts, June, 1991.
162. **Kulig K**, Placzek J, DeYoung L*, Maurer C*, Stone S*: Increasing acutely reduced hamstring length through self- and therapist-performed stretching programs. 66th APTA Conference, Boston, Massachusetts, June, 1991.
163. **Kulig K**, DeYoung L*, Maurer C*, Stone S*: Comparison of the effects of high-velocity exercises and microcurrent stimulation on delayed onset muscle soreness. 66th APTA Conference, Boston, Massachusetts, June, 1991.
164. Narula M*, **Kulig K**, Jackson O: Effects of a three month intense aerobic walking program on hip abductor strength in the elderly. 66th APTA Conference, Boston, Massachusetts, June, 1991.
165. Wolcott C*, Dudek D*, **Kulig K**, Weiss M*, Clark T*: A comparison of the effects of high volt and microcurrent stimulation on delayed onset muscle soreness. 66th APTA Conference, Boston, Massachusetts, June, 1991.
166. Kulwicki M, Hughes J, **Kulig K**, Kevelin A: Reliability of Biodex isokinetic measurement using a fixed versus anti-compression knee attachment. 66th APTA Conference, Boston, Massachusetts, June, 1991.
167. **Kulig K**, DeYoung L, Maurer C, Stone S: Effects of high velocity concentric exercises on muscle enzyme levels, range of motion and delayed onset muscle soreness. 1991 American College of Sports Medicine Annual Meeting, Orlando, Florida, May 29-June, 1991.
168. Weatherell V, **Kulig K**, Boyce D*, Kander A*: Reciprocal isokinetic test reliability of the Ariel arm-leg exerciser. 65th APTA Annual Conference, Anaheim, California, June, 1990.
169. **Kulig K**, Jarski RW, Olson RE: Clinical teaching in physical therapy student and teacher perceptions. 65th APTA Annual Conference, Anaheim, California, June, 1990.
170. Kevelin A*, Hollender P*, **Kulig K**: The instantaneous center of rotation of the knee joint during active movement. 65th APTA Annual Conference, Anaheim, California, June, 1990.
171. **Kulig K**, Isles S*, Rapaski D*, Smith J*: Comparison of three microcurrent stimulation protocols in reducing delayed onset muscle soreness. 65th APTA Annual Conference, Anaheim, California, June, 1990.
172. Chasse L*, DeHenau G*, Segall J*, Leo S*, **Kulig K**: T.E.N.S. and dysmenorrhea: The effects of electrode placement. 65th APTA Annual Conference, Anaheim, California, June, 1990.
173. **Kulig K**, Redmond P: Effects of hamstrings eccentric exercise program on the concentric hamstring/quadriceps torque ratio. AAHPERD Convention, New Orleans, LA, March, 1990.
174. Olson RE, Jarski RW, **Kulig K**: Narrowing the gap between education and professional services: Improving clinical instruction. Conference of American Society of Allied Health Professions, MCV, Richmond, VA, November, 1989.
175. Davison R*, Erickson C*, **Kulig K**: The effects of seat position and lower extremity kinematics on automobile brake pedal force capability. XII International Congress of Biomechanics. UCLA, Los Angeles, California, June, 1989.

176. Kornecki S, **Kulig K**, Mularczyk W, Trzcinski M: The relationship between force produced against objects of different mobility during static and dynamic conditions. XII International Congress of Biomechanics. UCLA, Los Angeles, California, June, 1989.
177. Popchok M*, King M*, **Kulig K**: Trunk flexor and extensor muscle activity during abdominal exercises with variable resistance. Annual Conference of the American Physical Therapy Association. Nashville, Tennessee, June, 1989.
178. **Kulig K**, Jarski RW, Olson RE: Student and instructor perceptions of effective clinical teaching. Annual Conference of the Association of Physician Assistant Programs, Los Angeles, California, May, 1988.
179. Kornecki S, **Kulig K**, Zawadzki J: Biomechanical implications of the artificial and natural strengthening of wrist joint structures. IXth International Congress of Biomechanics, Waterloo, Canada, August, 1983.
180. **Kulig K**, Bober T, Zawadzki J: Synchronization of partial impulses as a biomechanical principle. VIIth International Congress of Biomechanics, Nagoya, Japan, July, 1981.
181. Bober T, Rutkowska-Kucharska A, **Kulig K**: Investigation of the consistency of movements of elite judo athletes. International Symposium on Sport Biology, Vierumaki, Finland, October, 1979.
182. **Kulig K**, Suska M, Zawadzki J: Experiments on the coordination of fast movements in the forearm. Conference on Methods of Investigating Students' Motor Skills, Wroclaw, Poland, 1977.

GRANTS and CONTRACTS

Principal Investigator

- 2016-2018 **Orthopedic Section of the APTA (\$15,000)**
 Kulig (PI)
 Rowley (Co-PI)
 Investigating a Novel Intervention for Flexor Hallucis Longus Tendinopathy in Dancers
This study will elucidate coordination strategies used by dancers to conduct a heel raise – a task used to examine lower limb function, completed dozens of times in dance class or performance, and frequently reported to place high demands on the FHL and toe flexors – and how these strategies change when the task is modified to remove force transmission by the toes.
- 2006-2008 **Osiris Therapeutics, Inc. (\$68,232)**
 Kulig (PI)
 A Phase I/II, Randomized, Controlled, Double-blind, Study of Chondrogen – Adult Universal Cell (AUC) Delivered by Intra-articular Injection Following Meniscectomy in Patients 18-60 Years. Core lab for Magnetic Resonance Imaging (MRI) Analyses.
- 2006-2008 **Osiris Therapeutics, Inc. (\$10,925)**
 Kulig (PI)
 Verification of MR image acquisition and processing reliability. Development of the protocol of image acquisition and image segmentation and analyses.
- 2005-2006 **Health Research Association (\$9,775)**
 Kulig (PI)
 Lumbar paraspinal atrophy and fatigability in persons with recurrent episodes of low back pain: relationship, mechanism and an association with clinical outcomes. The goal of this study is to

develop the methodology for morphometric and electrophysiological analyses of human lumbar paraspinal musculature.

- 2002-2003 **Orthopedic Section of APTA (\$7,500)**
Kulig (PI)
Effectiveness of exercise on function, quality of life and disability in patients with posterior tibial tendon dysfunction (PTTD). The goal of this study is to establish a clinical network and conduct a community based clinical trial.

Participated as Co-Investigator, Investigator or Lead Investigator

- 2008-2010 **Orthopedic Section of the APTA (\$25,000)**
Kulig (Co-PI)
Davenport (PI)
Ankle manual therapy for individuals with post-acute ankle sprains: a randomized, placebo-controlled study
The goal of this study is to investigate central (brain) mechanisms underlying the beneficial effects of joint manipulation.
- 2007-2008 **Interdisciplinary Research Fund, University of Nebraska (\$22,680)**
Kulig (Co-PI)
Nelson (PI)
Robot System for Automated Image Acquisition and Diagnosis of Tendon Injury
The goal of this study is to develop a robot to acquire ultrasonographic images of human tendons. The robot will be interfaces with automated analyses of the images rendering a quantitative analysis if the tendon's microstructure aiding in diagnosis.
- 2005-2006 **Layman Fund of the University of Nebraska (\$10,000)**
Kulig (Co-PI)
Bashford (PI)
Development of a reliable and valid sonographic method to quantify tendon and ligament structure in select symptomatic and asymptomatic human tissues exposed to varying activity levels. The goal of this study is to develop the methodology for quantitative image analyses of human tendons.
- 2003-2005 **Foundation for Physical Therapy (\$164,107)**
Kulig (Lead Investigator)
Winstein (PI)
Muscle Specific Strengthening Effectiveness Post Lumbar Microdiscectomy (MUSSEL) As part of: A clinical research network to evaluate the efficacy of physical therapy practice. The goal of this study is to establish a clinical network and conduct a community based clinical trial.
- 2001-2002 **Foundation for Physical Therapy (\$40,000)**
Kulig (Co-PI)
Powers (PI)
The effects of 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. The goal of this study was to explore the mechanism of manual therapy applied to the lumbar spine.

PI or Co-PI prior to joining the University of Southern California

- 1996 Educational Technology Advancement Proposal. Co-authored with A. Griggs, R. Olson and B. Marcoux, Oakland University (**\$65,000**).

- 1992 Enhancing physical therapy teaching and learning through innovative evaluation. Educational development grant. Oakland University, Rochester, Michigan, **(\$900)**.
- 1991 Manual Mobilization of the Spine. Translation of a textbook authored by Freddy Kaltenborn, **(\$7,500)**.
- 1991 Comparisons of two types of electrodes in producing analgesia. Henley International **(\$1,800)**.
- 1992 A kinematical comparison of the effects of handedness on dominant posture and spinal position. FARRO Medical **(\$1,000)**.
- 1991 Ketoprofen dose-response. Marion Merrell Dow, Inc. **(\$17,000)**.
- 1990 The effectiveness of the Electro-link system for reducing edema: A comparison of treatment protocols. FERNO-ILLE, Division of Ferno-Washington, Inc., **(\$4,000)**.
- 1990 The effectiveness of ice and electrical stimulation on edema. Howmedica, Division of Pfizer Hospital Product Group, Inc., **(\$5,056)**.
- 1990-1991 The position of preference while sitting in a midsize car. General Motors Corporation **(\$4,000)**.
- 1989 Physiotechnology, Inc. grant in the form of an electrotherapeutic instrument used in research and teaching OMNISTYM IV **(\$1,600)**.
- 1989 Institute of Biomolecular Education and Research (Myopulse) **(\$1,500)**.
- 1989 William Beaumont Research Grant, Effectiveness of selected manual therapy procedures **(\$7,500)**.
- 1989 Hawthorn Grant, Michigan State Health Department, Effectiveness of subject specific relaxation techniques. Co-investigator. PI: Robert Jarski, PhD **(\$23,000)**.
- 1989 Financial support for OU Physical Therapy research, Electromedical Instruments **(\$500)**.
- 1989 Research support for OU Physical Therapy research, FARO Medical **(\$5,500)**.
- 1989-1990 Entry/egress into a midsize car. General Motors Corporation **(\$3,000)**.
- 1987-1988 A Study of Student and Teacher Perceptions of Effective Clinical Teaching, Educational Development Fund, Oakland University **(\$1,200)**.
- 1987-1988 The Effects of Seat Position and Lower Extremity Kinematics on Brake Pedal Force Capability, General Motors Corporation **(\$2,000)**.

MAJOR PUBLIC PRESENTATIONS

Presentations as Invited Speaker:

2020

3rd International Conference on Rehabilitation Sciences (ICRS) - 2020 in Lahore, Pakistan, Organized by Riphah College of Rehabilitation Sciences, Riphah International University, Pakistan (March 13-15) – Cancelled due to COVID-19

2019

Keynote: *Neuromechanical Adaptation to Tendon Injury and the Proposed Framework for Intervention*. Symposium Sportu i Rehabilitacji, Warsaw, Poland, EU (December 4-8)

Keynote: Building scientific and educational bridges in movement sciences and physical therapy, Charles University, Prague, Czech Republic, EU (October 31)

International Winter School, University of Potsdam, Potsdam, Germany, EU (October 21-25)

Integrating multi-scale approaches to tendon biomechanics, (presentation with T Fini, H Screen, H Mass, B Raiteri, Franz J) International Society of Biomechanics, (July 31 to August 3)

Second Tendon Summit, University of Southern California, 12 attendees from 6 academic institutions, (May 24-25)

Keynote Lecture for PT Graduates, Physical Therapy Program, Wayne State University, Detroit, Michigan (May 8 and 9)

Clinical examination and treatment of the injured runner: Hypothesis driven by experience, research and technology Northern California Fellowship Program, Hayward, California (March 16)

2018

International Winter School, University of Potsdam, Potsdam, Germany, EU (October 22-26)

Application of quantifiable assessment of movement strategies in the clinic, Oakland University (September 15)

Lower Extremity Tendinopathies: Tissue, Joint and Whole Body Adaptions Persist during Pain Remission - Yet, Movement Variability Seems to be Altered, German Olympic Congress for Sports Medicine Specialists, Hamburg, Germany, (May 24-26)

Tendinopathies: Whole body, Joint and Tissue: Implication for Practice. Bern University of Applied Sciences, Bern, Switzerland, (March 7)

2017

Asia-American Rehabilitation Summit, Sun Yat-Sen University Guangzhou, China, (November 17)

Seminar Celebrating the 50th Anniversary of National Taiwan University's Physical Therapy Program, Taipei, Taiwan (November 11-12)

2nd International Conference on Rehabilitation Sciences (ICRS) - 2017 in Islamabad Pakistan, Organized by Riphah College of Rehabilitation Sciences, Riphah International University, Pakistan (May 19-21)

Achilles Tendinopathy, Annual Orthopedic Meeting, San Diego, California, (April 21-22)

Masters Class, Achilles Tendon Ruptures, Agile Physical Therapy, Paolo Alto, California (March 11-12)

Common Lower Extremity Foot and Ankle Problems, Northern California Fellowship Program, Hayward, California (March 18)

2016

International Winter School, University of Potsdam, Potsdam, Germany, EU, in collaboration with Tel Aviv University, Tel Aviv, Israel (November 7-11)

2015

Biomechanical and Motor Control Locomotive Characteristics in Pain-Free Persons with History of Low Back Pain. Ritsumeikan University, Kyoto, Japan (July 31)

Cervical Radiculopathy: Diagnosis and Management. Kanazawa Orthopaedic & Sports Medicine Clinic in Shiga, Kyoto, Japan (August 1)

Concepts, Theory, Motivation, Hypotheses and Dissemination of Research, Ritsumeikan University, Kyoto, Japan (July 27-31)

Annual Update on Research in the Kulig Lab. Kaiser Hayward Residency Program (March 21)

Patellar Tendinopathy in Jumping Athletes, Presentation to USA Beach Volleyball Medical Team Summit USOC Olympic Training Center, Chula Vista, (February 28)

2014

Biomechanics of Jumping Sports and Common Sport Specific Injuries, University of Nebraska, Lincoln, NE (June 26)

The Story of Three Jumpers; Combined Sections of the APTA, Las Vegas, Nevada (February 3-6)

2013

Graduate Seminar, University of Potsdam, Potsdam, Germany, European Union (November 25-27)

WCPT-AWP and ACPT, Taichung, Taiwan, (September 5-9)

18th J.H.P. Maley lecture: Residencies in Physical Therapy, APTA Annual Conference (June 29)

Visiting Scholar Program, Keynote. Physical Therapy Program at Oakland University, Rochester, Michigan (May 17)
Annual Update on Research in the Kulig Lab. Kaiser Hayward Residency Program (March 16)

2012

Evidence-Based Practice Day: Tendinopathies, Keynote. Physical Therapy Program at the California State University at Northridge, California, (December 7)
Invited Lectureship on The Role of Biomechanics in the Study of persons with Tendinopathies and Low Back Pain University of Potsdam, Potsdam, Germany, European Union (November 19-21)
7th Annual Distinguished Lecture on the Science of Manual Therapy. Reflections on the Role of Biomechanics: Application to Manual Therapy in Clinical Practice. University of Illinois at Chicago (November 9)
Lower extremity tendinopathies: tissue, joint and whole body adaptations. National Yang Ming University, Taipei, Taiwan (May 17)
Annual Update on Lower Extremity Tendinopathies. Kaiser Hayward Residency Program (April 28)
Non-surgical management of posterior tibial tendon dysfunction with exercise and orthoses, Temple University, School of Podiatric Medicine, Philadelphia, Pennsylvania (March 9)

2011

Biomechanical and Motor Control approaches to clinical problems of low back disorders and lower extremity tendinopathies, University of Potsdam, Germany (December 12 and 13)
Lumbar Spine Mechanics, Application to Treatment Paradigms, Czech Technical University, (December 8)
Lower extremity tendinopathies: tissue, joint and whole body adaptations. Motol Hospital at the Charles University in Prague, Czech Republic (October 26)
Tissue specific rehabilitation of the lower extremity pathologies: Tendon. Annual Conference of the California Physical Therapy Association, Long Beach, California (September 23)
In the search of mechanisms underlying low back disorders: the role of biomechanics and motor control. Wroclaw's division of PAN (Polish Academy of Science) (March 30)
Sports Biomechanics: Running and Jumping. First Biomechanics and Human Performance Congress, University of Fernando Pessoa, Porto, Portugal (March 25-26)
Spine Biomechanics: Current Developments. First Biomechanics and Human Performance Congress, University of Fernando Pessoa, Porto, Portugal (March 25-26)

2010

Lower Extremity Tendinopathies. UCLA Athletic Trainers, (December 1)
Post-surgical rehabilitation of the lumbar spine. Glendale Adventist Hospital, Glendale, California (October 14)
Lower Extremity Tendinopathies. National Basketball Athletic Trainers Association. Chicago, Illinois (May 17)

2009

Disorders of the Lumbar Spine: Research, Practice and Education. The Hong Kong Polytechnic University, Department of Rehabilitation Sciences. (September 21)
Decision Making: Certainty, Uncertainty and Risk – Keynote Address. Annual Fall Conference of PTAROC (Taiwan) to be held in Tainan, Taiwan. (September 26)
Lower Extremity Tendinopathies: From Mechanism to Treatment, Agile Physical Therapy, Palo Alto, CA (August 13)
Non-surgical Management of Posterior Tibial Tendon Dysfunction With Orthoses and Resistive Exercise:, 12th Annual International Conference on Foot Biomechanics and Orthotic Therapy, Atlanta, GA (October 2-4)
Disorders of the Lumbar Spine: Research, Practice and Education. The Hong Kong Polytechnic University, Department of Rehabilitation Sciences. (September 21)
Decision Making: Certainty, Uncertainty and Risk – Keynote Address. Annual Fall Conference of PTAROC (Taiwan) to be held in Tainan, Taiwan. (September 26)
Lower Extremity Tendinopathies: From Mechanism to Treatment, Agile Physical Therapy, Palo Alto, CA (August 13)
Insights into Spine Biomechanics from Imaging Studies: Application to Clinical Practice, 10th Nordic OMT Conference, Sweden, Gothenburg (May 29-31)
PTClinResNet: Translating the Results of the Clinical Research Network Into Practice. CSM, Las Vegas

(February 9-12)

Insights into Spine Biomechanics from Imaging Studies: Application to Clinical Practice, CSM, Las Vegas

(February 9-12)

Joint, Muscle, but what about the Tendon? Mechanisms Underlying Tendinopathies and the Basis for Effective Interventions. CSM, Las Vegas (February 9-12)

The Role of Biomechanics in Orthopedic and Neurological Rehabilitation. Invited Lecturer, International Congress of the Polish Society of Biomechanics, Wroclaw

2008

Current Concepts in Tendinosis. AAPT, Montgomery, Alabama (3.5 hours) (April 19)

Foot and Ankle Tendinopathies: From Mechanisms to Interventions. (3 hours) CSM, Nashville, Tennessee (February 9)

Biomechanical and motor control considerations in the development of exercise interventions for the management of low back disorders: experimental and clinical trial evidence. (3 hours) APTA, San Antonio, TX (June 13)

Biomechanical and motor control considerations in the development of exercise interventions for the management of low back disorders: experimental and clinical trial evidence. (12 hours) Madonna Rehabilitation Center (January 11-12)

2007

Biomechanical Characteristics of Degenerated Tendons. Long Beach Memorial Hospital, Long Beach, CA (November 30)

Biomechanical Characteristics of Degenerated Tendons. UNMC, Omaha, NE (November 1)

Evidence Based Interventions for Lower Extremity Tendinopathies. UNMC, Omaha, NE (November 1)

In Search of Tissues Specific Rehabilitation. Kaiser Hayward (August 25)

Biomechanical Consequences of Lower Extremity Tendinopathies. Keck School of Medicine, Orthopedic Grand Rounds (September 14)

GRANT REVIEWING, DATA and SAFETY MONITORING BOARD member:

2012-2015 Swiss National Science Foundation, Primary Reviewer for Health and Use Initiated Grants (biannual)

2014-2018 Chair of the DSMB (Data and Safety Monitoring Board) for an R18 study titled "Management Strategies for Patients with Low Back Pain and Sciatica" funded by AHRQ (Agency for Health Care Research and Quality). Principal Investigator: Julie Fritz, PhD, PT, FAPTA

JOURNAL EDITORIAL BOARD:

2016-Present International Editorial Board, member, of Brazilian Journal of Physical Therapy

2013-Present Editorial Board Member, Biomechanics and Motor Control, *Human Movement*, ISSN 1732-3991

2008-2015 Member of the International Editorial Review Board, *Journal of Orthopaedic and Sports Physical Therapy*

2006-Present Research Advisory Board, *Fizjoterapia* (Physiotherapy), ISSN 1230-8323

EDUCATIONAL MATERIALS DEVELOPED:

1998 Developed a 15-credit proposal for a Graduate Certificate in Orthopedic Physical Therapy. Approved by the Graduate and Professional Studies Committee, University of Southern California

1997 Developed, presented and defended a 17 credit proposal for a Graduate Certificate in Pediatric Rehabilitation. Approved by the Graduate Council of Oakland University.

1995 Developed, presented and defended a 36 credit proposal for a post-professional Master of Science in Physical Therapy degree - Musculoskeletal Track. Oakland University.

1994 Developed, presented and defended a 17 credit proposal for a Graduate Certificate in Orthopedic Manual

Physical Therapy. Approved by the School of Health Science Assembly of the Oakland University.

- 1991 Kaltenborn FM, Evjenth O: Spinal evaluation and treatment, translation from German into English, Oakland University, Rochester, Michigan
- 1983 Bober T, Golema M, Kornecki S, Kulig K, Zawadzki J: Biomechanics: Selected topics (guidebook for students), Wroclaw

TEACHING ACTIVITIES:

Coursework directed and taught at Division of Biokinesiology and Physical Therapy

BKN 551	Musculoskeletal and Biomechanical Basis of Movement (4 units), 2003 until now
BKN 580	Analytical Kinesiology (3 units), 1997 - 2002
BKN 581	Arthrology (2 units), 1998-2002
PT 554L	Analytical Anatomy (3 units), 1998 – present
PT595a-c	Residency in Advanced Clinical Physical Therapy (1-4 units), 1997-2002
PT 622	Advanced Management of Spinal Disorders (3 units), 1997-2002
PT 623	Advanced Management of Extremity Disorders (3 units), 1997-2002
BKN 672	Advanced Independent Study in Pathokinesiology (1-3 units), as needed per students' interest
PT 681	Management of Spinal Disorders (2 units), 1997-2002

Student Mentoring

Post-doctoral Fellows

2016	Yumiko Koyama, MS , Pre-doctoral Fellow, Kyoto University, Japan <i>Current Position:</i> Assistant Professor, Teikyo University of Science, Tokyo, Japan
2016	Jose Maria Heredia Jimenez, PhD , Fulbright Fellow <i>Current Position:</i> Assistant Professor, University of Granada, Spain
2016	Eva Orantes , Pre-doctoral Fellow, University of Grenada, Spain, European Union
2015	Slawomir Winiarski, PhD , Visiting Scholar, Academy of Physical Education, Wroclaw, Poland, European Union
2014	Stanislav Machac , Pre-doctoral Fellow, Charles University, Prague, Czech Republic, European Union
2012, 2014, 2015	Toshiyuki Kurihara, PhD , Visiting Scholar, Ritsumeikan University, Kusatsu, Shiga, Japan <i>Current Position:</i> Research Associate, Faculty of Sport and Health Science, Ritsumeikan University, Kusatsu, Shiga, Japan
2012-2013	Weimin Pan, surgeon , Xi'an City, Shaanxi Province, China <i>Current Position:</i> Associate Professor and Attending physician at Department of Human Health & Movement Studies, Xi'an Physical Education University
2010	Jing-Lan Yang, MS, PT , Visiting Scholar <i>Current Position:</i> Assistant Professor, National Taiwan University, Taipei, Taiwan
2009-2010	Jose Maria Heredia Jimenez, PhD <i>Current Position:</i> Assistant Professor, University of Granada, Spain
2009	Matthias Friedrich , Visiting Pre-Doctoral Scholar from Swiss Federal Institute of Technology Zurich, Switzerland <i>Current Position:</i> Unknown
2005-2006	Stan Solnik, PhD (Academy of Physical Education, Wroclaw, Poland), Visiting Pre-doctoral Fellow: <i>Current Position:</i> Post-Doctoral Fellow, Department of Kinesiology, The Pennsylvania State University, State College, Pennsylvania

Ph.D. Students' Advisor

8/2018 - Present	David Ortiz-Weissberg, MS (PhD Advisor) Division of Biokinesiology and Physical Therapy, University of Southern California
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- 2020 **Hai-Jung (Steffi) Shih, PhD, PT** (PhD Advisor) The Footprint of Pain: Investigating Persistence of Altered Trunk Control in Recurrent Low Back Pain. Division of Biokinesiology and Physical Therapy, University of Southern California
Current Position: Post-Doctoral Fellow, Columbia University, New York, New York
- 2018 **K. Michael Rowley, PhD** (PhD Advisor) Trunk control during dynamic balance: Effects of cognitive dual-task interference and a history of recurrent low back pain. Division of Biokinesiology and Physical Therapy, University of Southern California
Current Position: Post-Doctoral Fellow, Brown University, Providence, Rhode Island
- 2018 **Abbigail L. Fietzer, PhD, DPT** (PhD Advisor) The structure of kinematic variability during hopping: a window into motor control factors in overuse injury. Division of Biokinesiology and Physical Therapy, University of Southern California
Current Position: Assistant Professor, Mt Saint Mary's University, Los Angeles, California
- 2015 **Danielle N. Jarvis, PhD, ATC** (PhD Advisor) The effects of Jump Strategy Modification on Energetics During Dance Jumps. Division of Biokinesiology and Physical Therapy, University of Southern California
Current Position: Assistant Professor, California State University Northridge, Northridge, California
- 2015 **Eugene (Yu-Jen) Chang, PhD, PT** (PhD Advisor) Neuromechanical Adaptations for Achilles Tendinosis. Division of Biokinesiology and Physical Therapy, University of Southern California
Current Position: Assistant Professor, West Virginia University, Morgantown, West Virginia
- 2014 **Joanne Armour Smith, PhD, PT, OCS** (PhD Advisor) Trunk Neuromechanics during Turning: a Window into Recurrent Low Back Pain. Division of Biokinesiology and Physical Therapy, University of Southern California
Current Position: Post-doctoral fellow, Neuroplasticity and Imaging Laboratory, USC followed by Assistant Professor, tenure track, Program in Physical Therapy, Chapman University
- 2010 **John M. Popovich, PhD, DPT, ATC, CSCS** (PhD Advisor) Lumbopelvic Kinematics. Muscle Activation and Lumbar Spine Load Sharing in the Presence of Diminished Hip Muscle Performance. Division of Biokinesiology and Physical Therapy, University of Southern California
Current Position: Post-Doctoral Fellow with Jacek Cholewicki, PhD, Michigan State University, Lansing, Michigan
- 2010 **George J. Beneck, PhD, PT, OCS** (PhD Advisor) Dissertation Title: Morphology Fatigability and Activation of the Lumbar Multifidus in Persons with Chronic Low Back Pain. Division of Biokinesiology and Physical Therapy, University of Southern California
Current Position: Professor, tenured, Program in Physical Therapy, California State University Long Beach, Long Beach, California
- 2008 **Shruti Arya, PhD, PT** (PhD Advisor) Dissertation Title: Mechanical Properties of Degenerated Tendons and Their Influence on Lower Extremity Biomechanics. Division of Biokinesiology and Physical Therapy, University of Southern California
Current Position: Post-Doctoral Fellow with Richard L. Segal, PhD, PT, FAPTA, University of North Carolina

PhD Students' Committee Member

- 5/2018-Present **Jordan Cannon, MS** (PhD Committee Member) Dissertation Title: xxxxx Division of Biokinesiology and Physical Therapy, University of Southern California
Current Position:
- 3/2018- Present **Sara Almnasouri, MS** (PhD Committee Member) Dissertation Title: xxxxx Division of Biokinesiology and Physical Therapy, University of Southern California
Current Position:
- 3/2017-Present **Kyungmi Jasmine Park, MS, PT** (PhD Committee Member) Dissertation Title: Effect of lower extremity kinematics and patellar position on the patellar tendon stress and strain.

- 9/2016-Present *Current Position:* **Joanthan Lee, MS** (PhD Committee Member) Dissertation Title: xxxxx Division of Biokinesiology and Physical Therapy, University of Southern California
- 2018 *Current Position:* **Ian Russell, PhD** (PhD Committee Member) Dissertation Title: Upper Extremity Control and Dynamics during Manual Wheelchair Propulsion at Different Speeds and Wheelchair Configurations.
- 2018 *Current Position:* **Paige Lin, PhD** (PhD Committee Member) Dissertation Title: An investigation of altered gait mechanics in individuals following ACL reconstruction. Division of Biokinesiology and Physical Therapy, University of Southern California
- 2017 *Current Position:* Nike Sports Research Lab, Portland, Oregon
- 2017 **Travis Peterson, PhD** (PhD Committee Member) Dissertation Title: Regulation of the Lower Extremity Control and Dynamics during the Golf Swing with Different Clubs and Varying Address Positions. Department of Biomedical Engineering, University of Southern California
- 2017 *Current Position:* California Lutheran University
- 2017 *Current Position:* Assistant Professor, California Lutheran University, California
- 2017 **Moheb Yani, PhD** (PhD Committee Member) Dissertation Title: Motor cortical control of pelvic floor muscles. Division of Biokinesiology and Physical Therapy, University of Southern California
- 2017 *Current Position:* Post-Doctoral Fellow, USC
- 2017 **Jennifer Liao, PhD** (PhD Committee Member) Dissertation Title: The influence of tibiofemoral kinematics and kinetics on patella cartilage stress: a comparison of recreational runners with and without patellofemoral pain. Division of Biokinesiology and Physical Therapy, University of Southern California
- 2015 *Current Position:* Post-Doctoral Fellow, UCSF
- 2015 **Kristamarie Pratt, PhD, M Eng** (PhD Committee Member) Dissertation Title: Dynamic knee loading asymmetries following anterior cruciate ligament reconstruction: methods for clinical detection. Division of Biokinesiology and Physical Therapy, University of Southern California
- 2015 *Current Position:* Assistant Professor, Physical Therapy Program, University of Hartford, CT
- 2015 **Antonia Zaferiou, PhD** (PhD Committee Member) Dissertation Title: Control and dynamics during two turning tasks with different rotation and translation requirements. Department of Biomedical Engineering, University of Southern California
- 2015 *Current Position:* Department of Kinesiology, University of Michigan, Ann Arbor
- 2015 **Jan Elizabeth Gildea, MPhySt** (International Reviewer) Dissertation title: Physiology and Pathophysiology of Low Back Pain in Ballet Dancers. The University of Queensland, Australia
- 2015 **Tohid Masood, PhD** (International Reviewer) Dissertation title: Calf muscle activation strategies in healthy and injured Achilles tendon conditions. Faculty of Sport and Health Sciences of the University of Jyväskylä, Finland, European Union
- 2015 **Jennifer Bagwell, PhD, DPT** (PhD Committee Member) Dissertation Title: Hip and pelvis kinematics and kinetics in persons with femoroacetabular impingement. Division of Biokinesiology and Physical Therapy, University of Southern California
- 2015 *Current Position:* Assistant Professor, Department of Physical Therapy, Creighton University, Omaha, Nebraska
- 2015 **Sachithra Samarawickrame, PhD, MD** (PhD Committee Member) Dissertation Title: Musculotendinous Adaptations Associated with a Functional Training Program: The Transition to Barefoot Running. Division of Biokinesiology and Physical Therapy, University of Southern California
- 2014 *Current Position:*
- 2014 **Guilherme Cesar, PhD, PT** (PhD Committee Member) Dissertation Title: Development of Postural Strategies for the Control of Forward Momentum. Division of Biokinesiology and Physical Therapy, University of Southern California

- Current Position:* Post-Doctoral Research Associate, NAPL, University of Nebraska, Lincoln, Nebraska
- 2013 **Mark Blanchette, PhD** (PhD Committee Member) The influences of footwear tread design on available friction and slip risk, Division of Biokinesiology and Physical Therapy, University of Southern California
- Current Position:* Biomechanics Consultant, Semper Scientific, Mission Viejo, California
- 2012 **Szu-Ping Lee, PhD, PT** (PhD Committee Member) The influence of hip muscle performance on postural stability and ankle biomechanics: implications of ankle injury. Division of Biokinesiology and Physical Therapy, University of Southern California
- Current Position:* Assistant Professor, tenure track, Department of Physical Therapy University of Nevada Las Vegas, Las Vegas, Nevada
- 2012 **Kate Ho, PhD, PT** (PhD Guidance Committee Member) Division of Biokinesiology and Physical Therapy, University of Southern California
- Current Position:* Assistant Professor, tenure track, Department of Physical Therapy University of Nevada Las Vegas, Las Vegas, Nevada
- 2010 **Shawn Farrokhi, PhD, DPT**, (PhD Committee Member) Patellofemoral Joint Stress and its Relation to Patellofemoral Pain, Cartilage Morphology, and Cartilage Composition, Division of Biokinesiology and Physical Therapy, University of Southern California
- Current Position:* Assistant Professor, tenure track, Department of Physical Therapy, University of Pittsburgh, Pittsburgh, Pennsylvania
- 2008 **Rich Souza, PhD, MPT, ATC** (PhD Committee Member) The Influence of Hip and Femur Kinematics on Patellofemoral Joint Dysfunction. Division of Biokinesiology and Physical Therapy, University of Southern California
- Current Position:* Assistant Professor, tenure track, Department of Physical Therapy, University of California, San Francisco
- 2008 **Sam Chen, PhD, PT** (PhD Committee Member) Biomechanical Determinants of Patellofemoral Joint Forces. Division of Biokinesiology and Physical Therapy, University of Southern California
- Current Position:* Assistant Professor, tenure track, Department of Physical Therapy, National Taiwan University, Taipei, Taiwan
- 2006 **Yi-Ju (Joyce) Tsai, PhD, PT** (PhD Committee Member) The influence of footwear sole hardness on slip initiation and recovery in young adults. Division of Biokinesiology and Physical Therapy, University of Southern California
- Current Position:* Assistant Professor, tenure track, Department of Physical Therapy, National Cheng Kung University, Tainan, Taiwan
- 2004 **Kathleen E. Costa, PhD, BME** (PhD Committee Member) Control Strategies during Landing. Department of Kinesiology, University of Southern California
- Current Position:* Unknown
- 2004 **Sean Flanagan, PhD, ATC** (PhD Committee Member) Mechanical Demand Distribution during Multi-joint tasks. Division of Biokinesiology and Physical Therapy, University of Southern California
- Current Position:* Associate Professor with tenure, Department of Athletic Training, California State University Northridge, Northridge, California
- 2003 **Dan Mathiyakom, PhD, PT** (PhD Committee Member), Control and Dynamics During Angular Impulse Generation. Department of Kinesiology, University of Southern California
- Current Position:* Associate Professor with tenure, Department of Physical Therapy, California State University Northridge, Northridge, California
- 2003 **Samuel Ward, PhD, PT** (PhD Committee Member) The Influence of Patella Alta on Knee Extensor Mechanics and Patellofemoral Stress. Division of Biokinesiology and Physical Therapy, University of Southern California
- Current Position:* Associate Professor with tenure, Department of Radiology, University of California San Diego, San Diego, California
- 2002 **Philip Requejo, PhD, BSE** (PhD Committee Member) Modeling Control and Dynamics of Human Landing Using an Experimentally Based Approach. Department of Kinesiology, University of Southern California

Current Position: Director of Research, Rancho Los Amigos National Rehabilitation Center, Downey, California

External Reviewers of Dissertations, International

- 2017 **Tilman Engel**, Faculty of Human Sciences of the University of Potsdam, Germany
Title: Motor Control Strategies in Response to Unexpected Disturbances of Dynamic Postural Control in People with and without Low Back Pain
Principal Advisor: Prof. Dr. Frank Mayer (M.D.); Prof. Heiner Baur, Dr. Steffen Muller.
Current Position: University of Potsdam, Potsdam, Germany, EU
- 2016 **Antje Reschke**, Faculty of Human Sciences of the University of Potsdam, Germany
Title: Effectiveness of a foot orthosis on muscular activity in functional ankle instability – a randomized controlled trial.
Principal Advisor: Prof. Dr. Frank Mayer (M.D.); Prof. Heiner Baur, Dr. Steffen Muller.
Current Position:
- 2016 **Kim Allison**, Department of Physiotherapy, Melbourne School of Health Sciences, Faculty of Medicine, Dentistry and Health Sciences, The University of Melbourne, Australia
Title: Biomechanical and Neuromuscular Impairments in Individuals with Gluteal Tendinopathy.
Principal Advisor: Prof. Kim Bennell; Prof Paul Hodges; Prof. Bill Vicenzino
Current Position:
- 2016 **Stephan Kopinski**, Faculty of Human Sciences of the University of Potsdam, Germany
Title: The Neuromuscular Efficiency of Lower Back Muscles in Low Back Pain.
Principal Advisor: Prof. Dr. Frank Mayer (M.D.)
Current Position: Department of Early Child Education, University of Potsdam, Germany
- 2015 **Jan Gildea**, School of Health and Rehabilitation Sciences, University of Queensland, Australia.
Title: The activation pattern of trunk and pelvic muscles during loading through the foot in dancers and non-dancers with and without low back pain.
Principal Advisors: Prof Paul Hodges; Dr Julie Hides
Current Position:
- 2015 **Tohid Masood**, Department of Biology of Physical Activity, University of Jyväskylä, Finland.
Title: Calf muscle activation strategies in healthy and injured Achilles tendon conditions.
Principal Advisors: Profs Taija Finni, Bojsen-Møller J., Kalliokoski K.K., Kirjavainen A., Äärämaa V., Magnusson S.P.,
Current Position: Isra Institute of Rehabilitation Science, Isra University, Islamabad Campus, Pakistan

Masters Students

- 2018 **Yue (Wesley) Wang, BS** (Advisor) Division of Biokinesiology and Physical Therapy, University of Southern California
- 2018 **Lindsey Trejo, BS** (Advisor) Division of Biokinesiology and Physical Therapy, University of Southern California
- 2014 **Chun-Hao (Phillip) Huang, BS,** (Advisor) Division of Biokinesiology and Physical Therapy, University of Southern California
- 2012 **Tatri Mukherjee, BPT** (Advisor) Division of Biokinesiology and Physical Therapy, University of Southern California
- 2009 **Mohini Rawat, MS, PT** (Advisor) Division of Biokinesiology and Physical Therapy, University of Southern California

- 2005 *Current Position:* Residency in Electrodiagnostics, Ithaca College, Ithaca, New York
Allison Powers, BSE, (Committee Member)
Current Position: Unknown
- 2003 **Kerri Cheng, MS**, (Advisor) Comprehensive Exam, Topic: Lumbar inter-segmental kinematics during a manual therapy procedures. Department of Biokinesiology and Physical Therapy, University of Southern California
Current Position: Unknown

Keck School of Medicine

Department of Family Medicine

Introduction to Clinical Medicine (1st and 2nd year medical students), 1997-2006

Department of Radiology

Anatomy and Biomechanics (Residents and Fellows in Radiology), 2001-2008

Oakland University, Rochester, Michigan

School of Health Sciences, Department of Physical Therapy

Courses developed, directed and taught during the period from 1986 to 1997

- | | |
|---------|--|
| PT 300 | Kinesiology (3 units) |
| PT 311 | Biomechanics (3 units) |
| PT 332 | Physical Agents (3 units) |
| PT 512 | Arthrology (2 units) |
| PT 513 | Musculoskeletal System (4 units) |
| PT 533 | Electrotherapy (4 units) |
| PT 570 | Musculoskeletal Biomechanics (3 units) |
| PT 592 | Independent Study |
| PT 650 | Comprehensive Examination |
| PT 690 | Master's Thesis |
| EXS 650 | Comprehensive Exam |
| EXS 690 | Master's Thesis |

Master's degree students (thesis or comprehensive exams)

- | | |
|------|--|
| 1999 | Tom Meszaros, MS, PT |
| 1996 | Angie Vitale, MS, PT |
| 1996 | Anne Ewing Tafelski, MS, PT |
| 1996 | John Krauss, MS, PT |
| | <i>Current Position:</i> Associate Professor with tenure, Program in Physical Therapy, Oakland University, Rochester, Michigan |
| 1996 | Fredrick Pociask, MS, PT |
| | <i>Current Position:</i> Associate Professor with tenure, Program in Physical Therapy, Wayne State University, Detroit, Michigan |
| 1995 | Jessica Schnabel, MS, PT |
| 1994 | Allison Schmidt, MS, PT |
| 1994 | Tonyia Thomas, MS, PT |
| 1993 | Meena Narula, MS, PT |
| 1992 | Julie Upp, MS, PT |
| 1990 | Mary Beaulac, MS, PT |

Physical Therapy Professional Continuing Education

Since 1986, I have taken and taught many clinical continuing education courses.

Oakland University, Rochester, Michigan, Faculty Governance and Committee Activities

- | | |
|-----------|---|
| 1995-1996 | Faculty Search Committee, Chair |
| 1991-1994 | Committee for Handicapped Persons Accessibility and Awareness |
| 1990-1993 | Committee on Appointment and Promotions |
| 1994 | Committee on Instruction, 1989 - 1997, Chair |
| 1989-1994 | Graduate Council |

1989-1990 Academic Clinical Coordinator Search Committee, Chair
1989-1990 Program Director Search Committee, Chair
1989 Exercise Science Faculty Search Committee
1989-1990 University Senate
1986-1989 Michigan Orthopedic Network, Steering Committee
1988 Merit Committee
1986-1997 School of Health Sciences Academic Assembly
1987 Admissions Committee, Program in Physical Therapy
1987-1996 Faculty Promotion Assessment Committee, School of Health Sciences

Consultation with National Organizations

2006-Present Research Advisory Board, Fizjoterapia (Physiotherapy), ISSN 1230-8323, 2006 – present
2006-2010 External Research Advisory Board, Lied Center for Performing Arts, University of Nebraska
1989 Metropolitan Center for High Technology, Detroit Michigan, and Biomechanics of the upper extremity in designing a robotics system based on expert system approach

Consulting for National Athletic Groups

1979 Polish National Cross-country Ski Team. Biomechanical analysis of cross-country skiing techniques for the national cross country ski team

VITAE_Kulig_August_2020