

CURRICULUM VITAE

GEORGE J. SALEM, Ph.D.

1-20-2022

PERSONAL INFORMATION

University Address

Division of Biokinesiology & Physical Therapy
University of Southern California
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UNIVERSITY EDUCATION

Ph.D.	1991	University of California, Los Angeles -Department of Kinesiology Major area: Biomechanics Minor area: Muscle Physiology
M.S.	1988	University of California, Los Angeles -Department of Kinesiology Major area: Biomechanics
B.S.	1983	University of California, Davis - Department of Psychology Major area: Biological Psychology

POST-DOCTORAL TRAINING

1991-1993 Post-Doctoral Scholar, Department of Physiological Science, UCLA

ACADEMIC APPOINTMENTS

2004-present	Associate Professor, Division of Biokinesiology and Physical Therapy, University of Southern California (USC)
1996-present	Director Anatomical Sciences, Division of Biokinesiology and Physical Therapy, USC
1996-present	Co-director Musculoskeletal Biomechanics Research Laboratory, Division of Biokinesiology and Physical Therapy, USC
1997-2004	Assistant Professor, Division of Biokinesiology and Physical Therapy, USC
1999-2001	Visiting Assistant Professor, School of Engineering and Applied Science, University of California, Los Angeles (UCLA)

- 1996-1997 Assistant Professor of Research, Department of Biokinesiology and Physical Therapy, USC
- 1995-1996 Associate Professor, Department of Kinesiology and Physical Education, California State University, Long Beach (CSULB)
- 1991-1995 Adjunct Assistant Professor, Department of Physiological Science, UCLA
- 1987-1990 Assistant Strength Coach, Department of Intercollegiate Athletics, UCLA

LABORATORY DIRECTORSHIPS

1. Co-Director, Musculoskeletal Biomechanics Research Laboratory (MBRL), Division of Biokinesiology and Physical Therapy, USC, 1996-present:
 Coordinate and direct motion analysis research laboratory. Procure and maintain kinematic-, kinetic-, and electromyographic-analysis equipment, computer hardware and software, and supplies. Manage laboratory personnel, including students, technicians, and engineers. Procure extramural and intramural funding.

2. Director, Human Anatomy Laboratory, Division of Biokinesiology and Physical Therapy, USC, 1996-present:
 Develop and coordinate teaching laboratory for instruction in gross and analytical anatomy, and kinesiology. Collect, prosect, and maintain anatomical specimens. Purchase models, equipment, and instructional aides. Procure extramural and intramural funding.

3. Co-Director, Biomechanics Laboratory, Department of Kinesiology and Physical Education, CSULB, 1995-1996:
 Coordinate and direct research/teaching laboratory in biomechanics. Procure and maintain kinematic-, kinetic-, and electromyographic-analysis equipment, computer hardware and software, supplies, anatomical specimens, models, and instructional aids. Procure extramural and intramural funding.

4. Director, Human Anatomy Laboratory, Department of Physiological Science, UCLA, 1991-1995:
 Develop and coordinate teaching laboratory for instruction in musculoskeletal anatomy, biomechanics, and visceral anatomy. Collect, prosect, and maintain anatomical specimens. Purchase models, and instructional aids. Procure extramural and intramural funding.

HONORS, AWARDS, AND FELLOWSHIPS:

- 1995, 1991 Distinguished Teaching Award Nomination; UCLA
- 1991 Elected Fellow, American College of Sports Medicine
- 1990 NASA Research Achievement Award; NASA

1987-1990 University Graduate Research Fellow; UCLA
1986-1990 Edith Hyde Memorial Scholarship; UCLA

PROFESSIONAL ORGANIZATIONS:

International Society of Biomechanics
American Society of Biomechanics
 (Meeting Co-chair, 2011 ASB National Conference, Long Beach, CA)
American College of Sports Medicine
National Parkinson’s Foundation
National Strength and Conditioning Association
SIGMA XI Scientific Research Society

II. SCHOLARLY ACTIVITY

RESEARCH SUPPORT

Federal Funding

1. Co-Investigator (Southern California CTSI Pilot Funding Program) 7/01/2020-6/31/2021
Examining Inflammatory Response to Resistance Training Exercise in Older Adults \$3,000.
2. Principal Investigator (Southern California CTSI Pilot Funding Program) 7/01/2019-6/31/2020
Inflammation Before and After a 10-Week Multimodal Exercise Program (Golf) for Seniors
\$2,852.
3. Principal Investigator (Southern California CTSI Pilot Funding Program) 7/01/2017-6/31/2018.
Quantifying Walking Activity Before, During, and After a 12-week Activity Intervention for Seniors) \$2,967.
4. Principal Investigator (Southern California CTSI Pilot Funding Program) 7/01/2013-6/31/2014
Quantifying Muscle and Bone Changes in the Foot and Leg using Magnetic Resonance Imaging (MRI) \$20,500.
5. Co-Principal Investigator (National Center for Complementary and Alternative Medicine ; NIH)
4RO1AT004869-03 9/8/2011-6/30/2013 *Safe and Effective Yoga for Seniors: Biomechanical Considerations* \$501,852.
6. Co-Principal Investigator (National Center for Complementary and Alternative Medicine ; NIH)
5RO1AT004869-02 7/01/2010-6/31/2011 *Safe and Effective Yoga for Seniors: Biomechanical Considerations* \$674,110.

7. Co-Principal Investigator (National Center for Complementary and Alternative Medicine ; NIH) 7/01/2009-6/31/2011 *Safe and Effective Yoga for Seniors: Biomechanical Considerations* \$693,593.
8. Principal Investigator (UCLA Older American Independence Center; National Institute on Aging; NIH) 12/01/06 – 05/31/09 *Upper-extremity Function following Yoga Intervention for Hyperkyphosis*, \$83,083
9. Co-investigator (National Institute on Child Health and Human Development; NIH) 2005-2010 *Intra-abdominal Adipose Tissue and Disease Risk in Adolescents*, \$321,887
10. Co-investigator (National Cancer Institute; NIH) 2005-2010 *USC Center for Transdisciplinary Research on Energetics and Cancer*, \$1,500,443
11. Co-investigator (National Institute of Arthritis and Musculoskeletal and Skin Diseases; NIH) 2005-2008 *Mechanics of Non-contact ACL Injuries in Female Athletes*, \$1,124,369.
12. Principal Investigator (National Institute on Aging; NIH) 2001-2003 *Preserving Physical Function: Biomechanical Considerations*, \$203,125.
13. Co-Principal Investigator (National Institute on Aging; NIH) 1996-2001 *A Weighted Vest for the Prevention of Muscular Weakness and Osteoporosis*, \$609,974.

International Funding

Principal Investigator/ Graduate Student Advisor (NATO Scientific Fellowship Program) 2003 *Biomechanical Analysis of Rehabilitative Exercise Following Anterior Cruciate Ligament Repair*, \$8,696.

Foundations and Associations

1. Co-Principal Investigator, Ellison Institute for Transformative Medicine Collaboration Grant 10/01/2021-09/30/2023, *Metabolomic Interrogation of Exercise Recovery*, \$43,145
2. Principal Investigator (R&A; World Golf Foundation) 2018-2020 *Golf for Healthy Aging Study*, \$82,600.
3. Principal Investigator (Children’s Hospital Los Angeles) 2012-2013 *Yoga to Improve Posture and Muscular Performance in Persons with Cystic Fibrosis*, \$20,484.
4. Co-Investigator, Chiu; (Life Fitness Academy) 2005-2006 *Does kinematic specificity ensure kinetic specificity?* \$5,000.
5. Principal Investigator/Faculty Advisor (National Strength and Conditioning Association, Doctoral Fellowship; Loren Chiu) 2004-2005 *Determination of Subject Specific Anthropometrics Using DEXA: The Effect on Joint Kinetics During Weightlifting*, \$2,500.

6. Co-Investigator (Kinetics Foundation) 2003-2005 *Effects of Body-Weight-Supported Treadmill Training in Individuals with Parkinson's Disease*, \$388,413.
7. Co-Investigator (Foundation for Physical Therapy) 2003-2005 *A Clinical Research Network to Evaluate the Efficacy of Physical Therapist Practice*, \$1,500,000.
8. Principal Investigator (Arthroscopic Association of North America) 2003-2004 *Rehabilitative Exercise Following Arthroscopic ACL Reconstruction: A Biomechanical Examination*, \$5,000.
9. Co-Investigator (Thrasher Research Fund) 2002-2004 *Effects of Resistance Training on Risk Factors for Type 2 Diabetes in Overweight Hispanic Boys*, \$364,465.
10. Co-Investigator (National Athletic Training Association) 2002-2003 *Biomechanical and Neuromuscular Aspects of Non-contact ACL Injuries: The Influence of Gender, Experience, and Training*, \$52,501.
11. Co-Investigator (California Physical Therapy Fund) 1999-2001 *Biomechanical Analysis of the Back Squat Exercise: A Comparison Between the Healthy and Anterior Cruciate Ligament Reconstructed Knee*, \$1,825.
12. Co-Investigator (California Physical Therapy Fund) 1999-2001 *Peak Ground Reaction Forces During Weighted and Un-weighted Bench Stepping*, \$1,182.
13. Principal Investigator (National Collegiate Athletic Association M950428) 1995-1998 *Repetitive Trauma Injuries of the Knee Extensor Mechanism in Women Intercollegiate Athletes: Resistance Training and Biomechanical Considerations*, \$16,380.
14. Principal Investigator (Straus Sports Medicine Research Foundation) 1994-1995 *Quantification of Tissue Loading During Resistance Exercise in Older Adults*, \$5,650
15. Principal Investigator (Fitness Quest, Canton OH) 1994-1995 *Biomechanical Analysis of a Flexible Bench Step*, \$7,800
16. Principal Investigator (Alfta Rehabilitation Center Forlag, AB Sweden) 1993-1994 *Flexibility Exercise and Carpal Tunnel Syndrome*, \$3,207
17. Co-investigator (Weider Foundation, Woodland Hills, CA) 1990-1994 *Protein Supplementation and Bone Biomechanics*, \$69,704
18. Assistant Researcher (American Diabetes Association J890725), 1990-1991 *Diabetic Effects on Bone and Ligament*, \$27,316

Intramural Funding

1. Principal Investigator (James H, Zumberg Research Grant) 2014, *Mindfulness Training for Improving Physical Rehabilitation in Older Adults*, \$10,000
2. Principal Investigator (James H, Zumberg Research Grant) 2012, *Yoga as an Intervention for Postural and Neuromuscular Dysfunction in Persons with Cystic Fibrosis*, \$10,000
3. Principal Investigator (Division of Biokinesiology and Physical Therapy, Pilot Grant) 2011, *Yoga as an Intervention for Postural and Neuromuscular Dysfunction in Persons with Cystic Fibrosis*, \$7,500.
4. Principal Investigator (USC Department Intercollegiate Athletics) 2007-2008 *Assessing the Health & Wellness USC Intercollegiate Athletes Throughout a Lifetime*, \$38,963
5. Principal Investigator (USC Department of Neurology, Intervention Development Grant) 2007-2008 *Group Exercise in Persons with Parkinson's Disease*, \$12,000
6. Principal Investigator (James H, Zumberg Research Grant) 2006-2008 *The Influence of Fixed and Changing Environmental Stimuli on Walking and Freezing Behavior in Persons with Parkinson's Disease*, \$50,000
7. Principal Investigator (James H, Zumberg Research Grant) 2004-2005 *Biomechanical Analysis of Rehabilitative Exercise Following Anterior Cruciate Ligament Repair: Influence of Different Surgical Interventions*, \$44,785.
8. Principal Investigator (James H, Zumberg Research Grant) 2001-2002 *Preserving Physical Function: Electromyographic Considerations*, \$46,787.
9. Principal Investigator (James H, Zumberg Research Grant) 1999-2001 *Measuring Strength in Older Adults: The Trial-Dependent Relations Among Force Production, Functional Performance, and Muscle Mass*, \$19,018.
10. Principal Investigator (California State University, Long Beach Summer Stipend) 1996 *Relationship Between Bench-step Structural Properties and the Kinetics of Bench Stepping Exercises*, \$3,813.
11. Principal Investigator (UCLA School of Medicine) 1994-1995 *Quantification of Musculoskeletal Loading While Wearing a Weighted Vest*, \$4,500

SUMMARY OF PUBLICATIONS

Published Papers in Peer-Reviewed Journals

h-index=29 (Google Scholar; <https://scholar.google.com/citations?user=qLBYnUwAAAAJ&hl=en>)

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

1. Moore, J.*, Kanwar, K.*, Du Bois, A.*, **Salem, G. J.** The fitness effects of a 10-week golf training program for older adults: A non-randomized, pre-post, pilot study. *American J. Recreational Therapy*, In Press, June, 2022.
2. Kanwar, K*., Cannon, J., **Salem, G.** Injury risk-factor differences between two golf swing styles: a biomechanical analysis of the lumbar spine, hip, and knee. *Sports Biomech.*, 1-22, doi.org/10.1080/14763141.2021.1945672, 2021.
3. Kanwar, K.*, Moore, J.*, Hawkes, R., **Salem, G. J.** Golf as a physical activity to improve walking speed and cognition in older adults: A non-randomized, pre-post, pilot study. *Mental Health and Physical Activity*, 21: 1-8, doi.org/10.1016/j.mhpa.2021.100410, 2021
4. Du Bois, A.*, Marcione, N.*, Powers, C., Flanagan, S.*, Schroeder, T., Castle, S., Moore, J.*, **Salem, G. J.** The effects of a comprehensive golf training program on measures of physical performance and dynamic balance in older military veterans. *International Journal of Golf Science*, 9(1): 1-16, 2021.
5. Jia, L., **Salem, G.**, Powers, C. Sex difference in hip adduction during the stance phase of running: A swing phase problem?" *MSSSE*, 53(7): 1412-1416, doi: 10.1249/MSS.0000000000002610, 2021.
6. Lee, K., Kang, I., Mortimer, J., Sattler, F., Mack, W., Salem, G., Dieli-Conwright, C. Effects of high intensity interval training on matrix metalloproteinases in women with breast cancer receiving anthracycline-based chemotherapy. *Sci Rep*, 3;10(1):5839, <https://doi.org/10.1038/s41598-020-61927-x>, 2020.
7. Lee, K., Kang, I., Mack, W., Mortimer, J., Sattler, F., Salem, G., Dieli-Conwright, C.. Feasibility of high intensity interval training in patients with breast cancer undergoing anthracycline chemotherapy. *BMC Cancer*, <https://doi.org/10.1186/s12885-019-5887-7>, 2019.
8. Lee, K., Kang, I., Mack, W., Mortimer, J., Sattler, F., Salem, G., Dieli-Conwright, C. Effects of high intensity interval training on vascular endothelial function and vascular wall thickness in breast cancer patients receiving anthracycline-based chemotherapy *Breast Cancer Research and Treatment* <https://doi.org/10.1007/s10549-019-05332-7>, 2019.
9. Du Bois, A. M., Marcione, N. A., Castle, S. C., Moore, J. L., **Salem, G. J.** The Golf Intervention for Veterans Exercise (GIVE) Study: Golf training program and study design – A

methodological protocol. *International Journal of Golf Science*, 7(2), 1-16, <https://www.golfsciencejournal.org/article/7770>, 2019.

10. Nandi, T., Lewthwaite, R., Fisher, B. E., & **Salem, G. J.** Assessing balance confidence in young adults. *Psychology of Sport and Exercise* <https://www.sciencedirect.com/journal/psychology-of-sport-and-exercise/vol/43/suppl/C>, 2019.
11. Nandi, T., Hortobágyi, T., van Keeken, H. G., Salem, G. J., & Lamoth, C. J. Standing task difficulty related increase in agonist-agonist and agonist-antagonist common inputs are driven by corticospinal and subcortical inputs respectively. *Scientific Reports*, <https://www.nature.com/articles/s41598-019-39197-z>, 2019.
12. Nandi, T., Lamoth, C., van Keeken, H., Bakker, L., Kok, I., Salem, G. J., Fisher, B. E., Hortobágyi, T. In standing, corticospinal excitability is proportional to COP velocity whereas M1 excitability is participant-specific. *Front. Hum. Neurosci.*, <https://doi.org/10.3389/fnhum.2018.00303> 2018.
13. Lee, K., Kang, I., Mortimer, J., Sattler, F., Mack, W., Fitzsimons, L., Salem, G., Dieli-Conwright, C. Effects of high-intensity interval training on vascular function in breastcancer survivors undergoing anthracycline chemotherapy: design of a pilot study. *BMJ Open*, doi:10.1136/bmjopen-2018-022622, 2018.
14. Hashish, R*., Du Bois, A.*., Samarawickrame, S.D.*., Nandi, T.*., and **Salem, G.** Spatiotemporal characteristics of habitually shod runners change when performing barefoot running. *Sport Sci Health* <https://doi.org/10.1007/s11332-017-0380-7> 2017.
15. Nandi, T., Fisher, B. E., Hortobágyi, T., & **Salem, G. J.** Increasing mediolateral standing sway is associated with increasing corticospinal excitability, and decreasing M1 inhibition and decreasing M1 inhibition and facilitation. *Gait & Posture* 60: 135-140, doi: 10.1016/j.gaitpost.2017.11.021, 2017.
16. Kiwata, JL, Dorff, TB, Schroeder, ET Salem, GJ Lane, CJ, Rice, JC, Gross,M.E., Dieli-Conwright, C.M. A pilot randomised controlled trial of a periodised resistance training and protein supplementation intervention in prostate cancer survivors on androgen deprivation therapy. *BMJ open* 7 (7), e016910, 2017.
17. R Hashish, SD Samarawickrame, S Sigward, SP Azen, **GJ Salem.** Lower-limb dynamics and clinical outcomes for habitually shod runners who transition to barefoot running. *Physical Therapy in Sport*, 1-8, pii: S1466-853X(16)30209-7.doi: 10.1016/j.ptsp. 2016.
18. Hashish, R.*., Samarawickrame, S.*.,Baker, L., and **Salem, G.,** The influence of a bout of exertion on novice barefoot running dynamics. *J Sports Sci Med* 15(2): 327-334, (PMCID:PMc4879448) 2016.

19. MY Wang*, GA Greendale, SSY Yu*, and **GJ Salem**. Physical-Performance Outcomes and Biomechanical Correlates from the 32-Week Yoga Empowers Seniors Study. *Evidence-Based Complementary and Alternative Medicine* <http://dx.doi.org/10.1155/2016/6921689>, 2016.
20. Hashish, R.*, Samarawickrame, S.*, Powers, C., and **Salem, G**. Lower limb dynamics vary in shod runners who acutely transition to barefoot running. *J. Biomechanics* (doi: <http://dx.doi.org/10.1016/j.jbiomech>), 2016.
21. Flanagan, S.*, Kulik, J, and **Salem, G**. The limiting joint during a failed squat: A biomechanical case series. *J Strength Conditioning Res*; 29(11): 3134–3142, doi: 10.1519/JSC.0000000000000979, 2015.
22. Sorenson SC*, Romano R, Scholefield RM, Schroeder ET, Azen SP, **Salem GJ**. The Trojan Lifetime Champions Health Survey: Development, Validity, and Reliability. *J Athletic Training*; 50(4):407-18. doi: 10.4085/1062-6050-50.2.10, 2015.
23. Sorenson SC*, Romano R, Azen SP, Schroeder ET, **Salem GJ**. Lifespan exercise among elite intercollegiate student athletes. *Sports Health*. Jan;7(1):80-6. doi: 10.1177/1941738114534813, 2015.
24. Hashish R*, Samarawickrame SD*, **Salem GJ**. _A Comparison of Dorsal and Heel Plate Foot Tracking Methods on Lower Extremity Dynamics. *J. Biomechanics* 47(5), 1211-1214, doi: 10.1016/j.jbiomech.2014.01.028, 2014.
25. Sorenson SC*, Romano R, Scholefield RM, Martin BE, Gordon JE, Azen SP, Schroeder ET, **Salem GJ**. Holistic life-span health outcomes among elite intercollegiate student-athletes. *J Athl Train*;49(5):684-95. doi: 10.4085/1062-6050-49.3.18, 2014.
26. Hashish R*, Samarawickrame SD*, Wang MY*, Yu SS*, **Salem GJ**. The Association Between Heel-Rise Performance with Static and Dynamic Balance in Community Dwelling Older Adults. *Geriatric Nursing* 9(3) doi:10.1016/j.gerinurse.2014.09.003, 2014.
27. **Salem, G.**, Yu, S-Y.* , Wang, M-Y.* , Samarawickrame, S.* , Hashish, R.* , and Greendale, G., Physical Demand Profiles of Hatha Yoga Postures Performed by Older Adults. *Evidenced-based Complementary and Alternative Medicine* Article ID 165763, 13: 1-29, 2013.
28. Fisher, B., Nacca, Q., **Salem, G.**, Song, J*. Yip, J., Conte, P., Jakowec, M., and Petzinger, G. Treadmill exercise elevates dopamine D2 receptor binding potential in patients with early Parkinson’s disease. *Neuro Report*, 2013.
29. Wang, M-Y.* , Yu, S-Y.* , Hashish, R.* , Samarawickrame, S.* , Kazadi, L., Greendale, G., and **Salem, G**. Physical demands of standing yoga poses in seniors: yoga empowers seniors study (YESS), *BMC Complementary & Alternative Medicine* Article ID: 2099618558770127, 13:8 2013.

30. Yu, S-Y.*, Wang, M-Y.*, Samarawickrame, S.*, Hashish, R.*, Kazadi, L., Greendale, G., and **Salem, G.** The physical demands of the tree (vrikshasana) and one leg balance (uttitha hasta padangusthasana) poses performed by seniors: a biomechanical examination, *Evidenced-based Complementary and Alternative Medicine* Article ID 971896, 2012:1-11, 2012.
31. Chiu, L.Z.F.*, and **GJ. Salem.** Potentiation of vertical jumping performance during a weightlifting training session. *Journal Applied Biomechanics*: 28: 627-635, 2012.
32. Wang, M-Y.*, Greendale, G., and **Salem, G.** Yoga improves upper extremity function and scapular posturing in persons with hyperkyphosis. *Journal of Yoga Physical Therapy* 2(3):1-6, 2012.
33. Greendale, G Kazadi, L., Mazdyasni, S., Ramirez, E., Wang, M-Y.*, Yu, S-Y.*, and **Salem, G.** The yoga empowers seniors study (YESS): design and asana series. *Journal of Yoga Physical Therapy* 2 (1):1-8, 2012.
34. Song, J*, Sigward, S, Fisher, B, and **Salem, G.** Altered dynamic postural control during step turning in persons with early stage Parkinson's disease. *Parkinson's Disease*, Article ID 386962, 2012:1-8, 2012.
35. Chiu, L.Z.F.*, and **GJ. Salem.** Pelvic kinematic method for determining vertical jump height. *Journal Applied Biomechanics* 26: 508-511, 2010.
36. Sorenson, S.*, Arya, S., Souza, R., Pollard, C., **Salem, G.**, and Kulig, K., Altered knee extensor dynamics in the volleyball approach jump: the influence of patellar tendinopathy. *Journal Orthopaedic and Sports Physical Therapy* 40: 568-576, 2010.
37. Souza, R, Arya, S., Pollard, C., **Salem, G.**, and Kulig, K., Patellar tendinopathy alters the distribution of lower extremity joint effort during hopping. *Journal Applied Biomechanics* 26: 249-256, 2010.
38. Chiu, L.*, and **Salem, G.** Time series analysis: evaluating trends in exercise and athletic performance. *Journal of Strength and Conditioning Research*, 24:230-234, 2010.
39. Chodzko-Zajko , W.J., Minson, C.T., Nigg, C.R., Fiatarone, M.A., Proctor, D. **Salem, GJ.**, Skinner, J.S. ACSM Position stand on exercise and physical activity for older adults. *Medicine and Science in Sport and Exercise*, 41:1510-1530, 2009.
40. Song, J-E.*, Fisher, B., Wu, A., Pettsinger, G., Gordon, J., and **Salem, G.**, The relationships between the unified Parkinson's disease rating scale and lower-extremity functional performance in persons with early-stage Parkinson's disease. *Journal Neurorehabilitation & Neural Repair* 23: 657-661, 2009
41. Fisher, B., Wu, A., **Salem, G.**, Song, J-E.*, Lin, J., Jakowic, M., Yip, J., Gordon, J., and Pettsinger, G. The effect of exercise training in improving motor performance and cortico-motor excitability in individuals with early Parkinson's disease. *Archives of Physical Medicine and Rehabilitation* 89: 1221-1229, 2008.

42. Chiu, L.Z.F.*, B.K. Schilling, A.C. Fry, and **GJ. Salem**. The influence of deformation on barbell mechanics during the clean pull. *Sport Biomechanics* 7:260-273, 2008
43. Flanagan, S.* and **Salem, G.** Lower extremity joint kinetic responses to external resistance variations. *Journal of Applied Biomechanics* 24: 58-68, 2008
44. Flanagan, S.* and **Salem, G.** Bilateral differences in the net joint torques during the squat exercise. *Journal of Strength and Conditioning Research* 21: 1220-1226, 2007.
45. Flanagan, S.*, Kessans, K., and **Salem, G.** Quantifying bilateral joint contributions during a variety of stepping exercises. *Journal of Sport Rehabilitation* 15: 255-265, 2006.
46. Shaibi, G.Q.*, Cruz, M.L., Ball, G.D., Weigensberg, **Salem GJ.**, Crespo, N.C., and Goran, M.I. Effects of resistance training on insulin sensitivity in overweight Latino adolescent males *Medicine and Science in Sport and Exercise* 38: 1208-1215, 2006.
47. Chui, L*. and **Salem, G.** Comparison of joint kinetics during free weight and flywheel resistance exercise. *Journal of Strength and Conditioning Research* 20: 555-562, 2006.
48. Wang, M-Y.*, Flanagan, S.*, Song, J-E*, Greendale, G.A, Azen, S., and **Salem, GJ.** Relations among body weight, joint moments generated during functional activities, and hip bone mass in older adults. *Clinical Biomechanics* 21: 717-725, 2006.
49. Shaibi, G.Q.*, Cruz, M.L., Ball, G.D., **Salem GJ.**, Weigensberg, M.J., and Goran, M.I. Cardiovascular fitness and physical activity in children with and without impaired glucose tolerance. *International Journal of Obesity* 30: 45-49, 2006.
50. Shaibi, G.Q.*, Cruz, M.L., Ball, G.D., Weigensberg, M.J., Kobaissi, H.A., **Salem GJ.**, and Goran, M.I. Cardiovascular fitness and the metabolic syndrome in overweight Hispanic youth. *Medicine and Science in Sport and Exercise* 37: 922-928, 2005.
51. Flanagan, S.P.* and **Salem, GJ.** The validity of summing lower extremity individual joint kinetic measures. *Journal of Applied Biomechanics* 21: 181-188, 2005.
52. Flanagan, S.*, Song, J-E,* Wang, M-Y*, Azen, S., Greendale, G.A., and **Salem, GJ.** Biomechanics of the heel raise exercise in older adults: effects of technique and resistance modification *Journal of Aging and Physical Activity* 13: 2005.
53. **Salem, GJ.**, Flanagan, S.*, Wang, M-Y*, Song, J-E*, Azen, S. and Greendale, G.A. Lower-extremity kinetic response to weighted-vest resistance during stepping exercise in older adults. *Journal of Applied Biomechanics* 20: 260-274, 2004.
54. Flanagan, S.*, Wang, M-Y.*, Greendale, G.A., Azen, S. and **Salem, GJ.**, Biomechanical attributes of lunging activities in older adults. *Journal of Strength and Conditioning Research* 18: 599-605, 2004.

55. Wang, M-Y.* and **Salem, GJ.**, The relations among upper-extremity loading characteristics and bone mineral density changes in young women. *Bone* 34:1053-1063, 2004.
56. **Salem, GJ.**, Salinas, R.*, and Harding, V*. Bilateral kinematic and kinetic analysis of the squat exercise following ACL reconstruction. *Archives of Physical Medicine and Rehabilitation* 84:1211-1216, 2003.
57. Wang, M-Y.*, Flanagan, S.*, Song, J-E*, Greendale, G.A, and **Salem, GJ.** Lower-extremity biomechanics during forward and lateral stepping activities in older adults. *Clinical Biomechanics* 18: 214-221, 2003.
58. Flanagan, S., Wang, M-Y.*, Sanker, S., Greendale, G.A., and **Salem, GJ.**, Squatting exercises in older adults: kinematic and kinetic comparisons. *Medicine and Science in Sport and Exercise* 35: 635-643, 2003.
59. **Salem, GJ.**, Wang, M-Y*, and Sigward, S. Recommendations for measuring lower-extremity strength in older adults: the stability of isokinetic vs 1RM measures *Journal of Aging and Physical Activity* 10: 489-503, 2002.
60. Wallace, D.A., **Salem, GJ.**, Salinas, R. *, and Powers, C.M. Patellofemoral joint kinetics during squatting with and without external load. *Journal of Orthopaedic & Sports Physical Therapy* 32: 141-148, 2002.
61. **Salem, GJ.** and Powers, C. Patellofemoral joint stress during deep squatting in elite women athletes. *Clinical Biomechanics* 16: 424-430, 2001.
62. **Salem, GJ.**, Wang, M-Y*, Azen, S., Young, J.T.*, Marion, M., and Greendale, G.A. Lower-extremity response to activity program dosing in older adults. *Journal of Applied Biomechanics* 17: 103-112, 2001.
63. **Salem, GJ.**, Wang, M-Y,* Young, J.T.*, Marion, M., and Greendale, G.A. Knee strength and lower- and higher-intensity functional performance in older adults. *Medicine and Science in Sport and Exercise* 32: 1679-1684, 2000.
64. **Greendale, G.A., Salem, GJ.**, Young, J.T.*, Damesyn, M, Marion, M., Wang, M-Y, and Reuben, D.B. A randomized trial of weighted vest use in ambulatory seniors: strength, performance, and quality of life outcomes. *Journal American Geriatrics Society* 48: 305-311, 2000.
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66. **Zernicke, R.F., Salem, GJ.**, Barnard, R.J., Woodward, J.S., Meduski, J.W., and Meduski, J.D. Adaptations of immature trabecular bone to exercise and augmented dietary protein. *Medicine and Science in Sports and Exercise* 27: 1486-1493, 1995.

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Book Chapters

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Abstracts, Proceedings, Presentations

1. Moore J, Kanwar K, Lee H; Cai G; Hawkes R, & **Salem G**. Lower Extremity Biomechanical Demands of a Bend and Pick-Up Task in Healthy, Older Adults. XXVIII Congress of the International Society of Biomechanics (ISB); July 2021.
2. Cai, G., Moore, J., Kanwar, K., Lee, H., Hawkes, R., & **Salem, G**. Sagittal Plane Lower Extremity Joint Demands of the Golf Swing in Novice Older Adult Golfers. XXVIII Congress of the International Society of Biomechanics (ISB); July 2021.
3. Moore J, Cai G, & **Salem G**. Producing High-Intensity Interval Training Protocols from Heart Rate Maximum Testing. USC Ostrow Research Day; May 2021.
4. Moore J, Kanwar K, Lee H, Hawkes R, & **Salem G**. Examining the effect of a 10-week golf program on circulating markers of inflammation in healthy, older adults: a pilot study. American Association of Immunology National Conference; May 2021.
5. Moore J, Kanwar K, Lee H, Hawkes R, & Salem G. Improving Balance with Golf as a Mindful Exercise Activity in Older Adults. USC Institute for Integrative Health & Wellness Virtual Conference; November 2020.
6. Moore J, Kanwar K, Lee H, Hawkes R, & Salem G. Hip Abductor Strength Improvement Following a 10-Week Golf Program in Healthy, Older Adults. NSCA National Conference; July 2020; Las Vegas, NV.
7. Cai, G., Moore, J., Kanwar, K., Lee, K., Hawkes, R., & Salem, G. Are Swing Biomechanical Demands Unidirectional in Novice, Older Adult Golfers? NSCA National Conference; July 2020; Las Vegas, NV. *Master's Award Consideration*
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9. Cai G., Moore JL, Kanwar K, Lee H, Hawkes R, & **Salem G**. Physical activity during mindful exercise activity in healthy older adults: golf. *USC Institute of Integrative Health and Wellness*, Los Angeles, CA. November 2020.
10. Moore JL, Kanwar K, Lee H, Hawkes R, & **Salem G**. Improving balance with golf as a mindful exercise activity in older adults. *USC Institute of Integrative Health and Wellness*, Los Angeles, CA. November 2020.
11. Moore JL, Kanwar K, Lee H, Hawkes R, & **Salem G**. Hip Abductor Strength Improvement Following a 10-Week Golf Program in Healthy Older Adults. NSCA National Conference; Las Vegas, NV. July 2020.

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13. Moore JL, Kanwar K, Lee H, Hawkes R, & **Salem G.** Changes in Dual-Task Gait Speed Following a 10-Week Golf Program in Older Adults. ACSM Annual Meeting; San Francisco, CA. May 2020.
14. Cai, G., Moore, J., Kanwar, K., Lee, K., Hawkes, R., **Salem, G.** Feasibility and Adherence of a Novel Golf Training Intervention for Healthy Older Adults. ACSM Annual Meeting; San Francisco, CA., May 2020.
15. Moore JL, Kanwar K, Lee H, Hawkes R, & **Salem G.** Effect of a 10-Week Golf Program on Cognitive Function in Older Adults. American Geriatric Society 2020 Annual Scientific Meeting; May, 2020; Long Beach, CA.
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17. Moore JL, Kanwar K, Lee H, & **Salem G.** Effect of a 10-Week Golf Intervention on Older Adult Fitness. Southwest ACSM Annual Regional Chapter Meeting; Newport Beach, CA. October, 2019.
18. Cai, G., Moore, J., Kanwar, K., Lee, K., Hawkes, R., **Salem, G.** Effect of a Novel Golf Program on Gait Performance in Older Adults. Southwest ACSM Annual Regional Chapter Meeting; Newport Beach, CA. October, 2019.
19. Moore JL, DuBois AM, Marcione N, Lee HJ, Castle SC, & **Salem GJ.** Effect of a golf intervention on center of pressure control. 2019 Herman Ostrow School of Dentistry, University of Southern California Annual Research Day. Los Angeles, CA. April, 2019.
20. Moore JL, DuBois AM, Marcione N, Lee HJ, Castle SC, & **Salem GJ.** Effect of a golf intervention on center of pressure control. Jacquelin Perry Research Day, Division of Biokinesiology and Physical Therapy University of Southern California. April, 2019.
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22. **Salem G.J.** & Du Bois. Does Golf Preserve/Improve Physical Function?. The Golf for Veterans Exercise Intervention, and Golf for Healthy Aging Studies. International Conference on Golf and Health, Bromley, UK, October, 2018.

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24. Du Bois A.M. & **Salem G.J.** The Effects of a 12-week Comprehensive Golf Training Program of Functional Fitness in Older Adults, International Society of Physical Activity and Health, London, UK October, 2018.
25. T Nandi, CJC Lamoth, HG van Keeken, LBM Bakker, **GJ Salem**, BE Fisher, T Hortobágyi. Task difficulty-related modulation of peroneus longus neural excitability during standing in young adults. Society for the Neural Control of Movement, Santa Fe, NM, USA, May 2018.
26. Marcione N.A., Du Bois A.M. & **Salem G.J.** Effects of A Golf Training Program On Dual-task Gait Speed in Older Military Veterans. Platform Presentation. World Scientific Congress on Golf. Abbotsford, Canada. July 2018.
27. Du Bois AM, Marcione NA, Castle SC, & **Salem GJ.** Golf as Therapeutic Exercise for Older Adults. World Scientific Congress of Golf VIII Abbotsford, BC, Canada July, 2018.
28. Du Bois AM, Marcione NA, Castle SC, & **Salem GJ.** Golf as Therapeutic Exercise for Older Adults: Preliminary Data from the Golf Intervention for Veterans Exercise (GIVE) Study. Golf and Health Symposium Chicago, IL May, 2018.
29. Marcione N.A., Du Bois A.M. & **Salem G.J.** Golf Intervention Improves Fast but Not Self-selected Gait Speed. Poster Presentation. American College of Sports Medicine. Minneapolis, MN. May 2018.
30. Du Bois AM, Marcione N, & **Salem GJ.** Effect of an older adult golf training program on postural control. American Society of Biomechanics Annual Meeting Boulder, CO August, 2017.
31. Marcione N.A., Du Bois A.M. & **Salem G.J.** Effects of Golf Training on Gait Parameters in Older Military Veterans. *American Society of Biomechanics. Boulder, CO. August 2017.*
32. Marcione N.A., Du Bois A.M. & **Salem G.J.** Golf Intervention for Veterans Exercise (GIVE): a pilot study examining golf's influence on gait speed and cognition in older adults. *American College of Sports Medicine. Denver, CO. June 2017.*
33. Du Bois AM, Marcione N, & **Salem GJ.** Dynamic postural control and hip abductor muscle performance following a 12-week introductory golf program. *American College of Sports Medicine. Denver, CO. June 2017.*
34. Nandi Tulika, Fisher Beth, Hortobágyi Tibor, **Salem G.** M1 inhibition and facilitation decrease when mediolateral standing balance is manipulated. *Society for the Neural Control of Movement, Dublin, Ireland, May 2017*

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36. Du Bois AM & **Salem GJ**. Hip energetics of a golf swing when swinging with different clubs. *Southwest American College of Sports Medicine Regional Meeting, Costa Mesa, CA, October 2016.*
37. Nandi T*, Fisher BE, **Salem GJ**. Association between motor cortical excitability and postural stability in standing. *Annual Conference of the American Society of Biomechanics, Raleigh, NC, USA, August 2016.*
38. Marcione N., Du Bois A.M. & **Salem G.J.** Is golf a one-sided sport? Bilateral demands of the hip joint during the golf swing. *World Scientific Congress of Golf VII St. Andrews, SCT July 2016*
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41. Marcione N., Du Bois A.M. & **Salem G.J.** Lower Extremity Joint Kinematics While Picking Up a Golf Ball. *Research Day – Ostrow School of Dentistry, Los Angeles, CA, March 2016.*
42. Nandi T*, Hiramatsu S, Fisher BE, **Salem GJ**. Change in motor cortical excitability with changes in postural threat. *Research Day – Ostrow School of Dentistry, Los Angeles, CA, March 2016.*
43. Nandi T.*, Du Bois A.*, Runkle N., Havens K., **Salem GJ**. Biomechanics of the functional reach test. *Annual Conference of the American Society of Biomechanics, Columbus, OH, August 2015.*
44. Du Bois AM*, Nandi T*, **Salem GJ**. Validation of center of pressure measurements with artificial turf *Annual Conference of the American Society of Biomechanics, Columbus, OH August, 2015.*
45. Du Bois AM*, Hashish R*, Samarawickrame SD*, **Salem GJ**. Changes in joint contributions to the support impulse during an acute transition to barefoot running by *American College of Sports Medicine, San Diego, CA, May, 2015.*
46. Nandi T.*, **Salem GJ**. Biomechanical Role of the hip in maintaining balance during standing forward reach. *American College of Sports Medicine, San Diego, May, 2015.*
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52. Hashish R, Samarawickrame SD, **Salem GJ**. The Association Between Heel-Rise Performance and Static Balance in Community Dwelling Older Adults. *International Society of Biomechanics Conference, Brazil, August 2013*.
53. Hashish R, Samarawickrame SD, Gaur K, **Salem GJ**. Tibialis Posterior Muscle Activation Strategies in Novice Barefoot Runners Before and After Exertion. *International Society of Biomechanics – Footwear Biomechanics Group Conference, Brazil, July 2013*.
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55. Samarawickrame SD, Hashish R, Gaur K, **Salem GJ**. Adaptations in Plantar-flexor Performance and Length-Tension Relationship following a transition from Shod to Barefoot running. *International Society of Biomechanics – Footwear Biomechanics Group Conference, Brazil, July 2013*.
56. **Salem, G.S**. The Yoga Empowers Seniors Study YESS, *National Center for Complementary and Alternative Medicine, National Institutes of Health, Bethesda, MA, January, 2013*.
57. Hashish, R.*, Samarawickrame S, Gaur, K., and **Salem G**. Adaptation of contact dynamics following an eight-week transition from shod to barefoot running. *Presented at the American Society of Biomechanics, Gainesville, FL , August, 2012*.
58. Holistic Lifespan Health Outcomes Among Intercollegiate Student-Athletes. Shawn C. S. Sorenson, S., Romano, R., Scholefield, R., Schroeder, T., and **Salem, G**. Data from the Trojan lifetime champions study. *Presented at the National Meeting of American College of Sports Medicine, San Francisco, CA, June 2012*
59. Samarawickrame S, Hashish R, Gaur, K., and **Salem G**. Evidence of adaptation to barefoot running can be demonstrated in the ankle plantar-flexors. *Presented at the National Meeting of American College of Sports Medicine, San Francisco, CA, June 2012*

60. Hashish, R.* , Samarawickrame, S.* , Gaur, K, and **Salem, G** . Mechanical demand distribution during shod and novice barefoot running. *Presented at the National Meeting of American College of Sports Medicine, San Francisco, CA, June 2012*
61. Yu S-Y, Wang M-Y, Kazadi, L, Greendale G, and **Salem G**. Muscle activation and co-contraction patterns in healthy older adults performing hatha yoga. *Presented at the National Meeting of American College of Sports Medicine, San Francisco, CA, June 2012*
62. Wang MY, Yu SY, Haines M., Hashish R, Samarawickrame S, Greendale G, and **Salem G**. Does Yoga Improve Balance Performance in Older adults? *Presented at the National Meeting of American College of Sports Medicine, San Francisco, CA, June 2012.*
63. Yu S-Y, Wang M-Y, Kazadi, L, Greendale G, and **Salem G**. Biomechanical demands and effectiveness of yoga in older adults: Examining the modified tree pose. *Presented at the USC Dental School Research Day, 2012*
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67. Hashish, R.* , Samarawickrame, S.* , Powers, C., and **Salem, G.**, Foot contact patterns and joint demands in novice barefoot runners before and after exertion *Presented at the National Meeting of the American Physical Therapy Association, CSM, Chicago, IL, February, 2012.*
68. Flanagan, S.P. and **Salem, GJ**. Understanding the causes of failed squat attempts. *Presented at the National Strength and Conditioning Association, Las Vegas, NV, July, 2011.*
69. Flanagan, S.P., Kulik, J., and **Salem, GJ**. The search for a limiting joint during a failed squat: a case study. *Presented at the American Society of Biomechanics, Long Beach, CA, August, 2011.*
70. Wang MY, Yu SY, Hashish R, Samarawickrame S, Haines M, Mulwitz L, Kazadi L, Greendale G, and **Salem G**. Biomechanical demands of therapeutic hatha yoga poses in older adults: modified chair and downward facing dog. *Presented at the American Society of Biomechanics, Long Beach, CA, August, 2011.*

71. Yu SY, Wang MY, Haines M, Mulwitz L, Hashish R, Samarawickrame S, Greendale G, and **Salem G**. Conventional wisdom regarding yoga pose modification may not benefit healthy older adults: examining the modified tree pose. *Presented at the American Society of Biomechanics, Long Beach, CA, August, 2011.*
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76. Yu SY, Wang MY, Haines M, Mulwitz L, Hashish R, Samarawickrame S, Kazadi L, Greendale G, **Salem G**. Lower-extremity joint kinematics in older adults performing the Warrior I pose of Hatha Yoga. *Presented at the National Meeting of American College of Sports Medicine, Boulder, CO, June, 2011.*
77. Sorenson, S., Romano, R., and **Salem, G**. Health Concerns Precede Participation in Intercollegiate Athletics: Epidemiological Data on Five Conditions *Presented at the National Meeting of American College of Sports Medicine, Boulder, CO, June, 2011.*
78. Hashish R, Samarawickrame S, Wang MY, Yu SY, **Salem G**. Normalized knee extensor strength and TUG performance in community dwelling older adults. *Presented at the National Meeting of the American Physical Therapy Association, Washington DC, June, 2011.*
79. **Salem G**, Wang M-Y, Yu, S-Y, Kazadi L, and Greendale, G. Yoga Empowers Seniors Study. *Presented at Stephen Straus Distinguished Lecture in the Science of Complementary and Alternative Medicine. National Center for Complementary and Alternative Medicine, National Institutes of Health, Bethesda, MA, December, 2010.*
80. Wang M-Y, Greendale G, **Salem G**. Effects of 6-month Yoga intervention on upper-extremity function in older adults with hyperkyphosis. *Presented at International Association of Yoga Therapists Research Conference, Honesdale, PA, October, 2010.*
81. Sorenson, S.C., Chiu, L.Z.F., Flanagan, S.P., **Salem, GJ**. . External Load Variation Modifies Lower Extremity Kinetics in the Barbell Squat. *American College of Sports Medicine National Conference, Baltimore, MD, 2010.*

82. Yu, S-Y, Wang M-Y, Greendale G, **Salem G.** Self-reported Shoulder Function Psychometrics following a 6-month Yoga Intervention in Older Adults with Hyperkyphosis. *Presented at International Association of Yoga Therapists Research Conference, Honesdale, PA, October, 2010.*
83. Lee A.J.Y, Song, J-E, Fisher, B., Petzinger, G., and **Salem, G.** Impaired braking forces during stopping in persons with early-stage Parkinson's disease. *Presented at the Asian Pacific Congress on Exercise and Sport Sciences, Malaysia, July, 2009.*
84. Ferris, A., Welsh, M., and **Salem, G.** Exploratory study of yoga as a therapeutic modality for Parkinson's disease. *Presented at the Movement Disorder Society International Conference, Paris France, June, 2009.*
85. Song, J-E, Fisher, B, Sigward, S, Petzinger, G, and **Salem, GJ.** The effect of early stage Parkinson's disease on dynamic postural stability during turning activities. *Presented at Neuroscience 2008, Washington DC, November, 2008.*
86. Chiu, L. and **Salem, G.** Time series analysis an application for athletic performance. *Presented at the International Conference on Strength Training, Colorado Springs, CO, October, 2008.*
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88. M-Y Wang, A. Ferris, L. Kazadi, C. Coda, G. Greendale, and **G. Salem,** Effects of a 6-month yoga program on scapular posturing in older adults with hyperkyphosis. *Presented at the North American Conference on Biomechanics, Anne Arbor, MI, August, 2008.*
89. Souza, R, Arya, S., Pollard, C., **Salem, G.,** and Kulig, K. Patellar tendinopathy alters the distribution of lower extremity joint effort during hopping. *Presented at the North American Conference on Biomechanics, Anne Arbor, MI, August, 2008.*
90. Chiu, L., Powers, C., and **Salem, G.** Potentiation and fatigue responses during high-power resistance exercise is gender specific. *Presented at the NSCA National Conference, Las Vegas, NV, July 2008.*
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92. Arya, S., Souza, R.B., Pollard, C.D., Sorenson, S.C., **Salem, GJ.,** and Kulig, K. Energetics of single-legged hopping in the presence of patellar tendinopathy. *Presented at the National Meeting of American College of Sports Medicine, Indianapolis, IN, May, 2008.*

93. Ferris, AE, Wang, M-Y, Magpantay, L., Whiting, W., Greendale, GA and **Salem, G.** Upper extremity functional performance in older adults with hyperkyphosis: the effects of a 6-month yoga intervention. *National Meeting of American College of Sports Medicine, Indianapolis, IN, May, 2008.*
94. Song, J-E, Fisher, B., Wu, Gordon, J., and **Salem, G.** Modulating walking speed in persons with early stage Parkinson's disease. *Southern California Conference on Biomechanics, April, 2008.*
95. A. Ferris, M-Y Wang, L. Kazadi, C. Coda, G. Greendale, and **G. Salem.** A methodological approach to quantifying the joint and muscular demands of Yoga asanas. *Presented at the Second Annual International Association of Yoga Therapists Symposium on Yoga Therapy and Research, Los Angeles, March, 2008.*
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97. Ferris, AE, Wang, M-Y, Chiu, S-L, and **Salem, G.** Relations Among Clinical Measures of Spine Curvature. *Presented at the APTA Combined Sections Meeting, Nashville, TN, February, 2008.*
98. Chiu, L. and **Salem, G.** Joint kinetic contributions to acute performance enhancement. *Presented at the American Society of Biomechanics, National Conference, Palo Alto, CA, August 2007.*
99. Chiu, L. Wagner, P, and **Salem, G.** Relative contribution of lower extremity joint kinetics to vertical jumping performance. *Presented at the NSCA National Conference, Atlanta, GA, July 2007.*
100. Wang, M-Y, Ferris, AE, Chiu, S-L, McQuade, K., and **Salem, G.** Relations between thoracic curvature and functional performance in older adults. *Presented at the ISB World Congress, Taipei, Taiwan, July, 2007.*
101. Ferris, AE, Chiu, S-L, and **Salem, G.** Lower extremity kinematics and kinetics during gait in persons with hyperkyphosis. *Presented at the ISB World Congress, Taipei, Taiwan, July, 2007.*
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106. Ferris, AE, Wang, M-Y, Chiu, S-L, McQuade, KJ, Nadalin, M, Greendale, GA and **Salem, G.** Tri-planar Lumbopelvic Motion of Older Adults with Hyperkyphosis. *Medicine and Science in Sports and Exercise*, 39:5, 2007. Presented at National Meeting of American College of Sports Medicine, New Orleans, LA, June, 2007.
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109. Flanagan, S.P. and **Salem, G.S.** Bilateral differences in the net joint torques during the squat exercise. *Proceedings of the National Strength and Conditioning Association*, 2006. Presented at the NSCA National Conference, Las Vegas, NV, July 2006.
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114. Chiu, L. and **Salem, G.S.** Comparison of joint kinetics during free weight and flywheel exercise. *Proceedings of the National Strength and Conditioning Association, 2005. Presented at the NSCA National Conference, Las Vegas, NV, July 2005.*
115. Flanagan, S.P. and **Salem, G.S.** The effect of movement speed and external resistance on joint contributions during lower-extremity extensions. *Proceedings of the XXth International Society of Biomechanics Conference, August, 2005. Presented at the ISB World Congress, Cleveland OH, August, 2005.*
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119. Chiu, L. and **Salem, G.** Sources of error and noise reduction with a six-degree of freedom marker set. *Medicine and Science in Sports and Exercise, 37:5, 2005. Presented at National Meeting of American College of Sports Medicine, Nashville, TN, June, 2005.*
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121. Chui, L. and **Salem, G.** Net Joint Moment Calculation Errors during Weightlifting: Dempster versus DEXA *Proceedings of the Southern California Conference on Biomechanics, April, 2005.*
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123. Scaglioni, P., Song, J-E, and **Salem, G.** Small changes in single-leg squat depth produce significant increases in knee joint loading. *Proceedings of the Southern California Conference on Biomechanics*, April, 2005.
124. Wang, M.-Y. and **Salem, G.** The relations among hip bone mineral density and joint moments generated during functional activities in older adults. *Osteoporosis International*. 15:S50, 2004. *Presented at the National Osteoporosis Conference, Harrogate, England, November, 2004.*
125. Vilimek, M, Song, J-E, and **Salem, G.** The prediction of knee actuator forces using emg-driven models and static optimization techniques. *Presented at the Biomechanics of Man International Research Conference, Prague, CZ, November, 2004.*
126. **Salem G.** Preserving physical function: biomechanics-based intervention. *Presented at the Biomechanics of Man International Research Conference, Prague, CZ, November, 2004.*
127. J-E. Song and **Salem G.** Joint mechanical contributions vary with squatting depth. *Presented at the National Meeting of the American Society of Biomechanics, Portland, OR, September, 2004.*
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132. Vilimek, M and **Salem, G.** Muscle force calculations based on static optimization and emg-driven models. *Presented at the 6th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering, Madrid Spain, February, 2004.*
133. Burlette, JL. Zakhary, R. Cabellon, L. and **Salem, G.** Anatomical review of the elbow: entrapment sites and clinical implications. *Presented at Annual Meeting of California Physical Therapy Association, Sacramento, CA, November, 2003.*

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137. Vilimek, M and **G. Salem**. Calculation of flexor muscle forces about the elbow: sensitivity associated with different optimization criteria. *Presented at Annual Meeting of Southwest Chapter of the American College of Sports Medicine, Las Vegas, NV, November, 2003.*
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158. Wheeler J, **Salem G.** Nail-gun discharge distance, nail penetration, and patella fracture severity. *Presented at the Annual Meeting of the International Society of Biomechanics, Taipei, Taiwan, November, 2001.*
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189. **Salem, GJ.** and Zernicke, R.F. Response of immature rat femoral neck and lumbar vertebra to moderate exercise. Presented at the Combined Meeting of Orthopaedic Research Societies of USA, Japan, and Canada, Banff, Alberta, Canada, 1991.
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192. **Salem, GJ.**, Zernicke, R.F., Vailas, A.C., and Martinez, D.A. Biomechanical and biochemical changes in lumbar vertebrae of rapidly growing rats. *Medicine and Science in Sports and Exercise* 20: 344, 1988. Presented at National Meeting of American College of Sports Medicine, Dallas, TX, May 1988.

Technical Reports

1. **Salem, G.S.** Biomechanical assessment of a rigid and a compliant (prototype I) step bench. Technical Report submitted to Fitness Quest Inc., Canton, OH, September, 1994.
2. **Salem, G.S.** Work-related carpal tunnel syndrome and flexibility exercise: in-plant intervention program for keyboard operators. Technical Report submitted to the Alfta Rehabilitation Center Forlag, AB Sweden, January, 1993.

STUDENT MENTORING

Doctoral Students (Primary or Co-Primary Advisor)

1. Man-Ying Wang

Dissertation title: *Quantifying musculoskeletal load and adaptation: biomechanical considerations*. MBRL, USC Department of Biokinesiology & Physical Therapy, (2002).

2. Sean Flanagan

Dissertation title: *Mechanical demand distribution during multi-joint tasks/* MBRL, USC Department of Biokinesiology & Physical Therapy, (2004).

3. Gabriel Shaibi

Dissertation Title: *Effects of resistance training on risk factors for type 2 diabetes in overweight hispanic boys*. MBRL, USC Department of Biokinesiology & Physical Therapy, (2005).

4. Albert Vallejo

Dissertation title: *Metabolic Cost of Eccentric vs. Concentric Resistance Exercise in Young and Older Men*. CERC , USC Department of Biokinesiology and Physical Therapy, (2005).

5. Loren Chui

Dissertation Title: *Acute physiologic and neuromuscular responses to high-power resistance exercise*. MBRL, USC Department of Biokinesiology & Physical Therapy, (2008).

6. Joo-Eun Song

Dissertation Title: *Dynamic Postural Control During Simple and Complex Locomotor Tasks in Persons with Early Stage Parkinson's Disease*, MBRL, USC Department of Biokinesiology and Physical Therapy (2009).

7. David Erceg

Dissertation title: *The effects of whole body vibration on indices of metabolic syndrome in children*. MBRL, USC Department of Biokinesiology and Physical Therapy, (2011).

8. Matt Villanueva

Dissertation Title: *The influence of rest interval on acute and adaptational responses in seniors*. MBRL, USC Department of Biokinesiology and Physical Therapy (2012).

9. Shawn Sorenson

MS Degree, MBRL USC Department of Biokinesiology and Physical Therapy, 5/2009
Dissertation Title: *Trojan Lifetime Champions: A cross-sectional epidemiological study of lifetime health, wellness, and exercise in elite intercollegiate athletes*. MBRL, USC Department of Biokinesiology and Physical Therapy (2012).

10. Kate Havens

Dissertation Title: *Quantifying agility in young and experienced athletes*. MBRL, USC Department of Biokinesiology and Physical Therapy (2014).

11. Rami Hashish

Dissertation Title: Biomechanical adaptations associated with the transition from shod to barefoot running. MBRL, USC Department of Biokinesiology and Physical Therapy, (2014).

12. Yu-Jen Chang

Dissertation Title: *Neuromechanical Adaptations to Achilles Tendinosis* MBRL, USC Department of Biokinesiology and Physical Therapy (2015).

13. Sachithra Samarawickrame

Dissertation Title: *Physiological adaptations associated with the transition from shod to barefoot running.* MBRL, USC Department of Biokinesiology and Physical Therapy, (2015).

14. Andrea Du Bois

Dissertation Title: *Golf As Therapeutic Exercise For Older Adults: A Biomechanical Analysis Of Golf Swing Demands And The Effects Of A Golf Training Program On Older Adult Balance And Strength* MBRL, USC Department of Biokinesiology and Physical Therapy, (2019).

15. Tulika Nandi

Dissertation Title: *Changes in corticospinal excitability and cortical inhibition in response to changes in postural stability.* MBRL, USC Department of Biokinesiology and Physical Therapy, USC Department of Biokinesiology and Physical Therapy, (2019).

16. Nicole Marcione

Dissertation Title: *Changes in older adults' gait and cognition following a 12-week golf training program: The Golf Intervention for Veteran's Exercise Study (GIVE).* MBRL, USC Department of Biokinesiology and Physical Therapy, (2019).

17. Jared Moore

Dissertation Title: *Effect of physical demand on acute inflammatory responses in young adults.* MBRL, USC Department of Biokinesiology and Physical Therapy, (2019-).

Doctoral Students (Dissertation Committee)

1. Steve Hawkins

Dissertation Title: *The mechanism of muscle influence on bone adaptation.* Exercise Physiology Laboratory, USC Department of Kinesiology, (1999).

2. Todd Schroeder

Dissertation title: *Eccentric training and bone mass in young women.* Exercise Physiology Laboratory, USC Department of Biokinesiology and Physical Therapy, (2000).

- 3. Susan Sigward**
Dissertation title: *Biomechanical and neuromuscular aspects of non-contact ACL injuries: The influence of gender, experience and training* MBRL, USC Department of Biokinesiology and Physical Therapy, (2002).
- 4. Kathleen Ganley**
Dissertation title: *At what age are gait characteristics mature? Evaluation of gait kinematics, kinetics and intersegmental dynamics in 7-year old children.* MBRL, USC Department of Biokinesiology and Physical Therapy, (2003).
- 5. Judith Burnfield**
Dissertation title: *Human and environmental factors contributing to slip events during walking.* MBRL, USC Department of Biokinesiology and Physical Therapy, (2003).
- 6. Samuel Ward**
Dissertation title: *The influence of patella alta on knee extensor mechanics and patellofemoral joint stress.* MBRL, USC Department of Biokinesiology and Physical Therapy, (2006).
- 7. Yi-Ju Tsai**
Dissertation title: *The influence of footwear sole hardness on slip initiation and falls in young adults.* MBRL, USC Department of Biokinesiology and Physical Therapy, (2008).
- 8. Yu-Jen (Sam) Chen**
Dissertation title: *Biomechanical determinants of patellofemoral joint forces.* MBRL, USC Department of Biokinesiology and Physical Therapy, (2006).
- 9. Richard Souza**
Dissertation title: *The influence of hip and femur kinematics on patellofemoral joint dysfunction.* MBRL, USC Department of Biokinesiology and Physical Therapy, (2008).
- 10. Shawn Farrokhi**
Dissertation title: *Patellofemoral Joint Stress nad its Relation to Patellofemoral Pain, Cartilage Morphology, and Cartilage Composition.* MBRL, USC Department of Biokinesiology and Physical Therapy, (2009).
- 11. Ching Tsai**
Dissertation Title: *Biomechanical analysis of knee joint loading for individuals with anterior cruciate ligament reconstruction.* MBRL, USC Department of Biokinesiology and Physical Therapy (2010)

12. Szu-Ping Lee

Dissertation Title: *The influence of hip muscle performance on Postural Stability and Ankle Joint Biomechanics*. MBRL, USC Department of Biokinesiology and Physical Therapy (2011)

13. Mark Blanchette

Dissertation Title: *The influence of shoe sole design on slipping*. MBRL, USC Department of Biokinesiology and Physical Therapy (2011)

14. Kai-Yu Ho

Dissertation Title: *The influence of patellofemoral joint loading on patellar failure risk, water content, and bone marrow lesions in individuals with patellofemoral pain*. MBRL, USC Department of Biokinesiology and Physical Therapy (2011)

15. Hsiang-Ling Teng

Dissertation Title: *The influence of trunk posture on lower extremity biomechanics*. MBRL, USC Department of Biokinesiology and Physical Therapy (2014)

16. Kristamarie Pratt

Dissertation Title: *The influence of trunk posture on lower extremity biomechanics*. MBRL, USC Department of Biokinesiology and Physical Therapy (2014)

17. Jaquelin Kiwata

Dissertation Title: *Exercise and protein supplementation for prostate cancer survivors*. CERL, USC Department of Biokinesiology and Physical Therapy (2014)

18. Tzu-Chieh (Jennifer) Liao

Dissertation Title: *Patellofemoral cartilage stress during functional activities*. MBRL, USC Department of Biokinesiology and Physical Therapy (2014)

19. Ming-Sheng (Matt) Chan

Dissertation Title: *Asymmetric loading following ACL reconstruction*. MBRL, USC Department of Biokinesiology and Physical Therapy (2017)

20. Kyuwan Lee

Dissertation Title: *Feasibility and Impact of High Intensity Interval Training on Vascular Function in Breast Cancer Survivors Undergoing Anthracycline Chemotherapy*. CERL, USC Department of Biokinesiology and Physical Therapy (2017)

21. Yo-Shih

Dissertation Title: *Cortical influence on lower-extremity muscle recruitment patterns*. MBRL, USC Department of Biokinesiology and Physical Therapy (2019)

Doctoral Students (Dissertation Committee in Progress)

22. Kyung-Mi (Jasmine) Park

23. Rachel Straub

24. Sara Almonsouri

Masters of Science Students (Primary Advisor)

Man-Ying Wang

Research Project: *Adaptations in isokinetic muscle strength and functional performance after 27 weeks of weighted vest use in elders.* MBRL, USC Department of Biokinesiology and Physical Therapy, (2000).

David Wallace

Research Project: *Patellofemoral joint kinetics while squatting with and without an external load.* MBRL, USC Department of Biokinesiology and Physical Therapy, (2002).

Salinas, Ruben

Research Project: *Biomechanical analysis of the back squat exercise: a comparison between the healthy and anterior cruciate ligament reconstructed knee.* MBRL, USC Department of Biokinesiology and Physical Therapy, (2002).

Briana Sather

Lower extremity kinetics during unilateral and bilateral squatting activities. MBRL, USC Department of Biokinesiology and Physical Therapy, (2003).

Joo-Eun Song

Bilateral symmetry during squatting in older adults. MBRL, USC Department of Biokinesiology and Physical Therapy, (2003).

Erin Dunn

Lower extremity joint angles associated with exercise. MBRL, USC Department of Biokinesiology and Physical Therapy, (2005).

Pietro Scaglioni

Research Project: *Squatting mechanics following ACL repair.* MBRL, USC Department of Biokinesiology and Physical Therapy, (2006).

Abbie Ferris

Research Project: *Group exercise in persons with early-stage Parkinson's disease.* MBRL, USC Department of Biokinesiology and Physical Therapy, (2009).

Guanrong (Garry) Cai

Research Project: *Improving golf skill acquisition using standardized shaft lengths*. MBRL, USC Department of Biokinesiology and Physical Therapy, (2020).

Professional Societies

American Society of Biomechanics

Meeting Co-chair, 2011 ASB National Conference, Long Beach, CA

American College of Sports Medicine, Fellow

International Society of Biomechanics

National Parkinson's Foundation

National Strength and Conditioning Association

Editorial Board

Journal of Applied Biomechanics

Bulletin of Applied Mechanics

American Council on Exercise

Journal Reviews

Journal of Applied Biomechanics

Journal of Experimental Biology

Journal of Strength and Conditioning Research

Clinical Science

Medicine and Science in Sport and Exercise

Sport Biomechanics

Clinical Biomechanics

Textbook Reviews

Benjamin/Cummings Publishing Company, Inc., Redwood City, CA

West Academic Publishing Company, Minneapolis, MN

University Service

1. Standing Committee Member—USC Anatomical Gift Program (1997-present). Policy development for anatomical sciences programs in USC Schools/Departments of Medicine, Dentistry, Pharmacology, and Physical Therapy.
2. Steering Committee Member, Institute for Integrative Health (IIH) 2012-present) Chair, Research Committee (2012-present)
3. Committee Member—USC University Research Committee (2007-2009)
4. Senator—USC Academic Senate (1999-2000)
5. Council President—USC Independent Health Professions Faculty Council (1999-2000)
6. Council Member—USC Independent Health Professions Faculty Council (1997-1999)
7. Director—UCLA Undergraduate Student Research Program in Biomechanics (1991-1995)
8. Chair, Research Committee—UCLA Consultants Helping Athletes Maximize Performance (C.H.A.M.P.S.) (1991-1995)

Division Service

1. Director—Anatomical Sciences, (1996-present).
2. Co-director—Musculoskeletal Research Laboratory (1996-present).
3. Founding member—Research Committee (2011-present)
4. Co-director—Service Learning Program (2009-2012)
5. Member of the BKN Committee (1997-present)
6. Member of the Curriculum Committee (1996-present)
7. Member of the Executive Committee (2009-2011)
8. Member of the DPT Admissions Committee (1996-2006)
9. Coordinator of the Second Semester Committee (2002-2003)
10. Coordinator of the First Semester Committee (1999-2001)

National Service

Member—National Center for Complementary and Alternative Medicine (NCCAM), Study Section: Clinical Trials of CAM Therapy, Fall, 2011.

International Service

Member—Scientific Committee of the 2015 European Society of Biomechanics Congress. (2011-present)