

DIVISION OF BIOKINESIOLOGY & PHYSICAL THERAPY  
UNIVERSITY OF SOUTHERN CALIFORNIA

CURRICULUM VITAE

*Carolee J. Winstein, Ph.D., P.T. FAPTA, FAHN, FNAK*

**I. Personal Information**

**University address**

Division of Biokinesiology and Physical Therapy  
1540 Alcazar Street, CHP 155  
Los Angeles, CA 90089-9006  
+1 323-442-2903 office  
+1 323-442-1196 lab

**Education**

- 1989 Postdoctoral Fellow, Behavioral Neuroscience  
University of Wisconsin, Madison, WI
- 1988 Ph.D., Kinesiology  
University of California, Los Angeles, CA
- 1984 M.S., Physical Therapy  
University of Southern California, Los Angeles, CA
- 1972 B.A., Physical Education/Psychology  
University of California, Los Angeles, CA
- 1973 B.S., Cert., Physical Therapy  
University of California, San Francisco, CA

**II. Academic Appointments & Administrative Positions**

- 2015-2021 Member of the NIH Musculoskeletal Rehabilitation (MRS) Study Section
- 2016- Chair, Research Advancement Committee, Division of Biokinesiology and Physical Therapy, USC
- 2014-2016 Sir Walter Murdoch Distinguished Collaborator-Adjunct Professor  
Murdoch University's School of Psychology and Exercise Science, Perth,  
Western Australia
- 2007-2011 Director of Research  
Division of Biokinesiology and Physical Therapy, USC
- 2005- Present Professor, Biokinesiology and Physical Therapy  
University of Southern California, Los Angeles, CA

2006	Visiting Scholar, Department of Neurology University of California, Irvine, CA
2001-present	Joint Appointment, Associate Professor Department of Neurology, Keck School of Medicine, University of Southern California, Los Angeles, CA
1998	Visiting Scholar, Department of Psychology, University of Birmingham, UK
1998-present	Member, Neuroscience Ph.D. Program University of Southern California, Los Angeles, CA
1996-2004	Associate Professor, Biokinesiology and Physical Therapy
1990-1996	Assistant Professor, Biokinesiology and Physical Therapy University of Southern California, Los Angeles, CA
1990-present	Director, Motor Behavior and Neurorehabilitation Laboratory University of Southern California, Los Angeles, CA
1991-2000	Joint Appointment, Assistant Professor of Exercise Science University of Southern California, Los Angeles, CA

### **Other Previous Employment**

1988-1990	Postdoctoral Fellow Waisman Center, Speech and Motor Control Laboratories University of Wisconsin, Madison, WI
1985-1987	Postgraduate Research Associate Department of Kinesiology University of California, Los Angeles, CA
1983-1985	Postgraduate Teaching Assistant Department of Kinesiology University of California, Los Angeles, CA
1983-1985	Private Physical Therapy Practitioner and Consultant (Part-time) Greater Los Angeles Basin, CA
1983	Staff Physical Therapist Westside Home Health Services Los Angeles, CA
1980-1982	Staff Physical Therapist (Part-time) Mercy Medical Center, Santa Ana, CA
1981	Adjunct Instructor Physical Therapy Department University of California, Irvine, CA

1982	Adjunct Instructor Department of Physical Therapy University of Southern California, Los Angeles, CA
1978-1982	Physical Therapy Clinical Instructor Rancho Los Amigos Medical Center, Downey, CA
1976-1977	Basic Grade Physiotherapist Kings College Hospital, London, UK
1973-1976	Staff Physical Therapist Rancho Los Amigos Medical Center, Downey, CA

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

2018	2018 John P. Maley Award for outstanding leadership in research over a sustained period of time from the Section on Research, APTA. Feb 23 <sup>rd</sup> , 2018, Combined Sections Meeting, New Orleans, LA.
2017	Elected as an active fellow of the National Academy of Kinesiology, FNAK (official induction, Sept 2018)
2016	Annual University of Nevada, Las Vegas, Department of Physical Therapy Distinguished Lecturer for 2016
2016	Elected as a fellow of the American Heart Association, FAHA
2014	Kenneth Viste, Jr., MD Memorial Award, American Society of Neurorehabilitation
2014	New Horizon's Lecturer and Commencement Address, Arcadia University, Glenside, PA
2012	Inaugural Robert Lamb Distinguished Lecture, Physical Therapy, Virginia Commonwealth University, Richmond VA. (Sept 21)
2012	Second Anne Shumway-Cook Lectureship: Translating Neurorehabilitation Research into Practice Combined Sections Meeting, Chicago, Ill (February 9)
2009	40 <sup>th</sup> Mary McMillan Lecture Award American Physical Therapy Association (June 11), Baltimore, MD
2008	Irma Ruebling Distinguished Speaker for 2008 The Saint Louis University, Department of Physical Therapy (March 27)
2007	Second Annual Leaders in Physical Therapy Series The Ohio State University, School of Allied Medical Professions (May 2)
2006	Sixth Annual G. Maureen Rodgers Vision for Physical Therapy Lecture

- 2006 Rancho Los Amigos National Rehabilitation Center (November 7)  
Marian Williams Award for Research in Physical Therapy  
American Physical Therapy Association (June)
- 2006 Senior Scholar Lecturer  
Motor Control and Learning Program for the North American Society for the  
Psychology of Sport and Physical Activity (NASPSPA) (June 1-3)
- 2006 John H. P. Maley Lecture award  
American Physical Therapy Association (APTA) (June 23)
- 2006 Dr. Harry Lyman Hooker Distinguished Visiting Scholar Lecture  
McMaster University, Ontario, Canada (May)
- 2003 Elected, Catherine Worthingham Fellow of the American Physical Therapy  
Association (FAPTA)
- 1998 Research Award, Neurology Section  
American Physical Therapy Association (\$1000 donated)
- 1992 Eugene Michels New Investigator Award  
American Physical Therapy Association (\$1000)
- 1991 Faculty Publication Award  
California Chapter  
American Physical Therapy Association
- 1986 Cubberly/Hyde Scholarship Award  
Department of Kinesiology,  
University of California, Los Angeles, CA
- 1985, 1986 Research Conference Travel Award  
Graduate Division  
University of California, Los Angeles, CA
- 1983, 1984 Mabel Wilson Richards Scholarship Award  
Graduate Division  
University of California, Los Angeles, CA
- 1982 Excellence in Clinical Teaching  
Rancho Los Amigos Medical Center
- 1980 Educational Scholarship Award  
County of Los Angeles,  
Los Angeles, CA
- 1980, 1978 Outstanding Clinical Preceptor  
University of Southern California  
Los Angeles, CA

**Licenses and Certification:**

Physical Therapist, California registration # 6612

## II. Scholarly Activity

### Grants received

- 2017-2018 R56 NS 100528 NIH/NINDS Optimizing Sensorimotor Training Post-Stroke (Schweighofer PI, Winstein, Co-I, 0.50 calendar % effort)
- 2017-2017 Zumberge Small Grant (internal) 10K awarded for *Brain and Behavioral Correlates of Intrinsic Motivation during Skill learning* (Winstein, PI, Beroukhim-Kay, PhD Student)
- 2017-2018 AHA AWRP Summer 2016 Innovative Research Grant. Tesla-Stroke: Transcutaneous Electrical Stimulation for Locomotor Ability after Stroke. (Finley, PI; Winstein, Co-I, 2% effort)
- 2017-2018 R13 NIH/NICHD Conference Grant. American Society of Neurorehabilitation (ASNR): 2017 Annual Scientific Meeting, 10K awarded (Winstein, PI).
- 2016-2017 R13 NIH/NINDS Conference Grant. American Society of Neurorehabilitation (ASNR): 2016 Annual Scientific Meeting, 10K awarded (Winstein, PI).
- 2015–2020 NIH/NIA Effects of Physical Activity on Brain Function and Network Connectivity: A Randomized-Controlled Trial in MCI. (Pa, Judy PI, Award ID: AG46928-01A1, Winstein, Investigator, 4% effort)
- 2015-2016 Coulter Translational Research Partnership Program. Schweighofer PI, Winstein, Clinical PI (\$72,000 including 20% indirect costs). ARM-MOV: A system for retraining arm movements.
- 2014-2016 MedHab: StepRite Evaluation (NCT02270684). Powers PI, Winstein Co-PI (\$161,419)
- 2014-2016 Reach Bionics, Inc. (NCT02358915). Peri-auricular muscles voluntary control training. Baker PI, Winstein Co-I (\$68,972)
- 2012-2013 CTSI Multidisciplinary: Developing Point-of-Care Mobility (PoCM) Monitoring System Technologies. Winstein, PI, Blanco, Co-PI (\$76,140)
- 2013-2014 USC Collaboration Fund: Center for Interactive Media Technologies in Health. Winstein, Gotsis, Blanco, Lasch Co-Directors (\$30,000) renewable for up to 3 years.
- 2011-2017 R01 HD065438 NIH/NICHD, Optimizing Dosage of Rehabilitation After Stroke, Multiple PIs: Schweighofer N. (Primary)/Winstein C.J. (\$1.7 Million) [no cost extension]
- 2011-2014 CADF/AZIZ-ZADEH/2012, Charles A. Dana Foundation. Modulating Motor Behavior by Action Observation and Imitation: Implications for Stroke Rehabilitation, Aziz-Zadeh PI, Winstein, Co-I, (\$78,417 annual directs)
- 2010-2011 NIH/NICHD (R01 HD060630), Functional Adaptation of Neural Circuits After Exercise PI: Holschneider, Co-I: Winstein (\$1.6 million) [subcontract terminated because of budget shortfall in Neurology]

- 2010-2013 American Heart Association, Scientist Development Grant, The Mirror Neuron System (MNS): A Neural Substrate for Methods in Stroke Rehabilitation, PI: Aziz-Zadeh L; Winstein C.J, Co-I, (\$230,000)
- 2010-2012 NIH/NICHHD (R03), The Mirror Neuron System and Action Observation after Stroke Affecting Cortical Motor Regions. PI: Aziz-Zadeh; Winstein C.J. Co-I, (\$162,000)
- 2008-2014 DoE/NIDRR (H133E080024), Optimizing Participation Through Technologies (OPTT) - RERC for Successful Aging with Disability, Winstein C.J. Project Director/PI, Phil Requejo, Co-Director (\$4,750,000)
- 2008-2016 NIH/NINDS/NICHHD, Interdisciplinary Comprehensive Arm Rehab Evaluation (ICARE) Stroke Initiative, a phase III multi-site randomized control trial (U01NS056256), Multiple PIs: Winstein, C.J. (Primary), Wolf, S.W, Dromerick, A., (\$12,274,744).
- 2007-2011 NSF, Human Robot Interaction: Personalized Assistive Human-Robot Interaction: Validation in Socially-Assisted Post-Stroke Rehabilitation (IIS-0713697). Mataric, M. PI, Winstein, C.J. Co-I (\$449,999)
- 2006-2008 Northstar Neuroscience, Inc. Multi-site Safety and Effectiveness of Cortical Stimulation in the Treatment of Upper Extremity Hemiparesis, Winstein, C.J. (site PI), \$500,000/yr
- 2005-2007 NIH/NICHHD, Task Practice Schedules to Enhance Recovery after Stroke (Schweighofer, Winstein, Co-PI) \$50,000
- 2005-2006 NIH STTR Innovative Technologies for Enhancing Function for Rehabilitation, CI Therapy and Novel Virtual Environments, Winstein, C.J. (PI), Tillis, J. (Co-PI) (small business) \$103,000
- 2004-2009 NIH P20 Exploratory Centers for Interdisciplinary Research New Directions for Stroke Rehabilitation, PI: McNeill, Thomas, Winstein, C.J. (Co-PI), \$1,924,156 (includes a no-cost extension)
- 2004-2005 NIH R13 Conference Grant: III STEP, Summer Institute on Translating Evidence Into Practice: Linking Movement Science and Intervention (July 15-21, 2005). Winstein, C.J. (PI). \$13,000
- 2003-2006 Foundation for Physical Therapy (FPT) "PTClinResNet: A Clinical Research Network to Evaluate the Efficacy of Physical Therapist Practice", Winstein, C.J. (PI), \$1,500,000.
- 2002-2007 NIH/NINDS Bioengineering Research Partnership. (Project: Augmentation of Constraint Induced Therapy Following Stroke, Winstein, Co-PI) BION Treatment of Neuromuscular Dysfunction, R01 NS041807-01A1 (Loeb, PI) \$100,000/yr
- 2002-2006 National Institutes of Health (R01-NINDS)-Winstein, C.J. (PI). "Brain and Behavior Correlates of Arm Rehabilitation". \$1,092,733
- 2002-2002 Foundation for Physical Therapy. Planning Grant for proposal to establish a clinical research network in physical therapy. Winstein, C.J (PI) \$5000
- 2000-2003 Co-PI, "The Virtual Trainer", NSF ITR/HCP (\$150,000/year). [Co-PI, Schaal]

- 2000-2006 National Institutes of Health (NICHD-USC subcontract to Emory University-Wolf, SW-PI) USC Subcontract Principal Investigator-Winstein, C.J., "Extremity Constraint-Induced Therapy Evaluation", (subcontract \$854,430)
- 2000-2001 Medical Faculty Women's Association (MFWA) "An investigation of implicit learning capability in adults with unilateral sensorimotor area damage", \$3000
- 1999-2004 State of California—Alzheimer's Research Center of California-Contract (ARCC), Principal Investigator-Winstein, C.J. for Research Project, "Procedural learning and functional decline in AD", \$16,000/yr (with Lon Schneider, USC Psychiatry)
- 1999-2001 National Institutes of Health (R03-NICHD)-Winstein, C.J. (PI) "Recovery and Rehabilitation of Arm Use after Stroke" \$152,115
- 1999-2000 Pfizer Pharmaceutical-Winstein, C.J./Co-PI "Effectiveness of Aricept on Sensorimotor Function in Alzheimer's Disease (AD)" \$97,500 (with Lipson)
- 1998-1999 Interdisciplinary ZRIF Award-Winstein, C.J./Co-PI "Contribution of the upper limbs to dynamic posture control in post-stroke hemiparetic adults". \$10,000 (with Chui, Powers, & Schaal)
- 1993-1995 Research Grant-Winstein, C.J./ Principal Investigator. The Foundation for Physical Therapy. "Deficits in movement-related information processing after stroke: A behavioral and kinematic analysis." \$55,424
- 1992-1993 Zumberge Fellow-Winstein, C.J./Principal Investigator. James H. Zumberge Research Innovation Fund " An examination of hemispheric differences in the control of rapid aiming movements." \$16,000
- 1991-1992 Research Grant-Winstein, C.J./Principal Investigator, Velicki, MR., Co-PI California Chapter, American Physical Therapy Association. "Hemispheric Differences in Motor Response Programming in Post-CVA Subjects." \$2500
- 1991-1992 Equipment Grant-Winstein, C.J./Principal Investigator, Weng, A., Co-PI Baltimore Therapeutic Equipment, \$28,000, MotionSpec Balance Unit "An examination of temporal measures and joint angle responses to platform perturbations during bipedal stance in normal and post-stroke subjects. \$1400
- 1991-1995 Research Grant-Merians, A./Principal Investigator, Winstein, C.J., Co-PI University of Medicine and Dentistry of New Jersey, Foundation "The role of feedback for enhancing motor skill learning in geriatric and neurologically impaired individuals". \$24,940
- 1990 Start-up Funds, University of Southern California, Department of Physical Therapy. \$80,000

### **Publications in refereed journals**

1. Lewthwaite R, **Winstein CJ**, Lane CJ, Wagenheim B, Nelsen MA, Dromerick AW, Wolf SL (2018). Accelerating stroke recovery: Secondary outcomes from the Interdisciplinary Comprehensive Arm Rehabilitation Evaluation (ICARE) Clinical Trial. *Neurorehabilitation Neural Repair*; 32, pp 150-165.

<https://doi.org/10.1177/15459683187607>

2. **Winstein CJ** (in press). Thoughts about the negative results of clinical trials in rehabilitation medicine. *Kinesiology Review* (slated for February, 2018 issue).
3. Liew, S.-L.\*, Anglin, J.M\*., Banks, N.W., Sondag, M., Ito, K.L., Kim, H., Chan, J., Ito, J, Jung, C., Khoshab, N., Lefebvre, S., Nakamura, W., Saldana, D., Schmiesing, A., Tran, C., Vo, D., Ard, T., Heydari, P., Kim, B., Aziz-Zadeh, L., Cramer, S.C., Liu, J., Soekadar, S., Nordvik, J.-E., Westlye, L.T., Wang, J., **Winstein, C.J.**, Yu, C., Ai, L., Koo, B., Craddock, R.C., Milham, M., Lakich, M., Pienta, A., & Stroud, A. (2018) A large, open source dataset of stroke anatomical brain images and manual lesion segmentations. *Scientific Data*, 5, 180011. doi:10.1038/sdata.2018.11
4. Muller S, Vallence A-M, **Winstein C.** (in press) Investigation of Perceptual-Motor Behaviour across Expert Athlete-to-Disabled Patient Skill Continuum Can Advance Theory and Practice. *J Mot Behav*. [Accepted, Oct 28, 2017]
5. Stewart JC, O'Donnell M, Handlery K, **Winstein C.** (2017) Skilled reach performance correlates with corpus callosum structural integrity in individuals with mild motor impairment after stroke: a preliminary investigation. *Neurorehab Neural Repair*, 31(7): 657-665. DOI: 10.1177/1545968317712467
6. Kwakkel G, Lannin NA, Borschmann K, English C, Ali J, Churilov L, Saposnik G, **Winstein C**, van Wegen EEH, Wolf SL, Krakauer JW, Bernhardt J. (2017) Standardized measurement of sensorimotor recovery in stroke trials: consensus-based core recommendations from Stroke Recovery and Rehabilitation Roundtable. *Int J Stroke*, 12(5): 451-461. DOI: 10.1177/1747493017711813
7. Reinkensmeyer DJ, Blackstone S, Bodine C, Brabyn J, Brienza D, Caves K, DeRuyter F,...**Winstein C...**(2017) How a diverse research ecosystem has generated new rehabilitation technologies: Review of NIDILRR's Rehabilitation Engineering Research Centers. *J NeuroEngineering and Rehabilitation*, 14:109. DOI 10.1186/s12984-017-0321-3.
8. Harris SR, and **Winstein CJ.** (2017) The past, present, and future of Neurorehabilitation: From NUSTEP through IV STEP and beyond. *JNPT*; 41:S3-S9.
9. Rowe VT, **Winstein CJ**, Wolf SL, Woodbury ML. (2017). The Functional Test of the Hemiparetic Upper Extremity- A Rasch Analysis with Theoretical Implications. *Arch Phys Med Rehabil*. Apr 20. pii: S0003-9993(17)30253-8. doi: 10.1016/j.apmr. 2017.03.021. [Epub ahead of print] PubMed PMID: 28434819.
10. Edwardson MA, Wang X, Liu B, Ding L, Lane CJ, Park C, Nelsen MA, Jones TA, Wolf SL, **Winstein CJ**, et al. Stroke Lesions in a Large Upper Limb Rehabilitation Trial Cohort Rarely Match Lesions in Common Preclinical Models. *Neurorehabil Neural Repair*. 2017 Jun;31(6):509-520. doi: 10.1177/1545968316688799. Epub 2017 Jan 1. PubMed PMID: 28337932; PubMed Central PMCID: PMC5433918.
11. Kim B, **Winstein C.** (2017). Can neurological biomarkers of brain impairment be used to predict poststroke motor recovery? A systematic review. *Neurorehabil Neural Repair*, Jan;31 (1):3-24. Review. PMID: 27503908
12. Sainburg RL, Maenza C, **Winstein C**, Good D. (2016) Motor lateralization provides a foundation for predicting and treating non-paretic arm motor deficits in stroke. *Adv Exp Med Biol*. 957:257-272.



doi: 10.1007/978-3-319-47313-0\_14. PMID: 28035570

13. Valero-Cuevas FJ, Klamroth-Marganska V, **Winstein CJ**, Riener R. (2016) Robot-assisted and conventional therapies produce distinct rehabilitation trends in stroke survivors. *J Neuroeng Rehabil.* Oct 11;13(1):92 PMID:27724916
14. **Winstein C**, Wolf S, Dromerick AW (2016). Task-oriented rehabilitation program for stroke—Reply. Comment on Task-oriented rehabilitation program on upper extremity recovery following motor stroke: The ICARE Randomized Clinical Trial [*JAMA.* 2016]; *JAMA.* July 5;316(1):102. Doi: 10.1001/jama.2016.5025. PMID: 27380356
15. **Winstein CJ**, Stein J, Arena R, Bates B, Cherney LR, Cramer SC, Deruyter F, Eng JJ, Fisher B, Harvey RL, Lang CE, MacKay-Lyons M, Ottenbacher KJ, Pugh S, Reeves MJ, Richards LG, Stiers W, Zorowitz RD (2016); on behalf of the American Heart Association Stroke Council, Council on Cardiovascular and Stroke Nursing, Council on Clinical Cardiology, and Council on Quality of Care and Outcomes Research. Guidelines for adult stroke rehabilitation and recovery: a guideline for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke* 2016;47(6):e98-e169. Doi: 10.1161/STR.0000000000000098.
16. **Winstein CJ**, Wolf SL, Dromerick AW et al., Interdisciplinary Comprehensive Arm Rehabilitation Evaluation (ICARE) Investigative Team (2016) Effect of a task-oriented rehabilitation program on upper extremity recovery following motor stroke: The ICARE randomized clinical Trial. *JAMA*, Feb 9; 315(6):571-81. Doi: 10.1001/jama.2016.0276. PMID: 26864411
17. Lee YY, **Winstein CJ**, Fisher BE (2016). The role of the dorsolateral prefrontal cortex in context-dependent motor performance. *Eur J. Neurosci*, Apr;43(7):954-60. Doi: 10.1111/ejn.13178 PMID: 26797866
18. Lee TD, Wulf G, **Winstein CJ**, Zelaznik HN (2016). In Memoriam: Richard Allen Schmidt (1941-2015). *J. Motor Behav.* 48(1):1-4. Doi: 10.1080/00222895.2016.1124687.
19. Park H, Kim S, **Winstein CJ**, Gordon J, Schweighofer N. (2016). Short-duration and intensive training improves long-term reaching performance individuals with chronic stroke. *Neurorehab Neural Repair*, Jul;30(6):551-61. Doi:10.1177/1545968315606990. PMID:26405046
20. Chen Y-A, Chung Y-C, Wade E, Proffitt R, & **Winstein CJ**. (2015). Attentional demand of a virtual reality-based reaching task in nondisabled older adults. *J Motor Learn Dev*, 3:91-109.
21. Garrison KA, Rogalsky C, Sheng T, Liu B, Damasio H, **Winstein CJ**, Aziz-Zadeh LS (2015). Functional MRI preprocessing of lesioned brains: Manual versus automated region of interest analysis. *Front Neurol*, Sep 25;6:196. Doi:10.3389/fneur.2015.00196. eCollection 2015.
22. Lee YY, Winstein CJ, Gordon J, Petzinger GM, Zelinski EM, Fisher BE. (2016). Context-dependent learning in people with Parkinson's Disease. *J. Mot Behav.* May-Jun;48(3):240-8. Doi: 10.1080/00222895.2015.1082964. PMID:26375786
23. Lawrence EL, Dayanidhi S, Fassola I, Requejo P, Leclercq C, **Winstein CJ**, Valero-Cuevas FJ. (2015). Outcome measures for hand function naturally reveal three latent domains in older adults: strength, coordinated upper extremity function, and sensorimotor processing. *Front Aging Neurosci.* Jun 5;7:108. Doi: 10.3389/fnagi.2015.00108. eCollection 2015.

24. **Winstein CJ**, Kay DB (2015). Translating the science into practice: shaping rehabilitation practice to enhance recovery after brain damage. *Prog Brain Res.* 218:331-60. Doi: 10.1016/bs.pbr.2015.01.004. Epub 2019 Mar 19. PMID: 25890145.
25. Wang X, Liu BJ, Martinez C, Zhang X, **Winstein CJ** (2016). Development of a novel imaging informatics based system with an intelligent workflow engine (IWEIS) to support imaging-based clinical trials. *Comp Biol and Med*, Feb 1;69:261-9. doi.org/10.1016/j.combiomed.2015.03.024. PMID:25870169
26. Levy RM Harvey RL, Kissela BM, **Winstein CJ**, Lutsep HL, Parrish TB, Cramer SC, Venkatesan L. (2016). Epidural electrical stimulation for stroke rehabilitation: Results of the prospective, multicenter, randomized, single-blinded Everest Trial. *Neurorehabilitation Neural Repair*, Feb;30(2):107-19 doi:10.177/1545968315575613. PMID: 25748452
27. **Winstein C**, Requejo P. Innovative technologies for rehabilitation and health promotion: what is the evidence? (2015) *Phys Ther* Mar;95(3):294-8. doi: 10.2522/ptj.2015.95.2.294. No abstract available. PMID: 25734191
28. Sugg, K., Müller, S., **Winstein, C.**, Hathorn, D., & Dempsey, A. R. (2015). Does action observation training with immediate physical practice improve hemiparetic upper limb function in chronic stroke? *Neurorehabilitation & Neural Repair.* 29(9):807-17
29. Duff S, He J, Nelsen M, Lane CJ, Rowe VT, Wolf SL, Dromerick AW, **Winstein CJ.** (2014). Interrater reliability of the Wolf Motor Function Test-Functional Ability Scale: Why it matters. *Neurorehab Neural Repair*, Oct 16, pii: 1545968314553030. [Epub ahead of print]
30. Stewart JC, Gordon J, **Winstein CJ** (2014). Control of reach extent with the paretic and nonparetic arms after unilateral sensorimotor stroke II: planning and adjustments to control movement distance. *Exp Brain Res*, Jul 8. {Epub ahead of print}.
31. **Winstein C**, Lewthwaite R, Blanton SR, Wolf LB, Wishart L. (2014) Infusing motor learning research into neurorehabilitation practice: a historical perspective with case exemplar from the accelerated skill acquisition program. *J Neurol Phys Ther.* 2014 Jul;38(3):190-200. doi: 10.1097/NPT.0000000000000046.
32. Stewart JC, Gordon J, **Winstein CJ.** (2014) Control of reach extent with the paretic and nonparetic arms after unilateral sensorimotor stroke: kinematic differences based on side of brain damage. *Exp. Brain Res*, [Apr 10 Epub ahead of print]. PMID: 24718494
33. Goh H-T, Gordon J, Sullivan KJ, **Winstein CJ** (2014). Evaluation of attentional demands during motor learning: Validity of a dual-task probe paradigm. *J Motor Behav*, 46:2, 95-105, DOI: 10.1080/00222895.2013.868337
34. Proffitt R, Lange B, Chen C, **Winstein C.** (2013 Epub, 2015). A comparison of older adult's subjective experience with virtual and real environments during dynamic balance activities. *J Aging Phys Act* Dec 11 [Epub ahead of print], published in 2015, 23(1):24-33
35. Wade E, Chen, C, **Winstein CJ** (2014). Spectral analyses of wrist motion in individuals post stroke: the development of a performance measure with promise for unsupervised settings. *Neurorehabilitation and Neural Repair*, Feb;28(2):169-78. PMID: 24213957

36. Rose DK and **Winstein CJ** (2013). Temporal coupling is more robust than spatial coupling: An investigation of interlimb coordination after stroke. *Journal of Motor Behavior*, 45(4):313-24
37. Garrison KA, Aziz-Zadeh L, Wong SW, Liew S-L, **Winstein CJ**. (2013) Modulating the motor system by action observation after stroke. *Stroke*, 44 (8):2247-53.
38. Tretriluxana J, Runnarong N, Tretriluxana S, Prayoonwiwat N, Vachalathiti R, **Winstein C**. (2013). Feasibility investigation of the Accelerated Skill Acquisition Program (ASAP): Insights into Reach-to-Grasp Coordination of individuals with postacute stroke. *Topics in Stroke Rehabilitation*, 20(2): 151-160.
39. Chen S-Y, Yeh SC, McLaughlin M, Rizzo A, **Winstein C**. (2014). Development of a virtual-reality-based pinch task for rehabilitation in chronic hemiparesis. In: *Advanced Technologies, Embedded and Multimedia for Human-centric Computing*. pp 1083-1089, Springer, Netherlands.
40. Yoon H, Shahabi C, **Winstein CJ**, Jang J-H. (2013). Progression-preserving dimension reduction for high-dimensional sensor data visualization. *ETRI Journal*, 36 (5). [IP 0.742]
41. Stewart JC, Gordon J, **Winstein CJ**. (2013). Planning and adjustments for the control of reach extent in a virtual environment. *J Neuroeng Rehabil*. Mar 2;10:27. doi: 10.1186/1743-0003-10-27.
42. Han CE, Kim S, Chen S, Lai YH, Lee JY, Osu R, **Winstein CJ**, Schweighofer N. (2013). Quantifying arm nonuse in individuals poststroke, *Neurorehabil Neural Repair*. Jan 25. [Epub ahead of print]
43. **Winstein CJ**, Wolf SL, Dromerick AW, Lane CJ, Nelsen MA, Lewthwaite R, Blanton S, Scott C, Reiss A, Cen SY, Holley R, Azen SP for the ICARE Investigative Team (2013). Interdisciplinary Comprehensive Arm Rehabilitation Evaluation (ICARE): a randomized controlled trial protocol. *BMC Neurology* 13:5.
44. Schweighofer N, Choi Y, **Winstein C**, Gordon J. (2012). Task-oriented rehabilitation robotics. *Am J Phys Med Rehabil*. 91(11 Suppl 3): S270-9.
45. Chen S, Lewthwaite R, Schweighofer N, **Winstein CJ**. (2012). Discriminant validity of a new measure of self-efficacy for reaching movements after stroke-induced hemiparesis. *J. Hand Ther*. Nov 1 [Epub ahead of print]
46. **Winstein CJ**, Requejo PS, Zelinski EM, Mulroy SJ, Crimmins EM. (2012). A transformative subfield in rehabilitation science at the nexus of new technologies, aging and disability. *Frontiers in Psychology*, Sept, 3: Article 340
47. Goh HT, Sullivan KJ, Gordon J, Wulf G, **Winstein CJ**. (2012). Dual-task practice enhances motor learning: a preliminary investigation. *Exp Brain Res*. Oct; 222(3):201-10
48. Tan C, Tretriluxana J, Pitsch E, Runnarong N, **Winstein CJ**. (2012). Anticipatory planning of functional reach-to-grasp: A pilot study. *Neurorehabilitation and Neural Repair*. Mar 20
49. Hidaka Y, Han CE, Wolf SL, **Winstein CJ**, Schweighofer N. (2012). Use it and improve it or lose it: Interactions between arm function and use in humans post-stroke. *PLoS Comput Biol* 8(2): e1002343. doi:10.1371/journal.pcbi.1002343

50. Chen S, Wolf SL, Zhang Q, Thompson PA, **Winstein C.**, (2012). The minimal detectable change of the Actual Amount of Use Test and the Motor Activity Log: The EXCITE Trial. *Neurorehabilitation and Neural Repair*. Jan 24, [Epub ahead of print]
51. Katak SS, **Winstein CJ.** (2012). Learning-performance distinction and memory processes for motor skills: A focused review and perspective. *Behav Brain Res*, Mar 1;228(1):219-31.
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53. Wade E, **Winstein CJ.** (2011). Virtual reality and robotics for stroke rehabilitation: Where do we go from here? *Topics in Stroke Rehabilitation*; 18(6):685-700.
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### Invited commentaries, expert opinions and perspectives

1. **Winstein CJ.** Leading Opinion: The ATTEND trial: An alternative explanation with implications for future recovery and rehabilitation clinical trials. 2017, *Int J Stroke*, 0(0): 1-5. DOI: 10.1177/1747493017743061
2. Ask an Expert: BrainFacts.org, a public information initiative of: the Kavli Foundation, Gatsby, and the Society for Neuroscience (published online 2014). <http://www.brainfacts.org/about-neuroscience/ask-an-expert/articles/2014/does-practice-make-perfect>
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### Manuscripts in preparation to be submitted to refereed journals or edited volumes

1. **Winstein C,** Varghese R. (in review). Been there, done that, so what's next for arm and hand rehabilitation in stroke? New Approaches to Stroke Recovery: Special Issue of NeuroRehabilitation.
2. Edwardson MA, Ding L, Park C, Lane CJ, Wang X, Liu B, Nelsen MA, Wolf SL, **Winstein CJ,** Dromerick AW. The relationship between lesion characteristics and recovery in a clinical stroke rehabilitation trial sample.
3. Martinez CA, Bacon H, Kim B, Fitzgerald E, Russak D, Rowe VT, Lane CJ, Wolf SL, Woodbury ML, **Winstein CJ.** Unraveling the active ingredients underlying improved movement time in the Wolf Motor Function Test: Development of a movement performance rating tool.
4. Wade E, Kim B, Proffitt R, Lange B, **Winstein C.** Effects of object affordance on visuomotor strategies for goal-directed, minimally-constrained reaching in older adults. [tabled for now]
5. Geed S, Nelsen MA, Lane CJ, **Winstein CJ,** Wolf SL, Dromerick AW. Rasch Analysis of UE Fugl-Meyer in the ICARE stroke trial: Effects of rescaling on clinical assessment and measurement of

recovering motor control.

### Publications in referred volumes

1. **Winstein CJ**, Kay DB (2015). Translating the science into practice: shaping rehabilitation practice to enhance recovery after brain damage. Chap 16, *Progress in Brain Research*, Vol. 218, <http://dx.doi.org/10.1016/bs.pbr.2015.01.004>, Elsevier BV.
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### Publications in non-peer reviewed volumes

1. Bischoff, A, Arbib, MA, **Winstein, CJ.** (1997). Modeling the role of the basal ganglia in a reciprocal aiming task. Proceedings of the Fourth Annual Joint Symposium on Neural Computation, 17 May, USC, Vol 7, 20-27.
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### Research presented at scientific meetings (abstracts)

1. Ito, K.L., Garrison, K.A, Heydari, P., Sobhani, M., Werner, J., Damasio, H., **Winstein, C.J.**, Aziz-zadeh, L., & Liew, S-L. (June 2017). Decreased interhemispheric functional connectivity during action observation after stroke. Poster to be presented at the Organization for Human Brain Mapping Conference, Vancouver, Canada.
2. \*J. M. Anglin<sup>1</sup>, N. Banks<sup>1</sup>, M. Sondag<sup>1</sup>, K. Ito<sup>1</sup>, H. Kim<sup>1</sup>, J. Chan<sup>1</sup>, J. Ito<sup>1</sup>, C. Jung<sup>1</sup>, S. Lefebvre<sup>1</sup>, W. Nakamura<sup>1</sup>, D. Saldana<sup>1</sup>, A. Schmiesing<sup>1</sup>, C. Tran<sup>1</sup>, D. Vo<sup>1</sup>, P. Heydari<sup>1</sup>, B. Kim<sup>1</sup>, N. Khoshab<sup>2</sup>, L. Aziz-Zadeh<sup>1</sup>, S. C. Cramer<sup>2</sup>, J. Liu<sup>3</sup>, S. Soekadar<sup>4</sup>, L. T. Westlye<sup>5</sup>, J. Wang<sup>3</sup>, **C. J. Winstein<sup>1</sup>**, C. Yu<sup>3</sup>, M. Lakich<sup>6</sup>, A. Pienta<sup>7</sup>, A. Stroud<sup>7</sup>, S.-L. Liew<sup>1</sup>; The Atlas (Anatomical Tracings of Lesions after Stroke) Dataset. Poster, Society for Neuroscience, Wash DC, 2017
3. Schweighofer N., Wang C., **Winstein C.** Trade-off between efficacy and efficiency of motor training

post-stroke. Poster at American Society of Neurorehabilitation and Society for Neuroscience, Wash DC, 2017

4. Sargent B, Havens K, Marcione N, **Winstein C**, Fetters L. Increasing selective hip-knee control of infants at high risk for Cerebral Palsy: A feasibility study. Poster at American Society of Neurorehabilitation, Wash DC, 2017
5. Sargent B, Havens K, Marcione N, **Winstein C**, Fetters L. Increasing selective hip-knee control of infants at high risk for Cerebral Palsy: A feasibility study. Poster at Society for Neuroscience, Wash DC, 2017
6. Varghese R, Stoll HM, Jax SA, Buxbaum LJ, **Winstein CJ**. The best predictors of non-use in chronic stroke: A preliminary investigation. Poster at American Society of Neurorehabilitation, Wash DC, 2017
7. Kim B, Choi S, Kay DB, Schweighofer N, Halder J, Leahy RM, Fisher B, **Winstein CJ**. Quantification of corticospinal tract structural characteristics using DTI in chronic stroke survivors. Poster at Society for Neuroscience, Wash DC, 2017
8. Kim B, Schweighofer N, **Winstein CJ**. Can CST FA symmetry predict motor behavior improvement in chronic stroke survivors with mild-to-moderate motor impairment? Poster at American Society of Neurorehabilitation, Wash DC, 2017.
9. Varghese R, **Winstein CJ**. Bimanual use in chronic stroke survivors with left or right hemiparesis is differentially influenced by interlimb relationship. Poster at American Society of Neurorehabilitation, Wash DC, 2017
10. Ito, K.L., Liew, S.L., Garrison, K.A., Heydari, P., Sobhani, M., Werner, J., Damasio, H., **Winstein, C.J.**, Aziz-Zadeh, L. (March 2016). Lateralization of action observation network activity after stroke. Poster presented at the USC Herman Ostrow School of Dentistry Research Day, Los Angeles, CA. Awarded Second Place best poster in Occupational Science and Occupational Therapy.
11. Ito, K.L., Liew, S.L., Garrison, K.A., Heydari, P., Sobhani, M., Werner, J., Damasio, H., **Winstein, C.J.**, Aziz-Zadeh, L. (June 2016). Laterality in the action observation network after stroke. Poster to be presented at the Organization for Human Brain Mapping Conference, Geneva, Switzerland.
12. Chung Y-C, Lewthwaite R, **Winstein CJ**, Fisher BE. (2016). Impact of enhanced expectations on self-efficacy and motor learning in individuals with Parkinson's disease. ASNR Annual Meeting, San Diego, CA Nov 10-11, 2016. Poster Also presented at Society for Neuroscience Annual Meeting, San Diego, CA, Sat Nov 12, Poster Board No. J8, 41.16
13. Chen Y-A, Lewthwaite R, Monterosso JR, Schweighofer N, Fisher BE, **Winstein CJ**. (2016). Mobile phone-based ecological momentary assessment of day-to-day paretic hand use following stroke. ASNR Annual Meeting, San Diego, CA Nov 10-11, 2016.
14. Beroukhim-Kay D, Monterosso J, Lewthwaite R, Schweighofer N, Kutch J, **Winstein CJ**. (2016) Using neuroimaging to study the impact of motivation on brain activity during motor learning: methodological considerations. ASNR Annual Meeting, Poster, San Diego, CA Nov 10-11, 2016.
15. Kim B, Kay DB, Schweighofer N, Haldar JP, Leahy RM, Fisher B, **Winstein CJ**. (2016). Changes in corticospinal tract microstructure are associated with motor performance improvement in chronic

stroke Society for Neuroscience Annual Meeting, San Diego, CA, Poster, Board No. JJ13, 520.26, Tu Nov 15th

16. Heydari P, Liew S-L, Damasio H, **Winstein C**, Aziz-Zadeh L. (2016). Functional MRI activity patterns in the action observation network for chronic stroke patients. Society for Neuroscience Annual Meeting, San Diego, CA, Poster Board No. VV24, 437.19, Monday, Nov 14th
17. Liew S-L, Jahanshad N, Anglin J, Khoshab N, Kim B, Nakamura W, Nhoung H, Rondina J, Tran C, Borish M, Boyd L, Cramer S, Mimyan M, Erner E, Lang C, Li J, Nichols T, Roberts P, Sanossian N, Soekadar S, Ward N, Westlye L, **Winstein C**, Wittenberg G, Thompson P (2016). ENIGMA /strijc /recivert: Big data neuroimaging to predict stroke recovery. Society for Neuroscience Annual Meeting, San Diego, CA, Poster Board III0, 520.05, Tuesday, Nov 15th
18. Bacon HR, Kim B, Martinez CA, **Winstein CJ**. (2016). Evidence of common structures in the performance of functional tasks in individuals with moderate upper extremity impairment after stroke. ASNR Annual Meeting, San Diego, CA. Poster, Nov 12th
19. B. Kim, Y. OH, R.M. Leahy, J.P. Haldar, N. Schweighofer, **C.J. Winstein**. Is Structural connectivity of Basal Ganglia associated with learned non-use in chronic stroke? Poster, ASNR and SfN, Chicago, Ill, October 2015
20. L. Nocera, H.R. Bacon, J-Y Kao, Y-C Chung, Y-A Chen, L. Sposto, B.E. Fisher, C. Shahabi, **C.J. Winstein**. Towards assessing mobility in Parkinson's Disease Patients using a single 3D sensor. Poster, ASNR, Chicago, Ill, October 2015
21. Bacon H, Chen Y-A, Chung Y-C, Wang R, Kao J-Y, Fisher B.E., Medioni G, Nocera L, Blanco C, **Winstein CJ**. In a Kinect-based Point of Care Mobility System Feasible for Monitoring Motor Behavior in Parkinson's Disease? Poster at the Boston ROC meeting, October 24, 2014, Boston University, Boston, MA
22. Chen Y-A, Chung Y-C, Kim B, **Winstein CJ**. Does task engagement level affect how we move? Poster 9, ASNR Annual Meeting, Washington DC, Nov 13, 2014
23. Kim B, Kay D.B, Yu Y, Lee D, Chaudhry Y, Haldar J.P, Leahy, R.M., **Winstein C.J.** DTI analysis of corticospinal tract using BrainSuite: A potential biomarker of upper extremity therapeutic response to Neurorehabilitation in chronic stroke. Society for Neuroscience, Poster # 717.20/DD24, Washington DC, Convention Center. Nov 16, 2014.
24. Martinez CA, Bacon HR, Finley JM, Schweighofer N, **Winstein CJ**. Can inertial sensors be used to characterize treatment-induced skill acquisition in chronic stroke? Society for Neuroscience, Poster 164.05/76, Washington DC, Convention Center. Nov 16, 2014.
25. Martinez CA, Kuo YL, Dubuc T, **Winstein CJ**, Schweighofer N, Fisher BE. Reliability of ipsilateral silent period to measure interhemispheric inhibition. Poster at USC Ostrow School of Dentistry Research Day, 2014.
26. Yu Y, Kay DB, Lee D, Chaudhry Y, Chong M, Joshi AA, Bhushan C, Shattuck DW, Haldar JP, Leahy RM, Winstein CJ. Single Case Report: DTI analysis of corticospinal tract characteristics after stroke rehabilitation using BrainSuite13a. Poster at USC Ostrow School of Dentistry Research Day, 2014

27. Chen Y-A, et al., Effects of self-efficacy enhancement on paretic hand selection in stroke. Poster at USC Ostrow School of Dentistry Research Day, 2014, 2<sup>nd</sup> place in Neuro motor track.
28. Kim B, Wade E, Proffitt R, Lange B, Requejo P, Chen Y-A, Chung Y-C, Winstein C. Reaching to virtual or real targets while standing or stepping. Poster at USC Ostrow School of Dentistry Research Day, 2014
29. Mazzone B, Haubert LL, Mulroy S, Requejo P, Gotsis M, Lympouridis V, Lange B, Proffitt R, **Winstein C.** (2013). Intensity of shoulder muscle activation during resistive exercises performed with and without virtual reality games. Virtual Rehabilitation (ICVR), 2013 International Conference on, pp 127-133, IEEE. [Platform]
30. **Winstein CJ**, Wolf SL, Dromerick AW, Blanton S, Nelsen MA, Lane CJ, Lewthwaite R, Scott C, Reiss A, Cen S, Holley R. Interdisciplinary Comprehensive Arm Rehabilitation Evaluation (ICARE): A randomized controlled trial. International Stroke Conference, Ongoing Clinical Trials Session, Feb 6-8, Hawaii Convention Center, Honolulu, Hawaii. [Poster]
31. Wang R, Medioni G, **Winstein CJ**, Blanco C. (2013). Home monitoring musculo-skeletal disorders with a single 3D sensor. Computer Vision and Pattern Recognition Workshops (CVPRW), 2013 IEEE conference on, pp 521-528, IEEE. [Platform]
32. Lee YY, **Winstein CJ**, Gordon J, Petzinger G, Zelinski E, Fisher BE. (2013). The role of the dorsolateral prefrontal cortex in context-dependent learning. J Sport & Exercise Psychology, 35, S36, Human Kinetics Publ, Inc. [Platform]
33. Wang X, Verma S, Qin Y, Sterling J, Zhou A, Zhang J, Martinez C, Casebeer N, Koh H, **Winstein C**, Liu B. (2013). SPIE Medical Imaging. Pp. 86740P-86740P-11. International Society for Optics and Photonics Pub. Proc. SPIE 8674, Medical Imaging 2013: Advanced PACS-based Imaging Informatics and Therapeutic Applications, 86740P (March 29, 2013); doi:10.1117/12.2008585 [Platform]
34. Beroukhim D, Konersman M, Chong M, Joshi A, Bhusan C, Shattuck DW, Haldar JP, Leahy RM, Winstein CJ. (2013) Effects of rehabilitation post-stroke: DTI analysis of corticospinal tract characteristics using BrainSuite13. Society for Neuroscience, 338.11 [Poster]
35. Ko N-K, Lawrence EL, Dayanidhi S, Hu W, Diconti A, Lerner J, **Winstein C**, Fisher B, Requejo P, Valero-Cuevas FJ. (2013) The strength-dexterity test can detect differences in dynamic control of fingertip forces between individuals with Parkinson's disease and non-disabled older adults. Society for Neuroscience, 431.07 [Poster]
36. Lee Y-Y, Winstein CJ, Petzinger GM, Gordon J, Zalinski E, Fisher BE. (2013). Context-dependent motor learning is mediated by the frontostriatal circuit. Society for Neuroscience, 843.01 [Poster]
37. Chen Y-A, Lewthwaite R, Chen S-Y, Feldman R, **Winstein C.** (2013). Effects of social-comparative feedback to enhance self-efficacy of paretic hand selection in chronic stroke: A pilot study. American Society for Neurorehabilitation, #31, San Diego, CA [Poster]
38. Wade E, Proffitt R, Kim B, Lange B, Requejo P, Chen Y-A, Chung Y-C, **Winstein CJ** (2013). Do the elderly use the same strategy to plan/adjust reaching movements for real and virtual targets? Gerontology Society of America, Atlanta, GA. Session 955, # 50 [Poster]

39. Wade E, Chen S-Y, **Winstein C.** (2012) Kinematic performance of the paretic and non-paretic limbs after stroke during a goal-directed reaching task. Society for Neuroscience, 186.13 [Poster]
40. Nelsen M, Xiang A, Azen S, **Winstein C**, Dromerick A, Wolf S. Poster Session, May 17th: Design and methods of a stroke clinical trial: ICARE Interdisciplinary Comprehensive Arm Rehabilitation Evaluation (ICARE) Stroke Initiative. Society for Clinical Trials 31st Annual Meeting, Baltimore Marriott Waterfront, May 16-19, 2010. (Nelsen and Dromerick presentors)
41. **Winstein C**, Wolf SL, Dromerick A, Nelsen M, Lane C. Symposium: Interdisciplinary Comprehensive Arm Rehabilitation Evaluation (ICARE) Stroke Trial: Rationale, Challenges, and Opportunities for a Phase III RCT in Neurorehabilitation. 2010 ACRM-ASNR Joint Educational Conference, Oct 20-23, Montreal, Quebec, Canada.
42. Charalambous C, Lai Y-H, Wade E., **Winstein CJ.** Poster: What factors are prioritized for planning actions that require goal-directed positioning? 40<sup>th</sup> Annual Meeting Society for Neuroscience, San Diego, CA Nov 10-13, 2010.
43. Garrison KA, Aziz-Zadeh LS., **Winstein CJ.** Poster: 97.17 Action observation after stroke: the mirror neuron system and the mentalizing system. 40<sup>th</sup> Annual Meeting Society for Neuroscience, San Diego, CA Nov 10-13, 2010.
44. Chen S, Lewthwaite R, Schweighofer N, **Winstein C.** Poster: Target-specific self-efficacy may predict hand selection for reaching movements in hemiparetic stroke. 40<sup>th</sup> Annual Meeting Society for Neuroscience, San Diego, CA Nov 10-13, 2010.
45. Stewart J, Lewthwaite R, **Winstein C.** Platform: Self-efficacy for reach actions after stroke: a pilot study. Society for the Psychology of Sport and Physical Activity (NASPSPA), June 10-12, Tuscan, AZ, 2010
46. Matsubara J, Goh H-T, **Winstein CJ**, Lewthwaite R. Poster: Self-efficacy and the development of automaticity in motor learning. Society for the Psychology of Sport and Physical Activity (NASPSPA), June 10-12, Tuscan, AZ, 2010
47. Garrison KA, **Winstein CJ**, Aziz-Zadeh L. Poster: The mirror neuron system after stroke: Preliminary single subject data. North American Society for the Psychology of Sport and Physical Activity (NASPSPA), June 10-12, Tuscan, AZ, 2010.
48. Katak SS, Sullivan KS, Fisher BE, Knowlton BJ, **Winstein CJ.** Poster: Neural substrates for motor memory consolidation depend on practice conditions: A double dissociation of primary motor cortex and dorsolateral prefrontal cortex. Society for the Psychology of Sport and Physical Activity (NASPSPA), June 10-12, Tuscan, AZ, 2010
49. Charalambous C, Lai Y-H, **Winstein C.** Poster: Novel method for estimating the psychophysical parameters of movement cost for a goal-directed stepping task. Society for the Psychology of Sport and Physical Activity (NASPSPA), June 10-12, Tuscan, AZ, 2010
50. Goh H-T, **Winstein C.J.**, Gordon J., Sullivan K.J. Poster: Use of a dual-task probe paradigm during skill acquisition influences learning of the primary task. CSM, Feb 19<sup>th</sup>, San Diego, CA., 2010.



51. Stewart JC, Gordon J, **Winstein CJ**. Poster: Is the scaling of reach kinematics to 3-D virtual targets preserved after stroke? CSM Feb 19<sup>th</sup>, San Diego, CA. 2010
52. Symposium: PTClinResNet: Translating the results of the clinical research network into practice. [**Winstein**, Fowler, Kulig, Sullivan, Mulroy, Brown, Poppert, Newsam, Gordon] CSM, Feb 12th, Las Vegas, NV. 2009
53. Stewart J, Gordon J, **Winstein C**: Poster #1157: "Anticipatory scaling of reach kinematics to 3-D virtual targets". CSM, Las Vegas, NV, Feb 2009
54. Kantak S, Sullivan K, Fisher B, **Winstein C**. Poster #1174: "Role of primary motor cortex in motor memory consolidation: Effects of practice conditions" CSM, Las Vegas, NV, Feb 2009
55. Kantak SS, Sullivan KJ, Fisher BE, and **Winstein CJ**. University of Southern California. Role of Primary motor cortex in motor memory consolidation: Effect of practice conditions, Platform NASPSA Conference, June 2009, Austin, TX.
56. Stewart JC, Gordon J, **Winstein CJ**. Initial plan and compensatory adjustments of unconstrained reach actions after sensorimotor stroke. Poster 568.13/EE75 40th Annual Meeting Society for Neuroscience, Chicago, Nov 2009
57. Pitsch EA, **Winstein CJ**, Fisher BE. The effect of instructions during motor imagery on corticomotor excitability of the tibialis anterior. Poster 663.16/DD17 40th Annual Meeting Society for Neuroscience, Chicago, Nov 2009
58. **Winstein CJ**, Chen S-Y, Yoon H. The extremity constraint-induced therapy evaluation trial revisited: Feasibility of data mining for task classification. Poster 769.9/DD50 40th Annual Meeting Society for Neuroscience, Chicago, Nov 2009
59. Chen S-Y, Han CE, Lai Y-H, Hidaka Y, Lee J, **Winstein CJ**, Schweighofer N. Poster 769.11/DD52 Objective quantification of paretic arm nonuse for stroke using bilateral arm reaching task. 40th Annual Meeting Society for Neuroscience, Chicago, Nov 2009
60. Hidaka Y, Han CE, Wolf S, **Winstein C**, Schweighofer N. Poster 769.17/DD58 Effects of the intensity of constraint-induced therapy on long-term arm use and function in patients with stroke: Predictions from a computational model. 40th Annual Meeting Society for Neuroscience, Chicago, Nov 2009
61. Goh H-T, Gordon J, **Winstein CJ**, Sullivan KJ. Poster 872.5/DD36 Development of automaticity in a rapid discrete arm movement is associated with increased movement smoothness. 40th Annual Meeting Society for Neuroscience, Chicago, Nov 2009
62. Kantak SS, Fisher FE, Sullivan KJ, **Winstein CJ**. 872.12/DD43 Neural substrates of motor memory consolidation: Effects of practice condition. 40th Annual Meeting Society for Neuroscience, Chicago, Nov 2009
63. Chen, S-Y, Han C.E., Parikh, N., Lee J., Lee JY, Xu, E., **Winstein, CJ**, Schweighofer, N. BART: A novel laboratory-based instrument to quantify preferred limb use in patients after stroke. Poster,

Society for Neuroscience, Wash D.C., 2008

64. Han, C.E., Tretriluxana, J., **Winstein, C.J.**, Arbib, MA. Variability in detour trajectory strategies for reach-to-grasp behavior: A computational model of individualized strategies based on the virtual target hypothesis. Poster 466.5/KK12 Society for Neuroscience, Wash D.C., 2008
65. Stewart, J.C., Gordon, J., **Winstein, C.J.** Initial plan and early adjustments of unconstrained reach actions to 3-D virtual targets. Poster 861.24/KK4 Society for Neuroscience, Wash D.C., 2008
66. Katak, S.S., Sullivan K, Fisher B, **Winstein C.** Effects of practice conditions on the role of primary motor cortex in motor memory consolidation. Poster 588.15/TT15 Society for Neuroscience, Wash D.C., 2008
67. **Winstein, C.J.** Invited Symposium with S. Cramer, S.I. Savitz, and L. Cohen: Clinical approaches to brain repair after stroke. Task-oriented training. International Stroke Conference, New Orleans, LA, 2008.
68. H. Ojha, R. Kern, C-H Lin, **C.J. Winstein.** Effect of age on attention during standing and stair climbing: A dual-task approach in the clinic. Platform presentation at Combined Sections Meeting, Nashville, TN, 2008
69. J C Stewart, H. Yoon, S-C, Yeh, S-Y Chen, M. McLaughlin, A Skip Rizzo, **C.J. Winstein.** Training reach movements in individuals with hemiparesis: Effect of a virtual environment. Platform presentation at Combined Sections Meeting, Nashville, TN, 2008.
70. J. Tretriluxana, H. T. Goh, **C.J. Winstein,** J. Gordon: Is the right hemisphere specialized for rapid adaptation of trajectory and transport-grasp coordination? Program# 82.6. Poster presentation at Society for Neuroscience, 2007 (San Diego, CA, USA)
71. S. L. Wolf, H. Newton, D. Maddy, S. Blanton, Q. Zhang, **C.J. Winstein,** D. M. Morris, K. Light: The EXCITE trial: relationship of intensity of constraint induced movement therapy to improvement in the Wolf Motor Function Test. Program#82.11. Poster presentation at Society for Neuroscience, 2007 (San Diego, CA, USA)
72. S.-Y. Chen, Q. Zhang, **C.J. Winstein,** S. L. Wolf: Objective assessment of spontaneous use of the affected arm after constraint-induced movement therapy: Evidence from the EXCITE trial. Program# 82.10 Poster presentation at Society for Neuroscience, 2007 (San Diego, CA, USA)
73. **C.J. Winstein,** S. Blanton, C. Hahn, C. Kushi, J. Wang, L. Horvath, M. Prettyman, P. A. Thompson, Q. Zhang, D. Nichols-Larsen, S. L. Wolf, S. Rowles: Task-oriented training: an analysis of the components of training from the EXCITE trial. Prpgram#82.10 Poster presentation at Society for Neuroscience, 2007 (San Diego, CA, USA)
74. C. Tan, J. Tretriluxana, E. Pitsch, **C. J. Winstein:** The effect of constraint-induced movement therapy on motor control of grasping actions after stroke: a kinematic and behavior analysis. Program#82.7 Poster presentation at Society for Neuroscience, 2007 (San Diego, CA, USA)
75. K. A. Garrison, **C. J. Winstein,** V. Y. Rao, S. Y. Cen, Y. Dong, B. H. Dobkin: Dynamic interplay of task-specificity, motor control and compensatory behavior: an fMRI study in stroke. Program#82.8

Poster presentation at Society for Neuroscience, 2007 (San Diego, CA, USA)

76. A. D. Wu, C. Deblieck, I. Meister, J. Kaplan, **C. J. Winstein**, M. Iacoboni: Neural correlates of cyclic aiming are dependent on accuracy constraints. Program#618.22 Poster presentation at Society for Neuroscience, 2007 (San Diego, CA, USA)
77. C-H Lin, A.D. Wu, **C.J. Winstein**: Role of the human motor cortex in learning temporal dimension of fast discrete arm tasks is associated with practice condition. Poster presentation at the Combined Sections Meeting of the APTA, 2007 (Boston, MA, USA)
78. Chien-Ho (Janice) Lin, Allan D Wu, James Gordon, **Carolee J Winstein**: Skill development of rapid sequential arm movements: What is the contribution of spatial and temporal parameter learning? Program# 506.14. Platform presentation at Society for Neuroscience, 2006 (Georgia Atlanta, USA).
79. Janice (Chien-Ho) Lin and **Carolee J Winstein**: Neural mechanisms of the contextual interference effect in motor skill learning: a transcranial magnetic stimulation (TMS) study. Platform presentation at North America Society for the Psychology of Sport and Physical Activity, 2006 (Denver, CO, USA). *J Sport Exercise Psychology*, 28: supplement, p107, 2006.
80. Janice (Chien-Ho) Lin and **Carolee J Winstein**: The effect of task practice order in motor skill learning for individual with Parkinson's disease. Poster presentation at Plasticity and Repair in Neurodegenerative Disorders Workshop, May 11-14, 2006 (Lake Arrowhead, CA, USA).
81. Chien-Ho (Janice) Lin, Allan D Wu, Shailesh Kantak, Katherine J Sullivan, **Carolee J Winstein**: The effect of task practice order in motor skill learning for adults with Parkinson's disease. Control ID: 175579. Poster presentation at combined section meeting of American Physical Therapy Association, 2006 (San Diego, USA).
82. Tretriluxana J, **Winstein CJ**, Gordon J. Reach-to-grasp coordination: Hemispheric asymmetry, Poster Presentation, Plasticity and Repair in Neurodegenerative Disorders: a workshop 2006, Lake Arrowhead, CA, May 11-14, 2006.
83. Tretriluxana J, **Winstein CJ**, Gordon J. Aperture scaling to object size during reach-to-grasp with the ipsilesional arm following unilateral brain damage: double dissociation in each cerebral hemisphere, Verbal presentation, *Journal of Sport & Exercise Psychology* 28 (Supplement issue): 183, July 2006. Denver NASPSA 2006.
84. Tretriluxana J, **Winstein CJ**, Gordon J. Hemisphere-specific impairments in grasp pre-shaping and transport-grasp coordination: Effect of object size, Poster presentation, Program No. 147.20 2006 Abstract Viewer/Itinerary Planner. Atlanta: Society for Neuroscience Society for Neuroscience 2006.
85. Han CE, Tretriluxana J, Bonaiuto J, Schweighofer N, **Winstein CJ**, Arbib MA. Difference in cognition and latency may affect variability in strategy for lateralized reach-to-gasp actions, Poster presentation, Program No. 440.18 2006 Abstract Viewer/Itinerary Planner. Atlanta: Society for Neuroscience Society for Neuroscience 2006.
86. Stewart JC, Yeh SC, Jung Y, Yoon H, Whitford M, Chen S, Li L, McLaughlin M, Rizzo A, **Winstein CJ**. (2006). Pilot Trial Results from A Virtual Reality System Designed to Enhance Recovery of Skilled Arm and Hand Movements after Stroke. *Proceeding of the 5th International Workshop on Virtual Rehabilitation*, New York, pp 11-17. [Platform]

87. Lin, J.C. Wu, A.D **Winstein, C.J.** Using transcranial magnetic stimulation to investigate the mechanism of the contextual interference effect in motor skill learning. Program No. 581.3. 2005 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience
88. Tretriluxana, J. **Winstein, C.J.** Gordon, J. Reach - to - grasp coordination: hemispheric asymmetry. Program No. 867.22. 2005 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience
89. Wu, A.D. Lin, J.C.H. Schrader, L.M. Iacoboni, M **Winstein, C.J.** Repetitive transcranial magnetic stimulation of left motor cortex affects aiming movement kinematics. Program No. 989.23. 2005 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience.
90. Stewart, J.C. Choi, Y Goh, H. Katak, S. **Winstein, C.J** Schweighofer. N. Practice schedules to enhance grasp function following stroke. Program No. 333.9. 2005 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience.
91. **Winstein CJ** (2004). Brain-behavior correlates of recovery after stroke. Presentation at the Plasticity and Repair in Neurodegenerative Disorders: A Workshop. Feb 19-22, UCLA Conference Center, Lake Arrowhead, CA.
92. **Winstein CJ**, Dong Y. (2003). Relationship between post-stroke impairment, functional limitations, and hemisphere motor cortical organization. Neurology Report, 27, 168. [Abstract for 2004 Combined Sections Meeting, Feb 4-8, Nashville, TN]
93. Lin CH, **Winstein CJ** (2003). Serial reaction time task learning after stroke: a methodological examination. Neurology Report, 27: 165-166. [Abstract for 2004 Combined Sections Meeting, Feb 4-8, Nashville, TN]
94. Tretriluxana J, **Winstein CJ** (2003). Preliminary investigation of coordination and skill during a functional reach-grasp-place action in chronic stroke. Neurology Report, 27: 165. [Abstract for 2004 Combined Sections Meeting, Feb 4-8, Nashville, TN]
95. Dong, Y., **Winstein, CJ.**, Firestine, A., Dobkin, B., Singh, M. Altered cortical network involved in hand motor function after stroke. Program No. 823.3. 2003 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience.
96. Tretriluxana, J., **Winstein, CJ.** Hand posture selection and temporal control of a complex prehension task after unilateral stroke. Program Number: 389.9. 2003 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience.
97. Rose D., **Winstein, CJ.** The Nature of Bimanual Spatial Coupling Following Stroke. 2003. J. Sport & Exercise Psychology, 25, (Suppl) S112. North American Society for the Psychology of Sport and Physical Activity (NASPSPA). Savannah, GA, June 5-7.
98. Rose, DK, **Winstein, CJ.** (2002). Inter-limb temporal synchrony following stroke. Neurology Report, 26: 187 [Abstract for 2003 Combined Sections Meeting, Feb 11-15, Tampa, Florida]
99. **Winstein CJ** (2002). Symposium: Kinesiologic Contributions to Stroke Rehabilitation. Symposium Discussant. J. Sport & Exercise Psychology, 24, (Suppl) S13-14. (NASPSPA, June 6-8, 2002, Hunt Valley, Maryland)

100. Rose, DK, **Winstein CJ**. (2002) Are Two Limbs Better than One? Control of Bimanual Movement Following Stroke. J. Sport & Exercise Psychology, 24, (Suppl) S106. North American Society for the Psychology of Sport and Physical Activity. (NASPSPA, June 6-8, 2002, Hunt Valley, Maryland)
101. Boyd LA, **Winstein CJ** (2001). Implicit learning of a complex tracking task: the effect of explicit knowledge and focal stroke in the basal ganglia or cerebellum. Society for Neuroscience, Nov 10-15, San Diego, CA [Abstract, 638.10]
102. Wu AD, Cormack J, **Winstein CJ** (2001). Bradykinesia of discrete aiming movements in Parkinson's disease does not depend on vision. Society for Neuroscience, Nov 10-15, San Diego, CA [Abstract, 832.5]
103. Rose DK, **Winstein CJ**, Gordon J. (2001). Bimanual temporal control following unilateral brain damage. Society for Neuroscience, Nov 10-15, San Diego, CA [Abstract, 832.13]
104. Fisher BE, **Winstein CJ**. (2001). Neural substrates fo timing precision and accuracy. Society for Neuroscience, Nov 10-15, San Diego, CA [Abstract, 941.5]
105. Boyd, LA, **Winstein CJ**. (2001). The interaction between explicit knowledge and implicit motor-sequence learning following unilateral stroke. Neurology Report, 25: 133 [Abstract for 2002 Combined Sections Meeting, Feb 19-24, Boston, MA]
106. Rose, DK, **Winstein CJ**, Tan SM, Azen SP, Chui HC. (2001) Comparison of upper extremity intervention strategies at six and nine months post-stroke. Neurology Report, 25: 130 [Abstract for 2002 Combined Sections Meeting, Feb 19-24, Boston, MA]
107. **Winstein CJ**, DK Rose, HC Chui, AN Yang, WB Weiss, SM Tan, SP Azen. (2001) Recovery and Rehabilitation of Arm Use after Stroke. San Diego, CA (National Stroke Association-2001, August) J. Stroke & Cerebrovascular Diseases, 10: 197 [Abstract]
108. Rose DK, Winstein CJ, Yang AN, Weiss WB, Tan SM, Azen SP, Chui, HC. (2000). Comparison of Upper Extremity Intervention Strategies in Acute Stroke. Neurology Report, 24: 171 [Abstract for 2001 Combined Sections Meeting, Feb 14-18, San Antonio, Texas]
109. Boyd, L.A. & Winstein, C.J., (2000) Implicit Motor-Sequence Learning Following Focal Unilateral Stroke in the Basal Ganglia or Cerebellum. Neurology Report, 24: 171-172 [Abstract for 2001 Combined Sections Meeting, Feb 14-18, San Antonio, Texas]
110. Fisher, B.E, and Winstein, C.J. (2000). Increased Task Complexity of Aimed Arm movement affects Planning and Updating of Response Parameters for individuals with Unilateral Sensorimotor Damage. Neurology Report, 24:199-200 [Abstract for 2001 Combined Sections Meeting, Feb 14-18, San Antonio, Texas]
111. Boyd, LA & **Winstein CJ**. (2001). Implicit motor-sequence learning: the impact of task complexity and explicit instructions. J. Sport & Exercise Psychology, 23, Suppl S71. North American Society for the Psychology of Sport and Physical Activity. (NASPSPA, June 7-9, 2001, St. Louis, MO.)

112. Rose D.K and **Winstein C.J.** (2000) Dual Mechanisms of Arm Recovery following Unilateral Stroke. Society for Neuroscience, 26 [Abstract, 62.4]
113. Fisher, B.E., **Winstein, C.J.** (2000). Deficits in premovement planning after unilateral cerebellar lesion. Society for Neuroscience, 26 [Abstract, 256.2]
114. Boyd, L.A, **Winstein, C.J.** (2000). Explicit knowledge promotes implicit learning and reduces forgetting in a complex tracking task. Society for Neuroscience, 26 [Abstract 264.8]
115. Boyd, LA, **Winstein, C.J.** (2000). Prior explicit knowledge promotes implicit learning while extended practice does not in individuals who are post stroke. J. Sport & Exercise Psychology, 22, (Suppl) S21. (NASPSPA, San Diego, CA, June 8, 2000)
116. Onla-or, S., **Winstein, C.J.** (2000). Context-specific learning in individuals with Parkinson's disease (PD). J. Sport & Exercise Psychology, 22, (Suppl) S84. (NASPSPA, San Diego, CA, June 10, 2000)
117. Archambault P<sup>1</sup>, **Winstein CJ**<sup>2</sup>, Levin MF<sup>1,3</sup>; (1999). Bilateral trunk control deficits in right-sided hemiparetic subjects. Neurological Sciences Research Centre, University of Montréal<sup>1</sup>, Department of Biokinesiology/Physical Therapy, University of Southern California<sup>2</sup>, Research Center, Montreal Rehabilitation Institute<sup>3</sup>. (ISPG conference).
118. Onla-or S, **Winstein CJ.** (1999). Context-specificity and generalizability of motor learning in individuals with Parkinson's Disease (PD): A pilot study. Neurology Report, 23: 186 [Abstract for 2000 Combined Sections Meeting, Feb 1-6, New Orleans, LA]
119. Boyd LA, **Winstein CJ.** (1999). Implicit learning of the serial reaction time task is facilitated by explicit knowledge but not by extended practice following stroke: A pilot study. Neurology Report, 23, 191-192. [Abstract for 2000 Combined Sections Meeting, Feb 1-6, New Orleans, LA]
120. Rose DK, **Winstein CJ**, Yang AN, Weiss WB, Tan SM, Azen SP, Chui HC. (1999). Relationship between upper extremity function and impairment in individuals with unilateral stroke. Neurology Report, 23, 186. [Abstract for 2000 Combined Sections Meeting, Feb 1-6, New Orleans, LA]
121. B.E.Fisher, **C.J.Winstein.** (1999). Functional brain correlates for premovement planning and compensatory scaling in rapid aimed movements. Society for Neuroscience, 25, 908, [Abstract 365.8]
122. Boyd, LA, Baker, LL, **Winstein, CJ.** (1999) Explicit knowledge facilitates implicit sequence learning in stroke. Society for Neuroscience, 25, 1900 [Abstract 756.16]
123. J.M. Burnfield, C.M. Powers, and **C.J. Winstein** (1999) Enhanced voluntary and triggered arm use following constraint-induced (CI) movement therapy in post-stroke hemiparesis. Society for Neuroscience, 25, 908 [Abstract 365.9]
124. Sullivan, K.J. & **Winstein, C.J.** (1999). Predicting upper extremity motor impairment and physical disability after stroke. Neurology Report,
125. **Winstein, CJ** (1999) Recent developments in the rehabilitation of motor control: Is basic research in motor control a useful launching pad for rehabilitation practice? Symposium Reactor. J. Sport & Exercise Psychology, 21, (Suppl) S8-9.

126. Boyd, LA and **Winstein, C.J.** (1998). Serial reaction time learning in individuals with unilateral brain damage. Society for Neuroscience, 24, 2116 [Abstract 841.12]
127. Fisher BF, **Winstein C.J.**, Velicki MR (1998). Amplitude scaling in rapid aiming movements is impaired after unilateral sensorimotor area damage. Society for Neuroscience, 24, 1663 [Abstract 653.8]
128. Sullivan KJ, **Winstein C.J.** (1998). Deficits in motor program acquisition and control but not learning after unilateral sensorimotor system damage. Society for Neuroscience, 24, 1665 [Abstract 653.15]
129. **Winstein, C.J.**, Onla-or, S., & Sullivan, K. (1997). Deficits in movement-related information processing post-stroke: a kinematic analysis. Society for Neuroscience, 23, 2373 [Abstracts]
130. **Winstein, C.J.**, Fisher, B.E., & Onla-or, S. (1997). Response Variability of Goal-Directed Voluntary Arm Movements: Pathology or Flexibility? Journal of Sport and Exercise Psychology, 19 (Suppl), S20 [Abstract]
131. Sullivan KJ, **Winstein C.J.** (1997). Neural substrate of motor learning: Evidence from an individual with Alzheimer's Disease. J. Exercise & Sport Psychology, 19, (Suppl) S112.
132. Sullivan, K. & **Winstein, C.J.** (1997). Practice-related improvement during motor skill acquisition post unilateral-brain damage, Society for Neuroscience, 23, 2374, 1997 [Abstract].
133. Sullivan KJ, **Winstein C.J.** (1997). Actions speak louder than words: A case study demonstrating declarative but not procedural memory deficits. Neurology Report, 21, 49 [Abstract]
134. Cardinale, C., Green, A., Sauber, C., Wong, L., **Winstein, C.J.**, & Pohl, P.S. (1995). Effectiveness of knowledge of results or concurrent feedback during practice of a partial weight bearing task. [Abstract]. Neurology Report, 19, 22-23.
135. Merians, A., **Winstein, C.J.**, Sullivan, K., & Pohl, P.S. (1995). Effects of feedback for motor skill learning in older healthy subjects and individuals post-stroke". Abstract. Neurology Report, 19, 23-25.
136. **Winstein, C.J.**, Pohl, P.S., & Fisher, B.E. (1995). Predictors of motor performance in the ipsilateral upper extremity in individuals post-right vs left stroke. Abstract. Neurology Report, 19, 21-22.
137. **Winstein, C.J.**, Pohl, P.S., Grafton, S.G. (1995). Functional neuroanatomy of goal-directed hand aiming movements: a PET study. Abstract Society for Neuroscience, 21, 1422.
138. **Winstein C.J.**, Pohl PS, Grafton ST. (1995). Task complexity effects on neural activity: An investigation of rapid goal-directed aiming using positron emission tomography (PET). J. Sport & Exercise Psychology, 17, (Suppl) S111.
139. Pohl, P.S., & **Winstein, C.J.** (1994). Effects of practice on the control of reciprocal aiming movements post-stroke. Abstract Society for Neuroscience, 20, 1199.
140. Velicki, M.R., **Winstein, C.J.**, Altman, K., & Pohl, P.S. (1993). Trajectory parameters specification in subjects post stroke. Abstract, Society for Neuroscience, 19, 546.

141. Weng, A. & **Winstein, C.J.** (1993). An examination of reactive response time and sagittal joint angle responses to platform perturbations during bipedal stance in normal and individuals post-stroke. Abstract, Neurology Report, 17, 22.
142. Sullivan, K.J., **Winstein, C.J.**, & Pohl, P.S. (1993). Effects of movement direction in aiming movements in healthy subjects and individuals post-stroke. Abstract, Neurology Report, 17, 25.
143. Pohl, P.S., & **Winstein, C.J.** (1993). Hemispheric differences in the control of rapid aiming movements. Abstract, Society for Neuroscience, 19, 546.
144. **Winstein, C.J.**, & Pohl, P.S. (1993). Frequent on-target experience during practice degrades the learning of target location more than frequent knowledge of results. Abstract, Journal of Sport and Exercise Psychology, 15 (Suppl.), S92.
145. **Winstein, C.J.**, & Pohl, P.S. (1993). An examination of age-related differences in the control strategies of reciprocal aiming movements. Abstract, Journal of Sport and Exercise Psychology, 15 (Suppl.), S92.
146. Pohl, P.S., **Winstein, C.J.**, & Lewthwaite, R. (1992). Processes underlying motor learning: A methodological perspective. Abstract, Physical Therapy, 72, S10.
147. **Winstein, C.J.**, Horak, F.B., & Abbs, J.H. (1989). Effect of load magnitude predictability on automatic compensatory grip force adjustments. Abstract, Society for Neuroscience, 15, 397.
148. **Winstein, C.J.**, & Garfinkel, A. (1985). Spastic locomotion: A dynamic analysis of stroke patients before and after therapy. Abstract, Society for Neuroscience, 11, 1166.
149. **Winstein, C.J.**, Barto, P., Parker, K., & Perry, J. (1985). Change in gait and balance variables in adult hemiplegics. Abstract, Physical Therapy, 65, 726.
150. **Winstein, C.J.**, Jewell, M., Montgomery, J., Perry, J., & Thomas, L. (1984) Short leg casts: An adjunct to gait training hemiplegics. Abstract, Physical Therapy, 64, 713-714.

### **Invited presentations**

#### **Update with 2014-2016**

1. **Winstein CJ.** AHA Guidelines for Adult Stroke Rehabilitation, December 20, 2017. Invited by Sheng Bi, Honorary President of Hospital—Rehabilitation Hospital affiliated to National Research Center for Rehabilitation Technical Aids, Beijing, China.
2. **Winstein CJ.** Thoughts about Negative Results of Clinical Trials in Rehabilitative Medicine. 2017 National Academy of Kinesiology Annual Meeting in Wash DC (Sept 15).
3. **Winstein CJ.** and Ward S. Importance of Preclinical Studies / Advances in Rehabilitation Research at the Genetic, Molecular, and Tissue Levels. (Samuel Ward), How Can We Fix the Clinical Trial Enterprise in Rehabilitation? (**Carolee Winstein**). Sunday, Sept 17th CPTA 2017 Annual conference, San Diego, CA.
4. **Winstein CJ.** Advancing Rehabilitation Research in Today's Environment: Focus on Clinical Trials in Rehabilitation. CAPTA Annual Meeting, Sept 15-17, San Diego Convention Center, San Diego, CA.



5. **Winstein C.J.** Measuring Impairments and Quality of Movement: The Importance of Context, Confidence and Engagement for Neurorehabilitation. University of San Paolo, Brazil, Oct 31st., 2017
6. **Winstein C.J.** Past, Present, and Future of Neurologic Physical Therapy, ENAFIN Course, San Paolo, Brazil, Nov 3rd, 2017.
7. **Winstein C.J.** Future of Clinical Trials in Stroke Neurorehabilitation: Rationale, Challenges, and Opportunities for Innovative Approaches. 15<sup>th</sup> Annual Western States Stroke Consortium, October 26-27, 2013, Pasadena, CA. [Invited by Gene Sung, Chief, Division of Neurocritical Care and Stroke, USC]
8. **Winstein C.J.** Learning and Memory Processes: Mechanisms and Application to Neurorehabilitation. Invited Keynote Speaker at the University of Delaware Biomechanics Research Symposium through the Center for Biomedical Engineering Research (CBER). Research day at U. Del, Friday, May 3<sup>rd</sup>, 2013 [Darcy Reisman and John Scholz invited me]
9. **Winstein C.J.** Learning and Memory Processes: Mechanisms and Application to Task-Oriented Practice for Stroke Recovery. Invited session: Stroke Rehabilitation: Incorporating new findings into clinical practice. American Academy of Physical Medicine and Rehabilitation, October 4<sup>th</sup>, Gaylord National Hotel and Convention Center, Wash DC.
10. **Winstein C.J.** A Transformative Subfield in Rehabilitation Science at the Nexus of New Technologies, Aging and Disability. IOM and NRC Workshop on Fostering Independence, Participation, and Healthy Aging Through Technology. Forum on Aging, Disability and Independence, December 19<sup>th</sup>, 2012, Keck Center of the National Academies, Wash DC.[invited by Senior Program Officer, Institute of Medicine, recommended by Margaret Campbell at NIDRR]
1. **Winstein, C.J.** Learning and Memory Processes: Mechanisms and Application to NeuroRehabilitation. Moss Rehabilitation, Elkins Park, PA, April 6<sup>th</sup>, 2012. [John Whyte and Steve Jax invited me]
2. **Winstein C.J.** Challenges to Translating Neurorehabilitation Research into Practice: A Perspective from One Clinical Scientist. Keynote talk to the Asian Physical Therapy Research Symposium, hosted by Faculty of Physical Therapy, Mahidol University, Thailand, Sept 6, 2012. [Jool Tretriluxana, and the Faculty of Physical Therapy invited me]
3. **Winstein C.J.** Learning and Memory Processes: Mechanisms and Applications to NeuroRehabilitation. Presented to the Asian Physical Therapy Research Symposium, hosted by Faculty of Physical Therapy, Mahidol University, Thailand, Sept 6, 2012. [Jool Tretriluxana, and the Faculty of Physical Therapy invited me]
4. **Winstein C.J.** Challenges to Translating Neurorehabilitation Research into Practice: A Perspective from one Clinical Scientist. Inaugural Robert L. Lamb Distinguished Lecture, Virginia Commonwealth University, Department of Physical Therapy, Friday, Sept 21<sup>st</sup>, 2012 [Mary Shall, Chair of VCU Dept of PT, invited me].
5. **Winstein C.J.** Enabling Healthy Minds and Bodies through Immersive Technology: Leveraging Interactive Media Technology for Rehabilitation. Sweet Briar College, Engineering Program, Sept 20<sup>th</sup>, 2012, Virginia. [Tim Scott, Adjunct Professor of Engineering at Sweet Brier invited me].

6. **Winstein CJ.** Future of clinical trials in stroke neurorehabilitation: Rationale, challenges and opportunities for innovative approaches. Plenary Session, ACRM-ASNR Annual Conference, Progress in Rehabilitation Research, Atlanta, GA, October 11-15, 2011, Hyatt Regency, Atlanta.
7. **Winstein CJ.** Stroke Rehabilitation: Where we are now and where are we going? Canadian Stroke Congress 2011, Ottawa, Ontario at the Ottawa Convention Centre, October 2-4, 2011.
8. **Winstein CJ.** The future of neurorehabilitation: best practice is theoretically inspired, grounded in science and patient-centered. Keynote speaker, Rehab Week, ETH Zurich, Science City, Zurich, Switzerland, June 27-July 1, 2011.
9. **Winstein CJ.** The Challenges of Timing in Clinical Neurorehabilitation Trials. ASNR Satellite Conference, 40<sup>th</sup> Annual Meeting Society of Neuroscience: The New Science of Brain Repair and Neurorehabilitation, Manchester Grand Hyatt, Randle Ballroom D & E, San Diego, CA, Nov 12<sup>th</sup>, 2010.
10. **Winstein CJ.** Trends and Perspectives in Neurorehabilitation Research: Translating Neuroscience into Practice. 2000-2010 The 10<sup>th</sup> Anniversary of the School of Physiotherapy at the Vita-Salute San Raffaele University, Milan, Italy, May 22, 2010
11. **Winstein CJ.** USC Biokinesiology and Physical Therapy. Overview of the Education/Research/Clinical Vision. 2000-2010 The 10<sup>th</sup> Anniversary of the School of Physiotherapy at the Vita-Salute San Raffaele University, Milan, Italy, May 22, 2010
12. **Winstein CJ.** Task-oriented training: Translating the science into practice in Neurorehabilitation. Neurology Group of the New Zealand Society of Physiotherapists. Half-day Workshop presented in Auckland, NZ, AUT University, Akoranga Campus, North Shore Nov 19, 2009
13. **Winstein CJ.** Task-oriented training: Translating the science into practice in Neurorehabilitation. Southern Physiotherapy Symposium 5 (SPSS). Pre-Conference Course presented in Queenstown, NZ, Millennium Hotel Nov 20, 2009
14. **Winstein CJ.** Leading the way in clinical trials: Research in stroke Neurorehabilitation, Southern Physiotherapy Symposium 5 (SPSS). Key note presentation, Queenstown, NZ, Millennium Hotel Nov 21, 2009.
15. **Winstein CJ.** Innovative approaches to Neurorehabilitation: What is on the horizon? Southern Physiotherapy Symposium 5 (SPSS). Queenstown, NZ, Millennium Hotel Nov 22, 2009
16. **Winstein CJ.** And Thompson L. Rehabilitation therapies in the 21st Century. Rancho Los Amigos National Rehabilitation Center and Rancho Los Amigos Foundation Present The 2009 Neurologic Rehabilitation Conference, Nov 14, 2009 Conference: What's new in Neurologic rehabilitation: Where we are, where we have been, and where we need to go. Downey, CA
17. **Winstein CJ.** Leading the way for clinical trials research in Stroke Neurorehabilitation. Rehab Grand Rounds, Long Beach Memorial Medical Center, Dec 9, 2009
18. **Winstein CJ.** "What research means to me and why?" Featured speaker at the Research Day 2008 Luncheon, School of Dentistry, University of Southern California, February 13, 2008, Los Angeles, CA.

19. **Winstein CJ.** Congresso Internazionale AIFI, AIFI International Congress, 9-10 October, 2008. Physical Therapist Practice in Neurology: Fundamental Principles and Therapeutic Approaches to the Rehabilitation in the Central Nervous System. Naxos Beach Resort, Giardini Naxos, Sicily, Italy. *Social Cognitive Neuroscience: Implications for Neurorehabilitation.*
20. **Winstein CJ.** Innovative Approaches to Neurorehabilitation: What is on the horizon? California Physical Therapy Association (CAPTA), Sept 27<sup>th</sup>, 2008, Oakland, CA.
21. **Winstein CJ.** Leading the way for clinical trials research in stroke Neurorehabilitation. The 1<sup>st</sup> Pacific Rim Rehabilitation Seminar at Tokyo Bay, The Forefront in NeuroRehabilitation, Tokyo, Japan. June 21<sup>st</sup>, 2008.
22. **Winstein CJ.** The Fifteenth Annual Joseph P. Van Der Meulen Symposium in Clinical Neuroscience, Focus on Stroke and Neurocritical Care, University of Southern California, May 17<sup>th</sup>, 2008. *Leading the way in clinical trials research in stroke Neurorehabilitation.*
23. **Winstein CJ.** Irma Ruebling Distinguished Speaker for 2008. Saint Louis University Department of Physical Therapy, St. Louis, MO. *Leading the way for clinical trials in rehabilitation.* April 27-28, 2008.
24. **Winstein CJ.** *Potential for rehabilitation with socially assistive robots.* IAS –ISF Workshop Series, Inaugural Workshop: Innovations in Rehabilitation Interventions, Jerusalem, Israel, Nov 28-Dec 5, 2007.
25. **Winstein CJ.** Reflections on Constraint-Induced Movement Therapy: Implications for Theory and Practice in Neurorehabilitation. Keynote presentation, Annual Conference, Israeli Physical Medicine and Rehabilitation Society, Tel Aviv, Israel, Nov 28<sup>th</sup>, 2007.
26. **Winstein CJ.** Neurology Group Plenary Session: Theory into Practice: Implications for Neurorehabilitation; Sports Group Concurrent Session: Neuroplasticity and Motor Skill Learning: Considerations for Sports Injury Rehabilitation. Australian Physiotherapy Association (APA) Conference, Cairns, Australia, October 4-6, 2007.
27. **Winstein CJ.** Motor Skill Learning: A Behavioral Basis for Neurorehabilitation and Neuroplasticity. Bobath 50, London, UK, Sept 6-7, 2007
28. **Winstein CJ.** Patient-Centered Practice. 2006 G. Maureen Rodgers Vision for Physical Therapy Lecture, Rancho Los Amigos National Rehabilitation Hospital, Downey, CA. November 7, 2006
29. **Winstein CJ.** Strategies for Driving Restorative Neural Plasticity after Stroke\_ From Animal to Human Research. Invited Symposium with Theresa Jones, American Psychological Association Convention, New Orleans, LA, August 13, 2006
30. **Winstein CJ.** Motor learning: Linking theory and basic research to clinical practice in stroke rehabilitation. Senior Scholar Lecturer, Motor Control and Learning Program for the North American Society for the Psychology of Sport and Physical Activity (NASPSPA), Denver, CO. June 3, 2006.
31. **Winstein CJ.** Patient-Centered Practice. 11th John Maley Lecture. Annual Conference and Exposition of the American Physical Therapy Association, Orlando Florida, June 23, 2006

32. **Winstein CJ.** The acquisition of skilled movements: From pre-clinical to clinical trials research in stroke rehabilitation. Harry Hooker Lecture, McMaster University, Hamilton Ont, Canada. May 25, 2006.
33. **Winstein CJ.** Neurorehabilitation Strategies for Stroke: Translating the Science into Practice. *Translational Research Seminar Series*, Dept of Neurology, USC, April 5, 2005.
34. **Winstein, CJ, Rizzo, AS, Stewart, JC.** Virtual Environments and Haptics in Neurorehabilitation. Virtual Reality Symposium, Haifa, Israel, March 2005
35. **Winstein CJ,** Pre-conference Course, Combined Sections Meeting, Tampa Florida, February, 2003: Translating research into clinical practice for patients post-stroke: Where are we? Neurology Report, 26, 226 (2002).
36. **Winstein CJ,** Two-day Symposium for rehabilitation professions: Neurorehabilitation, Embracing the Science behind the Practice, Heiden, Switzerland, August 15-16, 2003
37. **Winstein CJ,** California Chapter, APTA State Meeting, November 1st, 2003: Evidence-based practice for upper extremity recovery after stroke.
38. **Winstein, C.J.** Motor control and learning for neurologic rehabilitation: Embracing the science behind the practice. Association of Chartered Physiotherapists in Neurology (ACPIN), 2002 Congress and Exhibition of the Chartered Society of Physiotherapy, Birmingham, UK (October 11, 2002)
39. **Winstein, C.J.** NDT and the Evidence: Theory and Clinical Practice: Theories, Models, Principles of Normal Motor Control. American Physical Therapy Association, Cincinnati, OH (June 6, 2002, with Fisher, BF, and Campbell, SK)
40. **Winstein, C.J.** Discussant: Symposium: Kinesiologic Contributions to Stroke Rehabilitation. North American Society for the Psychology of Sport and Physical Activity (NASPSPA), (June 8, 2002, Hunt Valley, Maryland)
41. **Winstein, C.J.** with Morris, D.: Current issues in constraint-induced movement therapy for stroke recovery. U.C. Davis Medical Center. (February 8, 2002, Sacramento, CA)
42. **Winstein, C.J.** The application of constraint-induced (CI) movement therapy for patients with stroke: A skill learning perspective from the evidence. Grand Rounds, Rancho Los Amigos National Rehabilitation Center (January 24, 2002, Downey, CA)
43. **Winstein, C.J.** Motor control and learning for neurologic rehabilitation: The science behind the practice (Keynote, Physical Rehabilitation track); The application of constraint-induced (CI) movement therapy for patients with stroke (Clinical practice workshop). 22<sup>nd</sup> Annual Neurorehabilitation Conference on Traumatic Brain Injury, Stroke and Movement Disorders, Healthsouth Braintree Rehabilitation Hospital. (November 3, 2001, Boston, MA)
44. **Winstein, C.J.** Embracing the challenge: The science of physical therapy. Keynote lecture at the Annual Conference of Physical Therapy Association of the Republic of China, Taipei, Taiwan (September 23, 2001).

45. **Winstein, C.J.** Constraint-induced movement therapy (“forced-use”) and stroke recovery. A workshop at the Annual Conference of Physical Therapy Association of the Republic of China, Taipei, Taiwan, (September 23, 2001).
46. **Winstein, C.J. & Wolf, S.** Constraint-Induced Movement Therapy: A New Rehabilitation Paradigm? Sharp Rehabilitation-San Diego: (March 24, 2001)
47. **Winstein, C.J.** From Bench to Bedside: Motor learning, procedural learning, and learning-dependent cortical reorganization. Centre interdisciplinaire de recherche en réadaptation et intégration sociale (CIRRIS) Quebec, U. Laval, CA (March, 26, 2001)
48. **Winstein, C.J.** Constraint-Induced Movement Therapy (“forced-use”) and Stroke Recovery California Rehabilitation Association: San Diego, CA, (January 25, 2001)
49. **Winstein, C.J.** Learning in the Development of Motor Behaviors: The Importance of Exploration and Experience. Duncan Seminar, Seattle, Children’s Hospital, WA (April 27, 2001)
50. **Winstein, C.J.** Movement Science and its Relevance to Physical Therapy, Northwestern, University—Physical Therapy Program Research Day (December 8, 2000)
51. **Winstein, C.J.** (with Wolf, S, and Taub, E) The Application of Constraint-Induced (CI) Movement Therapy for Patients with Stroke. American Academy of Physical Medicine and Rehabilitation Annual Conference, San Francisco, CA, (November 3, 2000).
52. **Winstein, C.J.** Motor control and learning: implications for the science and practice of physical therapy. Chapman University, Physical Therapy Students (Alison McKenzie, Ph.D.) April 17, 2000
53. **Winstein, C.J.** Aiming movement deficits in the ipsilateral upper extremity following stroke. Motor Control Laboratory, Arizona State University (Stelmach laboratory). (March, 30, 2000).
54. **Winstein, C.J.** Seminar/Workshop: Physical Therapy for the Neurologic Patient: Practice, Research, and the Profession: Bangkok, Thailand and Chang-Mai, Thailand, (August, 6-13, 1999)
55. **Winstein, C.J.** Three-day Seminar/Workshop: Motor Control and Learning in the Adult Neurologic Patient: Evidence-based Practice, Walzenhausen, Switzerland, (May 28-30, 1999).
56. **Winstein, C.J.** Procedural (Implicit) Skill Learning in Stroke and other Neurological Disorders, New York Columbia Teacher’s College, 20<sup>th</sup> Annual Conference on Motor Skill Acquisition, (April 17-18, 1999).
57. **Winstein, C.J.** Motor learning and recovery of function in stroke-hemiplegia. Symposium on Sensorimotor Function: Sensory Motor Neuroscience Centre, University of Birmingham, UK., (May 15, 1998).
58. **Winstein, C.J.** Recovery of upper extremity function in stroke: brain and behavior. School of Psychology Seminar, The University of Birmingham, UK., (May 26, 1998).
59. **Winstein, C.J.** Motor control and learning in stroke: Clinical Implications. Emory University, Program in Physical Therapy, (March 23, 1998).

60. **Winstein, C.J.** & Rogers, M. Eugene Michels Research Forum: Measurement in Stroke—Movement vs Disability. Combined Sections APTA—Boston, MA., (February 13, 1998).
61. **Winstein, C.J.** Ninth Annual Stroke Rehabilitation Conference: Focus on Functional Outcomes: Plenary Lecture: Motor Learning Issues: Can We Improve Functional Outcomes? Workshop: Recovery of Upper Extremity Control Post-Stroke: Predicting Outcomes and Determining Treatment Priorities, (October 16, 1997).
62. **Winstein, C.J.** Science into Practice Series: Rancho Los Amigos Medical Center: Motor control and learning in the rehabilitation of the adult neurologic patient. (September, 27-28, 1997).
63. **Winstein, C.J.** Kinematics of reaching in stroke, Invited speaker at "Workshop on Grasping: Neural Circuitry, Neural Models, and Human Brain Imaging". Sea Lodge Hotel, La Jolla, CA (November 8-10, 1995)
64. **Winstein, C.J.** Control of aiming movements-insights from pathology, Invited plenary lecture Gordon-Like conference, "Multisegmental Motor Control: Interface of Biomechanical, Neural, and Behavioral Approaches". Hampton school, New Hampton, NH. (August 14-19, 1995)
65. **Winstein, C.J.** Theoretical perspectives and assumptions on motor learning and motor control, Invited plenary lecture in clinical lecture series, Series II: Motor Learning and Motor Control. World Confederation for Physical Therapy Congress, Washington, D.C., (June 27, 1995).
66. **Winstein, C.J.** Effects of unilateral brain damage on the control of goal-directed hand movements, Forshungskolloquium (seminar) while a visiting scientist at the Institute for Psychologie, Max Planck Institute, Munich, Germany. (June 7, 1995)
67. **Winstein, C.J.** Invited Commentary following: Goodale, M. Separate visual pathways for perception and action in the cerebral cortex. Pre-conference workshop, "Sensory mechanisms in motor coordination: Implications for motor control and rehabilitation", Society for Neuroscience, Annual Meeting, (November 13, 1994)
68. **Winstein, C.J.** Motor control & kinematics. Lecture to USC Neurology Residents. Course coordinator, Dr. Scott Grafton. USC University Hospital, Los Angeles, CA (November 18, 1993)
69. **Winstein, C.J.** Effectiveness of augmented feedback for balance retraining. Invited workshop on Balance at Annual meeting of the Association for Applied Psychophysiology and Biofeedback. Los Angeles, CA, (March 27, 1993)
70. **Winstein, C.J.** Relearning motor skills after stroke. Aging and Disability Conference sponsored by the Rehabilitation and Training Center on Aging, Rancho Los Amigos Medical Center. Long Beach, CA, (March 19, 1993)
71. **Winstein, C.J.** Movement-related information processing capabilities post-stroke Pre-conference workshop entitled "Hemispheric specialization in movement control" Combined Section Meeting of the American Physical Therapy Association, (February 2, 1993)
72. **Winstein, C.J.** Motor learning considerations in physical rehabilitation: theoretical and empirical issues. Valley Hospital, Northridge, CA, (June 8-9, 1992)

73. **Winstein, C.J.** Perspectives on motor learning: implications for physical rehabilitation. Fifth distinguished lecturer, University of Washington, Pediatric Physical Therapy Leadership Training Program. Program funded by Department of Health and Human Services, Division of Maternal and Child Health. University of Washington, Seattle, WA, (April 30-May 1, 1992)
74. **Winstein, C.J.** Motor learning: models, principles, and implications for rehabilitation. University of Southern California, Department of Biokinesiology and Physical Therapy, "The CNS: Plasticity, Adaptation, and Learning", Los Angeles, CA, (May 14, 1991)
75. **Winstein, C.J.** Designing practice for motor learning: clinical implications. II Step Contemporary Management of Motor Control Problems. Norman, OK, (July, 1990)
76. **Winstein, C.J.** Sensorimotor contributions in the control of human grasp. Invited presentation at Teachers College, Columbia University, Department of Movement Science and Education Conference: Neuromotor processes in posture and movement. New York, NY. (April, 1990)
77. **Winstein, C.J.** Discoordination of multiarticulate movements in patients with diffuse cerebellar atrophy. First International Congress of Movement Disorders, Wash, D.C., (March, 1990)
78. **Winstein, C.J.** Anticipatory and task-specific sensorimotor processing in the control of human grasp. Invited presentation at the Pre-Neuroscience Satellite Conference: System Solutions to Motor Control Problems. Tempe, AZ., (October, 1989).
79. **Winstein, C.J.** Current concepts in motor control and motor learning applied to assessment and treatment. Invited presentation, Massachusetts Chapter American Physical Therapy Association, Hyannis, MA, (November, 1988).
80. **Winstein, C.J.** Triggered and voluntary neuromuscular responses in human precision grip. Invited presentation, Center for Engineering Design, University of Utah, Salt Lake City, UT, (August, 1988).
81. **Winstein, C.J.** Motor learning considerations in rehabilitation. Invited presentation at Recovery of Motor Control: Implications for Assessment and Treatment of the Neurological Patient, School of Allied Health Professions, University of Wisconsin, Madison, WI, (June, 1988).

### **Professional Societies**

2007-present	American Society of Neurorehabilitation
1994-present	Research Section of the American Physical Therapy Association
1990-present	American Psychological Association
1988-1998	American Association for the Advancement of Science
1986-present	Neurology Section of the American Physical Therapy Association
1985-present	Society for Neuroscience
1983-present	North American Society for the Psychology of Sport and Physical Activity

- 1973-present California Chapter American Physical Therapy Association
- 1972-present American Physical Therapy Association
- 1972-present Phi Beta Kappa Honor Society

### **Professional and Scientific Activities**

#### Extramural Service

- 2015- Appointed to the External Advisory Committee for recently funded P41 Biomedical Technology Resource Research Center (Wolpaw, PI): National Center for Adaptive Neurotechnologies.
- 2015- Invited and accepted a role as one of a select group of Senior Associate Editors to advise Alan Jette who will assume the role of Editor-in-chief of PTJ beginning in January, 2016 and his vision to make PTJ into the premiere journal in rehabilitation.
- 2015-2021 Appointed, member NIH Musculoskeletal Rehabilitation Study Section Panel (6-year term)
- 2015- Consultant for St. Jude Medical Business Services, Inc. My role is to participate as a member of the Clinical Study Committee and to assist with designing SJM-sponsored clinical trials.
- 2013-2017 Appointed Member of the AHA/ASA Nursing and Rehabilitation Professions Committee of the Stroke Council for term dates, July 1, 2013-June 30, 2015. Re-appointed for another two year term, 2015-2017
- 2012-2016 Chair of the writing group for the Guideline on Stroke Rehabilitation and Recovery for the AHA (American Heart Association)/ASA (American Stroke Association)
- 2016-2018 Appointed President, American Society for Neurorehabilitation (ASNR)
- 2014-2016 Appointed Vice President, American Society for Neurorehabilitation (ASNR)
- 2012-2014 Appointed Secretary-Treasurer of the American Society for Neurorehabilitation (ASNR)
- 2011 Member NICHD workshop on Diagnostics and Therapeutics (identify for the next decade, ambitious but realistic scientific opportunities regardless of the Institutes current portfolio)
- 2011 Editorial Board Member for new Journal, the *Italian Journal of Physiotherapy* (Inaugural issue, May 2011).
- 2010 Member-Clinical Research Network Committee of the Orthopedic Section of the APTA.



- 2010 Editorial Board Member for Neurorehabilitation and Neural Repair (re-appointed, 2013 by new Editor and Chief, Randy Nudo)
- 2010 Associate Editorial Board of *Frontiers in Movement Science and Sport Psychology*
- 2007 Facilitator for Pediatric Research Summit II, Alexandria, VA, October 2007
- 2006-2008 Member, Advisory Board for Northstar Neuroscience, Inc.
- 2005-2009 Member, Advisory Board for National Center for Medical Rehabilitation Research (NCMRR). National Institutes of Health.
- 2003-2005 Co-chair, program committee for: III STEP SUMMER INSTITUTE ON TRANSLATING EVIDENCE INTO PRACTICE: LINKING MOVEMENT SCIENCE AND INTERVENTION, scheduled for July 15-21, 2005 and sponsored by the Pediatrics and Neurology Sections of the APTA. (see <http://www.iiistep.org> ). Submitted NIH R13 conference grant December 15, 2003 for conference funding.
- 2004 Study Section Review Panel, National Institutes of Health, Musculoskeletal Rehabilitation Study Section (MRS)
- 2003-2012 Member external advisory board for NIDRR funded MARS (Machines Assisting Recovery from Stroke)-RERC, Zev Rymer, MD, PI
- 2003 Member advisory panel, for NIDRR funded RRTC Aging-related Changes in Impairment for Persons Living with Physical Impairments -Bryan Kemp, PhD, PI
- 2003 Invited participant: Task Force on Childhood Motor Disorders (Terry Sanger, Stanford U., NIH U grant, January 2003)
- 2003 Study Section Review Panel, National Institutes of Health, Special Emphasis Panel, RFA 02-023. Pharmacological Approaches To Enhance Neuromodulation In Rehabilitation.
- 2000-2004 American Physical Therapy Association, APTA, Awards Committee—Research Subcommittee
- 2000 Study Section Review Panel, National Institutes of Health, BBBP-7 (Biobehavioral and Behavioral Processes IRG) and Special Emphasis Panel, ZRG1-SSS5-04 (Rehabilitation small business grants) study section.
- 1999-2004 Chair, Data Monitoring and Safety Committee  
Locomotor Therapy Trial for Spinal Cord Injury (NIH U01 HD37439).
- 1997-2003 Appointed Editorial Board Member for *Physical Therapy*
- 1995-1998 Member, Postdoctoral Fellowship and Doctoral Scholarship Committee, American Physical Therapy Association

- 1994-1996 Chair, research committee, Neurology Section of the American Physical Therapy Association
- 1995 Invited participant--Consensus conference on Doctoral Level (DPT) Physical Therapist Professional Education, American Physical Therapy Association, Sept 21-24, 1995
- 1994 Ad Hoc Study Section member, National Institutes of Health, Grant reviewer
- 1994 Invited participant--"Stroke Think Tank". Alexandria, VA. Jan 29-30, 1994.
- 1994 External member of doctoral degree committee: McMaster University, Ontario, Canada (Laurie Swanson)
- 1993 Member, Search Committee for Director of Physical Therapy, Rancho Los Amigos Medical Center, Downey, CA
- 1993 Invited participant--"Research Summit", research agenda for the profession Alexandria, VA, Dec 3-5, 1993
- 1992 Grant Reviewer for Funding Agency: Ministry of Health, Ontario, Canada Health Care Systems Research Grant
- 1992-present Affiliated Scientist, Center for Research in Clinical Biokinesiology, Rancho Los Amigos Medical Center, Downey, CA
- 1991 American Physical Therapy Association Task Force on Content of Postbaccalaureate Degree Entry-Level Curricula: Neurology Content, Member
- 1990-1991 Co-coordinator and guest editor for special series of Physical Therapy on movement science, published in December 1990-March 1991.
- 1984-1986 Research Consultant, Rehabilitation Engineering Center, Rancho Los Amigos Medical Center, Downey, CA

### **Referee/Service for Professional Journals/Publications**

- 1992-1995 Consulting editor for Journal of Motor Behavior
- 1988-present Periodic manuscript reviewer for scientific journals including:  
 Acta Psychologica  
 Am J. Phys Med Rehabil  
 Archives of Phys Med and Rehabil  
 Behavioural Brain Research  
 Brain  
 Experimental Brain Research  
 Journal of Experimental Psychology: Learning, Memory and Cognition  
 Journal of Motor Behavior  
 Journal of Applied Biomechanics  
 Journal of Gerontology: Medical Sciences  
 Journal of Rehabilitation Research and Development

NeuroImage  
 Neurorehabilitation and Neural Repair  
 Neuropsychologia  
 Neuroscience  
 Perceptual and Motor Skills  
 Quarterly Journal of Experimental Psychology  
 Research Quarterly for Exercise and Sport  
 Physiotherapy Theory and Practice  
 Stroke

1993 Chapter reviewer for Williams & Wilkins, *Motor Control: New Models for Rehabilitation*, Shumway-Cook & Woollacott.

2010 Chapter reviewer for Oxford University Press, *Brain Computer Interfaces for Communication and Control* (J. Wolpaw & E. Wolpaw, Eds).

1992 irregular Invited commentator for *Physical Therapy*

#### **Department Committees/University Service**

2015- Appointed Member, Quantitative Social Sciences Panel of the University Committee on Appointments, Promotions, and Tenure (UCAPT) for the 2015-2016 academic year.

2016- Appointed Chair Research Advancement Committee, Division Biokinesiology and Physical Therapy

2013-2014 Appointed Member, Quantitative Social Sciences Panel of the University Committee on Appointments, Promotions, and Tenure (UCAPT) for the 2013-2014 academic year.

2011-2016 Member, newly constituted Division Research Activity Committee (RAC), BKN & PT

2010-2012 Member University Research Committee, USC. Jointly sponsored by the Office of the Provost and the Academic Senate

2009-2010 Co-Chair Subcommittee A, University Research Committee, USC, 2009-2010 academic year—Jointly sponsored by the Office of the Provost and the Academic Senate

2007-2009 Member-at-large, Executive Committee of the Academic Senate

2005-present Member, Executive Committee for Department/Division

2002 Member, Department Faculty search committee

2001-present Member, USC Ambassador to the President

2001 Chair, Courseware Policy Committee (Sub-committee of Research Committee)

2000-2002 Research Subcommittee of Academic Senate

1999-2000	Chair, Department of Biokinesiology and Physical Therapy Faculty Search Committee
1999-2003	Chair, Biokinesiology Committee (MS, Ph.D.), Department of Biokinesiology and Physical Therapy
1999	Member, Faculty Advisory Panel for Independent Health Professions Strategic Planning
1998-2002	Member, Independent Health Professions Interdisciplinary Research Advisory Panel
1998-1999	President, Medical Faculty Women's Association, Health Sciences Campus, USC
1995	Co-Chair, Advanced Studies Committee, Department of Biokinesiology and Physical Therapy, University of Southern California
1994-1995	Co-Chair, Professional Development Committee, Medical Faculty Women's Association
1994	Department Council (BKN) representative to Health Science Caucus
1993	Independent Health Professions Academic Senator
1993-1994	Chair, Advanced Studies Committee, Department of Biokinesiology and Physical Therapy, University of Southern California
1993-1994	Search Committee, Member, Department of Biokinesiology and Physical Therapy, University of Southern California
1993	Faculty Merit Committee, Department of Biokinesiology and Physical Therapy, University of Southern California
1992	Chair, Semester III Committee, Department of Biokinesiology and Physical Therapy, University of Southern California
1990-2003	Member, Medical Faculty Women's Association, University of Southern California
1990-2004	Member, Admissions Committee, Department of Biokinesiology and Physical Therapy, University of Southern California

### **Teaching Activities Courses Taught**

2007-present	BKN 550 Neurobehavioral Basis of Movement (Core Course) 4 units. Course Director/Coordinator, Division of Biokinesiology and Physical Therapy, University of Southern California
1992-present	Course Instructor

- BKN 599/593: Behavioral Basis of Motor Control and Learning (4/3 units/graduate). Department of Biokinesiology and Physical Therapy, University of Southern California
- 2017-present BKN 593 combined with BKN 562—Neurobehavioral Basis of Motor Control and Learning including Neuroplasticity and Neural Repair (with Fisher)
- 1995-present Course Lecturer  
Unit I or III, PT529 Life Span Motor Control (3 units/graduate), Department of Biokinesiology and Physical Therapy, University of Southern California
- 1993-present Advisor  
BKN 790, 794 (only doctoral students) Research/Dissertation, Department of Biokinesiology and Physical Therapy
- 1990-2004 Course Instructor/Director/Coordinator  
PT531/569/BKN550 Fundamentals of Neuroscience (4 units/graduate), Department of Biokinesiology and Physical Therapy, University of Southern California
- 1991-1992 Course Coordinator  
BKN 576. Seminars in Biokinesiology (1 unit/graduate), Department of Biokinesiology and Physical Therapy, University of Southern California
- 1990-present Course Instructor  
BKN 590, 599, 656, 672, Directed Research/Independent studies/readings in Pathokinesiology (1-4 units/graduate), Department of Biokinesiology and Physical Therapy, University of Southern California

#### **Post-Doctoral Research Associates and Career Development Fellows Sponsored**

- 2017-Present Co-mentor for Jessica Cassidy (Postdoc in Cramer lab, UC Irvine) on her NIH Career Development K99/R00, Brain Network Connectivity Measures in Early Stroke Rehabilitation. Awarded, Fall 2017.
- 2012-2014 Sue Duff, EdD, OT, PT, Division of BKN & PT, USC (Post-Doctoral Fellow (NIH/NICHD/NCDRR T32 HD064578), Occupational Science & OT, USC)
- 2009-2013 Eric Wade, PhD. Division of BKN & PT, USC (Supported through a 2 year NIH/NICHD Diversity Supplement to ICARE)
- 2002-2005 Yun Dong, MD, PhD. Department of Biokinesiology and Physical Therapy, University of Southern California.
- 2001-2005 Allan Wu, MD. Dept of Neurology, University of Southern California, NIH K23 Mentored Clinical Scientist Training

#### **Graduate Students (M.S./Ph.D.) Sponsored**

- 2015-present Rini Varghese (Ph.D) in Biokinesiology Division of BKN & PT, USC

- 2014-present Andrew Hooyman (Ph.D) in Biokinesiology, Division of BKN & PT, USC
- 2013-present Helen Bacon (Ph.D) in Biokinesiology, Division of BKN & PT, USC [Currently on Medical Leave]
- 2012-2017 Bokkyo Kim (Ph.D) in Biokinesiology, Division of BKN & PT, USC
- 2011-2017 Dorsa Berukhim-Kay (Ph.D) in Neuroscience Graduate Program, USC.
- 2010-2017 Yi-An Chen (Ph.D) in Biokinesiology, Division of BKN & PT, USC
- 2009-2013 Matthew Konersman (Ph.D) in Biokinesiology, Division of BKN & PT, USC (withdrew before degree completion)
- 2009-2011 Charalambos Charalambous (PhD, switched to MS following 1st year Screening in Nov, 2010), Division of BKN & PT, USC
- 2005-2011 Katie Garrison (Ph.D) Neuroscience Graduate Program, USC. Co-Chair with L. Aziz-Zedah
- 2005-2010 Erica Pitsch, MS, (Ph.D\*) in Biokinesiology, Department of Biokinesiology and Physical Therapy, University of Southern California [\*Converted to PPDPT, July 09]
- 2005-2011 Shu-Ya Chen, M.S. (Ph.D) in Biokinesiology, Department of Biokinesiology and Physical Therapy, University of Southern California.
- 2004-2007 Caroline Tan, (M.S) in Biokinesiology, Department of Biokinesiology and Physical Therapy, University of Southern California.
- 2004-2010 Hui-Ting Goh, (Ph.D) in Biokinesiology, Division BKN & PT, USC. Co-chair with K. Sullivan
- 2003-2010 Shailesh Kantak, M.S, PT, (Ph.D). [Co-Chair with Kathy Sullivan, PhD, Guidance Committee], Department of Biokinesiology and Physical Therapy, University of Southern California.
- 2003-2010 Jill Stewart, M.S (Ph.D) in Biokinesiology and Physical Therapy, Department of Biokinesiology and Physical Therapy, University of Southern California
- 2002-2007 Chien-Ho (Janice) Lin, M.S. (Ph.D) in Biokinesiology and Physical Therapy, Department of Biokinesiology and Physical Therapy, University of Southern California
- 2001-2007 Jarugool Tretriluzana, M.S. (Ph.D) in Biokinesiology and Physical Therapy. Department of Biokinesiology and Physical Therapy, University of Southern California
- 1998-2004 Dorian Rose, M.S., P.T. (Ph.D) in Biokinesiology. Department of Biokinesiology and Physical Therapy, University of Southern California
- 1997-2001 Chelle Prettyman, B.S (M.S) in Biokinesiology. Department of Biokinesiology and Physical Therapy, University of Southern California

- 1996-2001 Lara Boyd, MPT (Ph.D.) in Biokinesiology. Department of Biokinesiology and Physical Therapy, University of Southern California.
- 1994-2001 Somporn Onla-Or, P.T. (M.S., and Ph.D.) in Biokinesiology. Department of Biokinesiology and Physical Therapy, University of Southern California.
- 1993-2000 Beth Fisher, MPT (Ph.D.) in Biokinesiology. Department of Biokinesiology and Physical Therapy, University of Southern California.
- 1992-1996 Jody Cormack P.T. (M.S.) in Biokinesiology. Department of Biokinesiology and Physical Therapy, University of Southern California.
- 1992-1998 Katherine Sullivan, P.T., M.S. (Ph.D.) in Biokinesiology Department of Biokinesiology and Physical Therapy, University of Southern California.
- 1991-1996 Mary Hudson P.T. (M.S.) in Biokinesiology. Department of Biokinesiology and Physical Therapy, University of Southern California.
- 1991-1994 Mary Ruth Velicki P.T., (M.S.) in Biokinesiology. Department of Biokinesiology and Physical Therapy, University of Southern California.
- 1991-1994 Angela Weng (Huang) P.T., (M.S.) in Biokinesiology. Department of Biokinesiology and Physical Therapy, University of Southern California.
- 1990-1995 Patricia S. Pohl, M.S. P.T. (Ph.D.) in Biokinesiology. University of Southern California. For Administrative reasons, this student's final dissertation defense was administered by John Walsh, Ph.D.

### **MPT Research Projects Sponsored**

[In 1995, the entry-level MPT program was terminated and replaced by the 3-yr DPT program and research projects were eliminated]

- 1994-1996 Robert Love, Adam Flores. "An investigation of hemispheric differences in the performance of reciprocal aiming movements: a kinematic analysis."
- 1994-1996 Bridget Brown, Raymond Crabbs, James Kantor, Julie Solari. "Force variability in a partial weight bearing task."
- 1993-1995 Alicia Beth, Kenna Brinkman, Julie Rister. "Discrete goal-directed aiming movements: a kinematic analysis".
- 1992-1994 Cardinale, C., Green, A., Sauber, C., Wong, L. "Effectiveness of knowledge of results or concurrent feedback during practice of a partial weight bearing task".
- 1991-1993 Betsy Chang, Joyce Uemera, "Effect of sampling rate and filtering on the shape of the phase plane plot: interpretation of lower extremity control mechanisms during level locomotion."
- 1991-1992 Scott Christensen, Neil Fitch, "Effects of summary knowledge of results on the acquisition and retention of partial weight bearing during gait".

- 1990-1991 Shana Wehr, Michele Gold, "A clinical test to quantify muscle fatigue in healthy and post-poliomyelitis subjects."
- 1990-1991 Risa Marie Clayton, Kathryn Maria Driessen, "Vicon measurement error and reliability of joint kinematics in free and fast walking."
- 1990 David Scarth, Dan Gross, "Observational gait analysis: A comparison of two methods of instruction".

### **MPT Research Proposals Sponsored**

- 1993-1995 Ruby Pacio, "Reversal of learned nonuse on the affected lower extremity through a forced-use gait oriented training program in patients with chronic hemiplegia".
- 1992-1994 Kelly Pratt, "Effects of intense, dynamic balance retraining on locomotor patterns of patients with chronic hemiplegia".
- 1993-1995 Katie Hetterich, "Effects of posterior walker on gait characteristics in geriatric subjects."
- 1993-1995 Jenevieve Heck, "Effects of a 24 week walking program and gait training on the oxygen cost of community ambulation in a population of individuals post-CVA".
- 1993-1995 Leslie Dykstra, "Effects of task specific training on symmetry and temporal characteristics of gait in individuals with stroke six months post incident".
- 1992-1996 Roselyn Beesley, "Effects of dynamic standing balance training on functional balance as measured by the Berg Balance Scale in individuals post CVA."

### **Service on Graduate Student Committees**

- 2012-2013 External Reviewer for Dissertation of Orit Elion of Haifa University, Haifa, Israel
- 2007 Ph.D Qualifying Exam External Referee, Katie Keetch, McMaster University, Hamilton, Ont. Canada
- 2006-2008 Ph.D. Guidance Committee, Marta Vuckovic, Neuroscience, Cell and Neurobiology
- 2006-2009 Ph.D. Guidance Committee, Kelly Kent, Neuroscience, Cell and Neurobiology
- 2003-2006 Ph.D. Examination and Dissertation Committee, Liz Davis, Neuroscience, Cell and Neurobiology
- 2004-2006 Ph.D. Examination and Dissertation Committee, Emily Mower, Engineering and Computer Science
- 2003-2005 Ph.D. Examination and External Dissertation Committee, Michelle Harris-Love, Department of Physical Therapy and Rehabilitation Science, University of Maryland, Baltimore, MD.
- 2002-2003 Ph.D Examination and Dissertation Committee, Chad Jenkins, Engineering and Computer Science
- 2002 Ph.D. Examination, External Examiner, Martin LaFleur, University Laval, Quebec, Canada
- 2001-2003 Ph.D. Examination and Dissertation Committee, Kathleen Ganley, Biokinesiology and Physical therapy
- 1997-1998 Examination and Dissertation Committee, Amanda Bishoff, Computer Science
- 1993-1995 M.S. Project Committee, Susan Herman M.S. Biokinesiology and Physical Therapy
- 1993-1999 Examination and Dissertation Committee, Barry Munkasy, Exercise Science



1992-1994 M.S. Project Committee, Sharon Demuth M.S., Biokinesiology and Physical Therapy  
1991-1995 M.S. Project Committee, Gay Scribner M.S., Biokinesiology and Physical Therapy  
1994-1998 M.S. Project Committee, Mehrnaz Mahdad, Biokinesiology and Physical Therapy  
1992-1993 M.A. Thesis Committee, Dawn Irvine, Exercise Science  
1990 Examination and Dissertation Committee, Patrick J. Smith, Exercise Science  
1992 M.A. Thesis Committee, Gitu Bhavnani, Occupational Therapy  
1991 M.A. Thesis Committee, Carolyn Barbieri, Exercise Science