

Carole A. Tucker

CURRICULUM VITA

October 2019

PERSONAL INFORMATION

Office Address:

Physical Therapy Department
Temple University – College of Public Health
1301 Cecil B Moore, Ritter Annex 681
Philadelphia, PA 19122
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EDUCATION

- 1982 Bachelor of Science in Physical Therapy,
Boston University, Boston MA
- 1990 Master of Science in Electrical Engineering,
Boston University, Boston MA
- 1998 PhD. in Exercise Science,
State University of New York Buffalo, Buffalo NY

ACADEMIC APPOINTMENTS AND PROFESSIONAL WORK EXPERIENCE

Associate Professor
Department of Health and Rehabilitation Sciences, College of Public Health
Temple University, Philadelphia, PA
2019–

Chair, Department of Physical Therapy
Director, Doctoral Program in Physical Therapy
Physical Therapy Department, College of Public Health
Temple University, Philadelphia, PA
2017 – 2019

Co-Director, Health Outcomes & Measurement Science – Certificate Program
College of Public Health
Temple University, Philadelphia, PA
2019 –

Director, PhD Program in NeuroMotor Science
Physical Therapy Department, College of Public Health
Temple University, Philadelphia, PA
2013 – 2019

Associate Professor

Electrical and Computer Engineering
Temple University, Philadelphia, PA
September 2009 – Present

Director, PhD Program in Physical Therapy – Movement Science
Physical Therapy Department, College of Public Health
Temple University, Philadelphia, PA
2008 – 2013

Scientific Staff
Shriner's Hospital – Philadelphia
Philadelphia, PA
2005 – 2008; 2013-present

Director, Motion Analysis Laboratory
Shriner's Hospital – Philadelphia
Philadelphia, PA
2005 - 2008

Adjunct Assistant Professor
Physical Therapy Department
Temple University, Philadelphia, PA
2006-2008

Research Adjunct Assistant Professor
Biomedical Engineering Department
Drexel University, Philadelphia, PA
2004 – 2009

Research Adjunct Assistant Professor
Rehabilitation Science Department
Drexel University, Philadelphia, PA
2004 – 2009

Research Department – Research Scientist
Shriner's Hospital – Philadelphia
Philadelphia, PA
2004 - 2008

Research Adjunct Assistant Professor
University of Maryland, College Park, MD
2002 – 2003

Assistant Professor
Department of Physical Therapy
Boston University, Boston MA
1998 – 2002

Adjunct Assistant Professor/ Instructor
Department of Physical Therapy
Boston University, Boston MA
1996 - 1998

Clinical Instructor /Graduate Assistant
Department of Physical Therapy
State University of New York - Buffalo, Buffalo, NY
1992 – 1996

Advanced Rehabilitation Engineering Fellow
Massachusetts Institute of Technology/
Massachusetts General Hospital, Boston MA
1991 – 1992

Graduate Research Assistant
Biomedical Engineering Department Boston University, Boston MA 1988 - 1990

SPECIAL EXPERIENCE: CLINICAL APPOINTMENTS AND RELATED ACTIVITIES

American Council of Academic Physical Therapy (ACAPT) -Global Forum on Innovation in Health
Professional Education Alternate Delegate
2019 -

APTA American Academy of Pediatric Physical Therapy – Research Summit V Participant
2019

Temple University Hospital System
Infant Intensive Care Nursery Mentor & Physical Therapist
2016 - Present

World Health Organization (WHO) Functioning and Disability Reference Group (FDRG) Member
2010- present

Pediatric Physical Therapist
Austill's Rehabilitation Services, Exton, PA
2003 –

Senior Staff Physical Therapist
Buffalo Children's Hospital, Buffalo NY
1992 - 1996

Physical Therapist/Assistant Supervisor
Children's Hospital • Boston, Boston MA
1982 - 1991

Professional Licensure

Physical Therapy Pennsylvania [PT015924]

MEMBERSHIPS - SCIENTIFIC, PROFESSIONAL

American College of Sports Medicine (2002 -
American Academy of Cerebral Palsy and Developmental Medicine (2005 -
Society for Neuroscience (2007 -

American Physical Therapy Association: Pediatrics /Neurology/Research Sections (2000 -
Institute of Electronics and Electrical Engineers: Signal Processing/Biomedical Engineering
Sections (1990 -
American Society of Biomechanics (1993 -
International Society of Biomechanics (1993 -
Gait and Clinical Movement Analysis Society (1995 -
International Neural Network Society (1998 –
International Society of Quality of Life (2011 -

SPECIAL AWARDS, FELLOWSHIPS AND OTHER HONORS

Temple University OVPR Research Targeted Award in Data Science 2016
SMART: Survey, Measurement and Assessment using Robotics & Technology

APTA Section on Pediatrics - Toby Long Award 2015
- for the most impactful scholarly publication in Pediatric Physical Therapy Journal in 2014

APTA Section on Pediatrics 2016 Knowledge Translation Lectureship – 2016
- Recognition for contribution in translational research in pediatric physical therapy

APTA Section on Research Service Award – 2014
- Recognition for service as Section Scientific Program Chair (2009-2014)

Gait & Clinical Movement Analysis Society – Service Awards
- Recognition for service as Research Council Chair 2008 – 2015
- Recognition for service as Scientific Program Chair 2009 – 2013

Registered Clinical Exercise Physiologist 2005 - 2015
American College of Sports Medicine

Pediatric Clinical Specialist 1996 - 2016
American Physical Therapy Association

Visionary Research Fund Award Mentor– Assaf Zoor 2013-2014
Temple University – College of Health Professions and Social Work

First Summers Research Initiative Award Mentor– Cristine Agresta 2013-2014
Temple University – The Graduate School

Leadership Academy 7 2012-2013
Temple University

Gayle G Arnold Award for Best Scientific Paper 2009
American Academy of Cerebral Palsy and Developmental Medicine

Registered Clinical Exercise Physiologist 2005 - 2015
American College of Sports Medicine

Pediatric Clinical Specialist 1996 - 2016
American Physical Therapy Association

Calgary Award Finalist – Locomotion 1999
International Society of Biomechanics

Francis Hanavan Excellence in Graduate Studies 1997
School of Health Related Professions, State University of New York - Buffalo

Post-Professional Doctoral Scholarship 1995 - 1996
American Physical Therapy Association

Excellence in Graduate Teaching Award 1995
State University of New York - Buffalo

OTHER SIGNIFICANT SCHOLARLY, RESEARCH OR ADMINISTRATIVE EXPERIENCE

Professional Editorial and Grant Review Activities

Grant Review Activities

National Institute of Arthritis and Musculoskeletal and Skin Diseases Clinical Trials
Study Section, October 2019

01 ZRG1 RPHB-R (80) A "Risk Prevention and Health Behavior AREA Review 2018/2019

Small Business: Neuro/Psychopathology, Lifespan Development, and STEM Education Special
Emphasis Panel (RPHB Y-12) March 2017, July 2017, Nov 2017, March 2018, March 2019

ZNS1 SRB G (22) STROKE NET July 2018

NIH ZNS1 SRB-A (18) review (Clinical Trial Readiness for Rare Neurological and
Neuromuscular) July 2018

NINDS Special Emphasis Panel (SEP) – ZNS1 SRB-G(11), Nov 2016

ZAT1 HS-25/HS-28 Clinical Research on Mind-Body Interventions study section
Nov 2015, May 2016, Nov 2016 National Center for Complementary and Integrative Health
(NCCIH)

SBIR ZRG1 RPHB-R (12) Panel, November 16-17th, 2015, February 2016, Nov 2016

Motor Function Speech and Rehabilitation Study Section, NIH, 2001- present
Ad hoc member serving 1 – 2 times each year (~20 meetings), last meeting: Feb2018

ZAR1 XZ (M2) 1 NIAMS CLINICAL TRIAL OUTCOME DEVELOPMENT, June 2014

ZAT1 HS-15 and -16 Non-pharmacological Management of Pain in Military Personnel, National
Center for Complementary and Alternative Medicine (NCCAM), April 2014

NIH/NINDS Special Emphasis Panel G(68): Stroke Clinical Trials Network (SCTN) – Regional
Coordinating Stroke Centers (RCSCs). August 2013

Special Emphasis Panel Review Group. National Institute of Arthritis, Musculoskeletal and Skin Diseases, February 2013, June 2013

Special Emphasis Panel Review Group. National Institute of Arthritis, Musculoskeletal and Skin Diseases Clinical Trial Outcomes Instrument Development Grant Program RFA-AR-13-004 (U01), March 2013

Education Review Panel, ZAT1 PK (26) L. National Center for Complementary and Alternative Medicine (NCCAM), June 2013

Swiss National Science Foundation. Division Mathematics, Physical and Engineering Sciences, Review January 2012

US FDA October 15-16, 2018 Patient-Focused Drug Development **M**ethods to Identify What is Important to Patients and Select, Develop or Modify Fit-for-Purpose Clinical Outcomes Assessments.
Considerations for the Selection and Use of Clinical Outcome Assessments in Special Populations Panel

Journal and Editorial Activities

Editorial Board Member, Journal of Neuroengineering and Rehabilitation. 2008 – Present

Editorial Board Member, Pediatric Physical Therapy. 2009 – Present

Editorial Board Member, Physical & Occupational Therapy in Pediatrics, 2010- Present

Manuscript Reviewer, Physical Therapy, 2008- Present

Manuscript Reviewer, Archives Physical Medicine & Rehabilitation

Manuscript Reviewer, Clinical Biomechanics

Manuscript Reviewer, Gait & Posture

Manuscript Reviewer, IEEE Computers in Medicine and Biology

Manuscript Reviewer, IEEE Transactions in Technology and Medicine

Manuscript Reviewer, Journal of Biomechanics

Manuscript Reviewer, Journal of Applied Biomechanics

Manuscript Reviewer, Quality of Life Research

Manuscript Reviewer, Spinal Cord Injury

Manuscript Reviewer, BMC Health Services Research

Doctoral Committees

Chairperson for:

Cristine Agresta Temple University PhD Movement Science (2015)

– University of Michigan Ann Arbor, Research Scientist

Julie Skrzat Temple University PhD Movement Science (2017)

Faculty NTT position at DeSales university, Allentown PA

Rania Al Majid Temple University Neuromotor Science (2018)

Faculty position at West Coast University, Los Angeles CA

Reem Al Gheryafi (2016 – Present)

Lindsay Meyer (2016- Present)

Roshita Rathore (2016 – Present)

Rachael Loeb (2018 – Present)

Committee Member for:

Nik Koscielniak (PhD): University of Michigan, Learning Health Systems & Dissemination Science, 2018 - Present
Ning Gong (PhD) : Temple University, Electrical Engineering ABD- 2014
Paarth Mohammed: (MS) Temple University, Electrical Engineering 2014
Christos Karagiannopoulos: (PhD) Temple University, PhD Kinesiology 2014
Dong Xin: Temple University, (co-Chaired) PhD Movement Science 2013
Stephanie Muth: Temple University PhD Movement Science 2012
Carolyn Roposh: Drexel University PhD Biomedical Engineering 2010
Sarah Rosen: Drexel University PhD Biomedical Engineering 2009
Ann Galgon: Drexel University PhD Rehabilitation Science 2009
Samuel Ming Chen: Boston University PhD Rehabilitation Science 2005
Johanna Jonsdottir: Boston University ScD Rehabilitation Science 1999

Major Teaching Responsibilities at Temple University

*** indicates course coordinator – responsibilities include coordinating content and the faculty team, syllabi and course schedule and course administration (grading, BlackBoard)*

DPT Program Courses

PHTH 8534 Clinical Management of Neuromuscular Disorders 1 - 3 Credit Hours
Fall 2008, 2009*, 2010*, 2011*, & 2012 (Team-Taught: 30% – 50% lectures; 50% – 80% laboratory assistant)

PHTH 8559 Elective Clinical Specialty – Pediatrics - 3 Credit Hours
Fall 2011 - 2016 (Individual)

PHTH 8523 Movement Science 2 - 3 Credit Hours
Spring 2009, 2010*, 2011*, 2012 (Team-Taught: 30% – 50% lectures; 50% – 80% laboratory assistant)

PHTH 8554 Neuromuscular Conditions 2- 3 Credit Hours
Fall 2008, 2009 & 2010* & Spring 2011* (Team-Taught: 30% – 50% lectures; 50% – 80% laboratory assistant)

PHTH 8523 Movement Science 1 - 3 Credit Hours
Fall 2013 & 2014 (Team-Taught: 100% lectures; 80% laboratory assistant)

PHTH 8543 Movement Science 2 - 3 Credit Hours
Summer 2015, 2016 (Team-Taught: 50% lectures; 50% laboratory assistant)

PHTH 8529 Exercise - 3 Credit Hours
Summer 2014 & 2015 (Team-Taught: 100% lectures; 80% laboratory assistant)

Spring 2009 (Team-Taught: 50% lectures; 80% laboratory assistant)
PHTH 8512 Human Physiology
Fall 2008 (Team-Taught: 30% lectures)

PhD Program in Movement Science Courses

PHTH 9621 Movement Science 1: Neural Factors
Spring 2012, Fall 2013 (3 Credit Hours, Co-Taught, developed and provided 50% of lectures and corresponding assessments of student knowledge)

PHTH 9624 Movement Science 2: Mechanics & Models

Fall 2011 & 2012, Spring 2014 (3 Credit Hours, Co-Taught, developed and provided 50% of lectures and corresponding assessments of student knowledge)

PHTH 9627 Movement Science 3: Cognition & Learning
Spring 2013 (3 Credit Hours, Co-Taught, developed and provided 50% of lectures and corresponding assessments of student knowledge)

PHTH 9654 Laboratory Rotation & Seminar
Fall 2011 – present (3 Credit Hours, developed and provided 100% of individualized laboratory experiences in conjunction with seminars)

PHTH 9682 Independent Study
Fall 2011 – present (1-3 Credit Hours, developed and provided 100% of individualized learning experiences)

PhD Program in Neuromotor Science Courses

HRPR 5001 Grantsmanship) Spring 2016

NMS 9994, 9995, 9996, 9997, 9998, 9999 – Research & Dissertation courses

NMS Instrumentation – varies

NMS Mechanics & Models - varies

NMS Programming - varies

NMS Cognition & Learning – varies

EPBI 8001: Grantsmanship - Spring 2019

Health Outcomes & Measurement Science – Certificate Program

HRPR 8001 – Introduction to Health Outcomes & Measurement Science –

Major Teaching Responsibilities: Non-Temple

PT403 Neurophysiological Techniques SUNY at Buffalo 1992

PT318 Developmental Sequence SUNY at Buffalo 1993-1994

PT310/ES370 Biomechanics SUNY at Buffalo 1993-1995

PT443 Critical Inquiry III: Statistics SUNY at Buffalo 1994

ES500 Biomechanical Analysis SUNY at Buffalo 1994-1995

PT331 P.T. Evaluation and Treatment SUNY at Buffalo 1994-1995

PT561 Scientific Inquiry I Boston University 1996 - 1998

PT561 Scientific Inquiry II Boston University 1997 - 1998

HP891 Research Seminar Boston University 1996 - 1998

HP701 Scientific Inquiry Boston University 1996 - 1998

PT652 Neurological Rehabilitation Boston University 1997 - 1998

PT656 Evaluation of Development Young Child Boston University 1998 - 2001

HP565 Biomechanics of Human Movement Boston University 1998 - 2001

HP737 Quantitative Movement Analysis Boston University 1999 – 2001

HP739 Software for Movement Scientists Boston University 2000 – 2001

BMES441 Biomechanics I Drexel University 2004 – 2007

BMES442 Biomechanics II Drexel University 2004 - 2007

DPT3160 Motor Control Northeastern Univ 2005 – 2006

Masters and Research Project Advising

Emily Phillips, Ian Edwards, Jonathon Bebbe – DPT Project

Vanessa Erdman – MS in Neuromotor Science (2018)

Lei Ma – MS in Neuromotor Science (2016)
Elizabeth Grace-Georgelos Temple University MS Movement Science (2015)
Samantha Adams DPT Temple University 2013-present
Assaf Zoor DPT Temple University 2012- present
Mark Slobidinsky DPT Temple University 2012- present
Kristina Ottens, DPT Temple University 2013
Justin Strauss DPT Temple University 2013
Courtney Mullen DPT Temple University 2012
Senior Design Projects [6] Drexel University BS BME/CS 2005-2009
Monica Ortiz Boston University MS BME 2002
Justin Ettinger Boston University MSPT 2002
Lisa Waterhouse Boston University BS Biomedical Engineering 2000
Stacy Youmans–Adams Boston University MSPT 2000
Colin Quinn Boston University MSPT 2000
Theodore Becker Boston University BS in Health Physiology 2000
Benjamin Bloom Boston University BS in Health Physiology 2000
Rex Wu MIT MS Aerospace Engineering 1998

External Promotion and/or Tenure Reviewer

University of California, Los Angeles, 2010 (1 candidate)
Louisiana State University, Baton Rouge LA 2013 (1 candidate)
Duke University, Durham NC, 2014 (1 candidate)
George Mason University, Fairfax VA, 2014 (1 candidate)

Mentorship

Stephen M Glass PhD
Post-Doctoral Fellowship – DoD AAPs Project (Temple University)
Dates: 2016 - 2018
Quality Scholars Program in Healthcare Transformation: PI – Schmitt
Cincinnati Children’s Medical Center 07/2013 – 06/2015
Role: Member, Evaluation & Scholarly Oversight Committee

Post-Doctoral Fellowship Grant: PI- Daniel (CHOP) 07/2013 – 06/2015
American Cancer Society PF-13-238-10-PCSM
Title: Screening for Sleep Problems in Pediatric Oncology
Role: Member, Advisory Committee

K01-HD053632 Silfies (PI)/Drexel 6/2007- 5/2012 NIH/NICHHD
Title: Recurrent Low Back Pain: Linking Mechanisms to Outcomes
Role: Mentor

GRANT ACTIVITY

CURRENT FUNDED

R01RN017429 (PI: Schwartz) 12/28/2018-11/30/2023
NIH (subaward from CHOP) \$19,934 (subaward annual direct)
Self-Management of Adolescent and Young Adult Survivors of Childhood Cancer
Role: Subaward PI

Effort: 1.08 Calendar Months

Shriners Hospital of Children (PI) 01/01/2018 – 12/31/2023
Project Title: SHOnet2: Expansion and Utilization of SHOnet to Advance Research and Clinical Care
Dates: 01/01/2018 – 12/31/2023
Role Principal Investigator
Effort: 10-15% Award: \$2,291,267.00

NIH/NIDCD 1R01DC016094 (PI – Martin) 12/15/2017 – 11/30/2022
Project Title: Translation and Clinical Implementation of a Test of Language and Short-Term Memory (STM) in Aphasia
Role: Co-Investigator 10% effort Award: \$3.6 million

NIH/NIAMS 1U19AR069525-01 (PI – Forrest) 09/30/2015 – 09/29/2019
Project Title: The Child-Centered Outcomes in Practice and Research (COPR) Center of Excellence: Strengthening the Clinical Validity Evidence Base for PROMIS Measures in Chronically Ill Children
Role: Co-Investigator/ Site PI Award: \$148,935

Department of Defense (DoD) Obeid/Tucker (CoPIs) 09/2015 – 09/2019
Project Title: Development of an Automatic Assessment of Postural Stability (AAPS) System
Role: Co Principal Investigator Award:\$1.08 million

PAST FUNDED:

National Science Foundation
I-Corps teams program: Stochastic vestibular stimulation wearable
Dates:07/2017-08/2018
Effort: 5% (in kind) Award: \$50,000

Shriners Hospital of Children
Title: Development of the Shriners Pediatric Learning Health System
Dates: 01/01/2015 – 12/31/2017
Role Principal Investigator
Effort: 50% Award: \$1,084,712

1 R13 HD088076-01 (Tucker) 2016 National Institutes of Health (NICHD/NHLBI)
Title: Gait and Clinical Movement Analysis Society 2016 Meeting
Role: PI Award: \$9,000

1R01HD069769-01A1 (Lauer PI) 03/30/2012 – 04/2016 National Institutes of Health (NICHD)
Title: Balance and Posture in Adults with Cerebral Palsy
Role: Co-Investigator – ensure clinical relevance, provide oversight of analyses & interpretation, support clinical recruitment and data collection efforts for individuals with CP
Effort: 10%

1 R13 HD084142-01 (Tucker) 2015 National Institutes of Health (NICHD/NHLBI)
Title: Gait and Clinical Movement Analysis Society 2015 Meeting
Role: PI Award: \$6,000

Department of Defense (DoD) Wright (PI)
Title: Virtual Environment TBI Screen (VETS): A field-deployable diagnostic screening system

Role: Co-Investigator – provided key hardware/software components (TheraWii platform) pilot data and publications to support grant submission, Lead for the Wii based technological advances for project, clinical analysis and data interpretation, dissemination and publication of results
Effort: 20%

1 R13 HD076560-01 (Tucker) 2013 National Institutes of Health (NICHD/NHLBI)
Title: Gait and Clinical Movement Analysis Society 2013 Meeting
Role: PI Award: \$9,000

Temple University Interdepartmental Research Incentive Fund 2012-2013
Title: The Impact of Sensory Processing on Participation in Young Children with Autism Spectrum Disorders (ASD): Development of an Outcome Measure
Role: Co PI – Tucker & Pfeiffer Award: \$5,000

PCORI Bevans (PI) 12/2013 – 11/2016
Title: Development of methods for identifying child and parent health outcome priorities
Role: Co-Investigator – responsible for Aim 1, the development of an patient-centered health typology aligned with the World Health's Organization's ICF Health Framework; Aim 2 – co-lead the development of novel methodology for consensus development on health concepts in adolescents using web-based technology.
Effort: 15%

U01 AR057956 Forrest (PI) 08/10/2009 – 07/31/2014 NIH (NIAMS)
Title: Pediatric PROMIS: Advancing the Measurement and Conceptualization of Child Health
Role: PI – SubContract; Scientific Lead for Physical Activity Domain, and Analytical Lead for CHOP site; PROMIS Network Scientific Standards Committee Chair; PROMIS/WHO Lead Investigator
Effort: 8 - 15%

Clinical Research Planning Grant 2009 – 2014 AACPDM
Title: Development of a Computer Adaptive Test - Patient Reported Outcome Measure for Children with Physical Disabilities
Role: PI Award: \$25,000

1U18HS020508 Sub-Award - Silber (PI) 09/01/2012 – 6/30/2013 AHRQ
Title: A Pediatric Quality Measurement Center and Testing Laboratory
Role: Co-Investigator: Effort: 15%

PI: Halfon/Forrest PI 09/02/11 – 9/27/2012 NIH/NICHD
Project Title: The National Children's Study (NCS) Health Measurement Network
Role: CHOP Project Lead Effort: 15%

Research Advisory Board Grant: Multi-Center Project: A Computer Adaptive Testing Platform for the Assessment of Physical Functioning in Children with Cerebral Palsy.
Funded \$508,885 2004-2008
Role: Principal Investigator

Shriners Hospital Research Advisory Board Grant: Supported Speed Treadmill Training Exercise Program (SSTTEP) for Marginally Ambulatory Children with Cerebral Palsy.
Pending \$520,000 2007-2009
Role: Principal Investigator:

Shriners Hospital Clinical Outcomes Study Advisory Board Grant: A Multi-Center Prospective Study:

Health Promotion and Physical Activity for Youth with Physical Disabilities (HP-PAYD): Planning Grant
Funded: \$35,000 2007
Role: Principal Investigator:

Shriners Hospital Clinical Outcomes Advisory Board Grant: Multi-Center Project: Computer Adaptive Testing (CAT) Platform for Children with Spinal Cord Injury
Funded \$621,885 2007-2009
Role: Col

NIH/R03 Surface Electromyographic Frequency Analysis in the Child with Cerebral Palsy. NINDS, #R03-NS-044875
Role: Col – PI : Lauer 2007 - 2009

McKesson Unrestricted Educational Grant: SWEATY: Strategies Working to Enhance Activity in Teens and Youths
Funded \$10,000 2006
Role: Principal Investigator

R-784-06 United Cerebral Palsy: The Effect of Botulinum Toxin on Neuromuscular Functioning in the Child with Cerebral Palsy
Role: Col – PI : Lauer 2007 - 2008

Shriners Hospital Research Advisory Board Grant: Electrical Stimulation Gait Training to Effect Improvements in Walking Function and Posture for Children with Cerebral Palsy.
Funded \$705,718 2004- 2006
Role: Co Principal Investigator: Principal Investigator: Jim McCarthy MD

Primary Investigator: "Effect of Sub-Sensory Electrical Stimulation On Human Motor Control"
The Whitaker Foundation 2000 – 2002
Funded: \$210,000

Primary Investigator: Intelligent Tutorials for Quantitative Movement Analysis Instruction
Boston University - ITGP 2001-2002
Funded: \$9,820

Primary Investigator: "Neurocomputational Approaches to Pattern Recognition for Synergy Analysis of Electromyographic Data"
Foundation for Physical Therapy -Doctoral Research Award 1996-1997
Funded: \$12,000

Primary Investigator: "Neurocomputational Approaches to Pattern Recognition for Synergy Analysis of Electromyographic Data"
Foundation for Physical Therapy - Doctoral Research Award 1995-1996
Funded: \$6773

BIBLIOGRAPHY

Published Peer Reviewed Papers (Bolded indicates primary or senior authorship roles)

1. Yu Y, Tucker CA, Lauer RT, Keshner EA. Influence of Visual Dependence on Inter-Segmental Coordination during Upright Stance in Cerebral Palsy. J Mot Behav. 2019 May

- 7:1-13. doi: 10.1080/00222895.2019.1610860. [Epub ahead of print] PubMed PMID: 31063037
2. Glass SM, Napoli A, Thompson ED, Obeid I, **Tucker CA**. Validity of an Automated Balance Error Scoring System. *J Appl Biomech*. 2018 Aug 6:1-16. doi: 10.1123/jab.2018-0056. [Epub ahead of print] PubMed PMID: 30080433.
 3. Bevans KB, Gardner W, Pajer KA, Becker B, Carle A, Tucker CA, Forrest CB. Psychometric Evaluation of the PROMIS® Pediatric Psychological and Physical Stress Experiences Measures. *J Pediatr Psychol*. 2018 Jul 1;43(6):678-692. doi: 10.1093/jpepsy/jsy010. PubMed PMID: 29490050; PubMed Central PMCID: PMC6005079.
 4. Pfeiffer B, Coster W, Tucker C, Piller A. Development and Content Validity of the Participation and Sensory Environment Questionnaire. *Occup Ther Ment Health*. 2018;34(2):105-121. doi: 10.1080/0164212X.2017.1383221. Epub 2017 Oct 13. PubMed PMID: 30760943; PubMed Central PMCID: PMC6370330
 5. Yu Y, Lauer RT, Tucker CA, Thompson ED, Keshner EA. Visual dependence affects postural sway responses to continuous visual field motion in individuals with cerebral palsy. *Dev Neurorehabil*. 2018 Jan 17:1-11. doi: 10.1080/17518423.2018.1424265. [Epub ahead of print] PubMed PMID: 29341797.
 6. Pfeiffer B, Coster W, Tucker C, Piller A. Development and Content Validity of the Participation and Sensory Environment Questionnaire. *Occup Ther Ment Health*. 2018;34(2):105-121. doi: 10.1080/0164212X.2017.1383221. Epub 2017 Oct 13. PubMed PMID: 30760943; PubMed Central PMCID: PMC6370330.
 7. Schwartz LA, Hamilton JL, Brumley LD, Barakat LP, Deatrick JA, Szalda DE, Bevans KB, Tucker CA, Daniel LC, Butler E, Kazak AE, Hobbie WL, Ginsberg JP, Psihogios AM, Ver Hoeve E, Tuchman LK. Development and Content Validation of the Transition Readiness Inventory Item Pool for Adolescent and Young Adult Survivors of Childhood Cancer. *J Pediatr Psychol*. 2017 Oct 1;42(9):983-994. doi: 10.1093/jpepsy/jsx095. Review. PubMed PMID: 29046041
 8. Napoli A, Glass SM, Tucker C, Obeid I. The Automated Assessment of Postural Stability: Balance Detection Algorithm. *Annals Of Biomedical Engineering*, 45(12): 2784 - 2793. doi: 10.1007/s10439- 017-1911-8.
 9. Napoli A, Glass SM, Ward CR, Tucker C, Obeid I. Performance Analysis of a Generalized Motion Capture System Using Microsoft Kinect 2.0. *Biomedical Signal Processing and Control*, 2017; 38: 265-280
 10. Pfeiffer B, Coster W, Snethen G, Derstine M, Piller A, **Tucker C**. Caregivers' Perspectives on the Sensory Environment and Participation in Daily Activities of Children With Autism Spectrum Disorder. *Am J Occup Ther*. 2017 Jul/Aug;71(4):7104220020p1-7104220028p9. doi: 10.5014/ajot.2017.021360. PubMed PMID: 28661385; PubMed Central PMCID: PMC5490458.
 11. Napoli A, Ward CR, Glass SM, Tucker C, Obeid I. Automated assessment of postural stability system. *Conf Proc IEEE Eng Med Biol Soc*. 2016 Aug;2016:6090-6093. doi: 10.1109/EMBC.2016.7592118. PubMed PMID: 28269642.
 12. Karagiannopoulos C, Sitler M, Michlovitz S, Tucker C, Tierney R. Responsiveness of the active wrist joint position sense test after distal radius fracture intervention. *J Hand Ther*. 2016 Oct - Dec;29(4):474-482. doi:10.1016/j.jht.2016.06.009. Epub 2016 Oct 18. PubMed PMID: 27769839.
 13. Forrest CB, Ravens-Sieberer U, Devine J, Becker BD, Teneralli R, Moon J, Carle A, Tucker CA, Bevans KB. Development and Evaluation of the PROMIS(®) Pediatric Positive Affect Item Bank, Child-Report and Parent-Proxy Editions. *J Happiness Stud*. 2018 Mar;19(3):699-718. doi: 10.1007/s10902-016-9843-9. Epub 2017 Jan 21. PubMed PMID: 29760578; PubMed Central PMCID: PMC5947961.
 14. Forrest CB, Devine J, Bevans KB, Becker BD, Carle AC, Teneralli RE, Moon J, Tucker CA, Ravens-Sieberer U. Development and psychometric evaluation of the PROMIS Pediatric

- Life Satisfaction item banks, child-report, and parent-proxy editions. *Qual Life Res.* 2018 Jan;27(1):217-234. doi: 10.1007/s11136-017-1681-7. Epub 2017 Aug 21. PubMed PMID: 28828568; PubMed Central PMCID: PMC5771844.
15. Agresta C, Ward CR, Wright WG, **Tucker CA**. The effect of unilateral arm swing motion on lower extremity running mechanics associated with injury risk. *Sports Biomech.* 2018 Jun;17 (2):206-215 doi: 10.1080/14763141.2016.1269186] PubMed PMID: 28632061
 16. Toomey M, Tucker CA, Schwartz J, Laverdiere M, Bevans KB, Forrest CB & Blum NJ. Preliminary Validation of the PROMIS Pediatric Parent-Proxy Peer Relationships Measure in Children with Autism Spectrum Disorder: A DBPNet Study". *Journal of Developmental Behavioral Pediatrics* (in press, Sept 2016)
 17. Brown AM, Zifchock RA, Hillstrom HJ, Song J, **Tucker CA**. The effects of fatigue on lower extremity kinematics, kinetics and joint coupling in symptomatic female runners with iliotibial band syndrome. *Clin Biomech (Bristol, Avon).* 2016 Sep 30;39:84-90. doi: 10.1016/j.clinbiomech.2016.09.012. PubMed PMID: 27718393.
 18. Daniel LC, Schwartz LA, Mindell JA, Tucker CA, Barakat LP. Initial Validation of the Sleep Disturbances in Pediatric Cancer Model. *J Pediatr Psychol.* 2016 Jul;41(6):588-99. doi: 10.1093/jpepsy/jsw008. Epub 2016 Mar 18. PubMed PMID: 26994058.
 19. Pfeiffer E, Coster W, Snethen G, Derstine M, Piller A, **Tucker CA**. Caregiver's Perspectives on the Sensory Environment and Participation in Daily Activities for Children with Autism Spectrum Disorders. *American Journal of Occupational Therapy.* June 2016
 20. Daniel LC, Schwartz LA, Mindell JA, Tucker CA, Barakat LP. Initial Validation of the Sleep Disturbances in Pediatric Cancer Model. *J Pediatr Psychol.* 2016 Mar 18. pii: jsw008. [Epub ahead of print] PubMed PMID: 26994058.
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60. White SC, Tucker CA, DiVencenzo K & Yack HJ (1994) Bilateral vertical force symmetry for normal treadmill and overground gait. Proceedings of the 18th Annual Meeting American Society of Biomechanics, Columbus, Ohio, October.
61. Tucker CA, Yack HJ & White SC (1994) A neural network approach to synergy analysis of electromyographic data. Proceedings of the Tenth Congress of the International Society of Electrophysiology and Kinesiology, Charleston, SC, June.
62. Kirkpatrick R, Tucker CA, Ramirez JR, Parker S, Gill KM, Riley PO & Krebs DE (1992) Center of gravity control in normal and vestibulopathic gait. Proceedings of the 19th International Symposium on Posture and Gait: Control Mechanisms, Portland Oregon, May.
63. Tucker CA, Benda BJ, Banks SA, Grierson YM, Riley PO & Krebs DE (1992) Three dimensional computer animation of kinematic data. Proceedings of the 18th IEEE Northeast Bioengineering Conference, University of Rhode Island, Rhode Island, March.
64. Grierson YM, Riley PO, Benda BJ, Tucker CA (1992) Coordinate system considerations in creation of a 3-D dynamic model. Proceedings of the 18th IEEE Northeast Bioengineering Conference, University of Rhode Island, Rhode Island, March.

65. Krebs DE, Ramirez J, Kirkpatrick R, Tucker CA & Riley PO (1991) Dynamic stability during normal gait Proceedings of the Seventh East Coast Clinical Gait Conference, Richmond VA, October.

SCIENTIFIC AND PROFESSIONAL PRESENTATIONS

1. Tucker CA: SHOWmeHealth – Pediatric Digital Health Technology Platform Chicago Shriners Hospital for Children. 02/28/2019.
2. Tucker CA: SHOnet – A Learning Health System for Pediatric Rehabilitation. Montreal Shriners Hospital for Children. 09/20/2018.
3. Meyer L, Glass S, Napoli A, Obeid I, Tucker CA. Effects of Concussion History on Center of Mass Motion During Modified Balance Error Scoring System (BESS) Testing in Women. APTA CSM Washington, DC Feb 2019
4. Tucker CA. Tucker CA, Lapsley J, Bade M. PhD or Residency? Invited Scientific Presentation. APTA CSM Washington, DC Feb 2019
5. Tucker CA & Bevans K. Advancing the National Research Agenda in Cerebral Palsy. Invited Scientific Presentation. APTA CSM Washington, DC Feb 2019
6. Tucker CA, Vernon R, Craighead, G, Blau A. Clinical Academic Partnerships – Education, Research & Service. Invited Scientific Presentation. APTA CSM Washington, DC Feb 2019
7. Koscialniak N, Tucker CA. "Building infrastructure for a pediatric learning health system: The shiner's hospital outcomes network " has been accepted for poster presentation at the 11th Annual Conference on the Science of Dissemination and Implementation, December 3-5 2018, Washington, D.C.
To present your poster at the D&I Conference, you must confirm participation by Monday, September 17th.
8. Yu, Y., Lauer, R. T., Tucker, C. A., & Keshner, E. A Segmental stabilizing strategies used by cerebral palsy with and without visual dependence during upright stance. SFN, Washington, DC 2017
9. Almajid R, Keshner EA, Vasudevan E, Wright WG, **Tucker CA** Aging-related decrements during Timed Up and GO sub-components when combined with motor and visual tasks. SFN, Washington, DC 2017
10. Al Majid R, Keshner EA, Wright WG, Tucker CA, Vasudevan E Effects of Head Mounted Display on kinematics of the TUG test in old and young adults: does the addition of a visual flow matter? 2nd International Neuroergonomics Conference, Philadelphia PA 2018
11. Glass SM, Napoli A, Obeid I, Tucker C. Effects of Concussion History on Center of Mass Motion During Modified Balance Error Scoring System (BESS) Testing in Women. Military Health System Research Symposium, Fort Lauderdale, FL, August, 2018 (National conference, poster).
12. Napoli A, Glass SM, Tucker C, Obeid I. The Expanded Automatic Assessment of Postural Stability: the xAAPS. Military Health System Research Symposium, Fort Lauderdale, FL, August, 2018(National conference, poster).
13. Glass SM, Napoli A, Ward CR, Tucker C, Obeid I. Inverse Kinematics Using Portable, Low-Cost Sensor Technology. Gait & Clinical Movement Analysis Society Annual Meeting, May 2017, Salt Lake City, UT (National conference, poster).
14. Napoli A, Ward CR, Glass SM, Tucker C, Obeid I. Automated Assessment of Postural Stability System. 38th Annual International conference of the IEEE Engineering in Medicine and Biology Society, August 2016, Orlando, FL (National conference, oral presentation).
15. **Tucker CA** CATs in Pediatric Rehabilitation. International Society for Quality of Life, Berlin, Germany, October 2014.
16. Dave P, Obeid I, **Tucker CA**. Automated System for Balance Error Scoring. International Biodevice Conference, Agers France, March 2014

17. Korostelev M, Bai L, Zoor A, **Tucker CA**. PIPSS: A Portable Instrument Postural Stability System to Assess Dynamic Postural Stability. International Biodevice Conference, Agers France, March 2014
18. Rosen S, Tucker CA, Seliktar R. Forceplates Data Reliability Tested on Children with Neuromuscular Disabilities. International Biodevice Conference, Agers France, March 2014
19. **Tucker CA** & Bevans KB. PROMIS: NIH's Patient-Reported Outcomes Information System. CSM2014, Las Vegas NV, February 2014
20. **Tucker CA** & Bevans KB. PROMIS: Pediatric Patient-Reported Outcomes – NIH PROMIS. CSM2014, Las Vegas NV, February 2014
21. **Tucker CA**. PhD Directors Dialogue CSM2014, Las Vegas NV, February 2014
22. Agresta C, Ottens K, Tucker JS, Grace-Georgelos E, **Tucker CA**. Comparison of the TheraWii© and Balance Error Scoring System (BESS) for Postural Stability Assessment. American College of Sports Medicine, Indianapolis, Indiana, May 30, 2013.
23. Agresta C, Ottens K, Tucker JS, Grace-Georgelos E, **Tucker CA**. TheraWii©: a portable instrumented postural stability system to assess dynamic postural stability Gait and Clinical Movement Analyses Society, Cincinnati OH, May 15, 2013.
24. Ottens K, Agresta C, Tucker JS, Grace-Georgelos E, **Tucker CA**. Comparison of the TheraWii© and Balance Error Scoring System (BESS) for Postural Stability Assessment Gait and Clinical Movement Analyses Society, Cincinnati OH, May 16, 2013.
25. **Tucker CA**. PhD Directors Dialogue CSM2014, Las Vegas NV, February 2014
26. Roposh CM, Tucker CA, OrlinM, Seliktar R. "A technique to assess plantar soft tissue during stance" JEGM, Miami FL, May 2010.
27. Stout JM, Gorton GE, Novacheck T, Tervo R, Bagley AM, **Tucker CA**. Gillette Functional Assessment Questionnaire: Application of Rasch Analysis to Link Classification Levels to Performance of Functional Skills in Children with Disabilities. ESMAC, London England, September, 2009
28. Stout, J, Gorton, GE, Novacheck, T, Bevans, K, Bagley, AM, Tervo, R, **Tucker, CA**. Gillette Functional Assessment Questionnaire: Application of Rasch Analysis to Link Classification Levels with Performance of Functional Skills. Abstracts of the 63rd Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine, Scottsdale, AZ September, 2009
29. **Tucker, CA**, Gorton, GE, Bevans, K, Bagley, AM, Bjornson, K, Stout, J, Narayanan, U. Preliminary Confirmatory Factor and Item Level Analysis of the CPChild Questionnaire. Abstracts of the 63rd Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine, Scottsdale, AZ September, 2009.
30. Gorton, GE, Stout, J, Novacheck, T, Bagley, AM, Bevans, K, Tervo, R, **Tucker, CA**. Confirmatory Factor Analysis and Item Level Analysis of the Gillette Functional Assessment Questionnaire 22 Item Skill Set. Abstracts of the 63rd Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine, Scottsdale, AZ September, 2009
31. Bagley, A, Gorton, G, Bjornson, K, Tucker, CA. Factor and Item Level Analysis of the Activity Scale for Kids - Performance (ASKp). Abstracts of the 63rd Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine, Scottsdale, AZ September, 2009.
32. Bagley, AM, Gorton, GE, **Tucker, CA**. The NIH PROMIS Assessment Center: Application to Clinical Research. 63rd Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine, Scottsdale, Arizona, September 2009.
33. Bagley, AM, Gorton, GE, **Tucker, CA**. The NIH PROMIS Assessment Center: Application to Clinical Research. 63rd Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine, Scottsdale, Arizona, September 2009.
34. Bagley, A, Gorton, G, **Tucker, CA**. Computer Adaptive Testing: An Emerging Method for Clinical Outcome Measurement." 14th Annual Meeting of the Gait and Clinical Movement Analysis Society, Denver, Colorado, March 2009.
35. Stout, J, Gorton, GE, Novacheck, T, Bevans, K, Bagley, AM, Tervo, R, **Tucker, CA**. "Gillette

Functional Assessment Questionnaire: Application of Rasch Analysis to Link Classification Levels with Performance of Functional Skills. European Society of Movement Analysis for Adults and Children 2009

36. **Tucker CA**, Gorton GE, Watson KE, Fragala-Pinkham M, Mulcahey MJ, Haley SM. Computer adaptive testing of mobility and ambulation in children with cerebral palsy. American Academy for Cerebral Palsy and Developmental Medicine. Atlanta, GA. September 17-19, 2008.
37. **Tucker CA**, Gorton GE, Watson K, Fragala-Pinkham M, Haley SM. (2008) Development of a comprehensive series of item banks for assessing physical function in children with cerebral palsy: Feb 2008, PROMIS Conference. Bethesda MD
38. **Tucker CA**, Montpetit K, Bilodeau N, Dumas H, Haley SM. (2008) Development of a computer adaptive test of upper extremity functional skills in children with cerebral palsy PROMIS Conference. Feb 2008, Bethesda MD
39. Learning from Babel: A forum on the development of standard sets of outcomes measures to guide best practice: APTA/CSM Nashville TN 02/2008.
40. **Tucker CA & Lauer R** Electromyography: Advanced analysis and interpretation techniques. Gait & Clinical Movement Analysis Society Richmond VA 04/2008
41. **Tucker CA**, Gorton GE, Watson K, Fragala-Pinkham M, Haley SM. (2008) Development of a comprehensive series of item banks for assessing physical function in children with cerebral palsy: PROMIS Conference. Bethesda MD
42. **Tucker CA**, Montpetit K, Bilodeau N, Dumas H, Haley SM. (2008) Development of a computer adaptive test of upper extremity functional skills in children with cerebral palsy PROMIS Conference. Bethesda MD
43. **Tucker CA**. (2007) Shoulder Biomechanics in Individuals with tetraplegia. International Meeting on Upper Limb in Tetraplegia. Philadelphia PA
44. Rosen, S, & **Tucker CA** (2007) Gait Energy Efficiency in Children with Cerebral Palsy, GCMAS Annual Meeting, Springfield MA..
45. **Tucker CA**. (2006) Shoulder Biomechanics and FES in Individuals with Tetraplegia. Howard Steele Conference, Orland FL.
46. Stackhouse C, **Tucker CA**, Shewokis P, Orlin M, Josephic K, Pierce S, Smith B, McCarthy J . (2006) A Comparison of Gait Initiation in Typically Developing Children and Children with Cerebral Palsy. AACPD Boston, MA.
47. Stackhouse C, **Tucker CA**, Shewokis P, Orlin M, Josephic K, Pierce S, Smith B, McCarthy J . (2006) A comparison of postural control in typically developing children and children with cerebral palsy. AACPD Boston, MA.
48. Josephic KE, **Tucker CA** (2006) Supported Speed-focused treadmill training in children with Cerebral palsy. AACPD Annual Meeting, Boston, MA.
49. Rosen, S, **Tucker CA**, & Lee SCK (2006) Gait Energy Efficiency in Children with Cerebral Palsy, IEEE BMES 2006, New York, New York.
50. **Tucker CA**, Becker T C, Quinn C (2001) Effect of step length and velocity on the biomechanics of gait initiation in adults. International Society of Biomechanics, Zurich, Switzerland.
51. **Tucker CA**, McSweeney DJ, Quinn C, Becker T & Fetters L. (2001) Biomechanics of quiet standing and gait initiation in 3 year-old children born prematurely. International Society of Biomechanics, Zurich, Switzerland.
52. **Tucker CA**, McSweeney DJ, Quinn C, Becker T & Fetters L. (2001) Biomechanics of quiet standing and gait initiation in 3 year-old children born prematurely. International Society of Posture and Gait, Maastriccht, Netherlands, June.
53. Economos C, **Tucker CA** & Becker T (2001) Ground reaction forces produced by jumping activities for bone accretion in school-age children. American College of Sports Medicine, Baltimore MD.
54. **Tucker CA**, Quinn C, Tsao CC, Becker T & Fetters L (2001) Center of pressure analysis during quiet standing of 3 year old children born prematurely. Combined Sections Meeting, American Physical Therapy Association; San Antonio, TX.

55. McSweeney D, **Tucker CA** & Feters L (2001) Biomechanical analysis of gait initiation in 3 year old children born prematurely. Combined Sections Meeting, American Physical Therapy Association; San Antonio, TX.
56. Figueiredo EM, Tsao C, McSweeney D, Chen Y, **Tucker CA** & Feters L. (2001) Kinematic analysis of quiet standing of premature infants at 36 months of age. Combined Sections Meeting, American Physical Therapy Association; San Antonio, TX.
57. Tsao CC, Feters L, **Tucker CA**, Saltzman E & Tronick EZ (2000) Signal analysis for the quantification of limb movements of infants exposed to poly drugs. International Conference on Infant Studies, Brighton England.
58. Feters L, **Tucker CA**, Tsao CC & Tronick EZ (1999) Signal analysis for the quantification of limb movements of infants exposed to poly drugs. Combined Sections Meeting, American Physical Therapy Association; Seattle WA.
59. **Tucker CA** (1999) Self-organizing maps for time series analysis of electromyographic data. IJCNN 1999 Conference, Washington DC, July.
60. **Tucker CA**, McGibbon CA & Krebs DE (1999) Neurocomputational unsupervised clustering for pattern recognition of mechanical power data obtained during ambulation in elderly. International Society of Posture and Gait Conference, Waterloo Ontario, CA July.
61. **Tucker CA** & White SC (1999) Neurocomputational approaches to pattern recognition for analysis of electromyographic data obtained during treadmill walking. International Society of Posture and Gait Conference, Waterloo Ontario, CA July.
62. **Tucker CA**, McGibbon CA & Krebs DE (1999) Neurocomputational unsupervised clustering for pattern recognition of mechanical power data obtained during ambulation in elderly. The XVIIth Congress of the International Society of Biomechanics, Calgary Alberta, CA. August
63. **Tucker CA** & White SC (1999). Neurocomputational approaches to pattern recognition and time-series analysis of electromyographic data obtained during treadmill walking. The XVIIth Congress of the International Society of Biomechanics, Calgary Alberta, CA. August.
64. **Tucker CA**, Brangaccio JA (1998) Assessment of vertical ground reaction force symmetry during treadmill in two individuals with cerebral palsy. APTA - Combined Sections Meeting, Boston, MA, February.
65. Jonsdottir J, Feters L, Tronick E, Saltzman E & **Tucker CA** (1998) Motor behavior of premature infants. APTA - Combined Sections Meeting, Boston, MA, February.
66. **Tucker CA** (1996) Artificial Neural Network Approaches to Synergy Analysis of Electromyographic Data. Engineering Foundation Conference: Biomechanics and Neural Control of Movement, Mt. Sterling, OH, June.
67. **Tucker CA**, Lin HY (1996) Assessment of gait symmetry using the force measuring treadmill of an individual with bilateral below knee amputees. First Annual North American Gait and Clinical Movement Analysis Society Conference, Birmingham, AL, April.
68. **Tucker CA**, Brangaccio JA (1996) Vertical ground reaction forces using force measuring treadmill of two children with cerebral palsy. First Annual North American Gait and Clinical Movement Analysis Society Conference, Birmingham, AL, April.
69. White SC, **Tucker CA**, Brangaccio JA, Lin HY (1996) Effect of walking speed on vertical ground reaction forces using the force measuring treadmill. First Annual North American Gait and Clinical Movement Analysis Society Conference, Birmingham, AL, April.
70. White SC, **Tucker CA**, Lifeso RM (1996) Effect of verbal feedback on vertical ground reaction forces during gait re-education. First Annual North American Gait and Clinical Movement Analysis Society Conference, Birmingham, AL, April.
71. White SC & **Tucker CA** (1995) Vertical ground reaction forces for treadmill gait of an individual with diabetes mellitus and distal sensory neuropathy. Second Annual North American Clinical Gait Conference, Waterloo, Ontario, June.
72. Yack HJ, **Tucker CA**, White SC & Collins H (1995) Comparison of overground and treadmill vertical ground reaction forces. Second Annual North American Clinical Gait Conference, Waterloo, Ontario, June.

73. White SC, **Tucker CA**, DiVencenzo K & Yack HJ (1994) Bilateral vertical force symmetry for normal treadmill and overground gait. Eighteenth Annual Meeting American Society of Biomechanics, Columbus, Ohio, October.
74. **Tucker CA**, Yack HJ & White SC (1994) A neural network approach to synergy analysis of electromyographic data. Tenth Congress of the International Society of Electrophysiology and Kinesiology, Charleston, SC, June.
75. Kirkpatrick R, **Tucker CA**, Ramirez JR, Parker S, Gill KM, Riley PO & Krebs DE (1992) Center of gravity control in normal and vestibulopathic gait. Nineteenth International Symposium on Posture and Gait: Control Mechanisms, Portland Oregon, May.
76. **Tucker CA**, Benda BJ, Banks SA, Grierson YM, Riley PO & Krebs DE (1992) Three dimensional computer animation of kinematic data. Eighteenth IEEE Northeast Bioengineering Conference, University of Rhode Island, Rhode Island, March.
77. Grierson YM, Riley PO, Benda BJ, **Tucker CA** (1992) Coordinate system considerations in creation of a 3-D dynamic model. Eighteenth IEEE Northeast Bioengineering Conference, University of Rhode Island, Rhode Island, March.
78. Krebs DE, Ramirez J, Kirkpatrick R, **Tucker CA** & Riley PO (1991) Dynamic stability during normal gait. Seventh East Coast Clinical Gait Conference. Richmond VA, October.

INVITED PRESENTATIONS

1. **Tucker CA**: Invited Lecture: Learning Health Systems in Pediatric Rehabilitation, University of Michigan, PMR Fellows, March 2018
2. **Tucker CA**: Invited Lecture: Learning Health Systems in Pediatric Rehabilitation, University of Michigan, Physical & Occupational Therapy Department Fellows, March 2018
3. **Tucker CA**: Learning Health Systems in Rehabilitation, American College of Rehabilitation Medicine Annual Meeting, Atlanta GA, Oct 2017
4. **Tucker CA**, Pinto D, Brown D, Stevens-Lapsley J: PhD Directors Dialogue. APTA Section on Research, APTA CSM, New Orleans, Feb 2017.
5. **Tucker CA** & Bevans KB: Learning Health Systems: APTA CSM, New Orleans, Feb 2017.
6. **Tucker CA** & Bevans KB: State of the Science: Patient Reported Outcomes: APTA CSM, New Orleans, February 2017.
7. **Tucker CA** & **Bevans KB**: **Update**: Patient Reported Outcomes in Pediatrics, AACPDM, Montreal Canada, Oct 2017
8. **Tucker CA** & Miles C. The Knowledge Translation Lectureship. APTA Section of Pediatrics: Physical Activity. APTA CSM, Anaheim CA, Feb 2016.
9. **Tucker CA**: Research Forum: APTA Section of Pediatrics: Impairment measures: Pain. APTA CSM, Anaheim CA, Feb 2016.
10. **Tucker CA**, Pinto D, Brown D, Stevens-Lapsley J: PhD Directors Dialogue. APTA Section on Research, APTA CSM, Anaheim CA, Feb 2016.
11. **Tucker CA** & Backus S. Fine-wire & Kinesiological Electromyography Workshop (1.5 days, 2013- 2016 at GCMAS meeting)
12. **Tucker CA** APTA Advanced Clinical Practice Course: Motor Control and Motor Learning, Boston MA, September 2016
13. **Tucker CA** APTA Advanced Clinical Practice Course: Motor Control and Motor Learning, Memphis TN, September 2015
14. **Tucker CA**: Research Forum: APTA Section of Pediatrics: Activity & Participation: Pediatric PROMIS. APTA CSM, Las Vegas NV, Feb 2015
15. **Tucker CA**, Ludewig P, Brown D: PhD Directors Dialogue. APTA Section on Research, APTA CSM, Las Vegas NV, Feb 2015
16. **Tucker CA** Novel Approaches to Improving Physical Function and Activity Using Home and Community-Based Interventions. APTAnj State Conference, East Windsor, NJ, October 2014
17. **Tucker CA**. Pediatric PROMIS Update and Application to Dutch Pediatric Rehabilitation.

- Utrecht, Netherlands, October 2014.
18. **Tucker CA** APTA Advanced Clinical Practice Course: Motor Control and Motor Learning, Boston MA, September 2014
 19. **Tucker CA** Patient Reported Outcomes In pediatric Rehabilitation Cincinnati Children's Hospital Medical Center, Research in Patient Services (RPS) Colloquium July 10, 2014.
 20. Keynote Address: Tucker CA Pediatric Health Outcomes, Rehabilitation Engineering Research Center on Technologies for Children with Orthopedic Disabilities, State of the Science Symposium, Marquette University, August 2014
 21. **Tucker CA** Adult Natural History Initiative - Outcomes: Osteogenesis Imperfecta Foundation. April 2012, OIF Scientific Meeting, Chicago IL.
 22. Keynote Address: **Tucker CA** Measuring Motion, Movement and Physical Activity: The Role of Person Reported Health Outcomes American Alliance for Health, Physical Education, Recreation, and Dance (AAHPRED): Measurement and Evaluation Council, Scientific Meeting, Boston MA March 16, 2012.
 23. **Tucker CA** APTA Advanced Clinical Practice Course: Motor Control and Motor Learning, San Antonio, TX, 2012
 24. **Tucker CA** PROMIS – Adult Natural History Initiative: Osteogenesis Imperfecta Foundation. Chicago, IL June 2011
 25. **Tucker CA PROMIS and the ICF**. Presented at the Annual World Health Organization, Family of International Classification, Functioning Disability Reference Group Meeting, October 2011.
 26. **Tucker CA** Motor Learning in Pediatric Practice: Cincinnati Children's Hospital, Department of Physical and Occupational Therapy, March 24, 2010
 27. **Tucker CA** PROMIS and Assessment Center. Osteogenesis Imperfecta Foundation, Chicago IL, March 2011
 28. Presidential Keynote: **Tucker CA** & Forrest CF. American Academy of Cerebral Palsy and Developmental Medicine Annual Meeting. PROMIS. Washington DC, September 2010
 29. **Tucker CA** & Bagley AM. American Academy of Cerebral Palsy and Developmental Medicine Annual Meeting. Instructional Course: Active Gaming and Motor Learning. Washington DC, September 2010
 30. **Tucker CA** & Gorton GG. American Academy of Cerebral Palsy and Developmental Medicine Annual Meeting. Instructional Course: PROMIS. Washington DC, September 2010
 31. **Tucker CA**. American Academy of Cerebral Palsy and Developmental Medicine Annual Meeting. Instructional Course: Item Response Theory and Computer Adaptive Testing. Washington DC, September 2010
 32. **Tucker CA** Pediatric PROMIS. Grand Rounds at Bloorview Rehab Hospital, Toronto CA. January 5th 2010.
 33. **Tucker CA** Modernizing the Measurement of Pediatric Health. The Health and Behavior Research Affinity Group Children's Hospital of Philadelphia, January, 2010.
 34. **Tucker CA** APTA Advanced Clinical Practice Course: Motor Control and Motor Learning, Chicago, IL 11/2009
 35. **Tucker CA** Rewards and Challenges in Standardization of Outcome Measures in Physical Therapy, New York Physical Therapy Association State Meeting, Saratoga Springs, NY, October, 2009.
 36. **Tucker CA** & Lauer R. Tutorial: Advanced Analysis of Electromyographic Data. Annual Meeting of the Gait and Clinical Movement Analysis Society, April 2008.
 37. **Tucker CA**, Bagley A and Gorton G. Tutorial: Computer Adaptive Testing: An Emerging Method for Clinical Outcome Measurement. GCMAS Richmond, VA, April, 2008
 38. **Tucker CA** APTA Advanced Clinical Practice Course: Motor Control and Motor Learning, Hartford, CT 2008
 39. **Tucker CA** EMG in Clinical Gait Analysis. SMALnet Annual Conference, Houston, TX, November 2007.
 40. **Tucker CA** Clinical Outcomes in Motion Analysis Symposium. GCMAS Springfield MA, April

2007

41. **Tucker CA** APTA Advanced Clinical Practice Course: Fitness for Children with Disabilities, Bellevue WA November 2006
42. **Tucker CA** APTA Advanced Clinical Practice Course: Motor Control and Motor Learning, Bellevue WA November 2006
43. **Tucker CA** Computer Adaptive Testing of Physical Function in Children with Cerebral Palsy. APTA_CSM, Boston MA February 2007.
44. **Tucker CA** Computer Adaptive Testing of Physical Function in Children with Cerebral Palsy. AACPDM, Boston, MA September 2006.
45. **Tucker CA** Howard Steele Conference, Clinical application of functional electrical stimulation in tetraplgia. Howard Steele Conference, Orlando FL December 2006.
46. **Tucker CA** Body Weight Support ambulation treadmill training for children with Cerebral Palsy who are marginal ambulators. American Academy for Cerebral Palsy and Developmental Medicine 59th Annual Meeting Orland FL September 2005
47. **Tucker CA** Physical Fitness in Children with Cerebral Palsy classified as GMFCS Levels III and IV. American Academy for Cerebral Palsy and Developmental Medicine 59th Annual Meeting Orland FL Sept 2005
48. **Tucker CA** IIIStep Conference: Session 6: Perception-Action & Developmental Considerations for Recovery: Case Study: Speed Support Treadmill TrainingExercise Program [SSTTEP] for Children with CP and GMFCS Level IV, Salt Lake City, July 2005
49. **Tucker CA** Bridging Research, Practice, and Policy. Boston University, May 2001.
50. **Tucker CA** Development of Posture Control: Dynamical Systems Perspective. APTA Scientific Conference, Washington DC, June, 1999.
51. **Tucker CA** Pediatric Asthma: Physical Therapy Practice Guide in Action, Maternal Child and Health Conference, Malvern PA, April, 1999.
52. **Tucker CA** Neurocomputational Approaches to pattern recognition in EMG data Neuromuscular Research Center, March, 1998.
53. **Tucker CA** Rehabilitation and Ergonomics, Harvard University Department of Engineering, February, 1998

MAJOR COMMITTEES & SERVICE

Department

NMS Graduate Programs, Program Director, Temple University (2015 – 2018)
Member, Tenure & Promotion Committee (2015 -
Curriculum Task Force, Temple University (2009- 2012)
PhD Movement Science, Program Director, Temple University (2009 – 2015)
Faculty Search Committees 2011, 2013
Advanced Graduate Curriculum Committee, Boston University (1996 - 2002)
Movement and Rehabilitation Science Admissions Committee, Boston University (1996 - 2002)
Faculty Search Committee Chair, Boston University (1997)
Professional Masters Curriculum Committee, Boston University (1998 - 2000)

College

Member, Search Committee, Kinesiology Chairperson Search
Chair, College of Public Health Re-alignment Committee (2017- present)
Member, College of Public Health Tenure & Promotion Committee (2015 -
Chair, Dean's Taskforce on CHPSW Workload and Grant Research Effort (2014 -)
Member, CHPSW PhD Program Workgroup (2014 -)
Graduate Council, College of Health Profession & Social Work, Temple University (2009 -)
Member, PhD Directors Workgroup, Temple University (2012-2013)
Member, Research Taskforce, Temple University (2011-2012)

College of Health Profession Research Day Committee, Temple University (2009 - 2010)
Chair, Sargent College Human Subjects Review Committee, Boston University (1999 – 2001)
Faculty Search Committee, Occupational Therapy, Boston University (1998)
Faculty Council, Boston University, (1999 – 2001)
Committee for Whitney R Powers Excellence in Teaching Faculty Award Committee, Boston University (2000, 2001)

University

Temple Tots Daycare Development Project, Leadership Academy 7 – 2012-2013
Member, Admission Committee of the Orthodontics Postgraduate Program 2012
Chair, Institutional Review Board – Sargent College of Health Professions 1999 - 2001
Member, Institutional Review Board Charles River Campus, Boston University 1999 - 2002

National

CSM Program Chair Committee– Chairperson
American Physical Therapy Association 2009 – 2013

Executive Committee /Scientific Program Chairperson
Section on Research, American Physical Therapy Association 2005 - 2013

Chairperson, Scientific Standards Committee (Appointed)
NIH – PROMIS Network 2010 – present

Program Co-Chairperson, (Elected)
Gait and Clinical Movement Analysis Society Annual Meeting Cincinnati OH May 2013 &
Newark Delaware June 2014

Member, Learning Task Force (Appointed)
American Physical Therapy Association 2012 – present

Member, EDGE Taskforce – Pediatric Section (Elected)
American Physical Therapy Association 2011 – present

Member, Steering Committee for Combined Sections Meeting (Elected)
American Physical Therapy Association 2009 – present

Member, Task Force for Combined Sections Meeting (Appointed)
American Physical Therapy Association 2009 – 2012

Chairperson, Council on Research (Elected)
Gait and Clinical Movement Analysis Society 2012 - present

Chairperson, Member – Education Committee (Appointed)
American Academy of Cerebral Palsy and Developmental 2006 - 2013

Member, Committee on Chapters & Sections (Appointed)
American Physical Therapy Association 2009 – 2012

Member, Task Force on Governance: Components (Appointed)
American Physical Therapy Association 2011 - 2012

Chairperson, Steering Committee Member

Shriners Motion Analysis Laboratory Network 2004 - 2008

Annual Conference Program Chair/Committee
American Physical Therapy Association 2001 - 2005

International

Invited Member, Functioning, Disability Reference Group (FDRG) 2010 - present
World Health Organization

Invited Attendee, International PROMIS (Patient Reported Outcome Measurement Information System) Initiative – Inaugural Meeting, Philadelphia PA, October 2012