

Carole A. Tucker

CURRICULUM VITA

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PERSONAL INFORMATION

Office Address:

Physical Therapy Department
Temple University
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Philadelphia, PA 19140

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

Associate Professor
Director, PhD Program in NeuroMotor Science
Physical Therapy Department, College of Public Health
Temple University, Philadelphia, PA
2008 – 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**

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

Knowledge Translation Lectureship from the Pediatrics Section of the APTA. 2016

Toby Long Award for the best papers published in the Pediatric Physical Therapy
Journal in 2014, from the Pediatrics Section of the APTA. 2015

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

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

Motor Function Speech and Rehabilitation Study Section, NIH, 2001- present
Ad hoc member serving 1 – 2 times each year (~17 meetings), last meeting: Feb 2015,

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

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)
Elizabeth Grace-Georgelos Temple University PhD Movement Science (2015)
Julie Skrzat Temple University PhD Movement Science (2016)

Committee Member for:

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* & 2012* (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 (Team-Taught: 100% lectures; 80% laboratory assistant)

PHTH 8529 Exercise - 3 Credit Hours [FIRST TIME ASSIGNED]
Summer 2014 (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)

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

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

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

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

Department of Defense (DoD) Obeid/Tucker (CoPIs) 09/2015 – 08/2018
Title: Development of an Automatic Assessment of Postural Stability (AAPS) System
Role: Co Principal Investigator

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

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

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%

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%

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

PAST FUNDED:

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: \$677

PENDING FUNDING

Agency: PCORI (Patient-Centered Outcomes Research Institute)
Title: Development and Validation of Pediatric PROMIS Outcomes for Activity and Participation
Role: PI Dates: 01/01/2015 – 12/31/2016 Award Requested: \$640,519

BIBLIOGRAPHY

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

1. Forrest CB, Tucker CA, Ravens-Sieberer U, Pratiwadi R, Moon J, Teneralli RE, Becker B, Bevans KB. Concurrent validity of the PROMIS(®) pediatric global health measure. *Qual Life Res.* 2015 Aug 27. [Epub ahead of print] PubMed PMID: 26310283.
2. Scharff K, **Tucker CA**. Commentary on "Reliability of measuring hip and knee power and movement velocity in active youth". *Pediatr Phys Ther.* 2015 Spring;27(1):89. doi: 10.1097/PEP.000000000000114. PubMed PMID: 25521271.
3. **Tucker CA**, Bevans KB, Teneralli RE, Smith AW, Bowles HR, Forrest CB. Self-reported pediatric measures of physical activity, sedentary behavior, and strength impact for PROMIS: item development. *Pediatr Phys Ther.* 2014 Winter;26(4):385-92. doi: 10.1097/PEP.000000000000074. PubMed PMID: 25251790;
4. Jensen RE, Rothrock NE, DeWitt EM, Spiegel B, Tucker CA, Crane HM, Forrest CB, Patrick DL, Fredericksen R, Shulman LM, Cella D, Crane PK. The role of technical advances in the adoption and integration of patient-reported outcomes in clinical care. *Med Care.* 2015 Feb;53(2):153-9. doi: 10.1097/MLR.000000000000289. Review. PubMed PMID: 25588135.
5. **Tucker CA**, Bevans KB, Teneralli RE, Smith AW, Bowles HR, Forrest CB. Self-reported pediatric measures of physical activity, sedentary behavior, and strength impact for PROMIS: conceptual framework. *Pediatr Phys Ther.* 2014 Winter;26(4):376-84. doi: 10.1097/PEP.000000000000073. PubMed PMID: 25251789; PubMed Central PMCID: PMC4176711.
6. Agresta C, Slobodinsky M, **Tucker C**. Functional Movement Screen™ – Normative Values in Healthy Distance Runners. *Int J Sports Med.* 2014 Aug 21. [Epub ahead of print] PubMed PMID: 25144432 DOI 10.1055/s-0034-1382055
7. **Tucker CA**, Escorpizo R, Cieza A, Lai JS, Stucki G, Ustun TB, Kostanjsek N, Cella D, Forrest CB. Mapping the content of the Patient-Reported Outcomes Measurement Information System (PROMIS(®)) using the International Classification of Functioning, Health and Disability. *Qual Life Res.* 2014 Apr 24. [Epub ahead of print] PubMed PMID: 24760532.
8. **Tucker CA**, Bevans KB, Teneralli RE, Forrest CB. A Qualitative Approach for Developing Self-Reported Pediatric Measures of Physical Activity, Sedentary Behaviors and Strength Impact. *Pediatric Physical Therapy* (Nov 2014)
9. **Tucker CA**, Bevans KB, Teneralli RE, Wilder Smith A, Bowles HR, Forrest CB. Conceptual Development of a Self-Reported Pediatric Measures of Physical Activity, Sedentary Behaviors and Strength Impact. *Pediatric Physical Therapy* (Nov 2014)
10. **Tucker CA**, Cieza A, Riley AW, Stucki G, Lai JS, Bedirhan Ustun T, Kostanjsek N, Riley W, Cella D, Forrest CB. Concept Analysis of the Patient Reported Outcomes Measurement Information System (PROMIS(®)) and the International Classification of Functioning, Disability and Health (ICF). *Qual Life Res.* 2014 Feb 6. [Epub ahead of print] PubMed PMID: 24500657.
11. Forrest CB, Bevans KB, Pratiwadi R, Moon J, Teneralli RE, Minton JM, **Tucker CA**. Development of the PROMIS(®) pediatric global health (PGH-7) measure. *Qual Life Res.* 2013 Nov 22. [Epub ahead of print] PubMed PMID: 24264804.
12. Forrest CB., Bevans KB, Tucker C, Riley, AW, Ravens-Sieberer U, Gardner W, & Pajer K (2012). Commentary: The Patient-Reported Outcome Measurement Information System (PROMIS[®]) for Children and Youth: Application to Pediatric Psychology. *J Pediatr Psychol.* 2012 Jul;37(6):614-21. * Peer-reviewed, 7 page white paper published as a commentary (Journal Impact Factor: 2.647)
13. Gates PE, Banks D, Johnston TE, Campbell SR, Gaughan JP, Ross SA, Engsberg JR, **Tucker C**. Randomized controlled trial assessing participation and quality of life in a supported speed treadmill training exercise program vs. a strengthening program for

- children with cerebral palsy. *J Pediatr Rehabil Med*. 2012;5(2):75-88.doi: 10.3233/PRM-2012-0199. PubMed PMID: 22699098.
14. Stout JL, Gorton GE 3rd, Novacheck TF, Bagley AM, Tervo RC, Bevans K, **Tucker CA**. Rasch analysis of items from two self-report measures of motor function: determination of item difficulty and relationships with children's ability levels. *Dev Med Child Neurol*. 2012 May;54(5):443-50. doi:10.1111/j.1469-8749.2012.04231.x. Epub 2012 Mar 14. PubMed PMID: 22414116. (Journal Impact Factor: 2.675)
 15. Johnston TE, Watson KE, Ross SA, Gates PE, Gaughan JP, Lauer RT, **Tucker CA**, Engsborg JR. Effects of a supported speed treadmill training exercise program on impairment and function for children with cerebral palsy. *Dev Med Child Neurol*. 2011 Aug;53(8):742-50. doi: 10.1111/j.1469-8749.2011.03990.x. Epub 2011 Jun 17. PubMed PMID: 21679357. . (Journal Impact Factor: 2.675)
 16. Wren TA, Gorton GE 3rd, Ounpuu S, **Tucker CA**. Efficacy of clinical gait analysis: A systematic review. *Gait Posture*. 2011 Jun;34(2):149-53. Epub 2011 Jun 8. PubMed PMID: 21646022. (Journal Impact Factor: 1.969)
 17. Gorton GE 3rd, Stout JL, Bagley AM, Bevans K, Novacheck TF, **Tucker CA**. Gillette Functional Assessment Questionnaire 22-item skill set: factor and Rasch analyses. *Dev Med Child Neurol*. 2011 Mar;53(3):250-5. doi: 10.1111/j.1469-8749.2010.03832.x. Epub 2010 Nov 18. PubMed PMID: 21087240. (Journal Impact Factor: 2.675)
 18. Bagley AM, Gorton GE, Bjornson K, Bevans K, Stout JL, Narayanan U, **Tucker CA**. Factor- and item-level analyses of the 38-item activities scale for kids-performance. *Dev Med Child Neurol*. 2011 Feb;53(2):161-6. doi: 10.1111/j.1469-8749.2010.03797.x. Epub 2010 Oct 21. PubMed PMID: 20964671. . (Journal Impact Factor: 2.675)
 19. Gorton GE 3rd, Watson K, **Tucker CA**, Tian F, Montpetit K, Haley SM, Mulcahey MJ. Precision and content range of a parent-reported item bank assessing lower extremity and mobility skills in children with cerebral palsy. *Dev Med Child Neurol*. 2010 Jul;52(7):660-5. Epub 2010 Feb 12. PubMed PMID: 20163428. . (Journal Impact Factor: 2.675)
 20. **Tucker CA**, Riley A, Lai, JS, Riley W, Cella D, Forrest C. Conceptual Frameworks and Purposes PROMIS and ICF: Opportunities for Synergy. (World Health Organization, Toronto FIC,Online WHO_ICF Proceedings: <http://www.who.int/classifications/networkmeeting2010/en/index.html>. WHOFIC2010/D012)
 21. Galgon AK, Shewokis PA, **Tucker CA**. Changes in standing postural control during acquisition of a sequential reaching task. *Gait Posture*. 2010 Feb;31(2):265-71. Epub 2009 Dec 3. PubMed PMID: 19962316. (Journal Impact Factor: 1.969)
 22. Lauer RT, Pierce SR, **Tucker CA**, Barbe MF, Prosser LA. Age and Electromyographic Frequency Alterations during Walking in Children with Cerebral Palsy. *Gait & Posture*, *Gait Posture*. 2010 Jan;31(1):136-139. (Journal Impact Factor: 1.969)
 23. **Tucker CA**, Gorton GE et al. Development of a Parent-Report Computer Adaptive Test to Assess Physical Functioning in Children with Cerebral Palsy I. Lower Extremity and Mobility Skills. *Dev Med Child Neurol*. 2009 Sep;51(9):717-24. (Journal Impact Factor: 2.675)
 24. **Tucker CA**, Montpetit, K , et al. Development of a Parent-Report Computer Adaptive Test to Assess Physical Functioning in Children with Cerebral Palsy II. Upper Extremity Skills. *Dev Med Child Neurol*. 2009 Sep;51(9):725-31. (Journal Impact Factor: 2.675)
 25. Wren TAL, **Tucker CA**, Kay RM. Gait analysis: the link to clinical outcomes. *Lower Extremity Review*, Vol. 1, No. 1, pp. 37-41, July 2009.
 26. Haley SM, Fragala-Pinkham MA, Dumas HM, Ni P, Gorton GE, Watson K, Montpetit K, Bilodeau N, Hambleton RK, **Tucker CA**. Evaluation of an Item Bank for a Computerized Adaptive Test of Activity in Children with Cerebral Palsy. *Phys Ther*. 2009 Jun;89(6):589-600. (Journal Impact Factor: 2.778)
 27. Haley S, Ni P, Dumas H, Fragala-Pinkham M, Hambleton RK, Montpetit K, Bilodeau N, Gorton GE, Watson K, **Tucker CA**. Measuring Global Physical Health in Children with Cerebral Palsy: Illustration of a Multidimensional Bi-factor Model and Computerized Adaptive Testing. *Qual Life Res*. 2009 Apr;18(3):359-70. (Journal Impact Factor: 2.412)

28. Engsberg J, Tucker CA, Ounpuu S, Wren T, Sisto S, Kaufman K. Editorial: Gait and Clinical movement analysis research priorities: 2007 update from the research committee of the gait and clinical movement analysis society. *Gait & Posture* 29 (2009) 169-171. (Journal Impact Factor: 1.969)
29. Dumas HM, Watson KE, Fragala-Pinkham MA, Haley SM, Bilodeau N, Montpetit KM, Gorton GE, Mulcahey MJ & Tucker CA. Cognitive Interviewing to Elicit parent Feedback of Test items for Assessing Physical Function in Children with Cerebral Palsy. *Pediatric Physical Therapy*. 20(4):356-362, 2008. (Journal Impact Factor: 1.083)
30. Tucker CA, Haley SM, Dumas HM, Fragala-Pinkham MA, Watson K, Gorton GE, Montpetit K, Bilodeau N. Physical function for children and youth with cerebral palsy: Item bank development for computer adaptive testing. *Journal of Pediatric Rehabilitation Medicine*. Vol1, Number 3, 237-244, 2008.
31. Tucker CA, Bagley AM et al. Kinematic Modeling of the Shoulder Complex in Tetraplegia. *Spinal Cord Injury: Special Topics*. 2008;13(4):72-85.
32. Allen DD, Gorton GE, Oeffinger DJ, Tytkowski C, Tucker CA, Haley SM. Analysis of the Pediatrics Outcomes Data Collection Instrument (PODCI) in ambulatory children with cerebral palsy using confirmatory factor analysis and Item Response Theory Methods. *Journal of Pediatric Orthopedics*, 2008;28:192-198. (Journal Impact Factor: 1.163)
33. Lauer RT, Stackhouse CA, Shewokis PA, Smith BT, Tucker CA, & McCarthy J. A time-frequency based electromyographic analysis technique for use in cerebral palsy. *Gait Posture*. 2007 Sep;26(3):420-7.
34. Lauer RT, Smith BT, Shewokis PA, McCarthy JJ, Tucker CA. Time-frequency changes in electromyographic signals after hamstring lengthening surgery in children with cerebral palsy. *J Biomech*. 2007;40(12):2738-43.
35. Stackhouse C, Shewokis PA, Pierce SR, Smith B, McCarthy J, Tucker CA. Gait initiation in children with cerebral palsy. *Gait Posture*. 2007 Jul;26(2):301-8.
36. Rosen S, Tucker CA, Lee SC. Gait energy efficiency in children with cerebral palsy. *Conf Proc IEEE Eng Med Biol Soc*. 2006;1:1220-3.
37. Fetters L, Tucker CA, Tsao CC & Saltzman E (2001). Perception/Action coupling of limb, head and rattle movements of infants exposed to cocaine. *Infant Behavior and development*, Special Issue on Perception/Action.
38. McPhartland M, Wall C, Tucker CA, Krebs D & Oddsson L. Recovery of perturbations during paced walking. *Gait Posture*. 2004 Feb;19(1):24-34.
39. Tucker CA, Ramirez J, Riley PO, Krebs DE. Center of gravity control in normal and vestibulopathic gait. *Gait & Posture*. 1999. Vol 8 No 2 pp 117-123.
40. White SC, Yack HJ, Tucker CA & Lin HY. (1998) Comparison of vertical ground reaction forces during overground and treadmill walking. *Med Sci Sports & Exercise* Vol 30, No 10, pp1537-1542.
41. Graybill (Tucker) CA. Cardiopulmonary physical therapy in pediatric solid organ transplantation. *Cardiopulmonary Physical Therapy Journal* 1(3) pp 4-11, 1990.

Scientific Standards (Peer-reviewed)

1. Tucker CA, Revicki D, Moinpour C et al On behalf of the PROMIS Network (2013) Patient Reported Outcomes Measurement Information System (PROMIS) Network Scientific Standard and Maturity Model – Version 2.0 (approved by the PROMIS Steering Committee, accessed at http://www.nihpromis.org/Documents/PROMISStandards_Vers2.0_Final.pdf and [http://www.nihpromis.org/\(S\(acybqp5qnbldc4wvtqs2b0g\)\)/Documents/PROMISStandards_Vers%202.0_MaturityModelOnly_508.pdf](http://www.nihpromis.org/(S(acybqp5qnbldc4wvtqs2b0g))/Documents/PROMISStandards_Vers%202.0_MaturityModelOnly_508.pdf)

Book Chapters:

1. Revicki D, Chen WH, Tucker CA. 2013 Developing Item Banks for Patient-Reported Health Outcomes. In SP Reise and D Revicki (Ed) Handbook of Item Response Theory Modeling: Applications to Typical Performance Assessment. Routledge/Taylor & Francis (2014)
2. Tucker CA. Chapter 21: Case Study- Cystic Fibrosis. In S Effgen (Ed) Meeting the Physical Therapy Needs of Children. Phila: FA Davis Co. (2010).
3. Tucker CA. Chapter 9: Cardiovascular and Pulmonary System. In S Effgen (Ed) Meeting the Physical Therapy Needs of Children. Ed 2 Phila: FA Davis Co. (2010).
4. Tucker CA. Chapter 8: Cardiopulmonary System. In S Effgen (Ed) Meeting the Physical Therapy Needs of Children. Phila: FA Davis Co. (2005).
5. Jacobs R and Tucker CA. Neurocomputational Techniques for Evaluation and Control of Human Performance. In J Winters (Ed) *Multiple Muscle Systems II*. New York:Springer-Verlag. 2000.
6. DeCesare J, Tucker CA & Gould A Physical therapy for the child with respiratory dysfunction (ed 2). In S Irwin & JS Tecklin (Ed) *Cardiopulmonary Physical Therapy* (pp 412-460). St. Louis: The CV Mosby Company. 1993.
7. DeCesare J and Graybill (Tucker) CA. Physical therapy for the child with respiratory dysfunction. In S Irwin & JS Tecklin (Ed) *Cardiopulmonary Physical Therapy* (pp 412-460). St. Louis: The CV Mosby Company. 1990.

Published Non-peer Reviewed Papers, Commentaries and Letters

1. Tucker CA Commentary on Contribution of hip joint proprioception to static and dynamic balance in cerebral palsy: a case control study, JNER, 2013
2. Malone D, Tucker CA. Commentary on supramaximal verification of peak oxygen uptake in adolescents with cystic fibrosis. *Pediatr Phys Ther*. 2011 Spring;23(1):1. PubMed PMID: 21317763.
3. Brown R, Tucker CA. Clinical bottom line. Functional recovery in children and adolescents with spinal cord injury. *Pediatr Phys Ther*. 2010 Summer;22(2):221. PubMed PMID: 20473108.
4. Tucker CA, Watson KE. Measuring function in young children with impairments. *Pediatr Phys Ther*. 2010 Spring;22(1):51. PubMed PMID: 20142705.
5. Tucker CA. Developments in Research – Measuring Upper Body Function in Cerebral Palsy. *Helping Hand Journal - UK* 2012
6. Fetters L & Tucker CA. Theoretical Foundation of Development. *Touchpoint in Pediatrics*. APTA 2001.
7. Fetters L, Tucker CA, Tsao CC & Saltzman E Perception/Action coupling of limb, head and rattle movements of infants exposed to cocaine. *Infant Behavior and development, Special Issue on Perception/Action*. 2001
8. Tucker CA & Dalton DM. Physical Therapy in the Workplace Setting. *Japanese Journal of Physical Therapy*.1998

Papers in Revision, Review or Development

Published Abstracts:

1. Dave P, Obeid I, Tucker CA. Automated System for Balance Error Scoring. International Biodevice Conference, Agers France, March 2014
2. 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
3. Rosen S, Tucker CA, Seliktar R. Forceplates Data Reliability Tested on Children with Neuromuscular Disabilities. International Biodevice Conference, Agers France, March 2014
4. Wren TAL, Gorton GE, Öunpuu S, Tucker CA, Efficacy of clinical gait analysis: A systematic

review. JEGM, Miami FL, May 2010

5. 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, in *Developmental Medicine and Child Neurology*, Supplement 5, 51: 24-25, 2009.
6. **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, in *Developmental Medicine and Child Neurology*, Supplement 5, 51: 42, 2009.
7. 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, in *Developmental Medicine and Child Neurology*, Supplement 5, 51: 64, 2009.
8. 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, in *Developmental Medicine and Child Neurology*, Supplement 5, 51: 22-23, 2009.
9. 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.
10. Bagley, AM, Gorton, GE, **Tucker, CA**. Practical Application of item response theory and computer adaptive testing or measuring health status outcomes in pediatrics. 63rd Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine, Scottsdale, Arizona, September 2009.
11. 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.
12. Lauer RT, Pierce SR, **Tucker CA**, Barbe MF, Prosser LA. Electromyographic responses to aging in children with cerebral palsy. 33rd Annual Meeting of the American Society of Biomechanics, Penn State University, August 2009.
13. Rosen S, **Tucker CA**, Seliktar R. Gait Performance in Children with Typical Development and Children with Cerebral Palsy (CP) GCMAS , Denver, CO, March 2009
14. Bulson M, Watson KE, Johnston TE, **Tucker CA**. Speed Supported Treadmill Training Exercise Program (SSTTEP) for a Child with Cerebral Palsy: A Case Study. APTA CSM, Las Vegas NV, 2009.
15. Galgon A, Shewokis P, Lauer R and **Tucker CA**. COP velocity related measures characterize differences in postural control during reaching. NASPSPA, San Diego June. 2007.
16. Rosen S, **Tucker CA** & Lee S. Gait Energy Efficiency in Children with Cerebral Palsy. Engineering and Medicine in Biology Society (EMBS) Annual International Conference August 2006.
17. Rosen S, & **Tucker CA** Gait Energy Efficiency in Children with Cerebral Palsy. Biomedical Engineering Society (BMES) Fall Meeting October 2006.
18. Lauer RT, **Tucker CA**, Mulcahey MJ, Dayanidi S, Hutchinson D, Kozin S Upper extremity electromyographic activity biceps to triceps transfer surgery. American Society of Biomechanics, 30th Annual Meeting, Blacksburg, Virginia, 2006.
19. Shewokis, PA, Stackhouse, CA, **Tucker, CA**, Lauer, RT, Pierce, SR, Smith, BT, McCarthy, JJ MD Characterizing Intralimb Coordination During Gait in Children with Spastic Cerebral Palsy. (AACPD, 2006)
20. Josephic KE & **Tucker CA** (2006) Partial Body Weight Support Treadmill Training for Marginally Ambulating Children with Cerebral Palsy: A Series of Case Studies. (AACPD, 2006)

21. **Lauer RT**, Stackhouse C, Smith BT, Shewokis PA, Tucker C, McCarthy J. A Frequency-Based Electromyographic Index for Use in Cerebral Palsy. 30th Annual Meeting of the American Society of Biomechanics, Blacksburg VA, Sept. 2006.
22. **Lauer RT**, Tucker C, Mulcahey MJ, Dayanidhi S, Stackhouse C, Hutchinson D, Kozin S. Upper Extremity Electromyographic Activity in Response to Biceps to Triceps Transfer Surgery. 30th Annual Meeting of the American Society of Biomechanics, Blacksburg VA, Sept. 2006
23. Shewokis PA, Stackhouse CA, **Lauer RT**, Pierce S, Tucker CA, Smith B, & McCarthy, J. Motor learning principles and FES gait training: The impact on joint coordination and muscle activation in children with cerebral palsy. North American Society for the Psychology of Sport and Physical Activity Association for the 2006 Annual Conference, Denver, CO, June 1-3, 2006
24. Shewokis PA, Stackhouse CA, Tucker CA, **Lauer RT**, Pierce S, Smith B, & McCarthy, J. A comparison of gait coordination dynamics in typically developing children and children with cerebral palsy. North American Society for the Psychology of Sport and Physical Activity Association for the 2006 Annual Conference, Denver, CO, June 1-3, 2006
25. Tucker CA T. Becker T C. Quinn C (2001) Effect of step length and velocity on the biomechanics of gait initiation in adults. Proceedings of the International Society of Biomechanics, Zurich, Switzerland.
26. 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. Proceedings of the International Society of Biomechanics, Zurich, Switzerland.
27. 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. Proceedings of the International Society of Posture and Gait, Maastricht, Netherlands, June.
28. Economos C, Tucker CA & Becker T (2001) Ground reaction forces produced by jumping activities for bone accretion in school-age children. Proceedings of the American College of Sports Medicine, Baltimore MD.
29. 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.
30. McSweeney D, Tucker CA & Fetters L (2001) Biomechanical analysis of gait initiation in 3 year old children born prematurely. Combined Sections Meeting, American Physical Therapy Association; San Antonio, TX.
31. Figueiredo EM, Tsao C, McSweeney D, Chen Y, Tucker C & Fetters 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.
32. Tsao CC, Fetters 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.
33. Fetters 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.
34. Tucker CA (1999) Self-organizing maps for time series analysis of electromyographic data. Proceedings of the IJCNN Conference, Washington DC, July 1999.
35. Tucker CA, McGibbon CA & Krebs DE (1999) Neurocomputational unsupervised clustering for pattern recognition of mechanical power data obtained during ambulation in elderly. Proceedings of the International Society of Posture and Gait.
36. Tucker CA & White SC (1999) Neurocomputational approaches to pattern recognition for analysis of electromyographic data obtained during treadmill walking Proceedings of the International Society of Posture and Gait.
37. Tucker CA, McGibbon CA & Krebs DE (1999) Neurocomputational unsupervised clustering for pattern recognition of mechanical power data obtained during ambulation in elderly. Proceedings of The XVIIth Congress of the International Society of Biomechanics.
38. Tucker CA & White SC (1999). Neurocomputational approaches to pattern recognition and

- time-series analysis of electromyographic data obtained during treadmill walking. Proceedings of The XVIIth Congress of the International Society of Biomechanics
39. Tucker CA, Brangaccio JA (1998) Assessment of vertical ground reaction force symmetry during treadmill in two individuals with cerebral palsy. *Pediatric Physical Therapy*, Vol 9 No 4, p 201 1998.
 40. Jonsdottir J, Fethers L, Tronick E, Saltzman E & Tucker C (1998) Motor behavior of premature infants. *Pediatric Physical Therapy*, Vol 9 No 4, p 198.
 41. Tucker CA (1996) Artificial Neural Network Approaches to Synergy Analysis of Electromyographic Data. Proceedings of Engineering Foundation Conference: Biomechanics and Neural Control of Movement, Mt. Sterling, OH, June.
 42. Tucker CA, Lin HY (1996) Assessment of gait symmetry using the force measuring treadmill of an individual with bilateral below knee amputees. *Gait & Posture*, Vol 4 No2, 1996.
 43. Tucker CA, Brangaccio JA (1996) Vertical ground reaction forces using force measuring treadmill of two children with cerebral palsy. *Gait & Posture*, Vol 4 No 2, 1996.
 44. White SC, Tucker CA, Brangaccio JA, Lin HY (1996) Effect of walking speed on vertical ground reaction forces using the force measuring treadmill. *Gait & Posture*, Vol 4 No 2, 1996.
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 46. White SC & Tucker CA (1995) Vertical ground reaction forces for treadmill gait of an individual with diabetes mellitus and distal sensory neuropathy. *Gait & Posture*, Vol 3 No 2, 1996.
 47. Yack HJ, Tucker CA, White SC & Collins H (1995) Comparison of overground and treadmill vertical ground reaction forces. *Gait & Posture*, Vol 3 No 2, 1996.
 48. 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.
 49. 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.
 50. 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.
 51. 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.
 52. 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.
 53. 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** CATs in Pediatric Rehabilitation. International Society for Quality of Life, Berlin, Germany, October 2014.
2. Dave P, Obeid I, **Tucker CA**. Automated System for Balance Error Scoring. International Biodevice Conference, Agers France, March 2014
3. 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
4. Rosen S, **Tucker CA**, Seliktar R. Forceplates Data Reliability Tested on Children with Neuromuscular Disabilities. International Biodevice Conference, Agers France, March 2014
5. **Tucker CA** & Bevans KB. PROMIS: NIH's Patient-Reported Outcomes Information System.

- CSM2014, Las Vegas NV, February 2014
6. **Tucker CA** & Bevens KB. PROMIS: Pediatric Patient-Reported Outcomes – NIH PROMIS. CSM2014, Las Vegas NV, February 2014
 7. **Tucker CA**. PhD Directors Dialogue CSM2014, Las Vegas NV, February 2014
 8. 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.
 9. 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.
 10. 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.
 11. **Tucker CA**. PhD Directors Dialogue CSM2014, Las Vegas NV, February 2014
 12. Roposh CM, Tucker CA, OrlinM, Seliktar R. "A technique to assess plantar soft tissue during stance" JEGM, Miami FL, May 2010.
 13. 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
 14. Stout, J, Gorton, GE, Novacheck, T, Bevens, 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
 15. **Tucker, CA**, Gorton, GE, Bevens, 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.
 16. Gorton, GE, Stout, J, Novacheck, T, Bagley, AM, Bevens, 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
 17. 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.
 18. 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.
 19. 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.
 20. 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.
 21. Stout, J, Gorton, GE, Novacheck, T, Bevens, 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
 22. **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.
 23. **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

24. **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
25. Learning from Babel: A forum on the development of standard sets of outcomes measures to guide best practice: APTA/CSM Nashville TN 02/2008.
26. **Tucker CA & Lauer R** Electromyography: Advanced analysis and interpretation techniques. Gait & Clinical Movement Analysis Society Richmond VA 04/2008
27. **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
28. **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
29. **Tucker CA**. (2007) Shoulder Biomechanics in Individuals with tetraplegia. International Meeting on Upper Limb in Tetraplegia. Philadelphia PA
30. Rosen, S, & **Tucker CA** (2007) Gait Energy Efficiency in Children with Cerebral Palsy, GCMAS Annual Meeting, Springfield MA..
31. **Tucker CA**. (2006) Shoulder Biomechanics and FES in Individuals with Tetraplegia. Howard Steele Conference, Orland FL.
32. 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.
33. 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.
34. Josephic KE, **Tucker CA** (2006) Supported Speed-focused treadmill training in children with Cerebral palsy. AACPD Annual Meeting, Boston, MA.
35. Rosen, S, **Tucker CA**, & Lee SCK (2006) Gait Energy Efficiency in Children with Cerebral Palsy, IEEE BMES 2006, New York, New York.
36. **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.
37. **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.
38. **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, Maastricht, Netherlands, June.
39. 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.
40. **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.
41. McSweeney D, **Tucker CA** & Fetters L (2001) Biomechanical analysis of gait initiation in 3 year old children born prematurely. Combined Sections Meeting, American Physical Therapy Association; San Antonio, TX.
42. Figueiredo EM, Tsao C, McSweeney D, Chen Y, **Tucker CA** & Fetters 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.
43. Tsao CC, Fetters 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.

44. Fethers 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.
45. **Tucker CA** (1999) Self-organizing maps for time series analysis of electromyographic data. IJCNN 1999 Conference, Washington DC, July.
46. **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.
47. **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.
48. **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
49. **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.
50. **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.
51. Jonsdottir J, Fethers L, Tronick E, Saltzman E & **Tucker CA** (1998) Motor behavior of premature infants. APTA - Combined Sections Meeting, Boston, MA, February.
52. **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.
53. **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.
54. **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.
55. 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.
56. 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.
57. 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.
58. 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.
59. 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.
60. **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.
61. 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.

62. **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.
63. 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.
64. 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** Novel Approaches to Improving Physical Function and Activity Using Home and Community-Based Interventions. APTAnj State Conference, East Windsor, NJ, October 2014
2. **Tucker CA**. Pediatric PROMIS Update and Application to Dutch Pediatric Rehabilitation. Utrecht, Netherlands, October 2014.
3. **Tucker CA** APTA Advanced Clinical Practice Course: Motor Control and Motor Learning, Boston MA, September 2014
4. **Tucker CA** Patient Reported Outcomes In pediatric Rehabilitation Cincinnati Children's Hospital Medical Center, Research in Patient Services (RPS) Colloquium July 10, 2014.
5. 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
6. **Tucker CA** Adult Natural History Initiative - Outcomes: Osteogenesis Imperfecta Foundation. April 2012, OIF Scientific Meeting, Chicago IL.
7. 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.
8. **Tucker CA** APTA Advanced Clinical Practice Course: Motor Control and Motor Learning, San Antonio, TX, 2012
9. **Tucker CA** PROMIS – Adult Natural History Initiative: Osteogenesis Imperfecta Foundation. Chicago, IL June 2011
10. **Tucker CA PROMIS and the ICF**. Presented at the Annual World Health Organization, Family of International Classification, Functioning Disability Reference Group Meeting, October 2011.
11. **Tucker CA** Motor Learning in Pediatric Practice: Cincinnati Children's Hospital, Department of Physical and Occupational Therapy, March 24, 2010
12. **Tucker CA** PROMIS and Assessment Center. Osteogenesis Imperfecta Foundation, Chicago IL, March 2011
13. Presidential Keynote: **Tucker CA** & Forrest CF. American Academy of Cerebral Palsy and Developmental Medicine Annual Meeting. PROMIS. Washington DC, September 2010
14. **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
15. **Tucker CA** & Gorton GG. American Academy of Cerebral Palsy and Developmental Medicine Annual Meeting. Instructional Course: PROMIS. Washington DC, September 2010
16. **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
17. **Tucker CA** Pediatric PROMIS. Grand Rounds at Bloorview Rehab Hospital, Toronto CA. January 5th 2010.
18. **Tucker CA** Modernizing the Measurement of Pediatric Health. The Health and Behavior Research Affinity Group Children's Hospital of Philadelphia, January, 2010.
19. **Tucker CA** APTA Advanced Clinical Practice Course: Motor Control and Motor Learning,

Chicago, IL 11/2009

20. **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.
21. **Tucker CA & Lauer R.** Tutorial: Advanced Analysis of Electromyographic Data. Annual Meeting of the Gait and Clinical Movement Analysis Society, April 2008.
22. **Tucker CA, Bagley A and Gorton G.** Tutorial: Computer Adaptive Testing: An Emerging Method for Clinical Outcome Measurement. GCMAS Richmond, VA, April, 2008
23. **Tucker CA** APTA Advanced Clinical Practice Course: Motor Control and Motor Learning, Hartford, CT 2008
24. **Tucker CA** EMG in Clinical Gait Analysis. SMALnet Annual Conference, Houston, TX, November 2007.
25. **Tucker CA** Clinical Outcomes in Motion Analysis Symposium. GCMAS Springfield MA, April 2007
26. **Tucker CA** APTA Advanced Clinical Practice Course: Fitness for Children with Disabilities, Bellevue WA November 2006
27. **Tucker CA** APTA Advanced Clinical Practice Course: Motor Control and Motor Learning, Bellevue WA November 2006
28. **Tucker CA** Computer Adaptive Testing of Physical Function in Children with Cerebral Palsy. APTA_CSM, Boston MA February 2007.
29. **Tucker CA** Computer Adaptive Testing of Physical Function in Children with Cerebral Palsy. AACPDM, Boston, MA September 2006.
30. **Tucker CA** Howard Steele Conference, Clinical application of functional electrical stimulation in tetrapgia. Howard Steele Conference, Orlando FL December 2006.
31. **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
32. **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
33. **Tucker CA** IIIStep Conference: Session 6: Perception-Action & Developmental Considerations for Recovery: Case Study: Speed Support Treadmill Training Exercise Program [SSTTEP] for Children with CP and GMFCS Level IV, Salt Lake City, July 2005
34. **Tucker CA** Bridging Research, Practice, and Policy. Boston University, May 2001.
35. **Tucker CA** Development of Posture Control: Dynamical Systems Perspective. APTA Scientific Conference, Washington DC, June, 1999.
36. **Tucker CA** Pediatric Asthma: Physical Therapy Practice Guide in Action, Maternal Child and Health Conference, Malvern PA, April, 1999.
37. **Tucker CA** Neurocomputational Approaches to pattern recognition in EMG data Neuromuscular Research Center, March, 1998.
38. **Tucker CA** Rehabilitation and Ergonomics, Harvard University Department of Engineering, February, 1998

MAJOR COMMITTEES & SERVICE

Department

- Curriculum Task Force, Temple University (2009- 2012)
- PhD Program Director, Temple University (2009 – Present)
- 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

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