

**EMORY UNIVERSITY SCHOOL OF MEDICINE
STANDARD CURRICULUM VITAE FORMAT**

Revised: [02/01/2016]

1. Name: Trisha Kesar

2. Current Titles and Affiliations:
 - a. Academic Appointments:
 - i. Primary Appointments:
*Assistant Professor,
Department of Rehabilitation Medicine, Division of Physical Therapy,
Emory University School of Medicine, May 2012*

 - ii. Joint and Secondary Appointments:
*Adjunct Assistant Professor,
School of Applied Physiology , Georgia Institute of Technology, May 2013*

 - b. Other Administrative Appointments:
*Director, Motion Analysis Laboratory,
Center for Rehabilitation Medicine, Emory University.*

3. Previous Academic and Professional Appointments:
2009-2012: Post-doctoral researcher, Department of Physical Therapy, University of Delaware, Newark, Delaware
2003-2009: Research Assistant, Muscle Performance Lab, Department of Physical Therapy, University of Delaware, Newark, Delaware

4. Licensures / Boards:

*Physical Therapy Clinical Licensure:
Delaware: 2009-Present
Georgia: 2012-Present*

5. Education:
2002: BS Physical Therapy, Post Graduate Institute of Medical Education and Research, Chandigarh, India

2006: MS, University of Delaware, Newark, Delaware

2009: PhD, University of Delaware, Newark, Delaware

6. Postgraduate Training:
2009-2012: University of Delaware, Department of Physical Therapy, Newark, Delaware. (Advisers: Stuart A. Binder-Macleod, PT, PhD, FAPTA and Darcy Reisman, PT, PhD)

2009-2011: Visiting post-doctoral researcher, University of Maryland and VA Medical Center, Baltimore, Maryland. (Mentor: George Wittenberg, MD, PhD)

7. Continuing Professional Development Activities:
 - Training in Grantsmanship for Rehabilitation Research (TIGRR) workshop, January 12-16, 2013.*
 - 'Learning to be better teachers', Faculty development workshop, Emory University, Feb 13, 2013.*
 - 'Presenting Data and Information, a one-day course taught by Edward Tufte', Feb 25, 2013.*
 - 'Ethics and Jurisprudence for Physical Therapy Practice in Georgia, Continuing Education Course, Emory University, August 2015*
 - K-Club Seminar series, Department of Pediatrics, Emory University, 2015-2016*
 - Faculty development lecture series, Emory University school of Medicine, 2015*

8. Committee Memberships:
 - a. National and international
 - 2015-Present: Leader of the Research in Review sub-committee, Research committee, Neurology Section, American Physical Therapy Association
 - b. Institutional:
 - 2009: Student organizing Committee member, Center of Biomechanical Engineering Research Symposium, University of Delaware. May, 2009*
 - 2003-2007: Treasurer and Board Member, Indian Graduate Student Association, University of Delaware. January 2003 – September 2007*

9. Peer Review Activities:
 - a. Grants:
 - i. National and International:
 - Research Grant reviewer, Neurological Foundation of New Zealand., 2013*
 - b. Manuscripts:
 - i. National and International Journals:
 - Neuro-rehabilitation and Neural Repair (NNR)*
 - Journal of Biomechanics*
 - PLOS One*
 - Archives of Physical Medicine and Rehabilitation*
 - Journal of Neuro-engineering and Rehabilitation (JNER)*
 - Journal of Electromyography and Kinesiology (JEK)*
 - Medicine and Science in Sports and Exercise*
 - European Journal of Applied Physiology*
 - Neuromodulation*
 - Medical Engineering and Physics*
 - Orthotics and Prosthetics International*
 - Journal of Rehabilitation Medicine*
 - European Journal of Physical and Rehabilitation Medicine*
 - Physiotherapy Theory and Practice*

10. Honors and Awards:

Selected for participation in the Training in Grantsmanship for Rehabilitation Research (TIGRR) workshop, Chapel Hill, NC, January 12 to 16, 2013.

NCM 2011 Travel Award: Awarded by the Neural Control of Movement Society for travel to the NCM conference in San Juan, Puerto Rico, 2011.

First Place, 2010 Delaware Health Science Alliance Research Conference Poster Session awarded to: Kesar TM, Reisman DS, Roos M, Perumal R, Farquhar WB, Higginson JS, Rudolph KS, Binder-Macleod SA. Novel gait rehabilitation intervention improves walking performance post-stroke.

Best poster award, Center for Biomedical Engineering research symposium, 2010. Awarded to: Kesar TM, Sawaki L, Cabrera N, Kolaski K, Smith BP, O'Shea M, Koman LA, Wittenberg GF. Cortical Motor Mapping in Individuals with Cerebral Palsy.

Post-professional Student Award; best abstract submitted to the Neurology Section for the Combined Sections Meeting of the American Physical Therapy Association February 2008, Nashville, TN awarded to: Roos M, Kesar T, Rudolph KS, Reisman DS. Systematic increases in walking speed have varied effects on post-stroke walking patterns.

University of Delaware Dissertation Fellows Award, 2007.

Best Graduate Student Poster Award, Center for Biomedical Engineering and Research Symposium 2004 awarded to: Kesar T, Chou LW, Binder-Macleod SA. Effects of frequency and intensity modulation on fatigability of skeletal muscle during electrical stimulation.

Best Graduate Student Poster Award, Center for Biomedical Engineering and Research Symposium 2005. Awarded to: Kesar T, Ding J, Wexler AS, Binder-Macleod SA. Testing an isometric force model on ankle muscles of individuals with hemiparesis.

11. Society Memberships:

*American Physical Therapy Association (APTA), member 2006 to present.
International Society of Biomechanics, member 2007 to 2009.
Society for Neuroscience, member 2007 to Present.*

12. Formal Teaching:

a. Medical Student Teaching:

Laboratory co-instructor, Neuroanatomy Laboratory, Medical Students, Emory University, Fall 2015

b. Graduate Programs:

i. Masters and PhD Programs:

*Facilitator, Rehab Seminar Course, Applied Physiology PhD Program, Georgia Institute of Technology, Spring and Fall 2015
Guest Instructor, Rehab Seminar Course, Applied Physiology PhD Program, Georgia Institute of Technology, Fall 2014*

- c. Other Categories:
- Course Director and Instructor, Neuroscience (DPT 735), Doctor of Physical Therapy Program, 2012-present.
- Course Instructor, Kinesiology and Biomechanics (DPT 715), Doctor of Physical Therapy Program, 2012-present.
- Course Instructor, Adult Neuro-rehabilitation (DPT 810), Doctor of Physical Therapy Program, 2013-present
- Course Instructor, Principles of Motor Learning (DPT 805), Doctor of Physical Therapy Program, 2013-present.
13. Supervisory Teaching:
- a. Thesis committees:
- Benjamin Adams, Osteopathic Medicine MS Thesis, Philadelphia College of Osteopathic Medicine, Georgia, 2014-present
- Ye Yuan, Undergraduate Thesis, Applied Mathematics, Emory University, 2014
- Jaqueline Palmer, PhD thesis, Biomechanics and Movement Science Graduate Program, University of Delaware, 2013-present
- b. Other:
- Supriya Shah, Medical Student and Masters of Public Health Student, Public Health Practicum Project Mentor, 2014
- Camille A Silverman, Undergraduate Research Credit Project (499R), Emory Biology, 2013-2014
- Camden Spade, Undergraduate Research Credit Project (499R), Emory Biology, 2013-2014
- Doctor of Physical Therapy student group, Clinical research I and II, faculty mentor, 2014-present
- Rachel Malina, Doctor of Physical Therapy student directed study adviser (Therapeutic Neuroscience Education), Spring 2015.
- Sumi Sato, Doctor of Physical Therapy student directed study adviser (Stroke gait rehabilitation), Fall 2015.
- Christopher Schenck, President's undergraduate research award (PURA) faculty adviser, Georgia School of Technology, Spring 2016
- Christopher Schenck, Undergraduate research credit faculty adviser, Georgia School of Technology, 2014-2015
- Oliver Daliett, Undergraduate research credit faculty adviser, Georgia School of Technology, Fall 2015, Spring 2016
- Chukwumerije U. Chuma-Okere, Undergraduate research credit faculty adviser, Georgia School of Technology, Fall 2015, Spring 2016
- Tyler J. Angert, Undergraduate Research Credit Project (499R), Emory Biology and Computer Science, Fall 2015, Spring 2016

14. Lectureships, Seminar Invitations, and Visiting Professorships:

a. Regional:

Invited seminar presentation – Neuroplasticity, motor learning, and biomechanical mechanisms underlying stroke gait rehabilitation; Philadelphia College of Osteopathic Medicine, Suwanee, Georgia, January 2016

Podium presentation – Neuroplasticity mechanisms underlying gait rehabilitation; Physical Therapy Association of Georgia conference, Spring 2015, Savannah, Georgia

Continuing Education Course for Physical Therapists, 'Functional Anatomy with Clinical Correlations', Co-instructor, October 2014.

Continuing Education Course - Get a Leg Up on Gait Analysis and Intervention: Applied Biomechanics as a Foundation for Clinical Decision Making. June 29, 2013. 7.5 Continuing Education Hours (.75 CEUs).

November 7, 2012: Research seminar presentation at the School of Applied Physiology, Georgia Institute of Technology.

November 14, 2012: Research seminar presentation at the Center for Visual and Neurocognitive Rehabilitation (CVNR), Atlanta VA Medical Center.

March 3, 2013: Research seminar presentation at the Spinal Cord Injury Research Center (SCRC), Emory Neuroscience Graduate Program.

July 19, 2012: Grand Rounds, Rehabilitation Medicine, Emory University (Electrical Stimulation: A Versatile Tool to Augment and Evaluate Motor Function)

August 7, 2012: CEU course at Emory University Rehabilitation Medicine (Revisiting the Biomechanics of Gait and Posture; 1.5 hours)

15. Invitations to National/International, Regional, and Institutional Conferences:

a. National and International:

Invited speaker, Special session on "Innovative techniques for improving gait: Stroke and Cerebral Palsy", 7th World Congress of Biomechanics, Boston, MA, July 6-11, 2014.

16. Abstract Presentations at National/International, Regional, and Institutional Conferences:

i. National and International:

1. *Ding J, Kesar T, Wexler AS, Binder-Macleod SA. Using a mathematical model to predict the isometric force-intensity relationship. International Society of Electromyography and Kinesiology (ISEK) Conference, Boston, MA, 2004. (Podium Presentation)*
2. *Kesar T, Chou LW, Binder-Macleod SA. Effects of frequency and intensity on skeletal muscle fatigue during repetitive electrical stimulation. Conference of the International Functional Electrical Stimulation Society (IFESS), Montreal, Canada, 2005.*

3. Kesar T, Ding J, Perumal R, Maladen D, Wexler AS, Binder-Macleod SA. Predicting muscle forces for individuals with hemiparesis following stroke. Society for Neuroscience Annual Conference, Atlanta, GA, 2006.
4. Benoit DL, Krishnamoorthy V, Banala S, Hsu W, Perumal R, Kesar T, Scholz JP, Agrawal SK, Binder-MacLeod SA, Buchanan TS. An integrated approach for improving gait in a stroke population: combining robotics, FES and neuromusculoskeletal modeling. Annual Meeting of the American Society of Biomechanics, Blacksburg, Virginia, 2006. (Podium Presentation)
5. Higginson J, Kesar T, Perumal R, Binder-Macleod SA. Simulation-guided stimulation for paretic ankle muscles during stroke gait. ASME Summer Bioengineering Conference, Keystone, Colorado, 2007. (Podium Presentation)
6. Kesar TM, Perumal R, Reisman DS, Rudolph KS, Farquhar W, Higginson JS, Binder-Macleod SA. Plantar- and dorsi-flexor FES in conjunction with fast treadmill training: effects on post-stroke walking patterns Conference of the International Functional Electrical Stimulation Society (IFESS), Philadelphia, 2007. (Podium Presentation)
7. Perumal R, Kesar TM, Wexler AS, Binder-Macleod SA. Novel FES system to stimulate both dorsi- and plantar-flexor muscles during stroke gait. Conference of the International Functional Electrical Stimulation Society (IFESS), Philadelphia, 2007. (Podium Presentation)
8. Roos M, Rudolph KS, Kesar T, Reisman DS. Systematic increases in walking speed have varied effects on post-stroke walking patterns. Combined Sections Meeting of the American Physical Therapy Association, Tennessee, 2008. (Podium Presentation)
9. Krishnamoorthy V, Hsu W, Scholz JP, Kesar T, Benoit DL, Perumal R, Binder-Macleod SA, Banala SK, Sangwan V, Agrawal SK. Gait training following stroke: a pilot study combining a gravity-balanced orthotic device, functional electrical stimulation and visual feedback. Combined Sections Meeting of the American Physical Therapy Association, Tennessee, 2008.
10. Kesar TM, Perumal R, Meyers AL, Binder-Macleod SA. Estimating the degree of neural activation in post-stroke muscles. Society for Neuroscience Annual Conference, Washington D.C., 2008.
11. Kesar TM, Perumal R, Reisman DS, Rudolph KS, Higginson JS, Binder-Macleod SA. Effects of novel physiological-based functional electrical stimulation patterns on post-stroke gait. Annual Conference of the American Society of Biomechanics, University Park, PA, 2009. (Podium Presentation)
12. Kesar TM, Jancosko A, Perumal R, Reisman DS, Rudolph KS, Higginson JS, Binder-Macleod SA. Effects of plantarflexor and dorsiflexor functional electrical stimulation on gait patterns of individuals post-stroke. Annual Conference of the American Physical Therapy Association, Baltimore, MD, 2009
13. Kesar TM, Perumal R, Reisman DS, Rudolph KS, Higginson JS, Binder-Macleod SA. Effects of combining plantar- and dorsi-flexor functional electrical stimulation on post-stroke gait. Society for Neuroscience Annual Conference, Chicago, IL, 2009.
14. Hakansson NA, Kesar T, Reisman D, Binder-Macleod S, Higginson J. Effects of FastFES gait training on mechanical recovery in post-stroke gait. International Functional Electrical Stimulation Society Conference, Vienna, 2010 (Podium Presentation).
15. Knarr BA, Kesar TM, Helm E, Reisman DS, Binder-Macleod SA, Higginson JS. Simulation detects changes in muscle activation in post-stroke gait after a functional electrical stimulation intervention. Annual Conference of the American Society of Biomechanics, Rhode Island, 2010.
16. Kesar TM, Sawaki L, Cabrera N, Kolaski K, Smith BP, O'Shea M, Koman LA, Wittenberg GF. Motor Cortex Reorganization in Cerebral Palsy. Annual Conference of the Society for Neuroscience, San Diego, 2010.
17. Awad LA, Kesar TM, Binder-Macleod SA. How Many Training Sessions are Necessary to Obtain an Accurate Assessment of Gait Performance in Individuals Post-Stroke? American Physical Therapy Association Combined Sections Meeting, New Orleans, 2010.
18. Kesar TM, , Reisman DS, Roos M, Perumal R, Farquhar WB, Binder-Macleod SA. Novel Locomotor Training Improves Gait Performance, Activity, and Participation in Individuals with Chronic Stroke. American Physical Therapy Association Combined Sections Meeting, New Orleans, 2010 (Podium Presentation).

19. Kesar TM, Binder-Macleod SA, Reisman DS. Training Characteristics Influence the Magnitude of Motor Learning during Post-Stroke Gait Rehabilitation. Neural Control of Movement (NCM) Society Conference, Puerto Rico, 2011.
20. Kesar TM, Reisman DS, Binder-Macleod SA. Does one session of gait rehabilitation improve post-stroke walking performance? American Physical Therapy Association Combined Sections Meeting, San Diego, 2013.
21. Sauer MJ, Kesar TM. Time course and magnitude of motor learning during gait rehabilitation – a case study. American Society of Neuro rehabilitation Conference, San Diego, 2013.
22. Kesar TM, Sauer MJ, Kurkowski JL, Silverman CA, Spade CL, Reisman DS, Binder-Macleod SA. Dose-response time course of changes in post-stroke gait performance within a gait retraining session. Submitted to the American Physical Therapy Association Combined Sections Meeting, San Diego, 2014.
23. Chen D, Kesar TM. Capitalizing on Motor Learning Principles to Improve Post-Stroke Gait Biomechanics. Invited Speaker, Special session on “Innovative techniques for improving gait: Stroke and Cerebral Palsy”, 7th World Congress of Biomechanics, Boston, MA, July 6-11, 2014.
24. Belagaje S, Kesar TM, Pergami P, Korb C, Hobbs G, Bueteffisch CM. The Effect of Monoaminergic Drugs on Motor Cortex Excitability, Motor Performance and Psychophysics; International Stroke Conference, Nashville, TN, 2015.
25. Kesar TM, Borich MR, Sabatier S. Effects of split belt walking on cortical and spinal excitability; Society for Neuroscience conference, Chicago, IL, 2015.
26. Rogozinski BM, Lindegren KM, Mendelsohn RG, Schwab SE, Tipton AH, Rogozinski BM, Kesar TM; Effects of the AAFO on gait biomechanics in adolescents with TBI; Combined sections meeting of the American Physical Therapy Association (APTA-CSM), 2016.
27. Daliott O, Kao P, Ye-Yuan, Srivastava S, Kesar TM. Inter-joint coordination and movement decomposition during walking in individuals with post-stroke hemiparesis. Neural Control of Movement Society conference, Jamaica, April 2016 (Submitted).

i. Regional:

1. Kesar T, Chou LW, Binder-Macleod SA. Effects of frequency and intensity modulation on fatigability of skeletal muscle during electrical stimulation. Best Graduate Student Poster Award, Center for Biomedical Engineering and Research Symposium, University of Delaware, 2004.
2. Kesar T, Ding J, Wexler AS, Binder-Macleod SA. Testing an isometric force model on ankle muscles of individuals with hemiparesis. Best Graduate Student Poster Award, Center for Biomedical Engineering and Research Symposium, University of Delaware, 2005.
3. Kesar T, Perumal R, Bauske ED, Russell ADP, Wexler AS, Binder-Macleod SA. Force generation during superimposed submaximal volitional and electrically-elicited contractions: Center for Biomedical Engineering Research Symposium, University of Delaware, 2006.
4. Kesar T, Perumal P, Binder-Macleod SA. Estimating the maximum force generating ability in post-stroke muscles. Center for Biomedical Engineering Research Symposium, University of Delaware, 2007.
5. Kesar TM, Binder-Macleod SA, Hicks GE, Reisman DS. Minimal detectable change of post-stroke gait variables collected during treadmill walking. Center for Biomedical Engineering Research Symposium, University of Delaware, 2010.
6. Knarr BA, Kesar TM, Helm E, Reisman DS, Binder-Macleod SA, Higginson JS. Evaluation of muscle control strategy changes in post-stroke gait after a functional electrical stimulation intervention using musculoskeletal simulations. Center for Biomedical Engineering Research Symposium, University of Delaware, 2010.
7. Thorne-FitzGerald D, Kesar TM, Perumal R, Binder-Macleod SA. Effects of timing of functional electrical stimulation on post-stroke gait. Center for Biomedical Engineering Research Symposium, University of Delaware, 2010.
8. Helm E, Kesar TM, Binder-Macleod SA, Reisman DS. Gait asymmetry following stroke: relationship to clinical measures of dynamic function. Center for Biomedical Engineering Research Symposium, University of Delaware, 2010.

9. Awad LA, Kesar TM, Binder-Macleod SA. *Post-stroke gait: stride-to-stride and day-to-day variability*. Center for Biomedical Engineering Research Symposium, University of Delaware, 2010.
10. Kesar TM, Sawaki L, Cabrera N, Kolaski K, Smith BP, O'Shea M, Koman LA, Wittenberg GF. *Cortical motor mapping in individuals with cerebral palsy*. Best Poster Award, Center for Biomedical Engineering Research Symposium, University of Delaware, May 2010.
11. Kesar TM, Reisman DS, Roos M, Perumal R, Farquhar WB, Higginson JS, Rudolph KS, Binder-Macleod SA. *Novel gait rehabilitation intervention improves walking performance post-stroke*. Awarded First Place at Poster Session, Delaware Health Science Alliance Research Conference, 2010.
12. Sauer MJ, Kesar TM. *Time course and magnitude of motor learning during gait rehabilitation – a research case report*. Physical Therapy Association of Georgia Fall conference, Atlanta, 2013.
13. Yuan Ye, Kesar TM. *Effects of gait retraining on inter-joint coordination during post-stroke gait*. Physical Therapy Association of Georgia Fall conference, Atlanta, 2013.
14. Kesar TM. *Neuroplasticity mechanisms underlying gait rehabilitation*. Physical Therapy Association of Georgia Fall conference, Savannah, Georgia, March 2015 (Podium).

17. Research Focus:

Our goal is to develop novel gait rehabilitation interventions and strategies based on an in-depth understanding of the neuroplasticity, biomechanical, and motor learning mechanisms underlying gait and gait training. We investigate the time courses, mechanisms, and dose-response characteristics underlying post-stroke gait rehabilitation programs comprising treadmill training and functional electrical stimulation.

18. Grant Support:

a. Active Support:

Principal Investigator, NIH K01 HD079584, Cortical and Spinal Correlates of Post-stroke Gait Rehabilitation, \$596,803, 07/2014 – 08/2019.

Co-investigator: PHORG (Pediatric Hematology/Oncology Research Group) research grant award by CHOA's Aflac Cancer and Blood Disorders Center: 3-Dimensional Gait Analysis in Children with Hemophilia, \$36688, 9/1/13 – 8/31/14; Principal Investigator: Amy Dunn, MD, Co-investigators: Benjamin Rogozinski

Principal Investigator, ADRC-CVNR Pilot Project, Split-belt Motor Adaptation and its relationship with Cognitive Impairments, \$30000, 07/2014-08/2015

b. Previous Support:

Principal Investigator: American Heart Association (AHA 13SDG13320000) Scientist Development Grant, Time Course of Biomechanical and Neural Processes Underlying Post-Stroke Gait Rehabilitation, \$308000, 1/1/2013 – 12/31/2016

Principal Investigator, American Heart Association Clinical Research Grant (AHA 11CRP5120025), Understanding the Time Course and Magnitude of Motor Learning During Gait Rehabilitation, \$109868, 2011 – 2012 (no-cost extension until 6/2013)

Co-investigator, Delaware Health Sciences Alliance Pilot Project, Relationships between Cortical Motor Organization and Response to Exercise Interventions in Children with Cerebral Palsy, \$75000, 2010 – 2012

19. Bibliography:

a. *Published and Accepted Research Articles (clinical, basic science, other) in Refereed Journals:*

1. Kesar TM, Reisman DS, Higginson JS, Awad LA, Binder-Macleod SA. Changes in Post-Stroke Gait Biomechanics Induced by One Session of Gait Training. *Phys Med Rehabil International*. 2 (10): 1072, 2015.
2. Ting LH, Chiel HJ, Trumbower RD, Allen JL, McKay JL, Hackney ME, Kesar TM. Neuromechanical principles underlying movement modularity and their implications for rehabilitation. *Neuron*. Apr 8;86(1):38-54. 2015
3. Kesar TM, Sauer MJ, Binder-Macleod SA, Reisman DS. Motor learning during post-stroke gait rehabilitation: a case study. *J Neurol Phys Ther*. Jul; 38(3):183-9; 2014.
4. Awad L, Reisman DS, Kesar T, Binder-Macleod SA. Targeting Paretic Propulsion To Improve Post-Stroke Walking Function: A Preliminary Study. *Archives of Physical Medicine and Rehabilitation*; 2013.
5. Reisman D, Kesar TM, Perumal R, Roos M, Rudolph K, Higginson J, Helm E, Binder-Macleod S. Time course of functional and biomechanical improvements during a gait training intervention in persons with chronic stroke. *J Neurol Phys Ther*.; 2013
6. Knarr BA, Kesar TM, Reisman DS, Binder-Macleod SA, Higginson JS. Changes in the activation and function of the ankle plantar flexor muscles due to gait retraining in chronic stroke survivors. *J Neuroeng Rehabil*; 2013.
7. Awad L, Kesar TM, Reisman DS, Binder-Macleod SA Effects of Repeated Treadmill Testing and Electrical Stimulation on Post-Stroke Gait Kinematics. *Gait and Posture*; 2012.
8. Flynn S, Knarr BA, Perumal R, Kesar TM, Binder-Macleod SA. Using submaximal contractions to predict the maximum force-generating ability of muscles. *Muscle Nerve*; Jun, 45(6):849-58, 2012
9. Kesar TM, Sawaki L, Cabrera N, Kolaski K, Smith BP, O'Shea M, Koman LA, Wittenberg GF. Motor Cortical Functional Geometry in Cerebral Palsy and its Relationship to Disability. *Clinical Neurophysiology*; Dec 6, 2011.
10. Hakansson NA, Kesar T, Reisman D, Binder-Macleod S, Higginson JS. Effects of fast functional electrical stimulation gait training on mechanical recovery in poststroke gait. *Artif Organs*. 35; 217-220, 2011.
11. Kesar TM, Binder-Macleod SA, Hicks GE, Reisman DS. Minimal detectable change for gait variables collected during treadmill walking in individuals post-stroke. *Gait and Posture*; 33(2):314-7, 2011.
12. Kesar TM, Perumal R, Reisman DS, Rudolph KS, Higginson JS, Binder-Macleod SA. Combined effect of fast treadmill walking and functional electrical stimulation on post-stroke gait. *Gait and Posture*; 33(2):309-13, 2011.
13. Perumal R, Wexler AS, Kesar TM, Jancosko AM, Laufer Y, Binder-Macleod SA. A phenomenological model that predicts forces generated when electrical stimulation is superimposed on submaximal volitional contractions. *Journal of Applied Physiology*. 108(6):1595-604, 2010.
14. Kesar TM, Perumal R, Reisman DS, Rudolph KS, Higginson JS, Binder-Macleod SA. Novel patterns of functional electrical stimulation have an immediate effect on dorsiflexor muscle function during gait for people poststroke. *Physical Therapy*. 90(1):55-66, 2010.
15. Kesar TM, Perumal R, Reisman DS, Rudolph KS, Higginson JS, Binder-Macleod SA. Functional electrical stimulation of ankle plantar- and dorsi-flexor muscles: effects on post-stroke gait. *Stroke*. 40(12):3821-7, 2009.
16. Krishnamoorthy V, Hsu W, Scholz JP, Kesar T, Benoit DL, Perumal R, Binder-Macleod SA, Banala SK, Sangwan V, Agrawal SK. Gait training following stroke: a pilot study combining a gravity-balanced orthotic device, functional electrical stimulation and visual feedback. *Journal of Neurological Physical Therapy*. 32(4):192-202, 2009.
17. Binder-Macleod SA, Perumal R, Chou LW, Kesar T, Snyder-Mackler L. Twitch interpolation a valid measure with misinterpreted meaning. *Journal of Applied Physiology* 107(1):363; discussion 367-8, 2009.

18. Chou LW, Kesar TM, Binder-Macleod SA. Using customized rate-coding and recruitment strategies to maintain forces during repetitive activation of human muscles. *Physical Therapy*. 88(3):363-75, 2008.
19. Kesar TM, Ding J, Perumal R, Maladen D, Wexler AS, Binder-Macleod SA. Predicting muscle forces of individuals with hemiparesis following stroke. *Journal of Neuroengineering and Rehabilitation*. 27:5-7, 2008.
20. Ding J, Chou LW, Kesar TM, Lee SCK, Johnston TE, Wexler AS, Binder-Macleod SA. Mathematical model that predicts the force-intensity and force-frequency relationships for individuals with spinal cord injuries. *Muscle Nerve*. 36(2):214-22, 2007.
21. Kesar T, Chou LW, Binder-Macleod SA. Effect of stimulation frequency versus pulse duration modulation on muscle fatigue. *Journal of Electromyography and Kinesiology*. 18(4):662-71, 2007.
22. Kesar T and Binder-Macleod SA. Effect of frequency and pulse duration on human muscle fatigue during repetitive electrical stimulation. *Experimental Physiology*. 91(6):967-76, 2006.

b. Manuscripts Submitted:

Schenck C and Kesar T. Real-time biofeedback to increase propulsive forces during gait: Feasibility and short-term motor learning. Gait & Posture (In Review).

c. Review Articles:

Binder-Macleod SA, and Kesar T. Catchlike property of skeletal muscle: Recent findings and clinical implications. Muscle Nerve. 31(6):681-93, 2005.

Kesar TM, Santamore WP, Perumal R, Binder-Macleod SA. Functional electrical stimulation of skeletal muscle –implications for cardiovascular support. Basic & Applied Myology. 19(1):31-34, 2009.

20. Contributions Not Otherwise Noted:

Book Chapter: Exercise and balance in older adults with movement disorders; Hackney M, Nocera J, Creel T, Riebesell D, Kesar TM; Locomotion and Posture in Older Adults - The Role of Aging and Movement Disorders, Springer Nature Publishing Group (In press)