Jessica Allen, Ph.D.

Curriculum Vitae

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Morgantown, WV 26505-6102

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ACADEMIC POSITIONS

Assistant Professor **8/2017-Present**
Department of Chemical and Biomedical Engineering
West Virginia University, Morgantown, WV

Postdoctoral Research Fellow **10/2012-7/2017**
Department of Biomedical Engineering
Emory University and Georgia Institute of Technology, Atlanta, GA

EDUCATION

Ph.D. in Mechanical Engineering **8/2009-8/2012**
Department of Mechanical Engineering
The University of Texas at Austin, Austin, TX
Dissertation Title: *Simulation and experimental analyses to assess walking performance post-stroke using step length asymmetry and module composition*
Advisor: Richard Neptune, Ph.D.

M.S. in Mechanical Engineering **8/2007-8/2009**
Department of Mechanical Engineering
The University of Texas at Austin, Austin, TX
Thesis Title: *Muscle function following post-stroke locomotor training: a simulation analysis of different strategies to improve walking speed*
Advisor: Richard Neptune, Ph.D.

B.S. in Mechanical Engineering **8/2002-12/2006**
Department of Mechanical and Aerospace Engineering
The University of Florida, Gainesville, FL

AWARDS AND FELLOWSHIPS

American Society of Biomechanics Research Travel Award, 2020
NIH TIGRR (Training in Grantsmanship in Rehabilitation Research) Fellow, 2019
OpenSim Travel Award, 2018
National Institutes of Health (F32) NRSA Individual Postdoctoral Fellowship, 2015-2017
National Science Foundation Graduate Research Fellowship, 2007-2012
The University of Texas at Austin Graduate Engineering Thrust Fellowship, 2007-2012

GRANT SUPPORT

CURRENT

NSF/DARE 2015796 (Allen, PI) **8/2020-7/2023**
Neuromuscular simulations for predicting functional walking ability
Role: PI

NIH/NIA R21AG067388 (Franz, PI) **9/2020-8/2022**
The peripheral motor repertoire as a neuromuscular constraint on balance integrity in age-related falls risk
Role: Co-I

Pilot Award (Yakovenko, PI) **7/2020-6/2021**
WVU Foundation Byars-Tarnay Biomedical Engineering Endowment
Corticospinal mechanisms of locomotor control in young and elderly adults
Role: Co-PI

Seed Grant (Allen and Luu, PIs) **7/2020-6/2021**
West Virginia-Arkansas Center for Research and Education in Smart Health
Artificial intelligence driven system for telerehabilitation in stroke survivors
Role: Co-PI

WVCTSI Pilot Grant (Allen, PI) **7/2019-4/2021**
Altered sensorimotor control of walking balance underlying increased risk of falls in older adults
Role: PI

PAST

NIH F32 NS087775 (Allen, PI) **7/2015-6/2017**
NIH/NINDS Ruth L. Kirschstein National Research Service Award
Muscle coordination changes affecting impaired balance control post-stroke
Role: PI, Mentoring Team: Lena Ting, Ph.D. and Trisha Kesar, P.T., Ph.D.

Pilot Grant (Ting, PI) **7/2016-7/2017**
Georgia Tech/Georgia State Center for Advanced Brain Imaging Seed Grant
Neuroimaging to predict gait rehabilitation outcomes post-stroke
Role: Co-I
Other Co-Is: Trisha Kesar, P.T., Ph.D.; Michael Borich, D.P.T., Ph.D.; Shella Keilholz, Ph.D.

NIH T32 NS007480 (Levey, PI) **7/2014-6/2015**
NIH/NINDS Ruth L. Kirschstein Institutional National Research Service Award
(Emory University, Department of Neurology)
Training in Translational Research in Neurology
Role: Postdoctoral trainee

OTHER RESEARCH EXPERIENCE

Research Engineer **2007**
Department of Physical Therapy, University of Florida, Gainesville, FL
Human Motor Performance Lab, Brain Rehabilitation Research Center (BRRC)
Advisor: Steve Kautz, Ph.D.
Project: Assist students in the Doctor of Physical Therapy program with data analysis of spatiotemporal gait data

Undergraduate Research Assistant **2005-2006**
Department of Mechanical and Aerospace Engineering, University of Florida, Gainesville, FL
Orthopeadic Biomechanics Lab
Advisor: Scott Banks, Ph.D.
Project: Implement and test different feedback control algorithms on a PA-10 robotic arm

Research Intern **2005**
Zimmer GmbH, Winterthur, Switzerland
Advisor: Marc München, M.S.
Project: Develop and prototype instrument for total knee arthroplasty

TEACHING EXPERIENCE

Principles and Applications of Biomedical Engineering, BMEG 501 **Fall 2018, 2019, 2020**
Graduate Course, Department of Chemical and Biomedical Engineering
West Virginia University, Morgantown, WV

Transport Phenomena in Biological Systems, BMEG 315 **Spring 2018, 2019, 2020**
Undergraduate Course, Department of Chemical and Biomedical Engineering
West Virginia University, Morgantown, WV

Human Performance and Rehabilitation Engineering (Module Instructor), EXPH 793A **Spring 2019**
Graduate Course, Department of Human Performance - Exercise Physiology
West Virginia University, Morgantown, WV

Biomedical Senior Design (Faculty Mentor), BMEG 455/456 **2017-2020**
Undergraduate Course, Department of Chemical and Biomedical Engineering
West Virginia University, Morgantown, WV

Clinical Research I & II (Co-Instructor), DPT 915/925 **2015-2016**
Graduate Course, Department of Physical Therapy
Emory University, Atlanta, GA

MENTORING EXPERIENCE

DOCTORAL STUDENTS

Hannah McDonald, WVU (Biomedical Engineering) Spring 2018 – Present
Daniel Liss, WVU (Biomedical Engineering) Fall 2018 – Present

THESIS COMMITTEES

Ariel Thomas, WVU (Neuroscience) Summer 2018 – Present
Jacob Suffridge, WVU (Biomedical Engineering) Summer 2019 – Present
Rakibul Hasan, WVU (Biomedical Engineering Spring 2020 – Present
Serhii Bahdasariants, WVU (Biomedical Sciences) Fall 2020 – Present

UNDERGRADUATE STUDENTS

Alyssa Reeves, WVU (Fundamentals of Engineering, RAP program) Fall 2020
Melina McCabe, WVU (Biomedical Engineering, RAP program) Spring 2020 – Present
Danielle Larrow, WVU (Biomedical Engineering) Spring 2020 – Present
Hannah Cohen, WVU (Biomedical Engineering)[b] 2019 – 2020
Meredith Phillips, WVU (Biomedical Engineering)[b] 2019 – 2020
Zoe Moore, WVU (Biomedical Engineering) 2017 – 2020
John McLaughlin, WVU (Biomedical Engineering) 2017 – 2019
Arthur Lim, Georgia Tech (Biomedical Engineering) 2015
Chris Versteeg, Georgia Tech (Biomedical Engineering and Computer Science) [a,b] 2013-2015
Cole Simpson, Georgia Tech (Mechanical Engineering) [a,b] 2012-2014

[a]Research resulted in peer-reviewed publication
[b]Research resulted in conference abstract

DESIGN/RESEARCH PROJECT MENTOR

David Gainer, Alyssa Coen, Moira Hayes, Grant Maddox — Fall 2020
WVU (Biomedical Engineering - Undergraduate)

Abigail Osborne, Hassan Alkhadrawi, Ross Fontana, Emma Robertson, Taylor Stump — Fall 2020
WVU (Biomedical Engineering - Undergraduate)

Zoe Moore, Saja Alqahtani, Taylor Lansberry, Brooklyn Metz, Dylan Moon — Fall 2019 – Spring 2020
WVU (Biomedical Engineering - Undergraduate)

Killian Coyne, Madelin Gardner, John McLaughlin, Aarthy Shah — Fall 2018 – Spring 2019
WVU (Biomedical Engineering - Undergraduate)

Alex Rubenstein, Lindsay Elliot, Jonathan Franke, Oliver Lin, Maher Shammaa, Anna Whelen — Fall 2017 – Spring 2018
WVU (Biomedical Engineering - Undergraduate)

Brian Lee, Erin Wheeler, Ryan Embley, Vanessa Doyley — Fall 2015 – Spring 2016
Emory University (Doctor of Physical Therapy Program - Graduate)

PUBLICATIONS

PEER-REVIEWED ARTICLES

[+]graduate and [§]undergraduate students supervised by Dr. Allen
*corresponding author

16. **Allen JL***, Carey HD[+], Ting LH, Sawers A (2020). Generalization of motor module recruitment across standing reactive balance and walking is associated with beam walking performance in young adults. *Gait & Posture* 82:242-247.
15. Payne AM, Sawers A, **Allen JL**, Stapley PJ, Macpherson JM, Ting LH* (2020). Reorganization of motor modules for standing reactive balance recovery following pyridoxine-induced large-fiber peripheral sensory neuropathy in cats. *Journal of Neurophysiology* 124(3):868-882.
14. Sauder NR, Meyer A, **Allen JL**, Ting LH, Kesar TM, Fregly BJ* (2019). Computational Design of FastFES Treatment to Improve Propulsive Force Symmetry during Post-stroke Gait. *Frontiers in Neurorobotics* doi: 10.3389/fnbot.2019.00080
13. **Allen JL***, Kesar TM, Ting LH (2019). Motor module generalization across balance and walking is impaired after stroke. *Journal of Neurophysiology* 122(1):277-289
12. Hathaway QA, Roth RM, Pinti MV, Sprando DC, Kunovac A, Durr AJ, Cook CC, Fink GK, Cheuvront TB, Grossman JH, Aljahli GA, Taylor AD, Giromini AP, **Allen JL**, Hollander JM* (2019). Machine-learning to startify diabetic patients using novel cardiac biomarkers and integrative genomics. *Cardiovascular Diabetology* 18(1):78.
11. **Allen JL***, Ting LH, and Kesar TM (2018). Gait rehabilitation using functional electrical stimulation induces changes in ankle muscle coordination in stroke survivors: a preliminary study. *Frontiers in Neurology* doi: 10.3389/fneur.2018.01127
10. **Allen JL*** and Franz JR* (2018). The motor repertoire of older adult fallers may constrain their response to balance perturbations. *Journal of Neurophysiology* 120(5): 2368-2378.
9. **Allen JL,** McKay JL, Sawers A, Hackney ME, Ting LH* (2017). Increased neuromuscular consistency in gait and balance after partnered, dance-based rehabilitation in Parkinson's disease. *Journal of Neurophysiology* 188(1): 363-73
8. De Groote F, **Allen JL**, and Ting LH* (2017). Contribution of muscle short-range stiffness to initial changes in joint kinetics and kinematics during perturbations to standing balance: A simulation study. *Journal of Biomechanics* 55:71-77
7. Versteeg CS[§], Ting LH, **Allen JL*** (2016). Hip and ankle responses for reactive balance emerge from varying priorities to reduce effort and kinematic excursion: a simulation study. *Journal of Biomechanics* 49(14):3230-7.

6. Sawers A, **Allen JL**, and Ting LH* (2015). Long-term training modifies the modular structure and organization of walking balance control. *Journal of Neurophysiology* 114:3359-3373.
5. Simpson CS[§], Sohn MH, **Allen JL**, Ting LH* (2015). Feasible muscle activation ranges based on inverse dynamics analyses of human walking. *Journal of Biomechanics* 48(12): 2990-2997.
4. **Allen JL**, Kautz SK, Neptune RR* (2014). Forward propulsion asymmetry is indicative of changes in plantarflexor function during walking in individuals with post-stroke hemiparesis. *Clinical Biomechanics* 29(7): 780-786.
3. **Allen JL**, Kautz SK, Neptune RR* (2013). The influence of merged muscle excitation modules on post-stroke hemiparetic walking performance. *Clinical Biomechanics* 28(6):697-704.
2. **Allen JL** and Neptune RR* (2012). Three-dimensional modular control of human walking. *Journal of Biomechanics* **45**(12):2157-2278.
1. **Allen JL**, Kautz SK, Neptune RR* (2011). Step length asymmetry is representative of compensatory mechanisms used in post-stroke hemiparetic walking. *Gait & Posture* 33(4):538-543.

REVIEW ARTICLES

1. Ting LH*, Chiel HJ, Trumbower RD, **Allen JL**, McKay JL, Hackney ME, Kesar TM (2015). Neuromechanical principles underlying movement modularity and their implications for rehabilitation. *Neuron* 86(1): 28-54.

CHAPTERS

2. **Allen JL** and Ting LH* (2016). "Why is neuromechanical modeling of posture and balance so hard?" in *Neuromechanical Modeling of Posture and Locomotion*, Prilusky B.I. and Edwards, D.H. (eds). Springer, Berlin.
1. Ting LH* and **Allen JL** (2014). "Neuromechanics of Postural Control" in *Encyclopedia of Computational Neuroscience*, Jaeger D., Jung, R. (eds), Springer, Berlin.

CONFERENCE PROCEEDINGS

1. Drnach L, **Allen JL** and Ting LH* (2019). A data-driven predictive model of individual specific effects of FES on human gait dynamics. *International Conference on Robotics and Automation (ICRA),* Montreal, May 2019. [44% acceptance rate]

PRESENTATIONS

INVITED SEMINARS

11. *Multi-behavioral neuromuscular control of balance across health, injury, and disease*. University of Utah, Fino Lab (virtual), October 27, 2020.
10. *Multi-behavioral neuromuscular control of balance across health, injury, and disease*. University of Florida Neuromechanics Seminar Series (virtual), October 23, 2020.
9. *Multi-behavioral neuromuscular control of balance across health, injury, and disease*. The Ohio State University Department of Mechanical Engineering, Columbus, OH. March 6, 2020.
8. *Neuromechanics of Mobility Lab*. West Virginia University Department of Chemical and Biomedical Engineering, Presentation to the Academy of Chemical Engineers, Morgantown, WV. April 5, 2019.
7. *Neuromechanics of Human Movement: Applications for Rehabilitation and Device Design*. West Virginia University Evening of Science, Morgantown, WV. February 6, 2019.
6. *Neuromuscular control of mobility across health, disease, and injury*. Ohio University Department of Chemical and Biomolecular Engineering, Athens, OH. March 5, 2018.
5. *Neuromomechanical approach to identify and improve mobility impairments*. WVU Medicine Rehabilitation

Services Department, Morgantown, WV. August 26, 2017

4. *Neuromechanics of balance and walking contributing to reduced mobility.* Developing a Research Participation Enhancement and Advocacy Training Program for Diverse Seniors (DREAMS) Project, Atlanta, GA. April 4, 2016.
3. *Muscle synergies and altered neural control of movement after surviving a stroke*. Emory University Center for Neurodegenerative Disease, Atlanta, GA. May 26, 2015.
2. *Using neuromechanics to understand gait and balance impairments post-stroke*. Georgia Institute of Technology School of Applied Physiology, Atlanta, GA. November 26, 2014.
1. *Insights into impaired muscular coordination post-stroke using musculoskeletal modeling* Georgia Institute of Technology Department of Biomedical Engineering, Atlanta, GA. March 12, 2012.

INVITED PRESENTATIONS AT NATIONAL AND INTERNATIONAL CONFERENCES

5. 44th Annual Meeting of the American Society of Biomechanics. *Changes in muscle coordination underlying improvements in clinical gait and balance performance after Tango in adults with Parkinson's disease* in: Review of biomechanical evidence characterizing the feasibility and effect of dance-based activity paradigms among individuals with neurotrauma and neurodegeneration. (accepted, but withdrawn due to COVID-19).
4. International Society of Posture and Gait Research 2017 World Congress, Fort Lauderdale, FL. *Recruiting common muscle synergies across walking and balance behaviors is associated with better motor performance in neurologically impaired populations* in: Muscle synergy analysis: a promising tool for diagnosis and evaluation of balance and gait control deficits in people with neurological disorders, June 28, 2017.
3. Neural Control of Movement 26th Annual Meeting, Montego Bay, Jamaica. *Motor improvements with rehabilitation in Parkinson's disease are associated with more consistent neuromuscular control* in: Neural mechanisms of motor skill in health and impairment, April 27, 2016.
2. 7th World Congress of Biomechanics, Boston, MA. *Insights into impaired muscular coordination post-stroke using musculoskeletal modeling* in: Innovative techniques for improving gait: stroke and cerebral palsy, July 11, 2014.
1. 7th World Congress of Biomechanics, Boston, MA. *Muscle synergies organized around producing biomechanical subtasks can produce well-coordinated walking* in: EMG-informed estimates of muscle forces: should we measure or predict EMG?, July 10, 2014.

CONFERENCE ABSTRACTS

+graduate and §undergraduate students supervised by Dr. Allen

33. Carey HD+, **Allen JL** (2020). Young adults recruit similar motor modules across walking, turning, and chair transfers. 44th Annual Meeting of the American Society of Biomechanics, August 4-7, virtual poster presentation.
32. Liss DJ+, **Allen JL** (2020). Young adults can perceive very small locomotor disturbances even when distracted. 44th Annual Meeting of the American Society of Biomechanics, August 4-7, virtual podium presentation.
31. Cohen HN§, McDonald HD+, **Allen JL** (2019). Scaling of muscles in young adults while experiencing external disturbances during sit-to-stand motion. Annual Meeting of the Biomedical Engineering Society. October 16-19, Philadelphia, PA.
30. Phillips MP§, Liss DJ+, **Allen JL** (2019). Perception threshold of external disturbaces to locomotion in healthy young adults. Annual Meeting of the Biomedical Engineering Society. October 16-19, Philadelphia, PA.
29. Liss DJ+, Suffridge J, **Allen JL** (2019). Changes in movement smoothness and muscle activity during different goal-directed reaching tasks. Annual Meeting of the Biomedical Engineering Society. October 16-19, Philadelphia, PA.
28. McDonald HD+, Liss DJ+, **Allen JL** (2019). Muscle synergy timing but not structure affected by cognitive dual-task during timed-up-and-go test. Annual Meeting of the Biomedical Engineering Society. October 16-19,

Philadelphia, PA.

27. Drnach L, **Allen JL**, Essa I, Ting LH (2019). A switched linear dynamical systems framework for modeling individual-specific joint angle trajectories and responses to muscle stimulation during gait. XXVII Congress of the International Society of Biomechanics and 43rd Annual Meeting of the American Society of Biomechanics, July 31-August 3, Calgary, Canada
26. **Allen JL**, Kesar TM, and Ting LH (2018). Motor module generalization across walking and balance is associated with better walking performance post-stroke. *42nd Annual Meeting of the American Society of Biomechanics*, August 8-11, 2018, Rochester, MN.
25. McDonald HD[+] and **Allen JL** (2018). Modular control of the timed up and go test in stroke survivors. *42nd Annual Meeting of the American Society of Biomechanics*, August 8-11, 2018, Rochester, MN.

    - Finalist in the Graduate Student Competition (McDonald)
24. Moore ZM[§], McDonald HD[+], and **Allen JL** (2018). Ankle muscle activity response to perturbations to standing scales with perturbation velocity. *WVU Summer Undergraduate Research Symposium*, July 26, 2018, Morgantown, WV.
23. McDonald HD[+] and **Allen JL** (2018). Modular control of the timed up and go test in stroke survivors. *American Society of Biomechanics East Coast Regional Meeting*, April 21, 2018, Reading, PA.
22. **Allen JL**, Thompson JD, Franz JR (2017). Aging and falls history effects on the modular control of walking with optical flow perturbations. *41st Annual Meeting of the American Society of Biomechanics*, August 9-11, 2017, Boulder, CO.
21. **Allen JL,** Kesar TM, and Ting LH (2016). Evaluating the effects of gait rehabilitation on post-stroke muscle coordination. *40th Annual Meeting of the American Society of Biomechanics,* August 2-5, 2016, Raleigh, NC.
20. Sawers A, **Allen JL**, and Ting LH (2016). Changes in muscle activity not kinematics precede a loss of balance. *40th Annual Meeting of the American Society of Biomechanics,* August 2-5, 2016, Raleigh, NC.
19. **Allen JL**, Sawers A, and Ting LH (2016). The same library of muscle synergies are shared across diverse locomotor tasks. *XXI International Society of Electrophysiology and Kinesiology Congress*, July 5-8, Chicago, IL.
18. Sawers A, **Allen JL**, and Ting LH (2016). Long-term training modifies the modular structure and organization of walking balance control. *Biomechanics and Neural Control of Movement Meeting*, June 12-17, Mt. Sterling, OH.
17. De Groote F, **Allen JL**, and Ting LH (2016). Muscle short-range stiffness explains inverse dynamics joint torques during early perturbed standing. *Biomechanics and Neural Control of Movement Meeting*, June 12-17, Mt. Sterling, OH.
16. **Allen JL,** Kesar TM, and Ting LH (2016). Evaluating the effects of gait rehabilitation on post-stroke muscle coordination. *Biomechanics and Neural Control of Movement Meeting*, June 12-17, Mt. Sterling, OH.
15. **Allen JL** and Ting LH (2015). Recruiting common muscle synergies across balance and walking may be associated with better walking performance post-stroke. *Neural Control of Movement 25th Annual Meeting*, April 20-24, 2015, Charleston, SC.
14. Payne AM, Sawers A, **Allen JL,** Macpherson JM, and Ting LH (2015). Redundant levels of modular control revealed by peripheral sensory loss. *Neural Control of Movement 25th Annual Meeting*, April 20-24, 2015, Charleston, SC.
13. **Allen JL**, McKay JL, Hackney ME, and Ting LH (2014). Recruitment of subcortical muscle synergies during balance and walking in individuals with Parkinson's disease can be improved through rehabilitation. *Society for Neuroscience Annual Meeting*, November 15-19, 2014. Washington D.C.
12. Versteeg CS[§], Ting LH, and **Allen JL** (2014). Hip and ankle responses for reactive balance emerge from task-level control of trunk and center-of-mass kinematics: a simulation study. *Society for Neuroscience Annual Meeting*, November 15-19, 2014. Washington D.C.
11. **Allen JL**, McKay JL, and Ting LH (2014). Rehabilitation improves motor generalization of muscle synergies

across balance and walking in individuals with Parkinson's disease. *7th World Congress of Biomechanics*, July 6-11, 2014, Boston, MA.

10. Simpson C[§], Sohn MH, **Allen JL**, and Ting, L.H. (2014). Feasible ranges of muscle activation quantify musculoskeletal redundancy in human walking. *7th World Congress of Biomechanics*, July 6-11, Boston, MA.

    - 3rd place in Best Undergraduate Student Poster Competition (Simpson)

9. **Allen JL**, Kautz SK, and Neptune RR (2013). Changes in motor module organization affect biomechanical output during post-stroke hemiparetic walking. *Neural Control of Movement 23rd Annual Meeting*, April 16-20, San Juan, Puerto Rico.
8. **Allen JL**, Kautz SK, and Neptune RR (2012). The influence of merged muscle excitation modules on post-stroke hemiparetic walking performance. *36th Annual Meeting of the American Society of Biomechanics*, August 15-19, Gainesville, FL.
7. **Allen JL**, Kautz SK, and Neptune RR (2011). Modular control of walking: a 3D simulation study. *35th Annual Meeting of the American Society of Biomechanics*, August 10-13, Long Beach, CA.
6. **Allen JL**, Kautz SK, and Neptune RR (2011). Step length asymmetry is indicative of compensatory mechanisms used to overcome plantarflexor weakness in post-stroke hemiparetic gait. *XXIII Congress of the International Society of Biomechanics,* July 3-7, Brussels, Belgium.
5. **Allen JL**, Kautz SK, and Neptune RR (2011). Modular control of mediolateral ground reaction forces during walking. *XXIII Congress of the International Society of Biomechanics,* July 3-7, Brussels, Belgium.
4. **Allen JL**, Kautz SK, and Neptune RR (2011). Individual muscle contributions to propulsion differs between post-stroke hemiparetic subjects. *13th International Symposium on Computer Simulation in Biomechanics,* June 30-July 2, Lueven, Belgium.
3. **Allen JL**, Kautz SK, and Neptune RR (2010). Muscle contributions to propulsion in post-stroke hemiparetic subjects following locomotor training. *34th Annual meeting of the American Society of Biomechanics*, August 18-21, Providence, RI.
2. **Allen JL**, Bowden MG, Kautz SK, and Neptune RR (2008). Mechanisms underlying increased walking speed after rehabilitation in persons with post-stroke hemiparesis. *North American Congress on Biomechanics,* August 5-9, 2008, Ann Arbor, MI.
1. **Allen JL**, Kautz SK, and Neptune RR (2008). Identifying factors to increase paretic propulsion post-rehabilitation: a case study. *Annual Houston Conference on Biomedical Engineering Research,* February, Houston, TX.

PROFESSIONAL SERVICE

DEPARTMENT OF CHEMICAL AND BIOMEDICAL ENGINEERING, WVU

Biomedical Engineering Graduate Program Committee, Spring 2017 – Present
Biomedical Engineering Graduate Admissions Committee, Spring 2018 – Present
CBE Seminar Series Faculty Co-Coordinator, Fall 2019 – Spring 2020

BENJAMIN M. STATLER COLLEGE OF ENGINEERING AND MINERAL RESOURCES, WVU

Guest Speaker, First Year Engineering Panel of Practicing Engineers, Fall 2018
Guest Speaker, Engineering Challenge Camps, Summer 2019

WEST VIRGINIA UNIVERSITY

Ad-hoc Grant Reviewer, West Virginia CTSI, Spring 2018, Spring 2020
Ad-hoc Grant Reviewer, Rockefeller Neuroscience Institute, Spring 2018
Goldwater Review Panel, Fall 2018, Fall 2019

SERVICE TO THE FIELD

Manuscript Reviewer

Clinical Biomechanics, Journal of Biomechanics, Journal of Applied Biomechanics, Journal of Biomechanical Engineering, Journal of NeuroEngineering and Rehabilitation, Journal of Neurophysiology, Gait & Posture, PeerJ, PLOS ONE, Neurorehabilitation and Neural Repair, Scientific Reports, Transactions on Neural Systems and Rehabilitation Engineering

Conference Abstract Review Committee

American Society of Biomechanics Annual Meeting, 2015, 2017, 2020

Conference Session Chair

Technical Group on Computer Simulation Session, 23rd Congress of the International Society of Biomechanics, Brussels, Belgium, July 6, 2011
Clinical Applications of Muscle Synergies at XXI International Society of Electrophysiology and Kinesiology Congress, Chicago, IL, July 8, 2016
Standing session at 42nd Annual Meeting of the American Society of Biomechanics, August 10, 2018
Locomotion I session at 44th Annual Meeting of the American Society of Biomechanics, virtual, August 5, 2020

Early Career Faculty Professional Development Event at 44th Annual Meeting of the American Society of Biomechanics, virtual, August 6, 2020

Grant Reviewer

Remote Expert Reviewer for Swiss National Science Foundation, 2017, 2018
Early Career Reviewer for NIH, 2020
Reviewer for NSF, 2020

Other

American Society of Biomechanics Young Faculty Affinity Group, Founding Member, 2019 - Present
American Society of Biomechanics Student-Faculty Mentorship Program, 2019, 2020

SOCIETY MEMBERSHIPS

American Society of Biomechanics (2008 – present)
American Society for Engineering Education (2017 – present)
Biomedical Engineering Society (2019 – present)