

**ZHENG WANG, PH.D.**  
**CURRICULUM VITAE**

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**ADDRESS**

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**EDUCATION**

2008-2013	Ph.D.	The Pennsylvania State University, State College, PA, USA Department of Kinesiology
2005-2008	M. S.	Capital Institute of Physical Education, Beijing, China Department of Psychology
2000-2005	M.D.B.S	Capital Medical University, Beijing, China School of Medicine

**ACADEMIC EMPLOYMENT**

2021-Present	Assistant Professor	Department of Applied Physiology and Kinesiology College of Health and Human Performance University of Florida
2018-2021	Assistant Professor	Department of Occupational Therapy College of Public Health and Health Professions University of Florida
2016-2018	Research Assistant Professor	Department of Applied Behavioral Science Schiefelbusch Institute for Lifespan Studies and Clinical Child Psychology Program Kansas Center for Autism Research and Training (K-CART) University of Kansas
2015-2016	Post-doctoral Fellow	Department of Applied Behavioral Science Schiefelbusch Institute for Lifespan Studies and Clinical Child Psychology Program Kansas Center for Autism Research and Training (K-CART) University of Kansas
2013-2015	Post-doctoral Fellow	Center for Autism and Developmental Disabilities (CADD) University of Texas Southwestern Medical Center

## RESEARCH

### NEUROCOGNITIVE AND BEHAVIORAL DEVELOPMENT LABORATORY



**Laboratory Mission:** Our laboratory strives to be the pioneer in understanding neurophysiological mechanisms underlying sensorimotor and neurocognitive issues in individuals with intellectual and developmental disabilities (IDD) across the lifespan. Our laboratory employs a range of systems neuroscience approaches, including structural and functional magnetic resonance imaging (MRI), electroencephalography (EEG), electromyography (EMG), and kinetic and kinematic movement analyses to identify behavioral, brain, and neurobiological markers for diseases with the goals of informing diagnosis, predicting risk of comorbid conditions, and monitoring progression. Our team promotes multidisciplinary collaboration focused on health diversity and disparity.

### PUBLISHED MANUSCRIPTS (H-index 16, i10-index 19)

Corresponding author is italic.

Graduate students are noted with a \*.

Postdoctoral trainees are noted with a #.

Graduate professional degree students are noted with a ^.

Undergraduate students are underlined.

1. *Wang, Z., & Mosconi, M. W. (2023).* Editorial: Aging with neurodevelopmental disorders (NDD). *Frontiers in Integrative Neuroscience* 17:1167014.
2. Fietsam, A. C., Tucker, J. R., Kamath, M. S., Huang-Pollock, C., **Wang, Z.**, Neely, K. A. (2022). Manual dexterity and strength in young adults with and without attention-deficit/hyperactivity disorder (ADHD). *Neuroscience Letters*, 766, 136349.
3. Lepping, R. J., McKinney, W. S., Magnon, G. C., Keedy, S., **Wang, Z.**, Coombes, S. A., Vaillancourt, D. E., & Sweeney, J. A., Mosconi, M. W. (2021). Visuomotor brain network activation and functional connectivity among individuals with autism spectrum disorder. *Human Brain Mapping*, 43 (2), 1-16.
4. Shafer, R.L., **Wang, Z.**, Bartolotti, J., & Mosconi, M. W. (2021). Visual and somatosensory feedback mechanisms of precision manual motor control in autism spectrum disorder. *Journal of Neurodevelopmental Disorders*, 13(1), 1-17.
5. **Wang, Z.**, Lane, C., Terza, M., McKinney, W., Khemani, P., Lui, S., Mosconi, M. (2021). Upper and lower limb movement kinematics in aging FMR1 gene premutation carriers. *Brain Sciences*, SI: Sensory, Motor and Cognitive Alterations in Autism, 11,13.
6. Bojanek, E. K., **Wang, Z.**, White, S. P., Mosconi, M. W. (2020). Postural control processes during standing and step initiation in autism spectrum disorder. *Journal of Neurodevelopmental Disorders*, 12 (1), 1-13.
7. McKinney, W.S., **Wang, Z.**, Kelly, S., Khemani, P., Lui, S., White, S. P., Mosconi, W. M. (2019). Precision sensorimotor control in aging FMR1 gene premutation carriers, *Frontiers in Integrative Neuroscience*, 13,56.
8. **Wang, Z.**, Wang, Y., Sweeney, J. A., Lui, S., Mosconi, M. W. (2019). Resting-state network dysfunctions associated with visuomotor impairments in autism spectrum disorder (ASD). *Frontiers in Integrative Neuroscience*, 13, 17. Selected as the *Frontiers in Integrative Neuroscience* Editor's Pick 2021 collection.
9. **Wang, Z.**, Schmitt, L. M., Khemani, P., Lui, S., Mosconi, M. W. (2019). Static and dynamic postural control deficits in aging fragile x mental retardation 1 (FMR1) gene premutation carriers. *Journal of Neurodevelopmental Disorders*, 11 (1), 1-13.
10. Park, S-H., **Wang, Z.**, McKinney, W., Khemani, P., Lui, S., Christou, E. A., Mosconi, M. W. (2019). Functional motor control deficits in older FMR1 premutation carriers. *Experimental Brain Research*, 237 (9), 2269-2278.
11. **Wang, Z.**, Kwon, M., Mohanty, S., Schmitt, L., Christou, E. A., Mosconi, M. W. (2017). Increased Force Variability Is Associated with Altered Modulation of the Motorneuron Pool Activity in Autism Spectrum

- Disorder (ASD). *International Journal of Molecular Sciences SI: The Identification of the Genetic Components of Autism Spectrum Disorders* 2017, 18, 698.
12. King, A. C., **Wang, Z.** (2017). Asymmetrical stabilization and mobilization exploited during static single leg stance and dynamic goal directed kicking. *Human Movement Science*, 54: 182-190.
  13. **Wang, Z.**, Hallac, R. R., Conroy, K. C., White, S. P., Kane, A. A., Collinsworth, A. L., Mosconi, M. W. (2016). Postural orientation and equilibrium processes associated with increased postural sway in autism spectrum disorder (ASD). *Journal of Neurodevelopmental Disorders*, 8(43): 17.
  14. Neely, K. A., Mohanty, S., Schmitt, L. M., **Wang, Z.**, Sweeney, J. A., Mosconi, M. W. (2016). Motor memory deficits contribute to motor impairments in autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 49 (7), 2675-2684.
  15. Mosconi, M. W., **Wang, Z.**, Schmitt, L. M., Tsai, P., Sweeney, J. A. (2015). The role of cerebellar circuitry alternations in the pathophysiology of autism spectrum disorders. *Frontiers in Neuroscience (Systems Biology)*, 9: 296.
  16. Ko, J. H., **Wang, Z.**, Challis, J. H., Newell, K. M. (2015). Compensatory mechanisms of balance to the scaling of arm-swing frequency. *Journal of Biomechanics*, 48:3825-3829.
  17. **Wang, Z.**, Magnon, G. C., White, S. P., Greene, R. K., Vaillancourt, D. E., Mosconi, M. W. (2015). Individuals with autism spectrum disorder (ASD) show abnormalities during initial and subsequent phases of precision gripping. *Journal of Neurophysiology*, 113: 1989-2001.
  18. **Wang, Z.**, Newell, K. M. (2014). Inter-foot coordination dynamics in quiet standing postures. *Neuroscience and Biobehavioral Reviews*, 47, 194-202.
  19. **Wang, Z.**, Molenaar, P. C. M., Newell, K. M. (2014). The inter- and intra-foot coordination when standing on balance boards. *Motor Control*, 18, 165-183.
  20. **Wang, Z.**, Molenaar, P. C. M., Challis, J. H., Jordan, K., Newell, K. M. (2014). Visual information and multi-joint coordination patterns in one-leg stance. *Gait Posture*, 39, 909-914.
  21. **Wang, Z.**, Ko, J. H., Challis, J. H., Newell, K. M. (2014). The degrees of freedom problem in human standing posture: Collective and component dynamics. *Plos One*, 9(1): e85414.
  22. Molenaar, P.C.M., **Wang, Z.**, Newell, K. M. (2013). Compressing movement information via principal components analysis (PCA): contrasting outcomes from the time and frequency domains. *Human Movement Science*, 32, 1495-1511.
  23. **Wang, Z.**, Molenaar, P.C.M., Newell, K. M. (2013). The effects of foot position and orientation on inter- and intra-foot coordination in standing postures: a frequency domain PCA analysis. *Experimental Brain Research*, 230, 15-27.
  24. **Wang, Z.**, Newell, K. M. (2013). Footedness exploited as a function of postural task asymmetry. *Laterality: Asymmetries of Body, Brain and Cognition*, 18, 303-318.
  25. **Wang, Z.**, Newell, K.M. (2012). Asymmetry of foot position and weight distribution channels the inter-leg coordination dynamics of standing. *Experimental Brain Research*, 222, 333-344.
  26. **Wang, Z.**, Jordan, K., Newell, K. M. (2012). Coordination patterns of foot dynamics in the control of upright standing. *Motor Control*, 16, 425-443.
  27. King, A. C., **Wang, Z.**, Newell, K. M. (2012). Asymmetry of recurrent dynamics as a function of postural stance. *Experimental Brain Research*, 220, 239-250.
  28. **Wang, Z.**, Newell, K. M. (2012). Phase synchronization of foot dynamics in quiet standing. *Neuroscience Letters*, 507, 47-51.

#### MANUSCRIPT UNDER REVIEW (1)

1. Wang, J.#, Christensen, D., Coombes, S. A., **Wang, Z.** (under review). Cognitive and brain morphological changes in middle-to-old aged autistic adults: A systematic review and meta-analysis. *Neuroscience & Biobehavioral Reviews*

#### MANUSCRIPTS IN PREPARATION (6)

1. Shin, Y.S.<sup>#</sup>, Christensen, D., Wang, J.<sup>#</sup>, Shirley, D. J., Orlando, A-M., Romero, R.A., Kamakar, B. K., Vaillancourt, D. E., Coombes, S.A., **Wang, Z.** Transcallosal white matter and cortical gray matter variations in autistic adults ages 30-73 years: A bi-tensor free water imaging approach.
2. Simpson, J. P.\* , Wang, J.<sup>#</sup>, Terza, M., Shirley, D. J., McKinney, W., White, S., Orlando, A-M., Romero, R. A. Karmakar, B., Mosconi, M. W., **Wang, Z.** A composite variability score approach in exploring gait development in autistic individuals ages 4-35 years.
3. Shirley, D.J., Wang, J.<sup>#</sup>, Gemmell, H, Orlando, AM, Romero, R.A, **Wang, Z.** Postural control variations in autistic adults aged 30-73 years.
4. Shafer, R. L., **Wang, Z.**, Mosconi, M. W. Influence of vision and proprioception on motor control in ASD.

## RESEARCH SUPPORT

### Funded

**1R01AG086493**

**Wang, Z (PI)**

**05/01/2024-04/30/2029**

NIH/ NIA

TC: \$ 3,350,797

Quantification of neurocognitive, brain, and blood biomarkers of dementia in mid-to-older aged autistic adults

Autistic adults are more vulnerable to developing cognitive decline and early-onset dementia than the general population as they age. This study aims to uniquely quantify dementia-sensitive neurocognitive, brain, and plasma markers in middle-aged autistic adults (40-65 years) to reveal pathophysiological mechanisms underlying prodromal dementia in autism spectrum disorder (ASD). The proposed studies will provide fundamental insights into the dementia pathophysiology in ASD to inform screening, diagnosis, therapeutic plans, and monitoring strategies.

**1R01NS121120**

**Wang, Z (PI)**

**05/01/2021-04/30/2026**

NIH/NINDS

DC: \$1,874,101

Cerebellar and basal ganglia markers underlie neuromotor impairments in adults with autism spectrum disorder (ASD)

Adults with ASD are highly susceptible to neurodegenerative diseases. The goal of this study is to uniquely identify functional and structural changes in cerebellum and basal ganglia and their contributions to neuromotor impairments in adults with ASD. The proposed studies will provide fundamental insights into the aging process in ASD to inform diagnosis, management, and monitoring strategies.

**The Fixel-AI Genius Imaging Pilot Program**

**Zielinski, B (PI)**

**08/01/2023-07/31/2024**

Department of Neurology/UF

Brain network architecture of neuromotor function in autism: exploring a novel parkinsonian subphenotype

Describe and characterize a distinct parkinsonian subphenotype of autism spectrum disorder by linking structural network architecture (scMRI) and functional network architecture (fcMRI) with individual-specific item-level neuromotor performance and neurobehavioral data.

Role: Co- Investigator

### Under Review

**1R01NS140536-01**

**Coombes, S & Wang, Z (M-PI)**

**02/06/2024**

NINDS

TDC: \$ 1,543,183

Brain markers of pain sensitivity in middle-aged autistic adults

The prevalence of pain is high (60-75%) in middle-aged (40-60 yrs) autistic individuals, but most autistic adults do not receive appropriate treatment and care for their pain. The proposed study will identify the brain markers that underlie pain

sensitivity in middle-aged autistic adults. This is a critical first step towards developing brain-based pain biomarkers for non-verbal autistic individuals for whom social communication and self-reporting introspective sensations is challenging.

**PA-22-243**

**Pickle, N (PI)**

**01/01/2023-12/31/2024**

**NICHD**

A Musculoskeletal Simulation Framework For In Silico Design And Optimization Of A Soft Exosuit For Children With Muscular Dystrophy

Duchenne muscular dystrophy is a devastating genetic disease that primarily affects males and causes progressive muscle degeneration, which can be exacerbated by eccentric muscle contractions during movements of daily living. This research effort aims to leverage musculoskeletal simulations to design an assistive exosuit specifically created to minimize eccentric contraction in leg muscles during locomotor activities.

Role: Co-Investigator

**1K01MH137518-01**

**Shafer, R (PI)**

**10/6/2023**

**NIMH**

Multi-modal sensory feedback mechanisms of fine and gross motor control in autism spectrum disorders

Dr. Robin Shafer's K01 application submitted from the University of Kansas

Role: Co-Mentor

### **Previous Support**

**APK Research Investment Grants**

**Wang, Z (PI)**

**11/01/2022-10/31/2023**

Department of Applied Physiology and Kinesiology/UF

TDC: \$30,000

Brain neurophysiology to experimental pain in middle-aged autistic adults

Pain is a critical health disparity in middle-aged autistic adults that demands immediate research and clinical attention. This application will apply an innovative augmentative and alternative communication tool to achieve unbiased self-reporting of pain while using objective neural pain signatures to quantify functional brain activity in attentional and sensorimotor networks during experimental pain in 40-60 yr old autistic adults. The proposed studies will provide foundational insights into pain neurophysiology to pave the way for improved diagnosis, targeted treatments, and pain management in autistic adults.

**1R21AG065621-01A1**

**Wang, Z (PI)**

**09/30/2020-08/31/2022**

NIH/NIA

TDC: \$150,000

Cerebellar and basal ganglia contributions to neuromotor issues in adults with autism spectrum disorder (ASD)

ASD is a lifelong condition. Adults with ASD are more vulnerable for developing degenerative diseases. This project examines neuromotor impairments associated with neurodegeneration in ASD.

**UF CTSI Pilot Project Award**

**Wang, Z (PI)**

**01/01/2020-06/30/2021**

Clinical and Translational Science Institute

TDC: \$20,000

Novel pediatric friendly approaches to the assessment of masticatory ability in children with and without autism spectrum disorder (ASD)

This pilot project examines novel, precise and pediatric friendly measures to quantify masticatory performance (i.e., bite force), efficiency (i.e., bolus preparation), and oral morphological deficits contributing to maladaptive feeding behaviors in ASD. These studies will allow us to examine the role of oromotor alterations on feeding difficulties in autistic children with (ASD+) and without (ASD-) feeding disorders relative to typically developing controls.

**PJMR0022103T**

**Powell, C (PI)**

**09/01/2016-08/31/2018**

Novartis Pharmaceuticals Corporation

TDC: \$ 225,200

## Neurophysiological Biomarkers Associated with Phelan-McDermid (22q13) Syndrome

This PI-initiated award aims to identify clinical biomarkers associated with PhelanMcDermid Syndrome (PMS) – a rare genetic condition caused by loss-of-function deletions/mutations of the SHANK3 gene on chromosome 22q13. Novel and translational EEG and motor physiology studies are planned to identify neurophysiological mechanisms associated with PMS that can be used as endpoints in future clinical trials.

Role: Co-Investigator

**5U54HD090216**

**Colombo, J (PI)**

**09/22/2016– 05/31/2021**

NIH/NICHHD

Kansas Intellectual & Developmental Disabilities Research Center (KIDDRC)

This U54 autism centers of excellence award aim to provide core support for multi-disciplinary research on intellectual and developmental disabilities research across the KU Lawrence and KU Medical Center campuses. The overarching goal of the supported research is to determine the causes and better approaches to the prevention of intellectual and related developmental disabilities.

Role: Project Manager, Clinical Outcomes Core

**R01MH112734-01**

**Mosconi, M (PI)**

**07/01/2017– 05/31/2022**

NIH/NIMH

TDC: \$ 1,824,781

Motor Abnormalities and Functional Brain Mechanisms in Autism Spectrum Disorder

This five-year R01 study identifies the distinct neural processes underlying rapid, repetitive sensorimotor abnormalities and deficits in controlling continuous motor output. Novel functional magnetic resonance imaging (fMRI) and motor physiology tests will be conducted to examine cerebellar-cortical and striatal-cortical brain function and their relation to sensorimotor abnormalities in ASD from late childhood to adulthood.

Role: Co-Investigator

### **Publication Funds**

2017 One-University Open Access Fund, University of Kansas  
2016 One-University Open Access Fund, University of Kansas

### **Travel Funds**

2019 Travel Awards for Research Grant Enhancement (TARGET), College of Public Health and Health Profession, University of Florida  
2013 Travel grant for Society for Neuroscience annual conference, Department of Kinesiology, Pennsylvania State University  
2012 Travel grant for Society for Neuroscience annual conference, Department of Kinesiology, Pennsylvania State University  
2011 Travel grant for Progress in Motor Control VIII, Department of Kinesiology, Pennsylvania State University  
2011 Travel grant for NASPSPA annual conference, Department of Kinesiology, Pennsylvania State University  
2010 Travel grant for NASPSPA annual conference, Department of Kinesiology, Pennsylvania State University  
2010 Travel grant for Society for Neuroscience annual conference, Department of Kinesiology, Pennsylvania State University

## **ACADEMIC AWARD AND HONORS**

2023	2023 Excellence Award for Assistant Professor
2020	2020 Dean's Citation Paper Award for the Outstanding Publication, College of Public Health and Health Professions, UF

## REFEREED ORAL PRESENTATIONS (4)

- Wang, Z.**, & Kreider C. The effect of oromotor deficits on maladaptive feeding behaviors in children with autism spectrum disorder (ASD). Presented at the UF Sandra Edwards Colloquium (February 2020). Gainesville, Florida.
- McKinney W. S., **Wang Z.**, Park S. H., Christou, E. A., Mosconi, M. W. Precision sensorimotor control in aging FMR1 premutation carriers. Presented at the Midwest Fragile X Research Exchange (February 2019). Madison, Wisconsin.
- Mosconi M. W., Unruh, K., Lepping, R., Wang, Y., Schmitt, L. M., **Wang, Z.**, Lui, S., Vaillancourt, D. E., Sweeney, J. A. Visuomotor behavior and its functional neuroanatomy in ASD. Presented at the International Meeting for Autism Research (IMFAR) annual conference. (May 2018). Rotterdam, Netherlands.
- King, A. C., Gatteys, T., **Wang, Z.** Asymmetrical balance control during a simple kicking movement. Presented at the North American Society for the Psychology of Sport and Physical Activity (NASPSPA) annual meeting. (June 2015). Portland, Oregon.

## SYMPOSIA (1)

- Wang, Z.**, Khemani, P., Schmitt, L.M., Lui, S. Mosconi, M. W. (April 2019). Static and dynamic postural control deficits in aging fragile X mental retardation 1 (FMR1) gene premutation carriers. In Shaffer, R. (Chair), Hessler, D. (Discussant), Novel Approach for the Development of Translational Biomarkers and Treatment Outcomes in Neurodevelopmental Disorders: Case Examples in Fragile X Syndrome and Related Disorders. Symposium conducted at the 52<sup>nd</sup> Annual Gatlinburg Conference, San Antonio, Texas.

## REFEREED POSTER PRESENTATIONS

Corresponding author is italic.

Graduate students are noted with a \*.

Postdoctoral trainees are noted with a #.

Graduate professional degree students are noted with a ^.

Undergraduate students are underlined.

- Shin, Y., Coombes, S.A., Orlando, A.M., Romero, R.A., Shirley, D., Vaillancourt, D. E., & **Wang, Z.** Age effects in microstructure of white and grey matter in middle-aged and older adults with autism and neurotypical adults. Poster presentation at Society for Neuroscience (SfN) Neuroscience 2024; Oct 5-9; Chicago.
- Gemmell, H. M., Shirley D., Wang, J. #, Orlando, A-M., Romero, R., **Wang, Z.** Static and dynamic postural control deviations in autistic adults ages 30-73 years. (October 2024). Poster presentation at Society for Neuroscience (SfN) Neuroscience 2024; Oct 5-9; Chicago IL.
- Christensen, D., Wang, J.#, Coombes, S. A., **Wang, Z.** Psychophysiological quantifications of pain experience in autistic individuals: a systematic literature review and meta-analysis. (October 2024). Poster presentation at Society for Neuroscience (SfN) Neuroscience 2024; Oct 5-9; Chicago IL.
- Shafer, R. L., **Wang, Z.**, Unruh, K., Bojanek, E., McKinney, W., Mosconi, M. W. Age-dependent patterns of atypical precision manual motor control in autistic individuals with and without intellectual disabilities. (April 2024). Poster presentation at the 55<sup>th</sup> Gatlinburg Conference, Kansas City, Kansas.
- Shafer, R. L., **Wang, Z.**, Unruh, K., Bojanek, E., McKinney, W., Mosconi, M. W. Age-dependent patterns of atypical precision manual motor control in autistic individuals with and without intellectual disabilities.

- (November 2023). Poster presentation at Society for Neuroscience (SfN) Neuroscience 2023; 2023 Nov 11-15; Washington, DC.
- Shin, Y\*, Coombes, SA, Orlando, AM, Romero, RA, Shirley, D, Vaillancourt, DE, & **Wang, Z.** Diffusion magnetic resonance imaging in autistic adults: Linking free-water to clinical severity and cognitive function. Poster presentation at Society for Neuroscience (SfN) Neuroscience 2023; 2023 Nov 11-15; Washington, DC.
- Wang, J#, Christensen, D., Coombes, S, & **Wang, Z.** A meta-analysis for exploring dementia-associated cognitive dysfunctions and brain morphological changes in middle-to-old aged autistic adults. Poster accepted at Society for Neuroscience (SfN) Neuroscience 2023; 2023 Nov 11-15; Washington, DC.
- Simpson, J\*, Wang, J#, Terza, M, Palmero, M., Shirley, DJ^, McKinney, WS, Orlando, AM, Romero, R, Karmakar, B, Cauraugh, J., Mosconi, MW & **Wang, Z.** Gait variations in autism spectrum disorder across the lifespan. Poster accepted at Society for Neuroscience (SfN) Neuroscience 2023; 2023 Nov 11-15; Washington DC.
- Driggers, AJ, Shafer, R, Bartolotti, J, Bojanek, E, **Wang, Z.**, & Mosconi, MW. Developmental trajectory of visual feedback utilization and visual motor memory in autism spectrum disorder. Poster accepted at Society for Neuroscience (SfN) Neuroscience 2023; 2023 Nov 11-15; Washington, DC.
- Shafer, R. L., Bartolotti J., Bojanek E., **Wang, Z.**, Mosconi, M. W. Visual feedback and visual motor memory contributions to sensorimotor impairments in autism spectrum disorder. (April 2023). The 54<sup>th</sup> Gatlinburg Conference, Kansas City, Kansas.
- Shafer, R. L., Bartolotti J., Bojanek E., **Wang, Z.**, Mosconi, M. W. Visual feedback and visual motor memory contributions to sensorimotor impairments in autism spectrum disorder. International Meeting for Autism Research (IMFAR) annual conference. (May 2023). Stockholm, Sweden.
- Shafer, R. L., **Wang, Z.**, Karmakar, B., & Mosconi, M. W. Visual and proprioceptive feedback mechanisms of fine and gross motor control in ASD. International Meeting for Autism Research (IMFAR) annual conference. (May 2022). Austin, TX.
- Wang, Z.**, Coombes, S.A., Vaillancourt, D.E., Shirley, D.J., Valcante, G., Orlando, A-M., Romero, R.A., Karmakar, B., Wagle Shukla, A. A., Mosconi, M.W. Atypical cortical and subcortical brain activation associated with precision visuomotor control in autistic adults. International Meeting for Autism Research (IMFAR) annual conference. (May 2022). Austin, TX.
- Shafer, R.L., **Wang, Z.**, Karmakar, B., Mosconi, M.W. Visual and Proprioceptive Feedback Mechanisms of Fine and Gross Motor Control in ASD. Autism Across the Life Span Conference. (April 2022). University of Kansas. Overland Park, KS.
- Shirley, D.J., Shafer, R.L., McKinney, W.S., Karmakar, B., Mosconi, M.W., **Wang, Z.** Effects of visual and proprioceptive inputs on postural stability in individuals with autism spectrum disorder (ASD). Society for Neuroscience (SfN) annual conference (November 2021). Chicago, IL.
- Shirley, D.J., Karmakar, B., Mosconi, M.W., Wang, Z. Effects of visual and proprioceptive inputs on postural stability in individuals with autism spectrum disorder (ASD). 5<sup>th</sup> Annual Diversity Graduate Research Symposium. (November 2021). Gainesville, FL.
- Wang, Z.**, Coombes, S.A., Vaillancourt, D.E., Shirley, D.J., Valcante, G., Orlando, A-M., Romero, R.A., Karmakar, B., Wagle Shukla, A. A., Mosconi, M.W. Atypical cortical and subcortical brain activation associated with precision visuomotor control in autistic adults. Society for Neuroscience (SfN) annual conference (November 2021). Chicago, IL.
- Vollmer, C.^., Davis, U.^., Dolce, C., Davenport, P., **Wang, Z.** Novel pediatric friendly approaches to the assessment of masticatory ability in children with and without autism spectrum disorder (ASD). Florida Occupational Therapy Association Annual Conference (November 2020). Orlando, FL.
- Wang, Z.**, Chen, J., In, E., McKinney, W., Li, Z., Mosconi, M. Differential utilization of visual and proprioceptive information for postural control stability in individuals with autism spectrum disorder (ASD). 1<sup>st</sup> Annual Center for Neuroscience Symposium & Retreat at Auburn University (February 2020). Auburn, AL.
- In, E., Chen, J., Li, Z., McKinney, W., Mosconi, M., **Wang, Z.** Interactive effect of visual and proprioceptive disturbance to the control of postural stability in individuals with autism spectrum disorder (ASD). The 2020 College of Medicine Research Poster Session (February 2020). Gainesville, FL.



- Shafer, R. L., **Wang, Z.**, Mosconi, M. W. Influence of vision and proprioception on motor control in ASD. Translational Science annual conference. (April 2020). Washington, DC.
- Shafer, R. L., **Wang, Z.**, Mosconi, M. W. Influence of vision and proprioception on motor control in ASD. International Meeting for Autism Research (IMFAR) annual conference. (May 2020). Seattle, Washington.
- In, E., Chen, J., Li, Z., McKinney, W., Mosconi, M., **Wang, Z.** Interactive effect of visual and proprioceptive disturbance to the control of postural stability in individuals with autism spectrum disorder (ASD). Florida Occupational Therapy Association Annual Conference (November 2019). Orlando, FL.
- Mosconi, M.W., McKinney, W., Unruh, K., **Wang, Z.** Precision visuomotor issues and functional brain correlates of Fragile X associated tremor/ataxia syndrome (FXTAS). The 4<sup>th</sup> International Conference on FMR1 premutation: basic mechanisms, clinical involvement and therapy (September 2019). Rotterdam, Netherlands.
- Wang, Z.**, Chen, J., In, E., McKinney, W., Li, Z., Mosconi, M. Differential utilization of visual and proprioceptive information for postural control stability in individuals with autism spectrum disorder (ASD). Society for Neuroscience (SfN) annual conference (October 2019). Chicago, IL.
- McKinney, W.S., Unruh, K.E., **Wang, Z.**, Mosconi, WM. Precision Sensorimotor Control and Neurophysiology in Aging FMR1 Premutation Carriers. International Meeting for Autism Research (IMFAR) annual conference. (May 2019). Montreal, Canada.
- Park, S-H., **Wang, Z.**, McKinney, W. S., Christou, E. A., Mosconi, M. W. Functional motor control deficits in fragile X mental retardation 1 gene premutation carriers. The American College of Sports Medicine (ACSM) annual conference (May 2019), Orlando, FL.
- Unruh, K. E., Schmitt, L. M., **Wang, Z.**, Martin, L., Fox, A., & Mosconi, M. W. Functional brain mechanisms of sensorimotor control in individuals with autism spectrum disorder. Society for Neuroscience (SfN) annual conference (November 2018), San Diego, CA.
- Bojanek, E.K., **Zheng, W.**, Mosconi, M.W. Postural control processes during static and dynamic activities in autism spectrum disorder. The National Conference in Clinical Child and Adolescent Psychology (October 2018). Kansas City, Missouri.
- McKinney, W.S., Unruh, K.E., **Wang, Z.**, Schmitt, L.M., Bushong, M., Mosconi, WM. Neurophysiological processes of precision motor control in aging Fragile X premutation carriers. The National Conference in Clinical Child and Adolescent Psychology (October 2018). Kansas City, Missouri.
- Wang, Z.**, Wang, Y., Sweeney, J., Lui, S., Mosconi, M. W. Resting-state network dysfunctions associated with visuomotor behavior in autism spectrum disorder (ASD): a pilot study. Kansas Center for Autism Research and Training Autism Across the Life Span Conference. (April 2018). Overland Park, Kansas.
- Unruh, K., Schmitt, L., **Wang, Z.**, Martin, L., Fox, A., Mosconi, M. W. Functional Brain Mechanisms of Sensorimotor Control in Individuals with Autism Spectrum Disorder. Kansas Center for Autism Research and Training (K-CART) Conference, (April 2018). Overland Park, Kansas.
- Bojanek, E.K., **Zheng, W.**, Mosconi, M.W. Postural control processes during static and dynamic activities in autism spectrum disorder. Kansas Center for Autism Research and Training Autism Across the Life Span Conference. (April 2018). Overland Park, Kansas.
- McKinney, W. S., Unruh, K. E., **Wang, Z.**, Schmitt, L. M., Bushong, M., Mosconi, M. W. Neurophysiological processes of precision motor control in aging Fragile X premutation carriers. Kansas Center for Autism Research and Training Autism Across the Life Span Conference. (April 2018). Overland Park, Kansas.

- Wang, Y., Zhang, W., **Wang, Z.**, Liu, J., Sweeney, J. A., Lui, S., Mosconi, M. W. Altered functional connectivity between cerebral and cerebellar resting-state networks in autism spectrum disorder. The International Society for Magnetic Resonance in Medicine (ISMRM). (June 2018). Paris, France.
- Wang, Z.**, Khemani, P., Schmitt, L., Mosconi M. Postural control deficits in aging asymptomatic Fragile X mental retardation 1 (FMR1) gene permutation carriers. Society for Neuroscience (SfN) annual conference. (November 2017). Washington, D. C.
- Wang, Z.**, Hallac, R. R., Conroy, K. C., White, S. P., Kane, A. A., Collinsworth, A. L., Mosconi, M. W. Postural orientation and equilibrium are manifested in autism spectrum disorder (ASD). National Conference in Clinical Child and Adolescent Psychology (NCCCAP) annual conference. (September 2016). Lawrence, Kansas.
- Kwon, M., Mohanty, S., Schmitt, L., **Wang, Z.**, Mosconi, M. W. Increased force variability is associated with altered modulation of multiple motor units in ASD. International Meeting for Autism Research (IMFAR) annual conference. (May 2016). Baltimore, Maryland.
- Wang, Z.**, Hallac, R. R., Conroy, K. C., White, S. P., Kane, A. A., Collinsworth, A. L., Mosconi, M. W. Postural control mechanisms underlying reduced stability in autism spectrum disorder (ASD). International Meeting for Autism Research (IMFAR) annual conference. (May 2016). Baltimore, Maryland.
- Mohanty, S., Neely, K. A., Schmitt, L. M., **Wang, Z.**, Vaillancourt, D. E., Sweeney, J. A., Mosconi, M. W. Precision grip control with and without visual feedback in autism spectrum disorder. International Meeting for Autism Research (IMFAR) annual conference. (May 2015). Salt Lake City, Utah.
- Wang, Z.**, Hallac, R. R., Conroy, K. C., Greene, R. K., White, S. P., Sweeney, J. A., Mosconi, M. W. Sensory feedback mechanisms underlying postural control abnormalities in individuals with autism spectrum disorder (ASD): A preliminary study. International Meeting for Autism Research (IMFAR) annual conference. (May 2015). Salt Lake City, Utah.
- Wang, Z.**, Magnon, G.C., Greene R. K., Vaillancourt, D. E., Sweeney, J. A., Mosconi, M. W. Predictive and reactive precision grip force control in individuals with autism spectrum disorders. Society for Neuroscience (SfN) annual conference. (November 2014). Washington, D. C.
- Wang, Z.**, Magnon, G.C., Greene R. K., Vaillancourt, D. E., Sweeney, J. A., Mosconi, M. W. Predictive and reactive precision grip force control in individuals with autism spectrum disorders. The 10<sup>th</sup> annual postdoctoral poster session and symposium of UT Southwestern Medical Center. (September 2014). Dallas, Texas (2014 National Postdoc Appreciation Week Events).
- Jordan, K., **Wang, Z.**, Okita, N., Challis, J. H., Newell, K. M. A multi-level analysis of the regularity of standing posture. Society for Neuroscience (SfN) annual conference. (November 2013). San Diego, California.
- Wang, Z.**, Molenaar, P.C.M., & Newell, K. M. The inter- and intra-foot coordination when standing on an unstable surface- a frequency domain PCA study. Society for Neuroscience (SfN) annual conference. (November 2013). San Diego, California.
- Wang, Z.**, & Newell, K.M. Asymmetries of foot position and weight distribution channels the inter-leg coordination dynamics of standing. Society for Neuroscience (SfN) annual conference. (November 2012). New Orleans, Louisiana.
- King, A. C., **Wang, Z.**, & Newell, K. M. Recurrence analysis of COP<sub>left</sub>, COP<sub>right</sub> and COP<sub>net</sub> trajectories as a function of posture and visual information. The 8<sup>th</sup> meeting of Progress in Motor Control (PMC). (July 2011). Cincinnati, Ohio.
- Ko. J. H., **Wang, Z.**, & Newell, K. M. Stability of foot dynamics in bipedal postural stances. The North American Society for the Psychology of Sport and Physical Activity (NASPSPA) annual meeting. (June 2011). Burlington, Vermont [abstract published in Journal of Sport & Exercise Psychology, S84].

**Wang, Z.,** Jordan, K., & Newell, K. M. Coordination patterns of foot dynamics in the control of upright standing. The North American Society for the Psychology of Sport and Physical Activity (NASPSPA) annual meeting. (June 2010). Tucson, Arizona [abstract published in Journal of Sport & Exercise Psychology, S135].

**Wang, Z.,** Jordan, K., & Newell, K. M. Coordination patterns of foot dynamics in the control of upright standing. Society for Neuroscience (SfN) annual conference. (November 2010). San Diego, California.

## **INVITED TALKS**

### **EXTERNAL (5)**

Sensorimotor impairments in autism spectrum disorder (ASD): New targets for improving treatment (September 2017). Department of Occupational Therapy. University of Florida.

Sensorimotor impairments in individuals with autism spectrum disorder (ASD) (May 2016). Department of Kinesiology and Health Science. Utah State University.

Sensorimotor impairments in individuals with autism spectrum disorder (ASD) (April 2016). Department of Exercise and Health Sciences. University of Massachusetts Boston.

Sensorimotor impairments in individuals with autism spectrum disorder (ASD) (March 2016). Department of Biomechanics. University of Nebraska- Omaha

Progress of EEG and ERP studies in postural control (May 2011). The 1<sup>st</sup> Electrophysiological and Biofeedback Technique Conference in Applied Sport Science. Beijing, China.

### **INTERNAL (8)**

Sensorimotor issues in children with autism spectrum disorder (ASD) and aging adults with FMR1 gene premutation (March 2021). UF Neuromechanics Seminar. University of Florida.

Sensorimotor issues and brain function in individuals with autism spectrum disorder (ASD) (April 2019). Autism & UF: Greater Together. UF Center for Autism and Related Disabilities. University of Florida.

Sensorimotor issues in children with autism spectrum disorder (ASD) and adult individuals with Fragile-X mental retardation 1 (FMR1) premutation (December 2018). Autism Interdisciplinary Meetings. University of Florida.

Sensorimotor impairments in autism spectrum disorder (ASD): New targets for improving treatment (November 2018). Rehabilitation Science Seminars. Department of Physical Therapy. University of Florida.

Postural control in individuals with autism spectrum disorder (ASD) and Fragile-X mental retardation 1 (FMR1) premutation (September 2017). The Kansas Center for Autism Research and Training. University of Kansas.

Signs or Symptoms: Sensorimotor Impairments in Individuals with Autism Spectrum Disorder (February 2016). Department of Applied Behavioral Science. University of Kansas.

Sensorimotor Abnormalities in Individuals with Autism Spectrum Disorder (August 2014). Department of Psychiatry and Pediatrics. University of Texas Southwestern Medical Center.

Inter- and Intra-Leg Coordination Dynamics During Quiet Stance (April 2013). Department of Kinesiology. The Pennsylvania State University.

## **TEACHING**

\* MOT= Masters in Occupational Therapy; OTD= Doctoral in Occupational Therapy; DES= Doctoral in Exercise Science; APK= Bachelor in Applied Physiology and Kinesiology; RSD= Rehabilitation Science Doctoral

**Courses at the University of Florida**

Course	Credits	Program	Title	Sem/YR
OTH 6765	3	OTD	Research: Method and Design	SU21
OTH 5770	4	MOT	Research in Occupational Therapy	SU18
PET 5936	3	DES	Motor Control	FA21
APK 4144	3	APK	Movement Neuroscience	SP22, SP23, FA23, SP24
RSD 6701	3	RSD	MATLAB Foundations for Rehabilitation Science	SU20, SP21, FA22, FA24
RSD 6710	3	RSD	Motor Control: Translating from Fundamental Research to Rehabilitation Practice	SP19, SP20

**Guest lecture at the University of Florida**

Course	Program	Title	Sem/YR
OTH 3282	OTD	Occupation and Participation Across Cultures	SU20, SU21, SU22

**MENTORING****Post-doctoral Trainee Advising Activities**

SU22-SU24	Jingying Wang	Department of Applied Physiology and Kinesiology
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**Doctoral Student Advising Activities**

FA24-	Danielle Christensen	Department of Applied Physiology and Kinesiology
SP23-	Joelle Simpson	Department of Applied Physiology and Kinesiology

**Professional Doctoral Student and Medical Resident Research Advising Activities**

SP20-SU21	Chloe Flynt	Department of Occupational Therapy (OTD Program) College of Public Health and Health Professions • Awardee of 2020 FOTA Scholarship
SU19-SU21	Undine Davis	Department of Orthodontics (DDS Program) College of Dentistry

**Post-baccalaureate Research Assistants Advising Activities**

FA23-	Hanna Gemmell	Department of Applied Physiology and Kinesiology
FA20-SP23	Desirae Shirley	Department of Occupational Therapy (FA20-SP21) Department of Applied Physiology and Kinesiology (SU21-SP23)
SP19-SP20	Stefanie Perez	Department of Occupational Therapy College of Public Health and Health Professions

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- Received admission at Barry University School of Podiatric Medicine in 2019
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## Undergraduate Research Advising Activities

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FA18-SP21	Emily In	<p>Department of Microbiology and Cell Science College of Agricultural and Life Sciences</p> <ul style="list-style-type: none"> <li>• Awardee of 2019-2020 UF University Scholars Program</li> <li>• Honor thesis of 2020-2021</li> <li>• Received admission at the University of Pittsburgh School of Medicine in 2021</li> </ul>
FA18-SP19	Michael Villegas	Department of Electrical Engineering
FA20-SU21	Mabel Palmero	<p>Department of Psychology</p> <ul style="list-style-type: none"> <li>• Secured a Research Coordinator position in Dr. Uraina Clark's Lab at Icahn School of Medicine at Mount Sinai in 2021</li> <li>• Received admission at the Nova Southeastern University College of Osteopathic Medicine in 2023</li> </ul>
SU21	Elizabeth Barbour	<p>Department of Psychology</p> <ul style="list-style-type: none"> <li>• Secured a Research Coordinator position in Drs. Jessica Kramer &amp; Stefanie Bodison's Lab at the University of Florida in 2021</li> </ul>
FA21-SP22	Jenna Huben	Bachelor of Health Sciences
SP22-SU22	Joelle Simpson	<p>Department of Applied Physiology and Kinesiology</p> <ul style="list-style-type: none"> <li>• Honor thesis of 2021-2022 (Co-mentored with Dr. James Cauraugh)</li> </ul>
FA22	James White	Department of Applied Physiology and Kinesiology
FA22-SP23	Carolina Cuomo	<p>Department of Psychology</p> <ul style="list-style-type: none"> <li>• Received admission at the Occupational Therapy Doctorate Program at UF</li> </ul>
FA22-SP23	Giselle Cuevas	Department of Biology (Biology and International Studies major)
SP23-SP24	Kaitlyn Picallo	Department of Psychology
SP24 -	Anna Seelhammer	<p>Department of Nutritional Sciences</p> <ul style="list-style-type: none"> <li>• Honor thesis of 2024-2025</li> </ul>
SP24	Kyla Wetherington	Department of Applied Physiology and Kinesiology

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## **SERVICE INTRAMURAL SERVICE**

### **Campus**

2023-2024 UF College of Human Health and Performance DK Stanley committee chair  
2020- Research Task Force Committee of the UF Health Center for Autism and Neurodevelopment (UF Health CAN; <https://autism.psychiatry.ufl.edu/>)

### **Department**

2021- Faculty Evaluation Committee  
Department of Applied Physiology and Kinesiology  
2021- Diversity, Equity, and Inclusion Committee  
Department of Applied Physiology and Kinesiology  
2021- Graduate Curriculum Committee  
Department of Applied Physiology and Kinesiology

## **EXTRAMURAL SERVICE**

### **Ad Hoc Reviewer – Grants**

Oct 2023 NIH Child Psychopathology and Developmental Disabilities (CPDD) Study Section  
Mar 2022 NIH ZRG1 IDIB-T 50 R, RFA-HD-22-008: Autism Centers of Excellence: Centers (P50)  
Feb 2021 NIH Motor Function, Speech, and Rehabilitation (MFSR) Study Section  
Aug 2018 University of Rochester/ Pilot Program of the Center for Health & Technology

### **Ad Hoc Reviewer – Conferences**

2018 Autism Across the Life Span Conference  
2015- 2016, 2021, International Meeting for Autism Research (IMFAR)  
2022

### **Editorial Board - Journals**

2021-2022 Guest Associate Editor in Frontiers in Integrative Neuroscience  
Host Editor of Research Topic: Aging in Neurodevelopmental Disorder (NDD) for Frontiers in Integrative Neuroscience  
2021- Review Editor for Frontiers in Integrative Neuroscience  
2022-2023 Guest Associate Editor in Frontiers in Interventions for Rehabilitation  
Host Editor of Research Topic: Emerging Neuro Motor Rehabilitation Systems; Rehabilitation Research and Development which Integrates Multiple Individual Technologies in a Closed Loop System  
2023- Review Editor for Frontiers in Neurology (Movement Disorders)

### **Ad Hoc Reviewer – Journals**

Frontiers in Integrative Neuroscience Neuroscience  
International Journal of Developmental Neuroscience Infancy

Research in Autism Spectrum Disorders  
Science Advances  
Journal of NeuroEngineering and Rehabilitation  
European Journal of Pediatric Neurology  
Archives of Physical Medicine and Rehabilitation  
Journal of Neuroscience  
Experimental Brain Research  
Scientific Reports  
Journal of Motor Behavior  
Journal of Experimental Psychology: Human  
Perception and Performance  
Manual Therapy  
Neuroscience Letters  
Transactions on Neural Systems & Rehabilitation  
Engineering

Human Movement Science  
Journal of Biomechanics  
Journal of Autism and Developmental Disorders  
Developmental Science  
Neuroscience and Biobehavioral Reviews  
Journal of Neurophysiology  
Laterality: Asymmetries of Body, Brain and  
Cognition  
Journal of Electromyography and Kinesiology  
Gait Posture  
Plos One  
Journal of Cognition and Development  
Developmental Neuropsychology  
Journal of Clinical Medicine  
Frontiers in Neurology

## **TRAINING**

### **FA20 GMS 6945 – Team Science**

**Course Description:** This course offers practical guidance about engaging in Team Science to pursue complex research questions, work effectively with team members, and assess team performance in order to produce high impact research outcomes.

### **SU21- FA21 – Certificate in Multicultural Mentoring**

The UF Office of the Provost, the UF Office of the Chief Diversity Officer, and the International Mentoring Association, in consultation with the Clinical and Translational Science Institute Mentor Academy, offered this three-part series that will provide UF faculty and staff with tools for effective multicultural mentoring. Participants who take all three sessions earn a certificate in multicultural mentoring.