



## ***Qin (Arthur) Zhu***

*Professor of Motor Behavior*

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### **Lab:**

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## **Career Objective:**

- An erudite scholar of movement science
- An ardent proponent of active and healthy living

## **Education:**

- **PhD** in *Human Performance*, minor in *Experimental Psychology* (2008)  
Department of Kinesiology, **Indiana University**  
Advisors: Dr. John B. Shea & Dr. Geoffrey P. Bingham  
Dissertation Title: *Learning Affordance for Maximum Distance Throws in the Context of Learning to Throw*
- **M.Ed** in *Exercise Science* (2002)  
Graduate School, **Shanghai University of Sport**  
Advisor: Dr. Jian-Cheng Zhang & Dr. Dan-Ping Chen  
Thesis Title: *Study of Selective Attention in Playing Badminton using Spatial Occlusion*
- **B.S** in *Coaching Education* (1999)  
Department of Coaching and Physical Education, **Shanghai University of Sport**  
Advisor: Dr. Jin-Biao Dai  
Honor Paper Subject: *Study of Sport-Specific Speed in Badminton*

## **Professional Experience:**

- 2025 June – present: Director, Division of Kinesiology and Health, *University of Wyoming*
- 2024 August – 2025 May: Interim Director, Division of Kinesiology and Health, *University of Wyoming*
- 2019 – present: Professor and Director of UW PACE lab, Division of Kinesiology and Health, *University of Wyoming*
- 2018 – present: International Program Coordinator, Division of Kinesiology and Health, *University of Wyoming*

### *Wyoming*

- 2014 – 2019: Associate Professor and Director of UW Perception-Action-Cerebral-Executive (PACE) Laboratory, Division of Kinesiology and Health, *University of Wyoming*
- 2008 – 2014: Assistant Professor and Director of UW Perceptual-Motor Behavior Laboratory, Division of Kinesiology and Health, *University of Wyoming*
- 2007 Jan – May: Adjunct Faculty, Department of Kinesiology, *Indiana University at Bloomington*
- 2003 – 2007: Research Assistant in Perception and Action Laboratory, Department of Psychological & Brain Science, *Indiana University at Bloomington*
- 2002 – 2006: Associate Instructor and Research Assistant in Motor Learning and Control / Ergonomics Laboratories, Department of Kinesiology, *Indiana University at Bloomington*
- 2000–2002: Associate Instructor and Research Assistant, Department of Coaching and Physical Education, *Shanghai University of Sports*

## **Administrative Achievements:**

- As the Director of Division of Kinesiology and Health (2024 – present):
  - Led and supported 5 faculty searches for DK&H, resulting in 6 hires for Fall 2026
  - Led the development and revision of DK&H Bylaws and the associated Division Administrative Policies and Procedures (DAPPs)
  - Led the application for 2025 AKA Inclusive Excellence Award
  - Supported the application for PhD program in Health Sciences with concentration in Kinesiology
  - Supported the annual DK&H Transfer Week Event to recognize transfer students and collect data for future recruitment
  - Led the submission of Campaign for raising 5K to support DK&H Undergraduate and Graduate students teaching, research, community service, and professional development.
- As the International Program Coordinator (2018 – present)
  - Initiated the partnership with multiple universities in China, including *Shanghai University of Sport, Beijing University of Sport, Chengdu Institute of Sport, Shenyang Institute of Sport, East China Normal University, Shanxi Normal University, Xi'An Jiaotong University*
  - Established the *Shanghai University of Sport International Kinesiology Center* at UW-DK&H
  - Cultivated and implemented the unique *Nordic Ski (now Winter Sports) Coaching Education Program* with Shanghai University of Sport
  - Led the development of UW-SUS Joint Kinesiology Undergraduate Program in China, which was approved by *Ministry of Education of the People's Republic of China*
  - Led the application for ASSCI faculty-led study-abroad in China program, which was awarded in 2022
  - Led the DK&H *Education Abroad Curriculum Integration* task and identified 10 universities in Europe and Australia for UW DK&H students to take advantage of study-abroad opportunities for credit exchange and experiential learning.
  - Represent UW to reconnect with Norwegian Alumni in Oslo in June 2024.
  - Led the planning and organization of the first *Grand Teton Summit*, an international conference in Kinesiology and Sport Science, held on UW main campus in Laramie and satellite campus in Grand Teton National Park.
  - Support and coordinate for six PETE graduate students and two faculty members to participate in short-term study-abroad program in China in Spring 2025
  - Coordinated and led the UW Leadership Delegation to visit Shanghai University of Sport in June 2025 and signed MOU for long-term strategic partnership
  - Coordinated and led UW Men's Hockey Team and Laramie Highschool Hockey Team to visit Shanghai and Xi'An, China in June 2025

## Awards & Honors:

- 2025, January 29: UW News Highlight: *UW Faculty Members' Continued Research Finds Vertical Dancers Have Keen Eye for Inverted Motions*  
<https://www.uwyo.edu/news/2025/01/uw-faculty-members-continued-research-finds-vertical-dancers-have-keen-eye-for-inverted-motions.html>
- 2024, September 23: UW News Highlight: *UW Hosts Inaugural International Grand Teton Summit on Sport Science and Behaviors*  
<https://www.uwyo.edu/news/2024/09/uw-hosts-inaugural-international-grand-teton-summit-on-sport-science-and-behaviors.html>
- 2023, November 1: UW News Highlight: *UW Researcher Explores Home-Based Telehealth Webcam Setup to Measure Joint Range of Motion*  
<https://www.uwyo.edu/news/2023/11/uw-researcher-explores-home-based-telehealth-webcam-setup-to-measure-joint-range-of-motion.html>
- 2023, April 17: University of Wyoming Global Engagement Office *Recognition of Faculty for Extraordinary Efforts at Internationalization*
- 2023, February 8: University of Wyoming *2023 Education Abroad Curriculum Integration Advising Fellow* (with Alisa Siceloff)
- 2022 – 2023: University of Wyoming Presidential Fellowship Awardee on the project of *Extending the International Reach of UW Kinesiology and Health Program*
- 2022, October 31: Cosmos Science Magazine featured an article entitled: *Vertical dancers, like astronauts, are better at judging upside-down movement – If you hang around at weird angles, your vision at weird angles improves*  
<https://cosmosmagazine.com/health/vertical-dancers-movement/>
- 2022, October 28: UW News Highlight: *UW Undergraduate's Research Leads to Invention of Technology for Telerehabilitation*  
<http://www.uwyo.edu/uw/news/2022/10/uw-undergraduates-research-leads-to-invention-of-technology-for-telerehabilitation.html>
- 2021 – 2022: University of Wyoming Academic Affairs Faculty Fellow:  
<http://www.uwyo.edu/AcadAffairs/academic-personnel/chairs/fellows/index.html>
- 2019/8/1: *Xinhua North America* featured a story entitled “[Remote U.S. university secures powerful Chinese sports connection](#)” based on an interview conducted at the Division of Kinesiology and Health at the University of Wyoming on July 23, 2019.
- 2016: Public media attention on the research article “*A dynamical analysis of the suitability of prehistoric spheroids from the Cave of Hearths as thrown projectiles*” published in *Scientific Reports*:
  - UW News, “[UW Professor Determines Prehistoric Stone Objects May Have Served as Hunting Weapons](#)”, August 17, 2016
  - The Huffington Post, “[So That's What Those Stone Age 'Spheroids' Were For](#)”, August 19, 2016
  - Wyoming Public Radio, “[Prehistoric Stones Used As Weapons, UW Professor Finds](#)”, August 24, 2016
- 2014/12/26: *Science Friday* featured a story entitled “Birdie In Flight: The Science of Badminton” based on the research article published in *Journal of Sports Sciences*. Video available at: <http://www.sciencefriday.com/video/12/26/2014/birdie-in-flight-the-science-of-badminton.html>
- 2012/12/6: The research article “*Felt heaviness is used to perceive the affordance for throwing but rotational inertia does not affect either*” (published in *Experimental Brain Research*) was rated as one of “NeuroStars” (Top Cited or Most Widely Discussed) articles by *Springer Neuroscience*.
- 2011: Public media attention on the research article “*Human readiness to throw: the size-weight illusion is not an illusion when picking the best objects to throw*” published in *Evolution & Human Behavior*:
  - *Indiana News*, January 24, 2011
  - *Playbook: The Wired World of Sports / Science*, January 24, 2011

- *ScienceDaily*, January 24, 2011
  - *USNews Science*, January 25, 2011
  - *New Hampshire Public Radio*, February 03, 2011
  - *National Evolutionary Synthesis Center (NESCent)*, February, 2011
- Video available at Youtube: <https://www.youtube.com/watch?v=vDzF092aaos>

- 2006/10/05: Reported in the article “*Badminton Phenom has Olympic dreams*” on Herald-Times newspaper, <http://www.heraldtimesonline.com/>
- 2005/08/25: Reported in the article “*A champion of and for his sport*” on Herald-Times newspaper, <http://www.heraldtimesonline.com/>
- 2003/04/11: School of HPER Gallahue-Morris Graduate Research Award
- 2003 – 2004: Male Athlete of the Year, Club Sports, Division of IU Recreational Sports
- 2003 – 2004: Most Improved Club Sport, Club Sports, Division of IU Recreational Sports
- 2002 – 2005: School of HPER University Fellowship Award
- 2002/06/25: Best Graduate Thesis in Shanghai University of Sports
- 1995 – 1999: Outstanding student in Department of Physical Education and Coaching at Shanghai University of Sport

## Research & Scholarship:

### ➤ ***Grants & Funding***

*As Principal Investigator (PI)*

*Funded (total \$750,889):*

1. Title: “***Developing Immersive Biobehavioral Assessments with AI-enhanced Computing for Smart Tele-treatment of Addictive Disorders***”  
 Funding Agency: UW School of Computing Faculty Fellow Grant  
 Duration: 2024-2025  
 Amount: \$27,000  
 Type: Research
2. Title: “***Predictive Monitoring Human Operational Performance in face of Multiple Spaceflight Stressors using Multi-modal Biobehavioral Markers***”  
 Funding Agency: Wyoming NASA EPSCoR Faculty Research Grant (Grant #80NSSC19M0061)  
 Duration: 2024-2025  
 Amount: \$30,000  
 Type: Research
3. Title: “***Contrasting Aerobic with Resistance Exercise as an Early Intervention for Treating Alzheimer’s Disease using a Mouse Model***”  
 Funding Agency: Wyoming INBRE (NIH NIGMS IDeA program)  
 Duration: 2024 ~ 2025  
 Amount: \$28,484 in salary plus tuition, fees, and insurance  
 Type: Graduate Assistantship Award  
 Role: PI
4. Title: “***Harmonious Combination of Chinese and Western Perspectives on Kinesiology and Health***”  
 Funding Agency: American Association of State Colleges and Universities and Chinese Embassy

in US

Duration: 2023 spring -2024 summer

Amount: minimum \$15,000 (including tuition, fees, lodging, and stipend) to support 6 students

Type: Global Engagement (Study abroad)

5. Title: ***“Equipping UW Researchers with Eye-tracking Technology to Promote Health Science and Interdisciplinary Research”***  
Funding Agency: UW College of Health Sciences Dean’s Office  
Duration: 2022  
Amount: \$35,740  
Type: Equipment
6. Title: ***“Reaching the Unreached Addiction Disorders with Tele-assessment of Neurobehavior”***  
Funding Agency: Wyoming Small Business Development Center (WSBDC)  
Duration: 2021 ~ 2022  
Amount: \$5,000  
Type: Research
7. Title: ***“International Perspective on Sports Science and Behavior: Performance, Pedagogy and Principles”***  
Funding Agency: UW Academic Affairs / Shanghai University of Sport / Chinese University of Hong Kong  
Duration: 2023 ~ 2024  
Amount: \$27,000  
Type: Conference
8. Title: ***“Accelerated Telerehabilitation Infrastructure and Clinical Viability”***  
Funding Agency: US Department of the Treasury through Wyoming Health & Bioscience Innovation Hub (CARES-HUB-MOVE#1040)  
Duration: 2020 Oct ~ 2020 Dec  
Amount: \$164,930  
Type: Research
9. Title: ***“Developing Real-time Interaction and Motion Tracking in Immersive Virtual Reality for Telerehabilitation”***  
Funding Agency: NIH- National Institute on Minority Health and Health Disparities (STTR: #1R41MD015689-01)  
Duration: 2020 Sep ~ 2021 Sep  
Amount: \$242,114  
Type: Research
10. Title: ***“Multidimensional Performance Measurement and Evaluation on UW-SUS Nordic Ski Athletes: A Longitudinal Study”***  
Funding Agency: UW CENTER FOR GLOBAL STUDIES  
Duration: 2019 November ~ 2020 May  
Amount: \$5,000  
Type: Research

11. Title: ***“Validating A Novel System with Real-time Interaction and Motion Tracking in Immersive VR for Telerehabilitation”***  
Funding Agency: Wyoming INBRE and CTR-IN: Developmental Translational Team Grant (DTTG)  
Duration: 2019 September ~ 2020 March  
Amount: \$20,000  
Type: Research
12. Title: ***“Real-time Motion Tracking in 3D Immersive Virtual Reality for Tele-Rehabilitation***  
Funding Agency: Wyoming Small Business Development Center (WSBDC)  
Duration: 2019 ~ 2020  
Amount: \$5,000  
Type: Research
13. Title: ***Wyoming INBRE Graduate Assistantship***  
Funding Agency: NIH NIGMS IDeA program  
Duration: 2018 ~ 2019  
Amount: \$26,200 in salary plus tuition, fees, and insurance  
Type: Student Aid
14. Title: ***Wyoming INBRE Graduate Assistantship***  
Funding Agency: NIH NIGMS IDeA program  
Duration: 2017 ~ 2018  
Amount: \$25,431 in salary plus tuition, fees, and insurance  
Type: Student Aid
15. Title: ***“Developing A Novel Cognitive-Motor Assessment For Screening mTBI Among Active Young Adults”***  
Funding Agency: CHS Faculty Seed Grant, University of Wyoming  
Duration: 2017 ~ 2018  
Amount: \$7,150  
Type: Research
16. Title: ***“Bridging Kinesiology and Health Programs Between UW and Universities in East China”***  
Funding Agency: International Program, University of Wyoming  
Duration: 2017  
Amount: \$2,000  
Type: Travel
17. Title: ***Wyoming INBRE Graduate Assistantship***  
Funding Agency: NIH NIGMS IDeA program  
Duration: 2016 ~ 2017  
Amount: \$21,060 in salary plus tuition, fees and insurance  
Type: Student Aid
18. Title: ***“Exploring The Transfer Effects Of Perceptual-Motor Learning Of Coordination”***  
Funding Agency: Shanghai Peak and High Plateau Disciplines Construction Grant: Phase I, Shanghai University of Sport, Shanghai Ministry of Education, CHINA

Duration: 2015 June ~ 2017 June  
Amount: ¥120,000 (equivalent to \$20,000)  
Type: Research

19. Title: ***“Task-specific Bimanual Training To Improve Upper Limb Function Post Stroke”***  
Funding Agency: Mountain West IDeA Clinical and Translational Research –Infrastructure Network (CTR-IN), University of Nevada, Las Vegas, NV (NIGMS# 1U54GM104944-01A)  
Duration: 2014 Dec ~ 2015 June  
Amount: \$10,980  
Type: Research
20. Title: ***ITHS-RC2 Network Travel Grant for Clinical Research Collaboration***  
Funding Agency: Institute of Translational Health Sciences, Regional Clinical Research Center Network, University of Washington  
Duration: 2014 April  
Amount: \$1,000  
Type: Travel
21. Title: ***College of Health Sciences Faculty Travel Subsidy Grant***  
Funding Agency: College of Health Sciences, University of Wyoming  
Duration: 2013 summer  
Amount: \$750  
Type: Travel
22. Title: ***“Investigating Changes in Perceptual-Motor Learning Rates as a Function of Aging in Bimanual Coordination”***  
Funding Agency: Key Laboratory Initiative Grant for International Collaboration, Shanghai University of Sport, Shanghai Ministry of Education, CHINA (#YK2012012)  
Duration: 2012 June ~ 2013 June  
Amount: ¥100,000 (equivalent to \$16,600)  
Type: Research
23. Title: ***College of Health Sciences Faculty Travel Subsidy Grant***  
Funding Agency: College of Health Sciences, University of Wyoming  
Duration: 2012 summer  
Amount: \$750  
Type: Travel
24. Title: ***College of Health Sciences Faculty Travel Subsidy Grant***  
Funding Agency: College of Health Sciences, University of Wyoming  
Duration: 2011 summer  
Amount: \$750  
Type: Travel
25. Title: ***“Investigating the Effect of Bimanual Transfer of Learning on Acquisition of Long Distance Aimed Overarm Throwing”***  
Funding Agency: Faculty-Grant-In-Aid, University of Wyoming  
Duration: 2010 – 2011  
Amount: \$7,500

Type: Research

26. Title: ***“Investigating the Effect of Bimanual Transfer of Learning on Acquisition of Chinese Handwriting”***  
Funding Agency: CHS Faculty Seed Grant, University of Wyoming  
Duration: 2010 – 2011  
Amount: \$7,500  
Type: Research
27. Title: ***“Investigating the Effect of String Tension on Striking Performance of Badminton Players”***  
Funding Agency: YONEX Sports and Division of K&H  
Duration: 2009-2010  
Amount: \$3,000  
Type: Research
28. Title: ***“Interlimb Transfer of Learning and Electrostimulation of Acupoints: Their Respective and Coupled Effects on Acquisition of the Aimed Ballistic Motor Skill”***  
Funding Agency: NIH INBRE Equipment Grant, University of Wyoming  
Duration: 2009-2010  
Amount: \$14,000  
Type: Equipment & Research
29. Title: ***School of HPER Dissertation Award***  
Funding Agency: School of HPER, Indiana University  
Duration: 2006-2007  
Amount: \$1,100  
Type: Student Aid
30. Title: ***School of HPER University Fellowship***  
Funding Agency: Indiana University  
Duration: 2002–2005 (Annually)  
Amount: \$3,300  
Type: Student Aid
31. Title: ***School of HPER Travel-Grant-in-Aid Award***  
Funding Agency: School of HPER, Indiana University  
Duration: 2002–2006 (Annually)  
Amount: \$250  
Type: Travel
32. Title: ***Department of Kinesiology Travel-Grant-in-Aid***  
Funding Agency: Department of Kinesiology, Indiana University  
Duration: 2002–2006 (Annually)  
Amount: \$250  
Type: Travel

As Co-Investigators (Co-I)

Funded (total \$1,084,562):

1. Title: ***“Integrating EEG-based Functional Brain Networks and Bimanual Coordination for Enhanced Concussion Assessment”***  
Funding Agency: Chancellor's Research Faculty Scholars Program, Office of Research and Sponsored Program, Texas Women University  
Duration: 2025-2026  
Amount: \$8,000  
Type: Research & Mentorship
2. Title: ***“UW-SUS Center: Winter Sport Educational Coaching Program”*** (with Dr. Derek Smith)  
Funding Agency: Shanghai University of Sport (SUS)  
Duration: 2025-2026  
Amount: \$102,444  
Type: Global Engagement
3. Title: ***“UW Distinguished Graduate Scholars”*** (with Stephanie Miller)  
Funding Agency: UW School of Graduate Education  
Duration: 2025-2027  
Amount: \$61,134  
Type: Student Aid
4. Title: ***“UW-SUS Center: Winter Sport Educational Coaching Program”*** (with Dr. Derek Smith)  
Funding Agency: Shanghai University of Sport (SUS)  
Duration: 2023-2024  
Amount: \$101,375  
Type: Global Engagement
5. Title: ***“A Step toward Developing Home-based Telerehabilitation for Stroke Patients: The Efficacy of Solitary vs. Collaborative Practice in Learning Unimanual Coordination”*** (with Undergraduate Student: Carly Palmer)  
Funding Agency: Wyoming INBRE Undergraduate Research Fellowship  
Duration: 2022 – 2023  
Amount: \$2,240  
Type: Student Aid
6. Title: ***“UW-SUS Center: Nordic Ski Education Training Program”*** (with Dr. Derek Smith)  
Funding Agency: Shanghai University of Sport (SUS)  
Duration: 2022-2023  
Amount: \$255,975  
Type: Global Engagement
7. Title: ***“UW-SUS Center: Nordic Ski Education Training Program”*** (with Dr. Derek Smith)  
Funding Agency: Shanghai University of Sport (SUS)  
Duration: 2020-2021

Amount: \$121,843  
Type: Global Engagement

8. Title: “***UW-SUS Center: A Multifaced International Program***” (with Dr. Derek Smith)  
Funding Agency: Shanghai University of Sport (SUS)  
Duration: 2019-2022  
Amount: \$323,801  
Type: Global Engagement
9. Title: “***Off-court Web-based Training to Improve Decision-making Performance***” (with Dr. Sandip Vyas)  
Funding Agency: Badminton World Federation (BWF)  
Duration: 2018-2019  
Amount: \$7,650  
Type: Research
10. Title: “***The Effect of Taping Quadriceps and Hamstrings on Knee Joint Position Sense and ACL Loading in a Fatigued Jump-landing Task***” (with Graduate Student: Taylor Kuehn)  
Funding Agency: CHS Student Research Grant, University of Wyoming  
Duration: 2018-2019  
Amount: \$1,000  
Type: Student Aid
11. Title: “***Effects of Training Frequency on Learning and Transfer of a Novel Rhythmic Coordination***” (with Graduate Student: Shaochen Huang)  
Funding Agency: CHS Student Research Grant, University of Wyoming  
Duration: 2018-2019  
Amount: \$1,000  
Type: Student Aid
12. Title: “***Grasping a Ball with Static and Dynamic Ebbinghaus Illusion in a 3D Virtual Reality Environment***” (with Undergraduate Student: Russell N. Todd in Computer Science)  
Funding Agency: Wyoming INBRE Undergraduate Research Fellowship  
Wyoming NASA Space Grant Undergraduate Research Fellowship  
Duration: 2018 – 2019  
Amount: \$800 + \$2,500  
Type: Student Aid
13. Title: “***The Speed-Accuracy Tradeoff Problem in an Immersive Virtual Environment***” (with Undergraduate Student: Russell N. Todd in Computer Science)  
Funding Agency: Wyoming EPSCoR Undergraduate Research Summer Fellowship  
Duration: 2017 Summer  
Amount: \$4,500  
Type: Student Aid
14. Title: “***Rapid screening of traumatic brain injury in student veterans of the rural mountain west***” (with Dr. Alessandro Danna-Dos Santos and Dr. Sambit Mohapatra at University of Montana, and Dr. Hyunhwa Lee at University of Nevada, Las Vegas)

Funding Agency: Mountain West IDeA Clinical and Translational Research –Infrastructure Network (CTR-IN), Multisite Research Project Program (Subaward as one of site institutions)  
Duration: 2017 July ~ 2018 June  
Amount: \$35,200  
Type: Research

\* The parent grant was awarded to PI at UM, however, the subaward was terminated due to PI leaving UM

15. Title: “**Perception of Action in Vertical Dance**” (with Undergraduate Student: Sean Feehan)  
Funding Agency: Wyoming EPSCoR Undergraduate Research Award  
Duration: 2016 Spring  
Amount: \$800  
Type: Student Aid
16. Title: “**Throwing At A Remote Target With The Constrained Release Angle**” (with Undergraduate Student: Dakota Anderson)  
Funding Agency: Wyoming EPSCoR Undergraduate Research Summer Fellowship  
Duration: 2015 Summer  
Amount: \$4,500  
Type: Student Aid
17. Title: “**Combining Haptic And Visual Guidance In Perceptual-motor Learning of A Novel Pattern of Bimanual Coordination**” (with Graduate Student: Shaochen Huang)  
Funding Agency: CHS Student Research Grant, University of Wyoming  
Duration: 2015-2016  
Amount: \$1,000  
Type: Student Aid
18. Title: **College of Health Sciences Student Travel Subsidy Grant** (with Graduate Student: Shaochen Huang)  
Funding Agency: College of Health Sciences, University of Wyoming  
Duration: 2015 Summer  
Amount: \$750  
Type: Travel
19. Title: “**Bimanual Coordination Training To Improve Upper Limb Function Post Stroke**” (with Undergraduate Student: Ryan Arey)  
Funding Agency: Wyoming EPSCoR Undergraduate Research Award  
Duration: 2015 Spring  
Amount: \$800  
Type: Student Aid
20. Title: “**Use of Natural and Coordinated Two-handed Motion to Improve Gesture-based Interaction Design**” (with Dr. Amy Banic at Department of Computer Sciences, University of Wyoming)  
Funding Agency: UW office for Research & Economic Development, New Research Initiative  
Duration: 2014-2015  
Amount: \$25,000  
Type: Research

21. Title: ***“Exploring The Effect of Active Music Making on Improving Functional Reach-to-Grasp Movement”*** (with Undergraduate Student: Andrea Dahill)  
Funding Agency: Wyoming EPSCoR Undergraduate Research Award  
Duration: 2013 Spring  
Amount: \$750  
Type: Student Aid
22. Title: ***“Kinesthetic Learning of Bimanual Coordination”*** (with Undergraduate Student: Todd Mirich)  
Funding Agency: Wyoming EPSCoR Undergraduate Research Award  
Duration: 2013 Spring  
Amount: \$750  
Type: Student Aid
23. Title: ***“The Effects of a Resistance Band on Gluteus Medius Muscle Activations and Hip Abduction Torque during Jump Landing”*** (with Dr. Boyi Dai at University of Wyoming)  
Funding Agency: CHS Faculty Seed Grant, University of Wyoming  
Duration: 2013 – 2014  
Amount: \$7,500  
Type: Research
24. Title: ***“Developing and Validating an On-Site Biomechanical Testing Tool for ACL Injury Prevention”*** (with Dr. Boyi Dai at University of Wyoming)  
Funding Agency: UW Faculty-Grant-In-Aid  
Duration: 2013-2014  
Amount: \$7,500  
Type: Research
25. Title: ***College of Health Sciences Student Travel Subsidy Grant*** (with Graduate Student: Kathryn Leonard)  
Funding Agency: College of Health Sciences, University of Wyoming  
Duration: 2012 Summer  
Amount: \$750  
Type: Travel
26. Title: ***“Determining the Effect of Visual Illusion on Discrete and Continuous Tapping Task”*** (with Graduate Student: Sushma Alphonsa)  
Funding Agency: CHS Student Research Grant, University of Wyoming  
Duration: 2012-2013  
Amount: \$1,000  
Type: Student Aid
27. Title: ***College of Health Sciences Student Travel Subsidy Grant*** (with Graduate Student: Sushma Alphonsa)  
Funding Agency: College of Health Sciences, University of Wyoming  
Duration: 2012 Summer  
Amount: \$750  
Type: Travel

28. Title: ***“Can Observational Learning and Transcutaneous Electrical Nerve Stimulation Improve Gait Kinematics and Velocity in Persons with Chronic Stroke”*** (with Graduate Student: Jason Falvey)  
 Funding Agency: CHS Student Research Grant, University of Wyoming  
 Duration: 2012-2013  
 Amount: \$1,000  
 Type: Student Aid
  
29. Title: ***Biomedical Sciences Student Travel Subsidy Grant*** (with Graduate Student: Jason Falvey)  
 Funding Agency: Biomedical Sciences Doctoral Program, University of Wyoming  
 Duration: 2012 Summer  
 Amount: \$750  
 Type: Travel
  
30. Title: ***College of Health Sciences Student Travel Subsidy Grant*** (with Graduate Student: Rashmi Ravi)  
 Funding Agency: College of Health Sciences, University of Wyoming  
 Duration: 2011 Summer  
 Amount: \$750  
 Type: Travel
  
31. Title: ***“Intermanual Transfer of Learning Long Distance Aimed Throwing”*** (with Undergraduate Student: Todd Mirich)  
 Funding Agency: Wyoming INBRE Undergraduate Research Award  
 Duration: 2011 Spring  
 Amount: \$750  
 Type: Student Aid

Pending Grant (Submitted or In-Preparation):

1. Title: ***“Use of Virtual Reality Exergaming to Improve Outcomes in Individuals with ACL Reconstruction”***  
 Funding Agency: National Athletic Trainer’s Association (NATA) Research and Education Foundation General Award  
 Duration: 2026-2029  
 Amount: \$33,483  
 Type: Research  
 Role: Co-I
  
2. Title: ***“Manipulating non-rigid objects: comparing the internal model versus dynamical systems paradigms in explaining motor learning and control”***  
 Funding Agency: National Natural Science Foundation of China General Program  
 Duration: 2026-2030  
 Amount: \$XX  
 Type: Research  
 Role: Co-I

Unfunded Grant:

1. Title: ***“Integrating Virtual Reality and Multimodal Machine Learning for Biometric Assessment of Astronaut Cognitive-Motor State”***  
Funding Agency: NASA Rapid Response Research (R3) Grant  
Duration: 2025-2026  
Amount: \$125,105  
Type: Research  
Role: PI
  
2. Title: ***“Developing AI Applications for Biometric Human Performance Monitoring, Assistive Interface, and Generative Art”***  
Funding Agency: UW Research Excellence Fund Seed Grants by UW Board of Trustees  
Duration: 2025-2026  
Amount: \$30,033  
Type: Research  
Role: Co-I
  
3. Title: ***“Design and Evaluation of an Immersive Behavioral Modification System (IBMS) using Attentional Bias to Identify and Treat Addictive Disorders”***  
Funding Agency: UW College of Engineering and Physical Sciences Interdisciplinary-Collaborative Seed Grants for AY 2023-2024  
Duration: 2023-2024  
Amount: \$25,000  
Type: Research  
Role: Co-I
  
4. Title: ***“Developing an Interactive and Integrative Behavioral Assessment for Tele-treatment of Addiction Disorders”***  
Funding Agency: Wyoming INBRE (NIH NIGMS IDeA program)  
Duration: 2023 ~ 2025  
Amount: \$34,784 in salary plus tuition, fees and insurance  
Type: Graduate Assistantship Award  
Role: Co-I
  
5. Title: ***“Reaching Unreached Opioid Use Disorders Using an Engaging Tele-Neurobehavioral System”***  
Funding Agency: National Institute of Health- National Institute on Drug Abuse (NIDA)  
Duration: 2023 March ~ 2024 March  
Amount: \$320,000  
Type: SBIR Research  
Role: Co-PI
  
6. Title: ***“Technology Integration for Engaging and Evidence-based Telehealth”***  
Funding Agency: Wyoming Department of Health Innovation Grant  
Duration: 2023 January ~ 2026 July  
Amount: \$647,455  
Type: Research  
Role: Co-PI

7. Title: **“Integrating Neuroimaging with Virtual Reality for Evidence-based and Engaging Treatment of Addictive Disorders”**  
 Funding Agency: Sony Research Award Program – North America  
 Duration: 2022 March ~ 2023 March  
 Amount: \$150,000  
 Type: Research  
 Role: PI
  
8. Title: **“Virtual Pathways: An Interdisciplinary Cross-Institutional Approach to Diversifying Research Training of Extended Reality (XR) Technologies to Optimize the Future-of-Work”**  
 Funding Agency: NSF Research Traineeship (NRT) on Human-Technology Frontier (FW-HTF) program, Collaboration between Colorado State university and University of Wyoming  
 Duration: 2022 September ~ 2027 August  
 Amount: \$858,501  
 Type: Research  
 Role: UW Co-I

### ***Publications (All data-based):***

PubMed Bibliography @ <https://www.ncbi.nlm.nih.gov/myncbi/1pUmB1tznllAjC/bibliography/public/>

Also accessible with following scholarly identity

**RGID:** [https://www.researchgate.net/profile/Qin\\_Zhu9](https://www.researchgate.net/profile/Qin_Zhu9)

**ORCID:** <http://www.orcid.org/0000-0002-2088-6043>

\* denotes published student research project, thesis or dissertation

\$ denotes secured funding for the research

♥ denotes spent ≥ 50% effort

### ***Refereed Book Chapters/Proceedings:***

1. ♥ Li, W., Dai, B., **Zhu, Q.** (2024). *Sports Skill Analysis*, Routledge, Taylor & Francis Group, LLC, New York, NY. [doi.org/10.4324/9781003331964](https://doi.org/10.4324/9781003331964)
  
2. \*Liu, P., Zhang, C., **Zhu, Q.**, Li, H., & Jacobs, F. (2023). Assessing the Impact of Construction Work Zone Layout on Traffic Safety: A Driving Simulator Experiment. In *Computing in Civil Engineering 2023: Resilience, Safety, and Sustainability*, pp. 226-232, doi: [10.1061/9780784485224](https://doi.org/10.1061/9780784485224).
  
3. \*\$♥ Todd, R., **Zhu, Q.**, & Banic, A. “Temporal availability of Ebbinghaus Illusions on Perceiving and Interacting with 3D Objects in a Contextual Virtual Environment”. 2021 IEEE Virtual Reality and 3D User Interfaces (VR), 2021, pp. 817-825, doi: [10.1109/VR50410.2021.00109](https://doi.org/10.1109/VR50410.2021.00109).
  
4. ♥ **Zhu, Q.** (2020). Proprioception. In *Encyclopedia of China – Psychology (The 3rd Edition)*. Encyclopaedia of China Publishing House. Beijing, CHINA  
<https://www.zgbk.com/ecph/words?SiteID=1&ID=26566&Type=bkzyb&SubID=42552>
  
5. ♥ Wilson, A.D, **Zhu, Q.**, Bingham, G. Affordances and the Ecological Approach to Throwing for Long Distance and Accuracy (2019). In M.L. Cappuccio (Eds.) *Handbook of Embodied Cognition and Sport Psychology*, The MIT Press, Cambridge, MA & London, England.

6. ♥ Pradhan, N., Benavides, A., **Zhu, Q.**, & Banic, A.U. (2015). Evaluation of Fatigue Measurement Using Human Motor Coordination for Gesture-Based Interaction in 3D Environments. In *International Symposium on Visual Computing* (pp. 443-452). Springer International Publishing. DOI: 10.1007/978-3-319-27863-6.
7. ♥ **Zhu, Q.**, & Bingham, G.P. (2009). Investigating the information used to detect an affordance for maximum distance throws. In J. Wagman & C. Pagano (Eds.) *Studies in Perception and Action X.*, Taylor & Francis Group, LLC. Boca Raton, FL.

Refereed Journals (35 out of 54 as leading or corresponding author):

1. ♥ Todd, R. N., Gong, J., Banic, A. C., & **Zhu, Q.** (2026). Validating the Performance of VR Headset Eye-Tracking Using Gold Standard Eye-Tracker and MoCap System. *Information*, 17(2), 143. <https://doi.org/10.3390/info17020143> (IF = 2.9)
2. ♥ **Zhu, Q.**, & Huang, S. (2025). Detection of Chronic Cognitive-Motor Deficits in Adults with a History of Concussion Using Computerized Eye-Hand Coordination Tasks: Preliminary Experimental Design Study. *Interactive Journal of Medical Research*, 14:e70867 doi: [10.2196/70867](https://doi.org/10.2196/70867). (IF = 2.2)
3. ♥ Liu, K., **Zhu, Q.**, Weidong X. (2025). A complex motor task is required to identify neuroplastic changes in motor control of the lower extremity in anterior cruciate ligament reconstruction patients: A fNIR study. *Frontiers in Human Neuroscience*, Sec. Brain-Computer Interfaces, Volume 19, <https://doi.org/10.3389/fnhum.2025.1595284> (IF = 2.7)
4. ♥ Wang, X.Y., Feng, Z.C., Yang, M.M., Pan, J., Wilson, M., **Zhu, Q.** (2025). Experience modulates visual search strategies and the effectiveness of information pickup to overcome the inversion effect in biological motion perception. *PlosONE* 20(1): e0317290. <https://doi.org/10.1371/journal.pone.0317290> (IF = 3.8).
5. \*Zhang, Z.Q., Feng, Z.C., Gerow, K.G., Wallhead, T., **Zhu, Q.** (2024) Seeing the unseen boundary behind you: Predicting the out-of-bounds of flick serves in playing badminton doubles. *Psychology of Sport and Exercise*, Vol 75, <https://doi.org/10.1016/j.psychsport.2024.102702> (IF = 3.1).
6. \*Song, Y., Li, L., Layer, L., Fairbanks, R., Hughes, G., Smith, D.T., Wilson, M., **Zhu, Q.**, Dai, B. (2024). Unanticipated mid-flight external trunk perturbation increased frontal plane ACL loading variables during sidestep cuttings. *Journal of Sports Sciences*, 1–12. <https://doi.org/10.1080/02640414.2024.2353404>. (IF = 2.3)
7. \*Song, Y., Li, L., Layer, L., Hughes, G., Smith, D.T., Wilson, M., **Zhu, Q.**, Dai, B. (2024). Indirect contact matters: Mid-flight external trunk perturbation increased unilateral anterior cruciate ligament loading variables during jump-landings. *Journal of Electromyography and Kinesiology*. <https://doi.org/10.1016/j.jelekin.2023.102849>. (IF = 2.5)
8. ♥ Wang, X., Smith, D.T., **Zhu, Q.** (2023) A webcam-based machine learning approach for the three-dimensional range of motion evaluation. *PlosONE* 18(10): e0293178. <https://doi.org/10.1371/journal.pone.0293178>. (IF = 3.8).
9. \*Song, Y., Li, L., Layer, L., Fairbanks, R., Jenkins, M., Hughes, G., Smith, D.T., Wilson, M., **Zhu, Q.**, Dai, B. (2023). Indirect contact matters: Mid-flight external trunk perturbation increased

unilateral anterior cruciate ligament loading variables during jump-landings. *Journal of Sport and Health Sciences*. 12(4), 534-543. <https://doi.org/10.1016/j.jshs.2022.12.005>. (IF = 13.1)

10. \*♥Arrude, D., Dai, B., Readdy, T., McRea, S., **Zhu, Q.** (2022). Sequential focus of attention instructions influenced motor performance of volleyball setting despite direction of focus but dependent on motor expertise of the player. *International Journal of Sport and Exercise Psychology*. <https://doi.org/10.1080/1612197X.2022.2138495> (IF = 4.0)
11. \$♥Wang, X., Wilson, M., Ma, G., Dong, M., Song, Y., **Zhu, Q.** (2022). Extended visuomotor experience with inverted movements can overcome the inversion effect in biological motion perception. *Scientific Reports* 12, 17538 (2022). <https://doi.org/10.1038/s41598-022-21000-1> (IF = 5.0).
12. \*♥Huang, S., Layer, J., Smith, D., Bingham, G., **Zhu, Q.** (2022). The effect of movement frequency on perceptual-motor learning of a novel bimanual coordination pattern. *Human Movement Science*. <https://doi.org/10.1016/j.humov.2022.102958> (IF = 2.2)
13. \*\$♥Huang, S., Layer, J., Smith, D., Bingham, G. P., & **Zhu, Q.** (2021). Training 90° bimanual coordination at high frequency yields dependence on kinesthetic information and poor performance of dyadic unimanual coordination. *Human Movement Science*. <https://doi.org/10.1016/j.humov.2021.102855> (IF = 2.2)
14. \*Herth, R. A., **Zhu, Q.**, & Bingham, G. P. (2021). The role of intentionality in the performance of a learned 90° bimanual rhythmic coordination during frequency scaling: data and model. *Experimental Brain Research*, 239, 3059–3075. <https://doi.org/10.1007/s00221-021-06173-x> (IF = 2.4)
15. \*♥Li, L., Baur, M., Baldwin, K., Kuehn, T., **Zhu, Q.**, Herman, D., Dai, B. (2020). Falling as a strategy to decrease knee loading during landings: Implications for ACL injury prevention. *Journal of Biomechanics*. <https://doi.org/10.1016/j.jbiomech.2020.109906> (IF = 2.6)
16. \*♥Peng, Y., **Zhu, Q.**, Wang, B., & Ren, J. (2020). A cross-sectional study on interference control: age affects reactive control but not proactive control. *PeerJ*, 8, e8365. <https://doi.org/10.7717/peerj.8365> (IF = 2.4)
17. \*\$♥ Huang, SC, Van Syoc, B., Yang, RN, Kuehn, T., Smith, D, & **Zhu, Q.** (2021) Using visual and/or kinesthetic information to stabilize intrinsic bimanual coordination patterns is a function of movement frequency. *Psychological Research*. <https://doi.org/10.1007/s00426-020-01288-2> (IF = 2.9)
18. ♥ Dong, M., Lyu, J., Hart, T. & **Zhu, Q.** (2019) Should agility training for novice badminton players be physically or perceptually challenging? *Journal of Sports Medicine and Physical Fitness*, 59(12), 2015-2021. <https://doi.org/10.23736/s0022-4707.19.09666-x> (IF = 1.7).
19. \*\$♥ Huang, S., Dai, B.Y., **Zhu, Q.** (2019) Advantage of early focus on visual information in bi-modal training of bimanual coordination. *Multisensory Research*, 32(7), 613-633. <https://doi.org/10.1163/22134808-20191424> (IF = 2.3)
20. \*Critchley, M., Davis, D., Keener, M., Layer, J., Wilson, M., **Zhu, Q.**, & Dai, B. (2019) The effects

of mid-flight whole-body and trunk rotation on landing mechanics: Implications for Anterior Cruciate Ligament Injuries. *Sports Biomechanics*.

<https://doi.org/10.1080/14763141.2019.1595704> (IF = 1.1).

21. \*Hinshaw, T.J., Davis, D.J., Layer, J.S., Wilson, M.A., **Zhu, Q.**, Dai, B. (2018) Mid-flight lateral trunk bending increased ipsilateral leg loading during landing: a center of mass analysis. *Journal of Sports Sciences*, 37(4), 414-423. <https://doi.org/10.1080/02640414.2018.1504616> (IF = 2.8)
22. <sup>S♥</sup> Bingham, G.P., Snapp-Childs, W., **Zhu, Q.** (2018) Information about relative phase in bimanual coordination is modality specific (not amodal), but kinesthesia and vision can teach one another. *Human Movement Science*, 60, 98-106. <https://doi.org/10.1016/j.humov.2018.05.010> (IF = 1.9)
23. \*Beard, B., McCollum, M.R., Hinshaw, T., Layer, J.S., Wilson, M.A., **Zhu, Q.**, Dai, B. (2018). Lower extremity kinematics differed between a controlled drop-jump and volleyball-takeoffs. *Journal of Applied Biomechanics*, 34(4), 327-335. <https://doi.org/10.1123/jab.2017-0286> (IF = 1.1)
24. ♥Dai, B., Hinshaw, T.J., Trumble, T.A., Wang, C., Ning, X., & **Zhu, Q.** (2018). Lowering minimum eye height to increase peak knee and hip flexion during landing. *Research in Sports Medicine*, 26(3), 251-261. <https://doi.org/10.1080/15438627.2018.1447477> (IF = 1.8)
25. \*♥ Stephenson, M.L., Hinshaw, T.J., Wadley, H.A., **Zhu, Q.**, Wilson, M., Byra, M., & Dai, B.Y. (2017) Effects of timing of signal indicating jump directions on knee biomechanics in jump-landing-jump tasks. *Sports Biomechanics*, 17(1), 67-82. <https://doi.org/10.1080/14763141.2017.1346141> (IF = 0.8)
26. <sup>S♥</sup> **Zhu, Q.**, Mirich, T., Huang, S.C., Snapp-Childs, W., Bingham, G. (2017) When kinesthetic information is neglected in learning a novel bimanual rhythmic coordination. *Attention, Perception & Psychophysics*, 79(6), 1830-1840. <https://doi.org/10.3758/s13414-017-1336-3> (IF = 1.9)
27. \*♥ Peng, J.Y., Li, A.M., & **Zhu, Q.** (2018) Motor expertise interacts with physical enactment to enhance action memory. *Journal of Sports Sciences*. 36(2), 198-205. <https://doi.org/10.1080/02640414.2017.1291985> (IF = 2.8)
28. ♥Dai, B.Y., Cook, R.F., Meyer, E.A., Sciascia, Y., Hinshaw, T.J., Wang, C.Y., **Zhu, Q.** (2017) The effect of a secondary cognitive task on landing mechanics and jump performance. *Sports Biomechanics*, 17(2), 192-205. <https://doi.org/10.1080/14763141.2016.1265579> (IF = 1.2)
29. \*<sup>S♥</sup> Alphonsa, S., Dai, B.Y., Benham-Deal, T., & **Zhu, Q.** (2017) Interaction of perception and action in discrete and continuous rapid aiming tasks. *Journal of Motor Behavior*, 49(5), 524-532. <http://doi.org/10.1080/00222895.2016.1241752> (IF = 1.4)
30. ♥ Wilson, A., **Zhu, Q.**, Stanistreet, I., Barham, L., & Bingham, G. (2016) A dynamical analysis of the suitability of prehistoric spheroids from the Cave of Hearths as thrown projectiles. *Scientific Reports*, 6: 30614. <http://doi.org/10.1038/srep30614> (IF = 5.2).
31. ♥ Wilson, A., Weightman, A., Bingham, G., & **Zhu, Q.** (2016). Using task dynamics to quantify the affordances of throwing for distance and accuracy. *Journal of Experimental Psychology: Human Perception and Performance*, 42(7), 965-981. <https://doi.org/10.1037/xhp0000199> (IF =

3.4)

32. \*♥ Guo, W., Wang, B., Lu, Y., **Zhu, Q.**, Shi, Z., & Ren, J. (2016) The relationship between different exercise modes and visuospatial working memory in older adults: a cross-sectional study. *PeerJ* 4: e2254. <http://doi.org/10.7717/peerj.2254> (IF = 2.2)
33. ♥ Dai, B., Stephenson, M.L., Ellis, S., Donohue, M.R., Ning, X., & **Zhu, Q.** (2016) Concurrent tactile feedback provided by a simple device increased knee flexion and decreased impact ground reaction forces during landing. *Journal of Applied Biomechanics*, 32(3):248-253. <http://doi.org/10.1123/jab.2015-0220> (IF = 0.98)
34. \* Fisher, H., Stephenson, M.L., Graves, K.K., Hinshaw, T.J., Smith, D.T., Wilson, M.A., **Zhu, Q.**, & Dai, B. (2016). The relationship between force production during isometric squats and knee flexion angles during landing. *Journal of Strength and Conditioning Research*, 30(6):1670-1679. <http://doi.org/10.1519/JSC.0000000000001264> (IF = 2.1)
35. \*S♥ Alphonsa, S., Dai, B.Y., Bingham-Deal, T., & **Zhu, Q.** (2016). Combined visual illusion effects on the perceived index of difficulty and movement outcomes in discrete and continuous Fitts' tapping. *Psychological Research*, 80(1), 55-68. <https://doi.org/10.1007/s00426-014-0641-x> (IF = 2.9)
36. \* Heinbaugh, E.M., Smith, D.T., **Zhu, Q.**, Wilson, M.A., & Dai, B.Y. (2015). The effect of time-of-day on static and dynamic balance in recreational athletes. *Sports Biomechanics*, 14(3):361-73. <https://doi.org/10.1080/14763141.2015.1084036> (IF = 0.9)
37. \*Wilson, M., Dai, B., **Zhu, Q.**, & Humphrey, N. (2015). Estimating trunk muscle compressive force in rope and harness vertical dance. *Journal of Dance Medicine and Science*, 19(4), 163-172. <http://dx.doi.org/10.12678/1089-313X.19.4.163> (SJR = 0.2)
38. \*Donohue, M. R., Ellis, S. M., Heinbaugh, E. M., Stephenson, M. L., **Zhu, Q.**, & Dai, B. (2015). Differences and correlations in knee and hip mechanics during single-leg landing, single-leg squat, double-leg landing, and double-leg squat tasks. *Research in Sports Medicine*, 23(4), 394-411. <https://doi.org/10.1080/15438627.2015.1076413> (IF = 1.7)
39. \*♥Guo, W., Ren, J., Wang, B., **Zhu, Q.** (2015). Effects of relaxing music on mental fatigue induced by a continuous performance task: Behavioral and ERPs evidence. *PLoS ONE* 10(8): e0136446. <http://doi.org/10.1371/journal.pone.0136446> (IF = 3.5)
40. S♥ Ren, J., Huang, S.C., Zhang, J.C., **Zhu, Q.**, Wilson, A.D., Snapp-Childs, W., & Bingham, G.P. (2015) The 50's Cliff: A decline in perceptuo-motor learning, not a deficit in visual motion perception. *PLoS ONE* 10(4): e0121708. <http://doi.org/10.1371/journal.pone.0121708> (IF = 3.5)
41. S♥ **Zhu, Q.**, & Bingham, G.P. (2014). Seeing where the stone is thrown by observing a point-light thrower: Perceiving the effect of action is enabled by information not motor experience. *Ecological Psychology*, 26, 229-261. <https://doi.org/10.1080/10407413.2014.957969> (IF = 2.1)
42. ♥Dai, B., Heinbaugh, E.M., Ning, X. & **Zhu, Q.** (2014). A resistance band increased internal hip abduction moment and gluteus medius activation during pre-landing and landing. *Journal of Biomechanics*, 47(15), 3674–3680. <https://doi.org/10.1016/j.jbiomech.2014.09.032> (IF = 2.7).

43. <sup>S♥</sup> **Zhu, Q.**, Mirich T., & Bingham, G.P. (2014). Perception of relative throw-ability. *Experimental Brain Research*, 232(2), 395-402. <https://doi.org/10.1007/s00221-013-3747-2> (IF = 2.2)
44. <sup>S♥</sup> **Zhu, Q.** Expertise of using striking techniques for power stroke in badminton (2013). *Perceptual and Motor Skills*, 117(2), 427-441. <https://doi.org/10.2466/23.25.PMS.117x24z2> (IF = 1.6)
45. <sup>♦S♥</sup> **Zhu, Q.** (2013). Perceiving the affordance of string tension for power strokes in badminton: Expertise allows effective use of all string tensions. *Journal of Sports Sciences*, 31(11), 1187-1196. <http://doi.org/10.1080/02640414.2013.771818> (IF = 2.1)
46. <sup>S♥</sup> **Zhu, Q.**, Shockley, K., Riley, M.A., Tolston, M.T., & Bingham, G.P. (2013). Felt heaviness is used to perceive the affordance for throwing but rotational inertia does not affect either. *Experimental Brain Research*, 224, 2, 221-231. <https://doi.org/10.1007/s00221-012-3301-7> (IF = 2.2)
47. <sup>S♥</sup> **Zhu, Q.**, & Bingham, G.P. (2011). Human readiness to throw: the size-weight illusion is not an illusion when picking the best objects to throw. *Evolution and Human Behavior*, 32, 288-293. <https://doi.org/10.1016/j.evolhumbehav.2010.11.005> (IF = 3.9)
48. <sup>S♥</sup> **Zhu, Q.**, & Bingham, G.P. (2010) “*The Size-Weight Illusion Is Not An Illusion When Picking The Best Objects to Throw*”. Available from *Nature Precedings*. <https://www.nature.com/articles/npre.2010.4584.1> (IF = 2.9)
49. <sup>S♥</sup> **Zhu, Q.**, & Bingham, G.P. (2010). Learning to perceive the affordance for long distance throwing: Smart mechanism or function learning. *Journal of Experimental Psychology: Human Perception and Performance*, 36, 4, 862-875. <https://doi.org/10.1037/a0018738> (IF = 3.1)
50. <sup>S♥</sup> **Zhu, Q.**, & Bingham, G.P. (2009). Learning to throw to maximum distances: Do release angle and speed reflect affordances for throwing? *Human Movement Science*, 28, 6, 708-725. <https://doi.org/10.1016/j.humov.2009.07.005> (IF = 2.1)
51. <sup>S♥</sup> **Zhu, Q.**, & Bingham, G.P. (2008). Is hefting to perceive the affordance for throwing a smart perceptual mechanism? *Journal of Experimental Psychology: Human Performance and Perception*, 34, 4, 929-943. <http://doi.org/10.1037/0096-1523.34.4.929> (IF = 3.1)
52. ♥ Ren, J., Zhang, J.C., Yang, Y., Jin, Y.H., **Zhu, Q.**, & Li, N.H. (2001). Research on attentional demand during implicit motor learning. *Journal of Psychological Science*, 24(4), Shanghai, China. (CSSCI-IF = 0.98)
53. Ren, J., Zhang, J.C., Yang, Y., Jin, Y.H., **Zhu, Q.**, & Li, N.H. (2001). The implicit learning and distractive practice in motor skill learning: Coping with the stress. *Sport Science*, 21(3), Beijing, China. (CSSCI-IF = 1.95)
54. <sup>S♥</sup> **Zhu, Q.**, Zhang, J.C., Jin, Y.H., & Li, N.H. (2000). Status quo of research on selective attention in contemporary sports. *Academic Journal of Shanghai Physical Education Institute*, 24(4), Shanghai, China. (CSSCI-IF = 1.54)

➤ **Presentations:**

International / National

1. Huang, S., Mori, K., Chen, J., **Zhu, Q.**, Kwon, Y. “*Ocular-Motor Coupling Reveals the Selective Use of Visual Information in Rhythmic Joint Action*” Oral presentation at the NASPSPA conference, Montreal, Canada, June 2026.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, VolXX, SXX.
2. Mason, I., Feng, Z., **Zhu, Q.** “*Adaptive Visual Fixation Subserving Successful Basketball Shooting*” Oral presentation at the NASPSPA conference, Montreal, Canada, June 2026.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, VolXX, SXX.
3. Todd, R.N., Giraldo, A., Brongo, L., Gong, J., **Zhu, Q.** “*Mind and Mission: Quantifying Virtual Navigation Performance under Stress using Biobehavioral Markers*”, verbal presentation at American Society for Gravitational and Space Research (ASGSR) 2025 Conference, December 3-6, 2025, Pheonix, AZ.
4. Feng, Z.C., Mason, I., Torres, M., Song, Y., **Zhu, Q.** “*The Coordination of Upper and Lower Limb Movements in Shooting Basketball from Various Distance: A Pilot Study*”, poster presentation at the American Society of Biomechanics (ASB) Conference, August 13-16, 2025, Pittsburgh, PA.
5. **Zhu, Q.** “*Research on Perceptual-motor Skills*” invited verbal presentation in the research seminar hosted by School of Physical Education in Yunnan University, June 6, 2025, Kunming, Yunnan Province, China.
6. Todd, R.N., Gong, J., Banic, A., **Zhu, Q.** “*Validating the performance of VR headset eye-tracking using gold standard eye-tracker and mocap system*” poster presentation at the 62<sup>nd</sup> International Biomedical Sciences Instrumentation Symposium-Rocky Mountain Bioengineering Symposium, April 11-12, 2025, St. George, UT.
7. Todd, R.N., Gong, J., **Zhu, Q.** “*Assessing human operational performance in simulated stressful conditions using multi-modal biobehavioral markers*” poster presentation at the 2025 NASA Human Research Program Investigators’ Workshop, January 28-31, 2025, Galveston, TX.
8. Zhang, Z.Q., Feng, Z.C, Wallhead, T., Gerow, K., **Zhu, Q.** “*The expertise of using nested affordances for predicting out-of-bounds of flick serves in playing badminton doubles*” Poster presentation at the XXII International Conference on Perception and Action (ICPA), June 25-28, Trondheim, Norway 2024.
9. Feng, Z.C., Song, Y., **Zhu, Q.** “*The coordination of upper-lower limb movements in shooting basketball with changing distances: A pilot study*” Poster presentation at the 42<sup>nd</sup> International Society of Biomechanics in Sports (ISBS) conference, July 15-19, Salzburg, Austria 2024.
10. Song, Y., Hughes, G., Smith, D., **Zhu, Q.**, Dai, B. “*Falling Decreased ACL Loading Variables During Single-Leg Landings After Mid-Flight External Trunk Perturbation*” Oral presentation at the 41<sup>st</sup> International Society of Biomechanics in Sports (ISBS) conference, July 12-16, Milwaukee, WI 2023.
11. Palmer, C., Cheng, X., Huang, S.C., Bingham, G., **Zhu, Q.** “*Effects of Intentionality and Frequency on Maintaining a Learned Dyadic Coordination*” Oral presentation at the NASPSPA conference, June 1-4, Toronto, Ontario, Canada 2023.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, Vol45, S41.
12. **Zhu, Q.**, Song, Y., Dai, B., Wilson, M., Dong, M., Ma, G., Yang, Y., Wang, X. “*The Sensitivity of Vertical Dancers in Detecting Artificially Inverted Dance Movements in Point-Light Displays*” Oral presentation at the NASPSPA conference, Waikoloa Beach, Hawaii, May 2022.

Refereed abstract published in *Journal of Sport & Exercise Psychology*, Vol44, S61.

13. Wang, X.M., **Zhu, Q.**, & Smith, D.T. (2022). “*Three-dimensional full-body range of motion: A machine learning-based approach*”. Oral presentation at the Southern Ontario Motor Behavior Symposium, Guelph, ON, Canada.
14. Li, J., Gao, B., Dai, B., **Zhu, Q.**, Li, L., Li, R. (2021) “*The effects of eight-week sports-specific training on the kinematics of double-pole techniques in novice cross-country skiers*”, ISBS Proceedings Archive: Vol. 39: Iss.1, Article27.  
Available at: <https://commons.nmu.edu/isbs/vol39/iss1/27>
15. Herth, R.A., **Zhu, Q.**, Bingham, G. “*Responses to frequency scaling of 90° rhythmic coordination: When the switching of modes entails a switch in information*” Oral presentation at the NASPSPA conference, Vancouver, Canada, June 2020.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, Vol42, S38.
16. Huang, S., **Zhu, Q.**, Layer, J., Dai, B., Yang, J., Bingham, G. “*The effect of training frequency on learning and transfer of a novel pattern of bimanual coordination*” Oral presentation at the NASPSPA conference, Vancouver, Canada, June 2020.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, Vol42, S40.
17. **Zhu, Q.**, Huang, S., Dai, B., Yang, J., Bingham, G. “*Scanning frequency affects coordination performance independent of scanning direction*” Oral presentation at the NASPSPA conference, Vancouver, Canada, June 2020.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, Vol42, S64.
18. **Zhu, Q.** “*The roles of visual and kinesthetic information in learning and control of bimanual coordination*” Invited keynote speaker at School of Psychology, Shanghai University of Sport, May 2019.
19. Huang, S.C., Van Syoc, B., Yang, R.N., Kuehn, T., Smith, D., & **Zhu, Q.** “*Using visual and/or kinesthetic information to stabilize intrinsic bimanual coordination patterns is a function of movement frequency*” Oral presentation at the NASPSPA conference, Baltimore, MD, June 2019.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, Vol41, S34.
20. Hopkin, A., Huang, S.C., **Zhu, Q.** “*Using an eye-hand coordination task to screen people with a history of mTBI*” Oral presentation at the NASPSPA conference, Baltimore, MD, June 2019.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, Vol41, S34.
21. Huang, S.C., Dai, B. & **Zhu, Q.** “*Using coordination tasks to screen people with a history of mTBI*” Oral presentation at the NASPSPA conference, Denver, CO, June 2018.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, Vol40, S52.
22. **Zhu, Q.** “*Scope and Implications of Motor Behavior Research*” Invited WeChat Lecture by International Chinese Society for Physical Activities and Health (ICSPAH), October 28, 2017.
23. Huang, S.C., **Zhu, Q.** “*Establishing thresholds for visual discrimination of intrinsic and novel coordination patterns*” Free communication/slide session at the 2017 Annual Meeting, World Congress on Exercise is Medicine, and World Congress on the Basic Science of Exercise and the Brain of the American College of Sports Medicine, Denver Convention Center, Denver, Colorado, June 2, 2017. Refereed abstract published in *Medicine and Science in Sports and Exercise*, 49:5 Supplement.
24. Wilson, A., **Zhu, Q.**, Stanistreet, I., Barham, L., & Bingham, G. “*Task Dynamics and The Affordances of Prehistoric Spheroids for Throwing*”. Oral paper presented at European Workshop on Ecological Psychology, Groningen, Netherlands, July 6, 2016.

25. Meyer, E., Sciascia, Y., Cook, R., Hinshaw, T., Wang, C.Y., **Zhu, Q.**, Dai, B.Y. “*The Effect of a Secondary Cognitive Task on Lower Extremity Biomechanics and Performance during Landing*” Poster presented at the 40<sup>th</sup> annual conference of the American Society of Biomechanics, Raleigh, NC, August 2016.
26. Dai, B.Y., Hinshaw, T., Trumble, T., Cosgrove, M., Wang, C.Y., **Zhu, Q.**, “*Lowering Eye Height to Increase Knee and Hip Flexion during Landing*” Poster presented at the 40<sup>th</sup> annual conference of the American Society of Biomechanics, Raleigh, NC, August 2016.
27. Bingham, G.P., Snapp-Childs, W., **Zhu, Q.**, Huang, S.C. “*On the importance of inter-sensory redundancy: Learning a new rhythmic coordination pattern using one mode (vision vs kinesthesia) can teach performance using the other mode*” Poster presented at the Vision Sciences Society (VSS) conference, Naples, FL, May 2016.  
Refereed abstract published in *Journal of Vision*
28. Huang, S.C., & **Zhu, Q.**, “*Combined Visual-Kinesthetic Training Alleviated Visual Dominance Effect in Visual Learning of Bimanual Coordination*” Poster presented at the NASPSPA conference, Montreal, Canada, June 2016.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, S38, 70.
29. Hart, T.P., & **Zhu, Q.**, “*Effects of Pattern Running vs. Reactive Initiation Training on Badminton On-court Agility*” Poster presented at the NASPSPA conference, Montreal, Canada, June 2016.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, S38, 65.
30. Peng, J.Y., & **Zhu, Q.**, “*The Effects of Memory Style and Motor Experience on Action Memory*” Poster presented at the NASPSPA conference, Montreal, Canada, June 2016.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, S38, 241.
31. Wilson, M., Feehan, S., Peng, J.Y., Dai, B.Y., & **Zhu, Q.** “*Visual discrimination of dance movements performed on the ground and in the air*” 10-minute verbal presentation at the International Association for Dance Medicine & Science (IADMS) 26th Conference, Hong Kong, October 20 -23, 2016.
32. **Zhu, Q.**, Dahill, A., Tryon, D., Dai, B., Lv, J. “*The influence of musical training on lifting bottles of unknown weights*” Poster presented at the NASPSPA conference, Portland, OR, June 2015.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, S37, 69.
33. Huang,S.C., Ren, J., Zhang, J., Bingham, G., **Zhu, Q.**, “*Haptic information is more reliable than visual information in learning a novel pattern of bimanual coordination*” Oral paper presented at the NASPSPA conference, Portland, OR, June 2015.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, S37, 44.
34. Stephenson, M., Hinshaw, T., Trumble, T., **Zhu, Q.**, Dai, B. “*The effects of stimulus timing on the kinematics of a directed jump landing*” Oral paper presented at the 39<sup>th</sup> annual conference of the American Society of Biomechanics, Columbus, OH, August 2015.
35. **Zhu, Q.**, Huang,S.C., Ren, J., Zhang, J.C., Wilson, A.D., Snap-Childs, W., & Bingham, G.P. “*Older adults exhibit impaired perceptuo-motor learning of novel coordination patterns and it is not just poor visual motion perception*” Poster presented at the NASPSPA conference, Minneapolis, MN, June 2014.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, S36, 57.
36. Mirich, T., **Zhu, Q.**, Wilson, A.D., & Bingham, G.P. “*Learning of novel coordination patterns is information mode specific and vision dominates*” Poster presented at the NASPSPA conference, Minneapolis, MN, June 2014.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, S36, 44.

37. Alphonsa, S., Dai, B.Y., Benham-Deal, T. & **Zhu, Q.** “*The differential effect of the perceived index of difficulty on the movement outcomes of discrete and continuous tapping*” Oral paper presented at the NASPSPA conference, Minneapolis, MN, June 2014.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, S36, 18.
38. Dai, B., **Zhu, Q.**, Ning, X., & Leigh, S. “*Video-based motion capture to calculate 3D knee kinematics and kinetics during landing*” Poster presented at the 7th World Congress of Biomechanics, Boston, MA, July 2014.
39. Dai, B., Heignbaugh, E.M., Ning, X., **Zhu, Q.**, “*A resistance band increased internal hip abduction moments and gluteus medius activation during pre-landing and landing*” Oral paper presented at the 7th World Congress of Biomechanics, Boston, MA, July 2014.
40. Dai, B., Stephenson, M., Ellis, S., Donohue, M., & **Zhu, Q.** “*Landing training with tactile feedback helped to increase maximum knee flexion angle and decrease impact forces*” Poster presented at the 32nd International Society of Biomechanics in Sport (ISBS), Johnson City, TN, July, 2014.
41. **Zhu, Q.** “*On the Affordance of Throwing*” Invited oral presentation to the Department of Applied Psychology, Shanghai University of Sport, Shanghai, CHINA, June 6, 2013.
42. **Zhu, Q.** “*Judging the Destination of Throwing in Point Light Display: Testing the Motor Theory for Perception of Action*” Invited oral presentation in the forum of “*On the Motor Theory of Biological Motion Perception: Events and Actions as Dynamically Modeled Spatial-Temporal Objects*” at the Department of Physical Education, Shanghai University of Finance and Economics, Shanghai, CHINA, June 7, 2013.
43. Donohue, M.R., Ellis, S.M., Heinbaugh, E.M., **Zhu, Q.**, & Dai, B. “*Similarities and differences in knee mechanics between single leg squat and single leg jump*” Poster presented at the 37<sup>th</sup> annual meeting of the American Society of Biomechanics (ASB), Omaha, NE, Aug 2013.
44. Wilson, M., Dai, B., **Zhu, Q.**, & Humphrey, N. “*Estimating trunk compression force in vertical dance*”. Poster presented at International Association for Dance Medicine & Science Meeting. Seattle, WA, 2013.
45. Wilson, M., Dai, B., **Zhu, Q.**, & Humphery, N. “*Estimating trunk muscle force in vertical dance*” Poster presented at the 37<sup>th</sup> annual meeting of the American Society of Biomechanics (ASB), Omaha, NE, Aug 2013.
46. Alphonsa, S., & **Zhu, Q.** “*The perceived index of difficulty determines the accuracy of the discrete tapping*” Poster presented at the NASPSPA conference, New Orleans, LA, June 2013.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, S35, 17.
47. **Zhu, Q.**, Wilson, A.D., & Bingham, G.P. “*Common coding not supported: Expert and novice throwers viewing point-light displays of self vs other’s throwing motions to judge target locations*” Poster presented at the Vision Sciences Society (VSS) conference, Naples, FL, May 2013.  
Refereed abstract published in *Journal of Vision*, 13(9), 761.
48. Mirich, T., **Zhu, Q.**, Bingham, G.P. “*Relative throw-ability of objects of varying size and weight is perceivable as revealed by magnitude estimation methods*” Poster presented at the Vision Sciences Society (VSS) conference, Naples, FL, May 2013.  
Refereed abstract published in *Journal of Vision*, 13(9), 680.
49. Wilson, A.D., Weightman, A., **Zhu, Q.**, Bingham, G.P. “*Using dynamical simulations to quantify affordances in the task space for throwing to hit distant targets*” Poster presented at the Vision Sciences Society (VSS) conference, Naples, FL, May 2013.

Refereed abstract published in *Journal of Vision*, 13(9), 749.

50. **Zhu, Q.**, Lv, J. “*Expert release control in response to changing spatial properties of a remote target*” Poster presented at the NASPSPA conference, Honolulu, HI, June 2012.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, S34, 149.
51. Alphonsa, S., & **Zhu, Q.** “*The perceived index of difficulty affected accuracy more than movement time in a rapid tapping task*” Poster presented at the NASPSPA conference, Honolulu, HI, June 2012.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, S34, 65.
52. Falvey, J., & **Zhu, Q.** “*The effect of transcutaneous electrical nerve stimulation combined with mental practice to learn a novel fine motor skill*” Poster presented at the NASPSPA conference, Honolulu, HI, June 2012.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, S34, 83.
53. **Zhu, Q.**, Leonard, K., & Falvey, J. “*The roles of self identity and expertise in judging spatial properties of a hidden remote target in point-light-display of aimed throwing*” Poster presented at the NASPSPA conference, Honolulu, HI, June 2012.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, S34, 103.
54. **Zhu, Q.** “*Assessing string tension effect on badminton power stroke performed by players at different levels*” Poster presented at the 12<sup>th</sup> Measurement and Evaluation Symposium: New approaches in measuring and assessing physical activity, Boston, MA, March, 2012.
55. **Zhu, Q.** “*Perception and Action Approach to Study Skill Acquisition in Sport and Rehabilitation*” Invited oral presentation to the Department of Psychology, Suchow University, Suzhou, CHINA, June, 2011.
56. **Zhu, Q.** “*Research on Affordances in Sport*” Invited oral presentation to the Graduate School, Shanghai University of Sport, Shanghai, CHINA, June, 2011.
57. **Zhu, Q.**, & Ravi, R.P. “*Effects of target height and distance on the release control of long distance aimed overarm throwing*” Poster presented at the 8th Progress in Motor Control Meeting (PMC VIII), University of Cincinnati, Ohio, USA, July, 2011. (Accepted but withdrew due to graduate student leaving).
58. **Zhu, Q.** & Ravi, R.P. “*Expert Throwers can Perceive Spatial Properties of a Remote Target in Point-Light Display of Self Throws prior to Release*” Poster presented at the NASPSPA Conference, Burlington, VT, June , 2011.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, S33, 98.
59. **Zhu, Q.** “*Does String Tension Make Sense to Badminton Players?- A Study on The Affordance of String Tension*” Oral paper presented at the NASPSPA Conference, Burlington, VT, June , 2011.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, S33, 125.
60. **Zhu, Q.**, Dapena, J., Shea, J.B., & Bingham, G.P. “*Effects of Object Size and Weight on the Kinematics of Throwing During Acquisition of Maximum Distance Throws*” Poster presented at the NASPSPA Conference, Austin, TX, June 2009.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, 31S, 107.
61. Bingham, G.P & **Zhu, Q.** “*Hefting to Perceive Affordances for Maximum Throwing Distances is a Smart Perceptual Mechanism*” Oral paper presented at the International Conference on “A Natural-Physical Perspective on Perception-Action-Cognition”, Storrs, CT, June, 2008.
62. **Zhu, Q.**, & Shea, J.B. “*The Effect of Practice Order on Learning Three Simple Motor Tasks*”

Poster presented at the NASPSPA/ACSM Conference, Denver , CO, June, 2006.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, 28S, 197.

63. **Zhu, Q.**, & Shea, J.B. “*The Grouping Effect on Simple Motor Task Switching*”, Seminar paper presented at the NASPSPA Conference, St. Pete’s Beach, FL, June, 2005.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, 27S, 164.
64. Parry, T.E., Shea, J.B. & **Zhu, Q.** (2005). “*Task Switching effects of a single-segment stimulus on the performance of a multi-segment motor task*” Seminar paper presented at the NASPSPA Conference, St. Pete’s Beach, FL, June, 2005.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, 27S, 121.
65. **Zhu, Q.**, & Shea, J.B. “*The Effect of Switch Practice and Amount of Pre-switch Trials On Task Switching Performance*” Oral paper presented at the AAHPERD National Convention, Chicago, IL, April, 2005.
66. **Zhu, Q.**, & Shea, J.B. “*The Effect of Practice on Task Switching Performance*” Poster presented at the NASPSPA Conference, Vancouver, Canada, June, 2004.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, 26S, 205.
67. **Zhu, Q.**, & Chen, D.P. “*Research on Selective Attention in Modern Badminton Competition with the Technique of Spatial Occlusion*” Poster presented at the NASPSPA Conference, Savannah, GA, June, 2003.  
Refereed abstract published in *Journal of Sport & Exercise Psychology*, 25S, 144.

#### Regional / State

1. **Zhu, Q.** “*Perceptual-motor Learning of Bimanual Coordination and Applications*” invited talk by Department of Health and Exercise Science, Colorado State University, Fort Collins, CO, April 29, 2016.
2. **Zhu, Q.** “*Distinct Visual-motor Control in Discrete and Continuous Fitts’ Tapping*” invited talk by Department of Psychology, Colorado State University, Fort Collins, CO, February 13, 2015.
3. **Zhu, Q.**, Shea, J.B., & Bingham, G.P. “*How People Became Sensitive to the Throwability of an Object: Learning Affordances while Learning to Throw*” Poster presented at the 79<sup>th</sup> Annual Convention of Rocky Mountain Psychological Association, Albuquerque, NM, April, 2009.

#### University / Local

1. **Zhu, Q.** “*Studies of Throwing Affordances Inform the Function of Prehistoric Spheroids from the Cave of Hearths*” Invited Talk presented at UW Anthropology Seminar, Laramie, WY, December 8, 2017.
2. **Zhu, Q.** “*Functional Release Control for Successful Long Distance Targeted Throwing*” Oral paper presented at the College of Health Sciences Grand Rounds, Laramie, WY, April, 2013.
3. **Zhu, Q.** “*Does String Tension Make Sense to Badminton Players: A Study of the Affordances of String Tension*” Oral paper presented at the K&H Research Seminar, Laramie, WY, April , 2011.
4. **Zhu, Q.** “*THE SIXTH SENSE: Hefting to Perceive the “Throwability” – A Smart Perception Emerged from Action*” Invited oral paper presented at the UW Physiology Club Seminar, Laramie, WY, April, 2009.
5. Bingham, G.P. & **Zhu, Q.** “*Hefting to perceive the Affordance for Maximum Throwing Distance is a Smart Perceptual Mechanism*” Invited oral paper presented at the Cognitive Lunch at Indiana

University, Bloomington, IN, November 2008.

6. **Zhu, Q.** “*The Perceptual Information of the Affordance for Throwing*” Invited oral presentation at the Center for Cardiovascular Research and Alternative Medicine (C-CRAM), University of Wyoming, Laramie, WY, September 2008.

### ➤ **Other Publications:**

1. **Zhu, Q.**, & Chen, D.P. (2002). “Investigating the selective attention in badminton competition using visual occlusion technique”, *Unpublished Thesis for Master of Education degree, Shanghai University of Sport*.
2. **Zhu, Q.**, & Dai, J.B. (1999). “On the specific speed of Badminton”, *China Badminton Coach*, Shanghai, China.
3. Wilson, A. D., Huang, S., **Zhu, Q.**, & Bingham, G. P. (2018, February 20). Age and the Egocentric Constraint on Coordination Stability: An Exploratory Report. <https://doi.org/10.31234/osf.io/hcef2>

### ➤ **Patent or Copyright**

1. *Motion Tracking Synchronization In Virtual Reality Spaces* by Todd, R.N., **Zhu, Q.**, & Smith, D.T. Pub. No.: US 2020/0410695 A1 / Pub. Date: Dec. 31, 2020.
2. *Software Rendering Real-time Motion Tracking Using Body-attached Sensors in Virtual Reality* by Todd, R.N. and **Zhu, Q.**
  - Software copyright (TXu002080957) effective on December 21, 2017.
  - NASA Technology Transfer System e-NTR #: 1526664571 Case #: HQN-11545-1 Docket #: 18-086 Report Date: 2018-06-25

### ➤ **Work in Progress:**

#### Manuscript under Review:

1. Feng, Z.C, Genoese, F., Kriegel, Z., **Zhu, Q.** The Temporal Specificity of Motor Coordination Subservicing Successful Basketball Shots. Submitted to *International Journal of Sports Medicine* (IF = 2.2)
2. Song, Y., Gilbert, R., Genoese, F., **Zhu, Q.**, Fong, D., Dai, B. Influence of Landing Strategies on Ankle Biomechanics Related to Lateral Ankle Sprain with and without Mid-air Trunk Perturbation. Submitted to *Journal of Biomechanics* (IF = 2.4)
3. Palmer, C., Genoese, F., Kriegel, Z., **Zhu, Q.** Auditory Cueing in Elite Breaststrokers: Effects of Pace and Attentional Focus on Performance and Coordination. Submitted to *Journal of Sports Medicine and Physical Fitness*. (IF = 1.3)
4. Bretting, K., Wallhead, T., Wilson, M.A., **Zhu, Q.** Understanding Adults' Motivation for Dancing Lindy Hop using Self-Determination Theory. Submitted to *Journal of Dance Medicine and Science* (IF = 1.6)

#### Manuscript under Writing:

1. Wang, XM, Bingham, GP, **Zhu, Q.** Emergent leadership driven by asymmetrical stability shapes Learning in Dyadic Motor Coordination.

### Research Projects in Progress:

1. “*The Attentional Focus Required for Swish Shot in Shooting Basketball at Various Distances*” (in data analysis)
2. “*Developing VR-based Attentional Bias Task for detecting and monitoring Addiction Disorders*” (in data collection)
3. “*Using VR and Multimodal Biometrics to Assess Astronaut Cognitive-Motor State with Simulated Stressors*” (in data collection)

### ➤ ***Student Research Supervision***

#### *Undergraduate Research Advisees (22)*

1. ***Reis Iken***, 2025 Fall – present, undergraduate in Computer Science, funded by Wyoming School of Computing Faculty Fellow Grant
2. ***Ryan Optiz***, 2025 Fall – present, undergraduate in Computer Science, funded by Wyoming School of Computing Faculty Fellow Grant
3. ***Lily Brongo***, 2025 Fall – present, undergraduate in Computer Science, funded by Wyoming NASA EPSCoR Grant and School of Computing SURE program
4. ***Aidan Giraldo***, 2025 Fall – present, undergraduate in Computer Science, funded by Wyoming NASA EPSCoR Grant and School of Computing SURE program
5. ***Isaac Mason***, 2024 Spring – 2025 Spring
6. ***Kiyona Howard***, 2023 Spring – 2024 Spring
7. ***Carly Palmer***, 2022 Spring – 2023 Spring
8. ***Emma White***, 2021 Spring
9. ***Hannah Burke***, 2020 Fall and 2021 Spring
10. ***Autumn Hopkin***, 2018–2019, funded by McNair Scholars Program
11. ***Russell Todd***, 2017–2019, received INBRE & NASA Space Grant undergraduate research fellowship
12. ***Andrew Amen***, 2016 spring & Summer
13. ***Regan Wilson***, 2016 spring
14. ***Sean Feehan***, 2016 spring, received EPSCoR undergraduate research fellowship
15. ***Dakota Anderson***, 2015 summer, received EPSCoR undergraduate summer research fellowship
16. ***Ryan Arey***, 2015 spring, received EPSCoR undergraduate research fellowship
17. ***Kara Purcelley***, 2015 – 2016
18. ***Andrea Dahil***, 2013 fall, received EPSCoR undergraduate research fellowship
19. ***Rob Whittaker***, 2012 spring
20. ***Brandon Stoner***, 2012 summer
21. ***Caitlin Ann Hudak***, 2011 spring
22. ***Todd Mirich***, 2011–2014, supported by the ASPIRE program and received INBRE/EPSCoR undergraduate student research fellowship

#### *Graduate Research Advisees (40)*

#### *As a Chair of Student Research Committee:*

1. ***Stephanie (Chase) Mill***, Plan A Master’s student, 2025-present
2. ***Isaac Mason***, Plan A Master’s student, 2025-present
3. ***Morgan Piltz***, Plan B Masters student, 2025-present

4. **Mingming Yang**, Biomedical Science Doctoral student, 2023–2025 (transferred to Department of Zoology and Physiology starting 2026)
5. **Kareem Mersal**, Plan B Master’s student, 2023-2025
6. **Reilly Gilbert**, Plan A Master’s student, 2023-2025, currently a PhD student in Kinesiology program at Iowa State University  
Thesis Title: *Assessing Effects of Landing Strategy and Mid-Air Perturbation on Kinematics of Lateral Ankle Sprain*
7. **Carly Palmer**, Plan A Master’s student, 2023-2025, currently a doctoral student in Occupational Therapy program at University of Mary, ND  
Thesis Title: *Auditory Cueing in Elite Breaststroke: Effects of Pace and Attentional Focus on Performance and Coordination*
8. **Zhichen Feng**, Plan A Master’s student, 2023-2025, currently a PhD student in Exercise Science program at the University of Kansas  
Thesis Title: *Adjustments of Upper-Lower Limb Coordination for Swishes of Basketball Throws at Various Distances*
9. **Dan Yan**, Plan A Master’s student, 2021-2023, currently a PhD student in industry engineering at New Jersey Institute of Technology  
Thesis Title: *The effects of expertise and movement frequency on the inter-joint coordination and motor-respiratory coordination of cross-county skiers in performing a simulated double-pole task*
10. **Zuoqi Zhang**, Plan A Master’s student, 2020-2023, currently working for General Administration of Sport of China in Beijing, CHINA  
Thesis Title: *Seeing the unseen boundary behind you: predicting the out-of-bounds of flick serves in playing badminton doubles*
11. **Danilo Arruda**, Plan A Masters student, 2019-2021  
Thesis Title: *The effects of broken-down focus of attention instructions on volleyball setting performance of skilled and novice players*  
*Note:* Danilo was accepted by doctoral program of Kinesiology in *Affordance Perception-Action Lab* at the University of Minnesota after graduation
12. **Russell Todd**, Doctoral student, 2020-present, co-chaired with Dr. Amy Banic in Department of Computer Sciences
13. **Shaochen Huang**, Biomedical Science Doctoral student, 2016–2020, currently an Assistant Professor in Kinesiology at Texas Women University  
Dissertation Title: *The roles of visual and kinesthetic information in learning and control of bimanual coordination*  
*Note:* Shaochen received the *Outstanding Dissertation Award* from UW Office of Graduate Education in 2022
14. **Taylor Kuehn**, Plan A Masters student, 2017-2019, Currently a Physical Therapist practicing in Chicago area.  
Thesis Title: *The Effect of Kinesiotaping Fatigued Quadriceps and Hamstrings on Knee Joint Position Sense and Biomechanics Associated with ACL Loading in a Jump-landing Task*  
*Note:* Taylor was accepted by Physical Therapy doctoral program at the University of Illinois at Chicago after graduation
15. **Thomas Hart**, Plan A Masters student, 2015–2017, Currently a Strength Conditioning coach practicing in Iowa  
Thesis Title: *Expertise of Interjoint Coordination in Maximum Effort Jumping Towards Different Directions*
16. **Shaocheng Huang**, Plan A Masters student, 2014–2016  
Thesis Title: *Combining visual and haptic guidance to maximize the effectiveness of perceptual-motor learning of bimanual coordination*

*Note:* Shaochen was accepted by Biomedical Science doctoral program at the University of Wyoming after graduation.

17. **Sushma Alphonsa**, Plan A Masters student, 2011–2013

Thesis Title: *Effects of visual illusions on discrete and continuous tapping performance*

*Note:* Sushma was accepted by Pathokinesiology doctoral program at the Utah State University after graduation

*As a Member of Student Research Committee:*

1. **Varun R. Bharadwaj**, Doctoral student, 2025–present, chaired by Dr. Chao Jiang, Department of Electrical Engineering and Computer Science
2. **Uttam Pal**, Doctoral student, 2025–present, chaired by Dr. Charlie Zhang, Department of Civil and Architectural Engineering and Construction Management
3. **Haagen Toh**, Plan A Master’s student, 2024–present, chaired by Dr. Meredith Minear, Department of Psychology
4. **Gabe Beratio**, Doctoral student, 2024–present, chaired by Dr. Sean McCrea, Department of Psychology
5. **Paul Sansah Gyreyiri**, Doctoral student, 2022–present, chaired by Dr. Diksha Shukla in the Department of Electrical Engineering and Computer Science
6. **Ling Li**, Doctoral student 2021–present, chaired by Dr. Boyi Dai in Division of Kinesiology and Health
7. **Yu Song**, Doctoral student, 2020–2023, chaired by Dr. Boyi Dai in Division of Kinesiology and Health
8. **Ling Li**, Plan A Master’s student 2019-2021, chaired by Dr. Boyi Dai in Division of Kinesiology and Health
9. **Kevin Bretting**, Plan B Master’s student 2023-2025, chaired by Dr. Tristan Wallhead in Division of Kinesiology and Health
10. **Felix Weese**, Plan B Master student 2017-present, chaired by Dr. Domen Novak in Department of Electrical and Computer Engineering
11. **Anuskha Godse**, Plan A Master student 2016-2018, chaired by Dr. Amy Banic in Department of Computer Science
12. **Angela Benavides**, Plan A Master student 2015-2017, chaired by Dr. Amy Banic in Department of Computer Science
13. **Bradley Beardt**, Plan A Master student 2015-2017, chaired by Dr. Boyi Dai in Division of Kinesiology and Health
14. **Taylor Hinshaw**, Plan A Master student, 2015-2017, chaired by Dr. Boyi Dai in Division of Kinesiology and Health
15. **Rajiv Khadka**, Doctoral student, 2016–2019, chaired by Dr. Amy Ulinski in Department of Computer Science
16. **Maja Gorsic**, Doctoral student, 2015–2019, chaired by Dr. Domen Novak in Department of Electrical and Computer Engineering
17. **Mara Cosgrove**, Plan A Master student, 2014–2016, chaired by Dr. Boyi Dai in Division of Kinesiology and Health
18. **Mitchell Stephenson**, Plan A Master student, 2013–2015, chaired by Dr. Boyi Dai in Division of Kinesiology and Health
19. **Harry Fisher**, Plan A Master student, 2012–2014, chaired by Dr. Boyi Dai in Division of Kinesiology and Health
20. **Katherine Cawthorn**, Plan A Master student, 2012–2014, chaired by Dr. Boyi Dai in Division of Kinesiology and Health

21. **Neera Pradhan**, Plan B Master student, 2013–2014, chaired by Dr. Amy Ulinski in Department of Computer Science
22. **Erika Heinbaugh**, Plan A Master student, 2012 – 2014, chaired by Dr. Boyi Dai in Division of Kinesiology and Health
23. **Derrick McMahan**, Plan A Master student, 2011–2012, chaired by Dr. Tristan Wallhead in Division of Kinesiology and Health

*Host of Visiting Research Scholar/Student (6)*

1. **Wanqun Xu**, Undergraduate student, 2025-2026, Department of Rehabilitation Science, Shanghai University of Sport, CHINA
2. **Ke Liu**, Master student, 2024-2025, Department of Rehabilitation Science, Shanghai University of Sport, CHINA
3. **Jieyu Peng**, Master student, 2015–2016, Department of Applied Psychology, Shanghai University of Sport, CHINA
4. **Yanfang Peng**, Doctoral student, 2018-2019, School of Psychology, Shanghai University of Sport, CHINA
5. **Lingli Chen**, Associate Professor, 2017-2018, School of Humanities and Social Sciences, National University of Defense Technology, CHINA
6. **Jie Wang**, Associate Professor, 2018-2019, School of Physical Education and Coaching, Shanghai University of Sport, CHINA

## Teaching Experience:

➤ *University of Wyoming, Laramie*

KIN 3060 Understanding Skill Acquisition for Teaching  
 KIN 4020 Motor Behavior  
 KIN 4090 Foundation of Coaching  
 KIN 5011 Understanding Movement Variability  
 KIN 5038 Advances in Research of Sport Expertise  
 KIN 5039 Perception and Action in Motor Skills

➤ *Indiana University, Bloomington*

HPER-T693 Experimental Design and Analysis  
 HPER-P452 Motor Learning  
 HPER-E105 Badminton  
 HPER-E181 Tennis

➤ *Guest Lectures:*

KIN-2000 Movement Core I: Striking/Fielding  
 KIN-1005/1101 Introduction to Kinesiology

## University Service:

## ➤ **University of Wyoming**

1. Member of Advisory Board for School of Computing, University of Wyoming, WY, (2022 – present)
2. Member of College of Health Science Dean Search Committee, University of Wyoming, WY, 2022
3. Member of University Studies Committee, FYS subcommittee, University of Wyoming, WY, (2020-2023)
4. Member of International Research and Engagement Committee, University of Wyoming, WY (2019-present)
5. International Program Coordinator of UW-SUS Center with support funding from *Shanghai University of Sport* (2019-present)
6. Liaison and coordinator for UW Administrative Delegation to visit *Shanghai Normal University*, *Shanghai University*, and *Shanghai University of Sport* in Shanghai, CHINA, May 2019
7. Member of the Faculty Dispute Resolution Panel, University of Wyoming, WY (2014 – 2017)
8. Steering Committee Member of the Biomedical Sciences (BMS) Doctoral Program, University of Wyoming, WY (2010 – present).

## ➤ **College of Health Sciences**

1. Chair of College of Health Science Research Committee (2015 – 2018)
2. Member of College of Health Sciences Research Planning Committee for Institute of Wyoming Health (2015 – present)
3. Member of College of Health Sciences Student Dispute Committee (2015 – present)
4. Member of College of Health Sciences Faculty Development Committee (2015)
5. External member for Plan B Orals Committees, Division of Communication Disorders. (2011 – present).
6. Member of College of Health Sciences Research Committee (2009 – 2012).

## ➤ **Division of Kinesiology and Health**

1. Chair of Search Committee for the Assistant Professor position in Rehabilitation Science (2023-2024)
2. UW Faculty Senate representing DKH (2020-present)
3. DKH Intellectual Community Seminar Subcommittee member (2022-2023)
4. International Program Coordinator, responsible for Internationalization of UW-DKH Program (2018 – present), overseeing UW-SUS Center and Nordic Ski Coaching Education Program
5. Member of K&H Committee of revising documents for Tenure and Promotion (2016 – 2017)
6. Search Committee Member for the Assistant Professor position in Exercise Physiology (2014 – 2015).
7. Coordinate to host the delegation from Suzhou University of Science and Technology, June 15–16, 2014
8. Organizer of Human Movement Science Journal Club/Research Seminar for faculty and students in Kinesiology and Health (2013 – 2019)
9. Member of K&H Student Critical Thinking Assessment (CTA) Academy (2013 – 2018).
10. Member of Corbett Building Renovations/Additions Committee (2013 – 2019).
11. Member of K&H Newsletter Committee (2013 – present).
12. K&H Search Committee Member for the Assistant Professor position in Sport & Exercise Biomechanics (2011 – 2012).

13. Coordinator to host Dr. Geoffrey Bingham to give research presentations for K&H, CHS and BMS program students (2010 September).
14. Search Committee Member for the Assistant Professor position in Physical Activity and Health (2010 – 2011).
15. Search Committee Member for the Assistant Professor position in Sport/Exercise Psychology (2009 – 2010).

## **Professional Service:**

### ➤ **Professional Memberships:**

1. *Vision Sciences Society*
2. *Institute of Translational Health Sciences at University of Washington*
3. *International Society for Perception and Action*
4. *Rocky Mountain American Psychological Association (RMAPA)*
5. *Rocky Mountain American Society of Biomechanics (RMASB)*
6. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*
7. *American Alliance for Health, Physical Education, Recreation and Dance*
8. *USA Badminton Coaching Education Department*
9. *USA Badminton Technical Official Advisory Group*

### ➤ **Journal Review**

1. Ad-Hoc reviewer for *Scientific Reports*
2. Ad-Hoc reviewer for *Ecological Psychology*
3. Ad-Hoc reviewer for *Frontiers in Bioengineering and Biotechnology*
4. Ad-Hoc reviewer for *Journal of Sports Sciences*
5. Ad-Hoc reviewer for *Human Movement Science*
6. Ad-Hoc reviewer for *BMC Sports Science, Medicine, and Rehabilitation*
7. Ad-Hoc reviewer for *Frontiers in Psychology: Performance Science*
8. Ad-Hoc reviewer for *International Journal of Sports Science and Medicine*
9. Ad-Hoc reviewer for *Journal of Motor Behavior*
10. Ad-Hoc reviewer for *Journal of Motor Learning and Development*
11. Ad-Hoc reviewer for *The Knee*
12. Ad-Hoc reviewer for *International Journal of Sports Science & Coaching*
13. Ad-Hoc reviewer for *International Journal of Sports Medicine*
14. Ad-Hoc reviewer for *Journal of Applied Biomechanics*
15. Ad-Hoc reviewer for *American Journal of Psychology*
16. Ad-Hoc reviewer for *Research Quarterly of Sport and Exercise Science*
17. Ad-Hoc reviewer for *Research in Sports Medicine*
18. Ad-Hoc reviewer for *Journal of Sport and Health Science*
19. Ad-Hoc reviewer for *Frontiers in Movement Science and Sport Psychology*
20. Ad-Hoc reviewer for *Brain and Cognition*
21. Ad-Hoc reviewer for *Philosophical Psychology*
22. Ad-Hoc reviewer for *Psychological Research*

### ➤ **Journal Editorial Board Membership**

1. Advisory Board member for *Journal of Sports Sciences*

2. Editorial Member for *Journal of Educational and Developmental Psychology*
3. Editorial Board Member of *Journal of Bioengineering & Biomedical Science*

➤ **Book Review**

1. Invited reviewer for a book proposal from the Holcomb Hathaway, Publishers, Inc., Scottsdale, AZ 85258, USA (2013).
2. Invited reviewer for a book proposal from the *Sport and Leisure* section editorial board of Routledge, Taylors & Francis Group Ltd, Oxford, OX14 4RN, UK (2012).

➤ **Grant Review**

1. Grant Reviewer for Wyoming NASA Space Grant Undergraduate Research Fellowship at University of Wyoming (2019 – 2020)
2. Invited grants reviewer for CTR-IN Pilot Research Grant, Mountain West CTR-IN Program at UNLV (2015 – 2020)
3. Reviewer for CHS Faculty-Grant-In-Aid, CHS Faculty Travel Subsidy, CHS Student Research Grant, CHS Student Poster Award at University of Wyoming (2009 – 2012 & 2015 – 2018)
4. Invited grants reviewer for NSF *The Perception, Action, and Cognition Panel* (2010 & 2017).

➤ **Professional Services and Other Appointments:**

1. Advisory Board Member representing College of Health Sciences in School of Computing at University of Wyoming (2022-present)
2. Program committee member of *Motor Learning and Control* in NASPSA (2020-present)
3. Program Committee Member and Undergraduate Student Oral Presentation assessor in Annual Convention of Rocky Mountain American Society of Biomechanics, Este Park, CO in April 2019
4. Research and Planning Committee member in the Wyoming Parkinson Project run by the Patient Centered Outcome Research Institute (PCORI) (2016-2017)
5. Regional liaison in Wyoming for Rocky Mountain Psychological Association (2010 – present)
6. Program Committee Member, Abstract Reviewer and Conference Moderator for the oral paper session of “Perception and Performance” in 79<sup>th</sup> Annual Convention of Rocky Mountain Psychological Association, Albuquerque, NM, in April 2009
7. Facilitator of Craig Series Lecture at University of Wyoming, WY (2009 April)
8. Coordinator for IU-SUS academic exchange program, Indiana University, IN (2003 – 2007)
9. Director & Coach of IU Badminton Camp, Indiana University, IN (2004 June)
10. President of IU Badminton Club, Indiana University, IN (2002 – 2003)
11. Administration Assistant, China Badminton Association, CHINA (2001 – 2002)
12. Professional badminton player serving Junior National Team of China, CHINA (1983–1995)

**Special Skills:**

- **Language:** English and Chinese, proficiency in speaking and writing
- **Badminton:** USAB National level player, coach, umpire / Badminton Pan America certified umpire