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| **Boyi Dai, Ph.D., FISBS**  8/29/2023 | | | | | | | | |
| **Education** | | | | | | | | |
| **Year** | **Institution** | | | | | **Degree** | |
| 2009-2012 | Division of Physical Therapy  University of North Carolina at Chapel Hill | | | | | Doctor of Philosophy  in Human Movement Science | |
| 2007-2009 | Department of Kinesiology  Iowa State University | | | | | Master of Science  in Kinesiology | |
| 2003-2007 | Department of Exercise Science  Beijing Sport University | | | | | Bachelor of Education  in Exercise Science | |
| **Professional Experience** | | | | | | | | |
| **Year** | **Institution** | | | | | **Position** | | |
| 2022-present  2017-2022  2012-2017 | Division of Kinesiology and Health  University of Wyoming  Division of Kinesiology and Health  University of Wyoming  Division of Kinesiology and Health  University of Wyoming | | | | | Professor  Graduate Program Coordinator  Associate Professor  Assistant Professor | | |
| 2009-2012 | Division of Physical Therapy  University of North Carolina at Chapel Hill | | | | | Graduate Research and Teaching Assistant | | |
| 2009-2012 | Michael W. Krzyzewski Human Performance Lab  Duke University | | | | | Graduate Research Assistant | | |
| 2007-2009 | Department of Kinesiology  Iowa State University | | | | | Graduate Teaching Assistant | | |
| **Society Officer and Journal Editorial Service**  Vice President (Research & Projects), International Society of Biomechanics in Sports. 2023-present.  Board of Directors, International Society of Biomechanics in Sports. 2022-2023. | | | | | | | | |
| Associate Editor  Sports Biomechanics, 2019-present.  BMC Musculoskeletal Disorders, 2019-2020.  Editorial Board Member  Research in Sports Medicine, 2015-present.  BMC Musculoskeletal Disorders, 2020-present.  Sports Biomechanics, 2015-2019. | | | | | | | | |
| **Awards and Honors** | | | | | | | | |
| 1. Fellow, International Society of Biomechanics in Sports, 2023 2. Mid-Career Graduate Faculty Mentor Award. University of Wyoming, 2022. 3. Outstanding Researcher Award, College of Health Sciences, University of Wyoming, 2022. 4. Outstanding Teaching Award, College of Health Sciences, University of Wyoming, 2019. 5. Travel Award, College of Health Sciences, University of Wyoming, 2019. 6. New Investigator Award, College of Health Sciences, University of Wyoming, 2016. 7. Travel Award, Third Annual Mountain West Clinical and Translational Research –Infrastructure Network (CTR-IN) Meeting, 2016. 8. Top Prof Award, Cap and Gown Chapter of Mortar Board, University of Wyoming, 2015. 9. Travel Award, College of Health Sciences, University of Wyoming, 2013. 10. Travel Award, Graduate and Professional Student Federation, UNC-Chapel Hill, 2011. 11. Graduate Student Writing Award, American Kinesiology Association, 2011. 12. Outstanding Master Student, Department of Kinesiology, Iowa State University, 2009. 13. Chinese National Scholarship, Chinese Government, 2005. 14. Outstanding Student, Beijing Sport University, 2005. 15. University Scholarship, Beijing Sport University, 2004, 2006. | | | | | | | | |
| **Funded Grants and Contracts** | | | | | | | | |
| 1. **Dai, B. [PI]** & Zhang, C. (2023-2024). *Effects of a single session of tripping perturbation training on reactive balance control during walking and carrying*. Pilot Research Projects, Rocky Mountain Center for Occupational and Environmental Health ($21,316). RMCOEH is supported by the National Institute of Occupational Safety and Health of the National Institutes of Health (T42OH008414). 2. Novak, D. [PI], **Dai, B. [Co-PI]**. (2020-2023). *Investigating the relationship between an intelligent trunk exoskeleton and its wearer as a basis for improved assistance and rehabilitation*. Mind, Machine, and Motor Nexus Program, Division of Civil, Mechanical and Manufacturing Innovation, National Science Foundation ($524,940, Award Number: 1933409). 3. Johnson, E., **Dai, B.**, & Simonton, K. (**Co-PIs**, 2022), Under-Represented Domestic Minority Graduate Student Scholarship, Graduate Student Education, University of Wyoming Office of Academic Affairs, ($35,140). 4. **Dai, B.** (2022). Small Business Innovation Research Phase 0 Grant. Wyoming SBIR/STTR Initiative. ($5,000). 5. Johnson, E., **Dai, B.**, & Simonton, K. (**Co-PIs**, 2021), Under-Represented Domestic Minority Graduate Student Scholarship, Graduate Student Education, University of Wyoming Office of Academic Affairs, ($105,420). 6. **Dai, B.** (2021-2023). Two-Year Graduate Assistantship Award. University of Wyoming INBRE. ($64,536). Supporting Student: Ling Li. Wyoming INBRE is supported by a grant from the National Institute of General Medical Sciences (P20GM103432) from the National Institutes of Health. 7. **Dai, B.** (2019-2021). Two-Year Graduate Assistantship Award. University of Wyoming INBRE. ($64,000). Supporting Student: Jacob Layer. 8. **Dai, B.** (2018-2019). One-Year Graduate Assistantship Award. University of Wyoming INBRE. ($26,200). Supporting Student: Jacob Layer. 9. **Dai, B.** (2018-2019). Internship Grant. International Society of Biomechanics in Sports. ($2,307). Supporting Student: Yu Song. 10. **Dai, B.** (2018). Equipment Grant. University of Wyoming INBRE. ($22,809). 11. Johnson, E.C. [PI], Melander, O., Smith, D.T., **Dai, B.** (2018-2019). *Genetic and hematological risk for acute kidney injury during high intensity exercise*. Developmental Research Project Program Thematic Research Projects, University of Wyoming INBRE. ($50,000). 12. Novak, D. [PI], Goršic, M., **Dai, B.** (2017-2019). *Pilot evaluation of a spinal exoskeleton for prevention and relief of low back pain*. Pilot Research Projects, University of Wyoming INBRE. ($59,084). 13. **Dai, B.** (2017-2018). *Assessing strength and balance impairments following a major injury in collegiate athletes*. Faculty Grand-in-Aid, University of Wyoming. ($6,495). 14. Johnson, E., & **Dai, B.** (**Co-PIs**, 2021), Under-Represented Domestic Minority Graduate Student Scholarship, Graduate Student Education, University of Wyoming Office of Academic Affairs, ($39,589). 15. **Dai, B.** (2016-2017). *Strength and balance assessments in collegiate athletes*. Seed Grant, College of Health Sciences, University of Wyoming. ($3,750). 16. **Dai, B. [PI]** & Dufek, J. (2016). *Land safely from a high height: translational evidence from Parkour practitioners*. CTR-IN Mini-Grants, University of Nevada, Las Vegas. ($13,546, funded). CTR-IN is supported through the National Institute of General Medical Sciences (#1U54GM104944-01A1) under the Institutional Development Award program. 17. **Dai, B. [PI]** & Zhu, Q. (2013-2014). *Developing and validating an on-site biomechanical testing tool for ACL injury prevention*. Faculty Grand-in-Aid, University of Wyoming. ($7,500). 18. **Dai, B.** (2013-2014). *The effects of a resistance band on gluteus medius activation and hip abduction torque during jump-landing*. Seed Grant, College of Health Sciences, University of Wyoming. ($7,500). 19. **Dai, B.** (2013). Equipment Grant. University of Wyoming INBRE. ($7,080). 20. **Dai, B.** (2013). Biomechanical analysis of discus and javelin throwing. Service contract with UNC-Chapel Hill. PI: Bing Yu. Funding Agency: USA Track & Field. ($3,000) | | | | | | | | |
| **Funded Grants as a Consultant** | | | | | | | | |
| 1. Zhu, Q. (2020-2021). Developing real-time interaction and motion tracking in immersive virtual reality for telerehabilitation. Department of Health and Human Services. National Institutes of Health. ($242,114, Award number: 1R41MD015689-01). Boyi Dai’s Role: Consultant (1-month effort). | | | | | | | | |
| **Publications (Book Chapters)** | | | | | | | | |
| 1. Abraham, A. & **Dai, B.** (2022). Correlation and regression analyses. In Welsh, T., Ambegaonkar, J., Mainwaring, L. (Eds.), *Research Methods in Dance Sciences*. Gainesville, FL: University Press of Florida. 2. **Dai, B.** & Layer, J.S. (2018). Strength assessments: neuromuscular and biomechanical considerations. In Bagch, D., Nair, S., & Sen, C.K. (Eds.), *Nutrition and enhanced sports performance* (pp. 471-481). Cambridge, MA: Academic Press, Elsevier. | | | | | | | | |
| **Publications (Peer-Reviewed Journal Articles)**  **CA: Boyi Dai as the Corresponding Author; \*: Students from the University of Wyoming.**  **Boyi Dai as the first and/or corresponding author: 44** | | | | | | | | |
| 1. Song, Y.\*, Li, L.\*, Jensen, M.A., & **Dai, B. (CA)** (in press). Jump-landing kinetic asymmetries persisted despite symmetric squat kinetics in collegiate athletes following anterior cruciate ligament reconstruction. *Sports Biomechanics*. [Data-based]. 2. Li, L.\*, Song, Y.\*, & **Dai, B. (CA)** (in press). A systematic review of in vivo anterior cruciate ligament loading during static, slow-speed, and athletic tasks. *Journal of Science in Sport and Exercise*. [Review]. 3. de Arruda, D.G.\*, **Dai, B.**, Readdy, T., McCrea, S., & Zhu, Q. (in press). 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*. [Data-based]. 4. Goršič, M.\*, Rochelle, L.E.\*, Layer, J.S.\*, Smith, D.T., Novak, D., & **Dai, B. (CA)** (In press). Biomechanical comparisons of back and front squats with a straight bar and four squats with a transformer bar. *Sports Biomechanics*. [Data-based]. 5. Huang, S.\*, **Dai, B.**, & Zhu, Q. (In press). Advantage of early focus on visual information in bi-modal training of bimanual coordination. *Multisensory Research*. [Data-based]. 6. Deng, L., Zhang, X., **Dai, B.**, Xiao, S., Zhang, F., & Fu, W. (2023). Mechanics of the medial gastrocnemius–tendon unit in behaving more efficiently in habitual non-rearfoot strikers than in rearfoot strikers during running. *Journal of Sports Science and Medicine*, 22, 581-589. [Data-based]. 7. Song, Y.\*, Li, L.\*, Layer, J.S.\*, Fairbanks, R.\*, Jenkins, M.\*, Hughes, G., Smith, D.T., Wilson, M.A., Zhu, Q., & **Dai, B. (CA)** (2023). Indirect contact matters: Mid-flight external trunk perturbation increased unilateral anterior cruciate ligament loading variables during jump-landings. *Journal of Sport and Health Science*. 12(4):534-543. [Data-based]. 8. Song, Y.\*, Li, L.\*, Jensen, M.A., & **Dai, B. (CA)** (2023). Using trunk kinematics to predict kinetic asymmetries during double-leg jump-landings in collegiate athletes following anterior cruciate ligament reconstruction. *Gait & Posture*. 102:80-85. [Data-based]. 9. Li, L.\*, Song, Y.\*, Jenkins, M.\* & **Dai, B. (CA)** (2023). Pre-landing knee kinematics and landing kinetics during single-leg and double-leg landings in male and female recreational athletes. *Journal of Applied Biomechanics*. 39(1):34-41. [Data-based]. 10. Schinkel, K.R.\*, Budowle, R., Porter, C.M., **Dai, B.**, Gifford, C., & Keith, J.F. (2023). Service, scholarship and sacrifice: a qualitative analysis of food security barriers & strategies among military-connected students. *Journal of the Academy of Nutrition and Dietetics.* 123(3):454-465. [Data-based]. 11. Hébert-Losier, K., Fong, D.T.P., **Dai, B.**, Bradshaw, E.J., Hobara, H., Kong, P.W., Nunome, H., Hsu, W.C., & Vanwanseele, B. (2023). Reporting guidelines for running biomechanics and footwear studies using three-dimensional motion capture. *Sports Biomechanics*. 22(3):473-484. [Editorial] 12. Song, Y.\*, Li, L.\*, Hughes, G., & **Dai, B. (CA)** (2023). Trunk motion and anterior cruciate ligament injuries: a narrative review of injury videos and controlled jump-landing and cutting tasks. *Sports Biomechanics*. 22(1):46-64. [Invited Review]. 13. Hughes, G. & **Dai, B.** (2023). The influence of decision making and divided attention on lower limb biomechanics associated with anterior cruciate ligament injury: a narrative review. *Sports Biomechanics*. 22(1):30-45. [Invited Review]. 14. Goršič, M., Song, Y.\*, **Dai, B.**, & Novak, V.D. (2022). Short-term effects of the Auxivo LiftSuit during lifting and static leaning. *Applied Ergonomics*. 102:103765. [Data-based]. 15. Li, L.\*, McGuinness, B.K.\*, Layer, J.S.\*, Song, Y.\*, Jensen, M.A., & **Dai, B. (CA)** (2022). Longitudinal assessments of strength and dynamic balance from pre-injury baseline to 3 and 4 months after labrum repairs in collegiate athletes. *Physiotherapy Theory and Practice.* 38(13):2505-2513. [Data-based]. 16. Song, Y.\*, Li, L.\*, & **Dai, B. (CA)** (2022). Trunk neuromuscular function and anterior cruciate ligament injuries: a narrative review of trunk strength, endurance, and dynamic control. *Strength and Conditioning Journal*. 44(6):82-93. [Review]. 17. Bordelon, N.M.\*, Jones, D.H.\*, Sweeney, K.M.\*, Davis, D.J.\*, Critchley, M.L.\*, Rochelle, L.E.\*, George, A.C.\*, & **Dai, B. (CA)** (2022). Optimal load magnitude and placement for peak power production in a vertical jump: a segmental contribution analysis. *Journal of Strength and Conditioning Research*. 36(4):911-919. [Data-based]. 18. Song, Y.\*, Li, L.\*, Albrandt, E.E.\*, Jensen, M.A., & **Dai, B. (CA)** (2021). Medial-lateral hip positions predicted kinetic asymmetries during double-leg squats in collegiate athletes following anterior cruciate ligament reconstruction. *Journal of Biomechanics*.128:110787. [Data-based]. 19. Goršič, M., Song, Y.\*, **Dai, B.**, & Novak, D. (2021). Evaluation of the HeroWear Apex back-assist exosuit during multiple brief tasks. *Journal of Biomechanics*. 126:110620. [Data-based]. *Winner of the American Society of Biomechanics Young Scientist Pre-Doctoral Award 2018.* 20. Keener, M.M.\*, Critchley, M.L.\*, Layer, J.S.\*, Johnson, E.C., Barrett, S.F., & **Dai, B. (CA)** (2021). The effect of stirrup length on impact attenuation and its association with muscle strength. *Journal of Strength and Conditioning Research.* 35(11):3056-3062. [Data-based]. 21. Sha, Z. & **Dai, B.** (2021). The validity of using one force platform to quantify whole-body forces, velocities, and power during a plyometric push-up. *BMC Sports Science, Medicine & Rehabilitation*. 13:103. [Data-based]. 22. Sha, Z., Zhou, Z., & **Dai, B.** (2021). Analysis of countermovement jump performance in time and frequency domains. *Journal of Human Kinetics*. 78: 41-48. [Data-based]. 23. **Dai, B. (CA)**, Layer, J.S.\*, Bordelon N.M.\*, Critchley M.L.\*, LaCroix S.E.\*, George A.C.\*, Li L.\*, Ross J.D., & Jensen M.A. (2021). Longitudinal assessments of balance and jump-landing performance before and after anterior cruciate ligament injuries in collegiate athletes. *Research in Sports Medicine.* 29(2):129-140. [Data-based]. 24. Li, L.\*, Baur M.L.\*, Baldwin, K.J.\*, Kuehn, T.C.\*, Zhu, Q., Herman, D.C., & **Dai, B. (CA)** (2020). Falling as a strategy to decrease knee loading during landings: implications for ACL injury prevention. *Journal of Biomechanics. 109:109906* [Data-based]. 25. Wang, J., Luo, Z., **Dai, B.**, & Fu, W. (2020). Effects of 12-week cadence retraining on impact peak, load rates, and lower extremity biomechanics in running. *PeerJ*. 8:e9813 [Data-based]. 26. Xia, R., **Dai, B.**, Fu, W., Gu, N., & Wu, Y. (2020). Kinematical comparisons of the shakehand and penhold grips in table tennis forehand and backhand strokes when returning topspin and backspin balls. *Journal of Sports Science and Medicine*. 19(4):637-644. [Data-based]. 27. Greenwell, R.A.\*, Critchley, M.L.\*, Keener, M.M.\*, Deckert, J.L., **Dai, B.**, & Wilson, M.A. (2020). Comparison of center of pressure and kinematic differences in dance movements with and without a barre: Grand-Plié. *Journal of Dance Medicine & Science.* 24(3):135-141. [Data-based]. 28. Goršič, M., **Dai, B.**, & Novak, D. (2020). Load position and weight classification during carrying gait using wearable inertial and electromyographic sensors. *Sensors*. 20(17), 4963. [Data-based]. 29. Harrison A.J., McErlain-Naylor S.A., Bradshaw E.J., **Dai, B.**, Nunome H., Hughes G.T., Kong P.W., Vanwanseele B., Vilas-Boas J.P., & Fong D.T.P. (2020). Recommendations for statistical analysis involving null hypothesis significance testing. *Sports Biomechanics*. 19(5):561-568. [Editorial]. 30. Li, Y., Li, B., Wang, X., Fu, W., **Dai, B.**, Nassis, G.P., & Ainsworth, B.E. (2020). Energetic profile in forehand loop drive practice with well-trained young table tennis players. *International Journal of Environmental Research and Public Health.* 17(10):E3681 [Data-based]. 31. Goršič, M.\*, Regmi, Y.\*, Johnson, A.P., **Dai, B.**, & Novak, D. (2020). A pilot study of varying thoracic and abdominal compression in a reconfigurable trunk exoskeleton during different activities. *IEEE Transactions on Biomedical Engineering*. 67(6):1585-1594. [Data-based]. 32. Critchley, M.L.\*, Davis, D.J.\*, Keener, M.M.\*, Layer, J.S.\*, Wilson, M.A., Zhu, Q., & **Dai, B. (CA)** (2020). The effects of mid-flight whole-body and trunk rotation on landing mechanics: implications for ACL injuries. *Sports Biomechanics*. 19(4):421-437. [Data-based]. 33. **Dai, B**. **(CA)**, Layer, J.S.\*, Hinshaw, T.J.\*, Cook, R.F.\*, & Dufek, J.S. (2020). Kinematic analyses of parkour landings from as high as 2.7 meters. *Journal of Human Kinetics*. 72:15-28. [Data-based]. 34. **Dai, B**. **(CA)**, Layer, J.S.\*, Vertz, C., Hinshaw, T.J.\*, Cook, R.F.\*, Li, Y., & Sha, Z. (2019). Baseline assessments of strength and balance performance and bilateral asymmetries in collegiate athletes. *Journal of Strength and Conditioning Research*. 33(11):3015-3029. [Data-based]. 35. Hinshaw, T.J.**\***, Davis, D.J.**\***, Layer, J.S.**\***, Wilson, M.A., Zhu, Q., & **Dai, B.** **(CA)** (2019). Mid-flight lateral trunk bending increased ipsilateral leg loading during landing: a center of mass analysis. *Journal of Sports* Sciences. 37(4):414-423. [Data-based]. 36. Davis, D.J.\*, Hinshaw, T.J.\*, Critchley, M.L.\*, & **Dai, B. (CA)** (2019). Mid-flight trunk flexion and extension altered segment and lower extremity joint movements and subsequent landing mechanics. *Journal of Science and Medicine in Sport.* 22(8):955-961. [Data-based]. 37. **Dai, B.**, Garrett, W.E., Gross, M.T., Padua, D.A., Queen, R.M., & Yu, B. (2019). The effect of performance demands on lower extremity biomechanics during landing and cutting tasks. *Journal of Sport and Health Science*. 8(3):228-234. [Data-based]. 38. Zhang, X., Xia, R., **Dai, B.**, Sun, X., & Fu, W. (2018). Effects of exercise-induced fatigue on lower extremity joint mechanics, stiffness, and energy absorption during landings. *Journal of Sports Science and Medicine*. 17(4):640-649. [Data-based]. 39. Guo, R.\*, Wang, Q., Nair, R.P., Barnes, S.L.\*, Smith, D.T., **Dai, B.**, Robinson, T.J., & Nair, S. (2018). Furosap, a novel Fenugreek seed extract improves lean body mass and serum testosterone in a randomized, placebo-controlled, double-blind clinical investigation. *Functional Foods in Health and Disease*. 8(11):508-519. [Data-based]. 40. Layer, J.S.\*, Grenz, C.\*, Hinshaw, T.J.**\***, Smith, D.T., Barrett, S.F., & **Dai, B. (CA)** (2018)**.** Kinetic analysis of isometric back squats and belt squats. *Journal of Strength and Conditioning Research*. 32(12):3301-3309. [Data-based]. 41. Beardt, B.S.**\***, McCollum, M.R.**\***, Hinshaw, T.J.**\***, Layer, J.S.**\***, Wilson, M.A., Zhu, Q., & **Dai, B.** **(CA)** (2018). Lower extremity kinematics differed between a controlled drop-jump and volleyball-takeoffs. *Journal of Applied Biomechanics*. 34(4):327-335. [Data-based]. 42. **Dai, B. (CA)**,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. [Data-based]. 43. Perala, H.D.**\***, Wilson, M.A., & **Dai, B. (CA)** (2018). The effect of footwear on rotational torques in country swing dance. *Journal of Dance Medicine & Science*. 15;22(2):84-90. [Data-based]. 44. **Dai, B. (CA)**, Cook, R.F.**\***, Meyer, E.A.**\***, Sciascia, Y.**\***, Hinshaw, T.J.**\***, Wang, C., & Zhu, Q. (2018). The effect of a secondary cognitive task on landing biomechanics and jump performance. *Sports Biomechanics*. 17(2):192-205. [Data-based, invited publication]. 45. Hinshaw, T.J.**\***, Stephenson, M.L.**\***, Sha, Z., & **Dai, B.** **(CA)** (2018). Effect of external loading on force and power production during plyometric push-ups. *Journal of Strength and Conditioning Research*. 32(4):1099-1108. [Data-based]. 46. Stephenson, M.L.**\***, Hinshaw, T.J.**\***, Wadley, H.A.**\***, Zhu, Q., Wilson, M.A., Byra, M., & **Dai, B. (CA)** (2018). Effects of timing of signal indicating jump directions on knee biomechanics in jump-landing jump tasks. *Sports Biomechanics*. 17(1):67-82. [Data-based]. 47. Alphonsa, S.**\***, **Dai, B.**, Benham-Deal, T.B., & Zhu, Q. (2017). Interaction of perception and action in discrete and continuous rapid aiming tasks. *Journal of Motor Behavior*. 49(5):524-532. [Data-based]. 48. Wang, C., Boyle, J.B., **Dai, B.**, & Shea, C.H. (2017). Do accuracy requirements change bimanual and unimanual control processes similarly?. *Experimental Brain Research*. 235(5):1467-1479. [Data-based]. 49. Butler, R.J., **Dai, B**., Huffman, N., Garrett, W.E., & Queen, R.M. (2016) Lower extremity movement differences persist after anterior cruciate ligament reconstruction and when returning to sports. *Clinical Journal of Sport Medicine*. 26(5):411-416. [Data-based]. 50. Zhou, J., Ning, X., Hu, B., & **Dai, B.** (2016). The influences of foot placement on lumbopelvic rhythm during trunk flexion motion. *Journal of Biomechanics*. 49(9):1692-1697. [Data-based]. 51. **Dai, B. (CA)**, Stephenson, M.L.**\***, Ellis, S.M.\*, 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. [Data-based]. 52. Fisher, H.\*, Stephenson, M.L.\*, Graves, K.K.\*, Hinshaw, T.J.\*, Smith, D.T., Zhu, Q., Wilson, M.A., & **Dai, B. (CA)** (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. [Data-based]. 53. Alphonsa, S.**\***, **Dai, B.**, Benham-Deal, T.B., & 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. [Data-based]. 54. **Dai, B.**, Mao, M., Garrett, W.E., & Yu, B. (2015). Biomechanical characteristics of an anterior cruciate ligament injury in javelin throwing. *Journal of Sport and Health Science*. 4(4):333-340. [Data-based, invited publication]. 55. Donohue, M.R.**\***, Ellis, S.M.**\***, Heinbaugh, E.M.**\***, Stephenson, M.L.**\***, Zhu, Q., & **Dai, B. (CA)** (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. [Data-based]. 56. Wilson, M.A., **Dai, B.**, Zhu, Q., & Humphrey, N. (2015). Trunk muscle activation and estimating spinal compressive force in rope and harness vertical dance. *Journal of Dance Medicine and Science*, 19(4):163-172. [Data-based]. 57. Heinbaugh, E.M.**\***, Smith, D.T., Zhu, Q., Wilson, M.A., & **Dai, B.** **(CA)** (2015). The effect of time-of-day on static and dynamic balance in recreational athletes. *Sports Biomechanics*. 14(3):361-373. [Data-based]. 58. Stephenson, M.L.**\***, Smith, D.T., Heinbaugh, E.M.**\***, Moynes, R.C.**\***, Rockey, S.S.**\***, Thomas, J.J.**\*** & **Dai, B. (CA)** (2015). Total and lower extremity lean mass percentage positively correlates with jump performance. *Journal of Strength and Conditioning Research*, 29(8):2167-2175. [Data-based]. 59. Li, Y., Wang, X., Chen, X., & **Dai, B.** (2015). Exploratory factor analysis of the functional movement screen in elite athletes. *Journal of Sports Sciences,* 33(11):1166-1172.[Data-based]. 60. **Dai, B.**, Garrett, W.E., Gross, M.T., Padua, D.A., Queen, R.M., & Yu, B. (2015). The effects of 2 landing techniques on knee kinematics, kinetics, and performance during stop-jump and side-cutting tasks. *American Journal of Sports Medicine*, 43(2):466-474. [Data-based]. 61. **Dai, B.**, Mao, D., Garrett, W.E., & Yu, B. (2014). Anterior cruciate ligament injuries in soccer: loading mechanisms, risk factors, and prevention programs. *Journal of Sport and Health Science*, 3(4):299-306. [Invited Review]. 62. **Dai, B.**, Butler, R.J., Garrett, W.E., & Queen, R.M. (2014). Using ground reaction force to predict knee asymmetry following ACL reconstruction. *Scandinavian Journal of Medicine & Science in Sports*, 24(6):974-981. [Data-based]. 63. **Dai, B. (CA)**, Heinbaugh, E.M.**\***, Ning, X., & Zhu, Q. (2014). A resistance band increased internal hip abduction moments and gluteus medius activation during pre-landing and early-landing. *Journal of Biomechanics*, 47(15):3674-3680. [Data-based]. 64. Ning, X., Zhou, J., **Dai, B.**, & Jaridi, M. (2014). The assessment of material handling strategies in dealing with sudden loading: the effects of load handling position on trunk biomechanics. *Applied* *Ergonomics*,45(6):1399-1405. [Data-based]. 65. Butler, R.J., **Dai, B.**, Garrett, W.E., & Queen, R.M. (2014). Changes in landing mechanics in patients following ACL reconstruction when wearing an extension constraint knee brace. *Sports Health*, 6(3):203-209. [Data-based]. 66. Queen, R.M., Butler, R.J., **Dai, B.**, & Barnes, C.L. (2013). Difference in peak weight transfer and timing based on golf handicap. *Journal of Strength and Conditioning Research*, 27(9):2481-2486. [Data-based]. 67. Zhou, J., **Dai, B.**, & Ning, X. (2013). The assessment of material handling strategies in dealing with sudden loading: influences of foot placement on trunk biomechanics. *Ergonomics*, 56(10):1569-1576. [Data-based]. 68. **Dai, B.**, Leigh, S., Li, H., Mercer, V.S., & Yu, B. (2013). The relationships between technique variability and performance in discus throwing. *Journal of Sports Sciences*, 31(2):219-228. [Data-based]. 69. **Dai, B.**, Butler, R.J., Garrett, W.E., & Queen, R.M. (2012). Anterior cruciate ligament reconstruction in adolescent patients: limb asymmetry and functional knee bracing. *American Journal of Sports Medicine*,40(12):2756-2763. [Data-based]. 70. **Dai, B. (CA)**, Sorensen, C.J., Derrick, T.R., & Gillette, J.C. (2012). The effects of postseason break on knee biomechanics and lower extremity EMG in a stop-jump task: implications for ACL injury. *Journal of Applied Biomechanics*, 28(6):708-717. [Data-based]. 71. **Dai, B. (CA)**, Ware, W.B., & Giuliani, C.A. (2012). A structural equation model relating physical function, pain, and impaired mobility (IM), and falls in older adults. *Archives of Gerontology and Geriatrics*, 55(3):645-652. [Data-based]. 72. **Dai, B.**, Herman, D., Liu, H., Garrett, W.E., & Yu, B. (2012). Prevention of ACL injury, part II: effects of ACL injury prevention programs on neuromuscular risk factors and injury rate. *Research in Sports Medicine*,20(3-4):198-222. [Review]. 73. **Dai, B.**, Herman, D., Liu, H., Garrett, W.E., & Yu, B. (2012). Prevention of ACL injury, part I: injury characteristics, risk factors, and loading mechanism. *Research in Sports Medicine*, 20(3-4):180-197. [Review]. 74. **Dai, B.**, Jin, S., Ning, X., & Mirka, G.A. (2010). The effects of horizontal load speed and lifting frequency on lifting technique and biomechanics. *Ergonomics*, 53(8):1024-1032. [Data-based]. 75. **Dai, B. (CA)**, Sorensen, C.J., & Gillette, J.C. (2010). The effects of postseason break on stabilometric performance in female volleyball players. *Sports Biomechanics*, 9(2):115-122. [Data-based]. | | | | | | | | |
| **Publications (Others)** | | | | | | | | |
| 1. Li, Y., & thirty-nine co-authors (including **Dai, B.**) (2020). China’s urgent need for sports science scientization: young sport scholars’ consensus. *Journal of Shanghai University of Sport*, 44(2):39-52. [Invited review, in Chinese]. 2. **Dai, B. (CA)** & Sha, Z. (2016). Biomechanical considerations in strength assessments. *China Sports Coaches,* 24(4):21-22. [Invited review, in Chinese]. 3. **Dai, B. (CA)**, Layer, J.S., & Hinshaw, T.J. (2016). Posture-specific strength and landing mechanics. *Lower Extremity Review* *Magazine,* 8(6):43-47. [Invited review]. 4. **Dai, B. (CA)** & Gillette, J.C. (2013). Detraining and lower extremity injury risks. *Lower Extremity Review* *Magazine,* 5(1):21-25. [Invited review]. | | | | | | | | |
| **Presentations (Refereed National and International Abstracts)** | | | | | | | | |
| 1. Li, L., Song, Y., Hatcher, P., Fairbanks, R., & **Dai, B.** (2023). Effects of vision and knowledge of landing conditions on pre-landing and early landing mechanics associated with ACL loading. Oral presentation at American Society of Biomechanics Meeting. Knoxville, TN. 2. Song, Y., Cordova, H., Feng, Z., Li, L., Gorsic, M., **Dai, B.**, & Novak, V. (2023). The effect of an exosuit on trunk muscle activities during prolonged construction-related holding tasks. Oral presentation at American Society of Biomechanics Meeting. Knoxville, TN. 3. Song, Y., Salsgiver, L., Van Valkenburg, K., Christofferson, N., Lo, Y., McGuinness, B., & **Dai, B.** (2023). Single-leg backward hopping can better detect quadriceps strength deficits induced by a fatigue protocol compared to forward and vertical hopping. Poster presentation at American Society of Biomechanics Meeting. Knoxville, TN. 4. Song, Y., Li, L., Layer, J.S., Hughes, G., Smith, D.T., Wilson, M.A., Zhu, Q., & **Dai, B. (2023)**.Falling decreases ACL loading variables during single-leg landings after mid-flight external trunk perturbation. Oral presentation at International Society of Biomechanics in Sports Meeting. Milwaukee, WI. 5. Li, L., Song, Y., Jenkins, M., & **Dai, B.** (2022). Correlations between pre-landing knee kinematics and landing forces. Oral presentation at American Society of Biomechanics Meeting. Ottawa, Canada. 6. Song, Yu., Li, L., Jensen, M.A., & **Dai, B.** (2022). Kinematic and kinetic asymmetries during squats and countermovement jumps in collegiate athletes following anterior cruciate ligament reconstruction. Poster presentation at American Society of Biomechanics Meeting. Ottawa, Canada. 7. Song, Y., Li, L., Jensen, M., **Dai, B.** (2022). Jump-landing kinetic asymmetries persisted despite symmetric squat kinetics in collegiate athletes following ACL reconstruction. Oral presentation at International Society of Biomechanics in Sports Meeting. Liverpool, UK. 8. Song, Y., Li, L., **Dai, B.** (2021). Using trunk kinematics to predict kinetic asymmetries during double-leg jump-landings in collegiate athletes following anterior cruciate ligament reconstruction. Oral presentation at Hong Kong Association of Sports Medicine and Sports Science Student Conference. Online Presentation. 9. Schinkel, K., **Dai, B.**, Budowle, R., Porter, C., Keith J. (2021). Food security among military-connected students: The relationship between service and sacrifice. Poster presentation at the Food and Nutrition Conference and Expo. Virtual Conference. 10. Gorsic, M., Song, Yu., Johnson, A.P., **Dai, B.**, Novak, D. (2021). Simultaneously varying back stiffness and trunk compression in a passive trunk exoskeleton during different activities: a pilot study. International Conference of the IEEE Engineering in Medicine and Biology Society. Virtual Conference. 11. Hass, D., Miller, B., **Dai, B.**, Novak, D., Gorsic, M. (2021). Design and pilot evaluation of a prototype sensorized trunk exoskeleton. International Conference of the IEEE Engineering in Medicine and Biology Society. Virtual Conference. 12. Song, Yu., Li, L., Albrandt, E.E., **Dai, B.** (2021). Medial-lateral hip positions predicted kinetic asymmetries during bilateral squats in collegiate athletes following ACLR. Oral presentation at International Society of Biomechanics in Sports Meeting. Virtual Conference. 13. Li, L., Song, Y., **Dai, B.** (2021). Comparisons of pre-landing and early landing knee flexion angles between sexes and landing tasks. Oral presentation at International Society of Biomechanics in Sports Meeting. Virtual Conference. 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. Poster presentation at International Society of Biomechanics in Sports Meeting. Virtual Conference. 15. **Dai, B.,** Li, L., Baur M.L., Baldwin, K.J., Kuehn, T.C., Zhu, Q., & Herman, D.C. (2020). Falling as a strategy to decrease knee loading during landings. Conference cancelled. Online presentation at International Society of Biomechanics in Sports Meeting. Virtual Conference. 16. **Dai, B.,** Goršič, M., Rochelle, L.E., Layer, J.S., Smith, D.T., & Novak, D. (2020). Effects of anterior-posterior load placements imposed by a transformer bar on squat biomechanics. Abstract displayed online at International Society of Biomechanics in Sports Meeting. Virtual Conference. 17. **Dai, B.,** Layer, J.S., Bordelon N.M., LaCroix S.E., Critchley M.L., & Ross J.D. (2019). Longitudinal assessments of balance and jump-landing performance in collegiate athletes pre and post ACL injuries. Oral presentation at International Society of Biomechanics in Sports Meeting, Oxford, OH. 18. Bordelon N.M., Layer, J.S., LaCroix S.E., Critchley M.L., Ross J.D., & **Dai, B.** (2019). Post-ACL injury balance and jump landing asymmetries in collegiate athletes. Oral presentation at National Strength and Conditioning Association National Conference, Washington, DC. 19. Bordelon N.M., Jones, D., Sweeney, K., Davis, D., Critchley, M., & **Dai, B.** (2019). The effect of load placement on force and power production during a countermovement jump. Poster at National Strength and Conditioning Association National Conference, Washington, DC. 20. Tran, M.H., Kmecl, P., Regmi, Y., **Dai, B.**, Goršic, M., &Novak, D. (2019). Toward real-world evaluations of trunk exoskeletons using inertial measurement units. Poster at IEEE 16th International Conference on Rehabilitation Robotics, Toronto, Canada. 21. Critchley, M.L., Davis, D.J., Keener, M.M., Layer, J.S., & **Dai, B.** (2018). The effect of mid-flight whole-body and trunk rotation on landing mechanics. Poster at American Society of Biomechanics Meeting, Rochester, MN. 22. Davis, D.J., Hinshaw, T.J., & **Dai, B**. (2018). The effect of mid-flight trunk flexion and extension on center of mass redistribution and landing mechanics. Poster at American Society of Biomechanics Meeting, Rochester, MN. 23. Sha, Z., Zhou, Z., **Dai, B.**, Krebs, G., & Piland, S. (2018). Wavelet transform analyses of countermovement jump performance. Poster at American Society of Biomechanics Meeting, Rochester, MN. 24. Critchley, M.L., Davis, D.J., Keener, M.M., Layer, J.S., & **Dai, B.** (2018). The effect of mid-flight rotation on landing mechanics. Poster at 2018 PAMA Symposium, Orange, CA. 25. Johnson, A.P., Goršic, M., Regmi, Y., Davidson, B.S., **Dai, B.**, & Novak, D. (2018). Design and pilot evaluation of a reconfigurable spinal exoskeleton. Poster at IEEE Engineering in Medicine and Biology Society Meeting, Honolulu, HI, USA 26. Huang, S., **Dai, B.**, & Zhu, Q. (2018). Using coordination tasks to screen people with a history of mTBI. Oral presentation at North American Society for the Psychology of Sport and Physical Activity Meeting. Denver, CO, USA. 27. **Dai, B**., Layer, J.S., Hinshaw, T.J., Cook, R.F., & Dufek, J.S. (2017). Kinematic analysis of Parkour landings from a drop height of 2.7 meters. Poster at American Society of Biomechanics Meeting, Boulder, CO. 28. Hinshaw, T.J., Davis, D.J., Layer, J.S., & **Dai, B.** (2017). Mid-flight trunk motion increased unilateral loading during landing: a center of mass analysis. Poster at American Society of Biomechanics Meeting, Boulder, CO. 29. Beardt, B.S., McCollum, M.R., Hinshaw, T.J., Layer, J.S., & **Dai, B**. (2017). Landing mechanics in controlled screening tasks and simulated games in volleyball. Poster at American Society of Biomechanics Meeting, Boulder, CO. 30. Sha, Z., Zhou, Z., & **Dai, B.** (2017). Classifying landing performance using frequency domain analyses. Poster at American Society of Biomechanics Meeting, Boulder, CO. 31. Greenwell, R.A., Wilson, M.A., **Dai, B.**, & Deckert, J.L. (2017). Comparison of kinematic differences in dance movements with and without support: grand plié. Oral presentation at International Association for Dance Medicine & Science Meeting, Houston, TX. 32. **Dai, B.,** Cosgrove, M.J., Hinshaw, T.J., Olive S.L., Layer, J.S., & Li, Y. (2016). Association between bilateral strength and balance asymmetries in collegiate athletes. Poster at American Society of Biomechanics Meeting, Raleigh, NC. 33. **Dai, B.,** Hinshaw, T.J., Trumble, T.A., Cosgrove, M.J., Wang, C., & Zhu, Q. (2016). Lower eye height to increase knee and hip flexion during landing. Oral presentation at American Society of Biomechanics Meeting, Raleigh, NC. 34. Meyer, E.A., Sciascia, Y., Cook, R.F., Hinshaw, T.J., Wang, C., Zhu, Q., & **Dai, B.** (2016). The effect of a secondary cognitive task on landing biomechanics and jump performance. Poster at American Society of Biomechanics Meeting, Raleigh, NC. 35. Hinshaw, T.J., Stephenson, M.L., & **Dai, B.** (2016). External loading effect on force and power production during push-up. Poster at American Society of Biomechanics Meeting, Raleigh, NC. 36. Stephenson, M.L., Zhu, Q., & **Dai, B.** (2016). Functional data analysis determines specific anticipation threshold for knee kinematics in a reactive jump-landing task. Oral presentation and poster at American Society of Biomechanics Meeting, Raleigh, NC. 37. Slagowski, C.R., Dixson, S.E., Moynes, R.C., **Dai, B.**, Skinner, J.S., & Smith, D.T. (2016). High-intensity low-volume training improves glycemic control and functional fitness in type 2 diabetics. Poster at American College of Sports Medicine Meeting, Boston, MA. 38. **Dai, B.** (2016). The effect of major knee injuries on strength and balance performance and bilateral asymmetries in collegiate athletes. Oral presentation at Clinical Translational Research Third Annual Meeting, Las Vegas, NV. 39. Cosgrove, M.J., Stephenson, M.L., Hinshaw, T.J., Overton, K.L., Roberts, A.L., Meyer, E.A., & **Dai, B.** (2015). Age and sex effects on force asymmetry during jump and push-up tasks in youth soccer players. Poster at American Society of Biomechanics Meeting, Columbus, OH. 40. Stephenson, M.L., Fisher, H., Graves, K.K., Hinshaw, T.J., & **Dai, B.** (2015). Isometric squat peak force in range of knee flexion angles strongly related to countermovement jump peak force. Poster at American Society of Biomechanics Meeting, Columbus, OH. 41. Stephenson, M.L., Hinshaw, T.J., Trumble, T.A., Zhu, Q., & **Dai, B.** (2015). The effects of stimulus timing on the kinetics of a directed jump landing. Poster at American Society of Biomechanics Meeting, Columbus, OH. 42. Fisher, H., Stephenson, M.L., Graves, K.K., Hinshaw, T.J., & **Dai, B**. (2015). The relationship between force production during isometric squats and knee flexion angles during landing. Oral presentation at International Society of Biomechanics in Sports Meeting, Poitiers, France. 43. Zhu, Q., Dahill, A., Tryon, D., **Dai, B.**, & Lu, J. (2015). The influence of musical training on lifting bottles of unknown weights. Poster at the NASPSPA Conference, Portland, OR. 44. Mao, M., **Dai, B.**, Garrett, W.E., & Yu, B. (2015). The comparison of selected kinematics between anterior cruciate ligament injured and non-injured trials of a javelin thrower athlete. Oral presentation at ACL Research Retreat VII. Greensboro, NC. 45. Zhou, J., Ning, X., Nimbarte, A.D., & **Dai, B.** (2014). *The effect of load holding height on trunk biomechanics during sudden loading*. Oral presentation at International Meeting of the Human Factors and Ergonomics Society, Chicago, IL. 46. **Dai, B.**, Zhu, Q., Ning, X., & Leigh, S. (2014). *Video-based motion capture to calculate 3D knee kinematics and kinetics during landing*. Poster at World Congress of Biomechanics, Boston, MA. 47. **Dai, B.**, Stephenson, M.L., Ellis, S.M., Donohue, M.R., & Zhu, Q. (2014). *Landing training with concurrent tactile feedback increased maximum knee flexion and decreases impact forces*. Oral presentation at International Society of Biomechanics in Sports Meeting, Johnson City, TN. 48. **Dai, B.**, Stephenson, M.L., Heinbaugh, E.M., Moynes, R.C., Rockey, S.S., Thomas, J.J., & Smith, D.T. (2014). *Lower extremity lean mass asymmetry correlated with force and power asymmetry during jumping in adults*. Oral presentation at International Society of Biomechanics in Sports Meeting, Johnson City, TN. 49. Stephenson, M.L., Smith, D.T., Heinbaugh, E.M., Moynes, R.C., Rockey, S.S., Thomas, J.J., & **Dai, B.** (2014). *Total and lower extremity lean mass percentage positively correlates with jump performance*. Oral presentation at International Society of Biomechanics in Sports Meeting, Johnson City, TN. 50. Alphonsa, S., Benham-Deal, T.B., **Dai, B.**, & Zhu, Q. (2014). *The differential effect of the perceived index of difficulty on the movement outcomes of discrete and continuous tapping*. Oral presentation at North American Society for The Psychology of Sport and Physical Activity Meeting, Minneapolis, MN. 51. Queen, R.M., Butler, R.J., Carpenter, A.L., **Dai, B.**, & Garrett, W.E. (2014). *Changes in landing mechanics between 6 and 12 months following ACL reconstruction when using a functional knee brace*. Poster at Meeting of the Orthopaedic Research Society, New Orleans, LA. 52. Zhou, J., Ning, X., & **Dai, B.** (2013). *Trunk kinematics under sudden loading impact when adopting different foot postures*. Oral presentation at International Meeting of the Human Factors and Ergonomics Society, San Diego, CA. 53. Wilson, M.A., **Dai, B.**, Zhu, Q., & Humphrey, N. (2013). *Estimating trunk compression force in vertical dance*. Poster at International Association for Dance Medicine & Science Meeting, Seattle, WA. 54. **Dai, B.**, Garrett, W.E., Gross, M.T., Padua, D.A., Queen, R.M., & Yu, B. (2013). *The effects of performance demands on ACL loading during a stop-jump task*. Poster at American Society of Biomechanics Meeting, Omaha, NE, 2013. 55. **Dai, B.**, Heinbaugh, E.M., Moynes, R.C., Rockey, S.S., & Smith, D.T. (2013). *The relationships of force generation between bioDensity training and similar athletic tasks*. Poster at American Society of Biomechanics Meeting, Omaha, NE. 56. Wilson, M.A., **Dai, B.**, Zhu, Q., & Humphrey, N. (2013). *Estimating trunk muscle force in vertical dance*. Oral presentation and poster at American Society of Biomechanics Meeting, Omaha, NE. 57. Donohue, M.R., Ellis, S.M., Heinbaugh, E.M., Zhu, Q., & **Dai, B.** (2013). *Similarities and differences in knee mechanics between single leg squat and single leg jump*. Poster at American Society of Biomechanics Meeting, Omaha, NE. 58. **Dai, B.,** Garrett, W.E., Gross, M.T., Padua, D.A., Queen, R.M., & Yu, B. (2013). *ACL loading and jump performance are decreased with increased knee flexion landing and soft landing*. Oral presentation at American College of Sports Medicine Meeting, Indianapolis, IN. (*Medicine and Science in Sports and Exercise*, 45:5, Supplement). 59. Butler, R.J., **Dai, B.**, Garrett, W.E., & Queen, R.M. (2013). *Changes in lower extremity mechanics during a stop jump from 6 to 12 months following ACL reconstruction*. Oral presentation at American College of Sports Medicine Meeting, Indianapolis, IN. (*Medicine and Science in Sports and Exercise*, 45:5, Supplement). 60. Li, Y., **Dai, B.**, Chen, X., & Hartmann, U. (2013). *Function movement screen in elite sailors*. Poster at American College of Sports Medicine Meeting, Indianapolis, IN. (*Medicine and Science in Sports and Exercise*, 45:5, Supplement). 61. **Dai, B.**, Butler, R.J., Garrett, W.E., & Queen, R.M. (2012). *Gender effects on lower extremity biomechanics in adolescent patients following ACL reconstruction*. Poster at American Society of Biomechanics Meeting, Gainesville, FL, 2012. 62. **Dai, B.**, Yu, B. (2012). *Estimating ACL force from lower extremity kinematics and kinetics*. Poster at American Society of Biomechanics Meeting, Gainesville, FL. 63. Butler, R.J., **Dai, B.**, Reiman, M.P., Garrett, W.E., & Queen, R.M. (2012). *Are fundamental movement patterns meaningful in identifying patients at risk for sustaining a second ACL tear?*. Oral presentation at American College of Sports Medicine Meeting, San Francisco, CA. (*Medicine and Science in Sports and Exercise*, 44:5, Supplement) 64. Butler, R.J., **Dai, B.**, Garrett, W.E., & Queen, R.M. (2012). *Asymmetry in stop jump mechanics correlates to asymmetry in deep squat mechanics in patients 6 months following ACL reconstruction*. Poster at American College of Sports Medicine Meeting, San Francisco, CA. (*Medicine and Science in Sports and Exercise*, 44:5, Supplement) 65. Russell, M.E., **Dai, B.**, Butler, R.J., & Queen, R.M. (2012). *Changes in plantar loading during the lower quarter Y balance tes*t. Poster at American College of Sports Medicine Meeting, San Francisco, CA. (*Medicine and Science in Sports and Exercise*, 44:5, Supplement). 66. **Dai, B.**, Butler, R.J., Garrett, W.E., & Queen, R.M. (2012). *Using ground reaction forces to predict knee kinetic asymmetries in adolescent patients post ACL reconstructions*. Poster at ACL Research Retreat VI. Greensboro, NC. (*Journal of Athletic Training*, 47:5, e4.) 67. **Dai, B.** & Giuliani, C.A. (2011). *A confirmatory path analysis relating physical functions and pain to falls in elderly adults*. Poster at Gerontological Society of America Meeting, Boston, MA. 68. **Dai, B.**, Leigh, S., Li, H., & Yu, B. (2011*). The relationships between technique variability and performance in elite discus throwers during competition*. Poster at American Society of Biomechanics Meeting, Long Beach, CA. 69. **Dai, B.**, Butler, R.J., Garrett, W.E., & Queen, R.M. (2011). *Limb asymmetries during a side-cutting task in adolescent patients 6-12 month following ACL reconstruction*. Poster at American Society of Biomechanics Meeting, Long Beach, CA. 70. Sorensen, C.J., **Dai, B.**, & Gillette, J.C. (2011). *Trunk and lower extremity kinetics during variations of the forward lunge exercise*. Poster at American College of Sports Medicine Meeting, Denver, CO. (*Medicine and Science in Sports and Exercise*, 43:5, Supplement) 71. Queen, R.M., Butler, R.J., **Dai, B.**, & Garrett, W.E. (2011). *Functional bracing and limb symmetry following ACL reconstruction in adolescent patients*. Poster at American College of Sports Medicine Meeting, Denver, CO. (*Medicine and Science in Sports and Exercise*, 43:5, Supplement). 72. Jin, S., **Dai, B.**, Ning, X., & Mirka, G.A. (2010). *The effect of horizontal load dynamics on lifting biomechanics*. Oral presentation at Human Factors and Ergonomics Society Meeting, San Francisco, CA. 73. **Dai, B.** & Gillette, J.C. (2010). *Knee kinematics and kinetics at two landings in a vertical stop jump tas*k. Oral presentation at ACL Research Retreat, Greensboro, NC. (*Journal of Athletic Training*, 45:5, 536–537.) 74. **Dai, B.**, Sorensen, C.J., & Gillette, J.C. (2009). *The effects of detraining on stabilometric performance in volleyball players*. Oral presentation at American Society of Biomechanics Meeting, State College, PA. 75. Sorensen, C.J., **Dai, B.**, Patrick McIntyre, & Gillette, J.C. (2009). *The effects of strength training on knee biomechanics during a drop jump in males*. Poster at American Society of Biomechanics Meeting. State College, PA. | | | | | | | | |
| **Invited Presentation** | | | | | | | | |
| 1. **Dai, B.** (2019). *Jump-landing mechanics and anterior cruciate ligament injuries. P*resentation at University of Kentucky Sports Medicine Research Institute. Lexington, KY. 2. **Dai, B.** (2019). *The use of motion capture in understanding anterior cruciate ligament injuries.* Presentation at the NSF REU SITE HUMANS MOVE seminar. Laramie, WY. 3. **Dai, B.** (2019). *The effect of an anterior cruciate ligament injury on strength and balance performance in collegiate athletes: a longitudinal study.* Presentation at the University of Wyoming College of Health Sciences seminar, Laramie, WY. 4. **Dai, B.** (2018). *Jump-landing biomechanics and anterior cruciate ligament injury risk*. Presentation at Beijing Sport University, Beijing, China. 5. **Dai, B.** (2018). *Strength and balance assessments for post-injury athlete*. Presentation at Shanghai University of Sport, Shanghai, China. 6. **Dai, B.** (2018). *Strength and balance assessments for post-injury athletes*. Presentation at Chengdu University of Sport, Chengdu, China. 7. **Dai, B.** (2017). *The 4-step sequence of prevention of anterior cruciate ligament injury*. Presentation at Shanghai University of Sport, Shanghai, China. 8. **Dai, B.** (2017). *The 4-step sequence of prevention of anterior cruciate ligament injury*. Presentation at East China Normal University, Shanghai, China. 9. **Dai, B.** (2017). *Jump-landing mechanics and anterior cruciate ligament injury risk*. Presentation at the University of Wyoming College of Health Sciences Research Day, Laramie, WY. 10. **Dai, B.** (2016). *Applying cooperative learning to solving in-class problems*. Presentation at the University of Wyoming John P. Ellbogen Summer Institute, Laramie, WY. | | | | | | | | |
| **Graduate Student Research Supervision** | | | | | | | | |
| **Advisor and Committee Chair**  Ben Geske, Master’s student in K&H. 2023-present.  Kaden Van Valkenburg, Master’s student in K&H. 2023-present.  Joshua Little, Master’s student in K&H. 2022-present.  Austin Watson, Master’s student in K&H. 2020-present.  Ling Li, Doctoral student in Biomedical Sciences. 2021-present.  Jacob Layer. Doctoral student in Biomedical Sciences. 2017-present.  Yu Song. Doctoral student in Biomedical Sciences. 2020-2023.  *Dissertation*: The effect of mid-flight external trunk perturbation on landing and cutting mechanics: implications for anterior cruciate ligament injuries.  *Post-Graduation*: Assistant Professor at the University of Kansas.  Raychl Fairbanks, Master’s student in K&H. 2022-2023.  *Plan B Paper*: Achilles Tendon Rupture: Risk Factors, Loading Mechanism, and Injury Characteristics  *Post-Graduation*: Doctor of physical therapy student at the University of Montana.  Rachel Gibb, Master’s student in K&H. 2022-2023. (Co-chair with Dr. Derek Smith).  *Plan B Paper*: Exercise Recommendations Based on the Effect of Resistance Training, Power Training, and High Impact Training on Bone Density for Postmenopausal Women  *Post-Graduation*: Personal Trainer at Whitefish Wave.  Ling Li, Master’s student in Kinesiology and Health (K&H). 2019-2021.  *Thesis*: Comparisons of pre-landing knee flexion angles between sexes and landing tasks.  *Post-Graduation*: Doctor of philosophy student at the University of Wyoming.  Brenna McGuinness, Master’s student in K&H. 2019-2021. (Non-thesis).  *Plan B Paper*: Strength and atrophy of the quadriceps femoris muscle group post-ACL reconstruction.  *Post-Graduation*: Doctor of physical therapy student at the University of Montana.  Sydne LaCroix. Master’s student in K&H. 2018-2020. (Non-thesis).  *Plan B Paper*: A biomechanical perspective of shoulder injuries in swimming and swimming training.  *Post-Graduation*: Restorative coordinator at Infinity Rehab.  Maja Goršic. Master’s student in K&H. 2018-2019.  *Thesis*: Biomechanical comparison of back squats and front squats using a conventional bar or a transformer bar.  *Post-Graduation*: Postdoc training at University of Wyoming.  Nicole Sauls. Master’s student in K&H. 2017-2019. (Co-chair with Dr. Evan Johnson).  *Thesis*: The effects of an extreme bout of high intensity functional resistance training on movement biomechanics and muscle damage.  *Post-Graduation*: Doctor of philosophy student at Auburn University.  Kaleb Ashworth. Master’s student in K&H. 2017-2019. (Non-thesis).  *Plan B Paper*: Running: training, technique, and intervention.  *Post-Graduation*: Athletic trainer at Ochsner Medical Center.  Uchechukwu Monago. Master’s student in K&H. 2017-2019. (Non-thesis).  *Plan B Paper*: Muscular strength training: theories and recommendations.  *Post-Graduation*: Doctor of physical therapy student at Emory University.  Michaela Keener. Master’s student in K&H. 2016-2018.  *Thesis*: The effect of stirrup length on impacts on the rider.  *Post-Graduation*: Doctor of philosophy student at University of Kentucky.  Meghan Critchley. Master’s student in K&H. 2016-2018.  *Thesis*: The effect of mid-flight whole-body and trunk rotation on landing mechanics.  *Post-Graduation*: Doctor of philosophy student at University of Calgary.  Jacob Layer. Master’s student in K&H. 2015-2017.  *Thesis*: A biomechanical comparison of isometric back squats and belt squats.  *Post-Graduation*: Doctor of philosophy student at University of Wyoming.  Taylour Hinshaw. Master’s student in K&H. 2015-2017.  *Thesis*: The effect of mid-flight trunk motion on landing mechanics.  *Post-Graduation*: Scientific Coordinator at Charles River.  Brad Beardt. Master’s student in K&H. 2015-2017.  *Thesis*: Landing mechanics during controlled screening tasks and simulated games.  *Post-Graduation*: Doctor of physical therapy student at Briar Cliff University.  Mara Cosgrove. Master’s student in K&H. 2014-2016.  *Thesis*: Age and sex effects on landing force and asymmetry in youth soccer players.  *Post-Graduation*: Staff in Cowboy Joe Club at University of Wyoming.  Mitchell Stephenson. Master’s student in K&H. 2013-2015.  *Thesis*: The effects of specific available time to react on ACL loading and performance in jump landing.  *Post-Graduation*: Doctor of philosophy student at Iowa State University.  Harry Fisher. Master’s student in K&H. 2013-2015.  *Thesis*: The relationship between force production during isometric squats and knee flexion angles during landing.  *Post-Graduation*: Doctor of philosophy student at Cardiff Metropolitan University.  Katherine Cawthorn. Master’s student in K&H. 2013-2015.  *Thesis*: Strength, balance, and body Composition in physically active individuals with mild scoliosis: a preliminary study.  *Post-Graduation*: Physician assistant student at Wake Forest University.  Erika Heinbaugh. Master’s student in K&H. 2012-2014.  *Thesis*: The effects of time of day on balance performance in recreational athletes.  *Post-Graduation*: Doctor of physical therapy student at Northern Arizona University.  Juan Aquino, Doctoral student in Biomedical Sciences. 2021. (Did not complete the degree).  Eric A Pantuso, Master’s student in K&H. 2020-2021. (Did not complete the degree).  Lauren Eberts. Master’s student in K&H. 2014 (Did not complete the degree).  **Committee Member**  Omer Faruq. Master’s student in Family and Consumer Sciences. 2023-present.  Ashley Neff. Master’s student in Anthropology. 2022-present. (Non-thesis).  Franklin Adjei. Master’s student in K&H. 2022-2023.  Mackenzie Amrine. Master’s student in K&H. 2022.  Danilo Arruda. Master’s student in K&H. 2020-2021.  Pratik Deb, Master’s student in Electrical Engineering. 2021. (Non-thesis).  Henry Bergmann. Master’s student in K&H. 2020-present. (Non-thesis).  Shaochen Huang. Doctoral student in Biomedical Sciences. 2017-2020.  Steven Hlucny. Master’s student in Electrical Engineering. 2019-2020.  Benjamin McNair, Master’s student in K&H. 2019-2020.  Josiah Batson, Master’s student in Electrical Engineering. 2018-2019.  Kelly Ibele, Master’s student in K&H. 2018-2019.  Taylor Kuehn, Master’s student in K&H. 2018-2019.  Yubi Regmi, Master’s student in Electrical Engineering. 2018.  Thomas Hart. Master’s student in K&H. 2017.  Shaochen Huang. Master’s student in K&H. 2016.  Chelsea Slagowski. Master’s student in K&H. 2015.  Sarah Dixson. Master’s student in K&H. 2015.  Rebecca Moynes. Master’s student in K&H. 2015.  Sushma Alphosa. Master’s student in K&H. 2013.  Megan Neemann. Master’s student in K&H. 2013. (Non-thesis).  **Advisor and Faculty Mentor: International Scholars and Students**  Rui Xia. Graduate student at Shanghai University of Sport, China. 2015-2016, 2018-2019.  Ting Chen. Attending Physician at Nanning Center for Disease Control and Prevention, China. 2019.  Xiaotian Li. Graduate student at Shanghai University of Sport, China. 2018-2019.  Yu Song. Graduate student at Beijing Sport University, China. 2019. | | | | | | | | |
| **Undergraduate Student Research Supervision**  Reilly Gilbert (3 research credits). 2023.  Kareem Mersal (2 research credits). 2023.  Yessica Lo (1 research credits). 2023.  Kaden Van Valkenburg (3 research credits). 2023.  Jefferson Danso (2 research credits). 2023.  Peyton Hatcher (2 research credits). 2023.  Lauren Salsgiver (5 research credits). 2022-2023.  Natalie Christofferson (2 research credits). 2022.  Haylen Cordova (2 research credits). 2022.  Raychl Fairbanks (2 research credits). 2022.  Madeline Jenkins(2 research credits). 2021. | | | | | | | | |
| Sarah Bentlage (2 research credits). 2021.  Elizabeth Albrandt (2 research credits). 2020.  Chester Samuelson (1 research credits). 2020.  Ana George (1 research credits and ASPIRE program). 2019.  Kevin Baldwin (2 research credits). 2019.  LuAnna Rochelle (2 research credits). 2019.  Jamee McMullen (2 research credits). 2019.  Aaron Gann (2 research credits). 2019.  Marten Baur (2 research credits). 2019.  Kael Sweeney (6 research credits and ASPIRE program). 2018-2019.  Devin Jones (4 research credits). 2018.  Cormick Eaton (2 research credits). 2018.  Cameron Olson (2 research credits). 2018.  Daniel Davis (5 research credits and ASPIRE program). 2016-2018.  Stephanie Petty (1 research credit). 2017.  Myranda McCollum (2 research credits). 2016.  Kirsten Jacobson (2 research credits). 2016.  Christylynne Grenz (1 research credit). 2016.  Ross Cook(4 research credits). 2015-2016.  Yvonne Sciascia (4 research credits). 2015-2016.  Hunter Perala (3 research credits). 2015-2016.  Samantha Oliver (4 research credits). 2015-2016.  Tyler Trumble (6 research credits). 2015-2016.  Elizabeth A Meyer (5 research credit and ASPIRE program). 2014-2016.  Austin Roberts (3 research credits and ASPIRE program). 2013-2016.  Kathryn Overton (ASPIRE program). 2013-2015.  Haley Wadley (2 research credits). 2015.  Taylour Hinshaw (8 research credits). 2014-2015.  Kyle Graves (4 research credits). 2014-2015.  Lucas Carr (3 research credits). 2013-2014.  Samantha Ellis (5 research credits). 2013.  Michael Donohue (8 research credits). 2012-2013. | | | | | | | | |
| **Student Research Grants** | | | | | | | | |
| 1. Yu Song. Faculty Advisor: **Boyi Dai**. “The effect of quadriceps fatigue on single-leg jump performance and knee mechanics.” Biomedical Sciences Graduate Program Mini Grant, University of Wyoming, 2023. ($500, funded). 2. Ling Li. Faculty Advisor: **Boyi Dai**. “The effects of task complexity on ACL loading during landing and cutting.” Biomedical Sciences Graduate Program Mini Grant, University of Wyoming, 2023. ($500, funded). 3. Yu Song. Faculty Advisor: **Boyi Dai**. Mid-flight external trunk perturbation and landing and cutting mechanics: implications for anterior cruciate ligament injuries. Student Research Grant, International Society of Biomechanics in Sports, 2022. (€1,000, funded). 4. Yu Song. Faculty Advisor: **Boyi Dai**. “Mid-flight external trunk perturbation and landing and cutting mechanics.” Biomedical Sciences Graduate Program Mini Grant, College of Health Sciences, University of Wyoming, 2022. ($750, funded). 5. Ling Li. Faculty Advisor: **Boyi Dai**. “The effects of vision and knowledge on landing mechanics associated with ACL loading.” Biomedical Sciences Graduate Program Mini Grant, College of Health Sciences, University of Wyoming, 2022. ($750, funded). 6. Jacob Layer. Faculty Advisor: **Boyi Dai**. “Spinal loading during the belt squat, the back squat, and the vertical jump, a biomechanical comparison.” Student Research Grant. College of Health Sciences, University of Wyoming, 2021-2022. ($1,000, funded). 7. Ling Li. Faculty Advisor: **Boyi Dai**. “Effects of a one-week falling training program on landing mechanics: implications for ACL injury prevention.” Student Research Grant. College of Health Sciences, University of Wyoming, 2020-2021. ($1,000, funded). 8. Yu Song. Faculty Advisor: **Boyi Dai**. “The effect of mid-flight external perturbation on landing mechanics.” Student Research Grant. College of Health Sciences, University of Wyoming, 2020-2021. ($1,000, funded). 9. Jacob Layer. Faculty Advisor: **Boyi Dai**. Biomechanics of the belt and back squats. Biomedical Sciences Graduate Program Mini Grant, College of Health Sciences, University of Wyoming, 2020. ($1,200, funded). 10. Marten Baur. Faculty Advisor: **Boyi Dai**. “Falling as a strategy to change knee loading during double-leg and single-leg landings.” Student Research Grant. College of Health Sciences, University of Wyoming, 2019-2020. ($1,000, funded). 11. Maja Goršic. Faculty Advisor: **Boyi Dai**. “Biomechanical comparison of back squat and front squat using a conventional bar or a transformer bar.” Student Research Grant. College of Health Sciences, University of Wyoming, 2019-2020. ($1,000, funded). 12. Sydne LaCroix. Faculty Advisor: **Boyi Dai**. “Asymmetries in upper body balance, strength, and stroke distance and their associations with swimmers.” Student Research Grant. College of Health Sciences, University of Wyoming, 2019-2020. ($1,000, funded). Funding was returned as the student changed to complete a Plan B paper. 13. Michaela Keener. Faculty Advisor: **Boyi Dai**. “The effect of stirrup length on impacts on the rider.” Student Research Grant. College of Health Sciences, University of Wyoming, 2017-2018. ($1,000, funded). 14. Meghan Critchley. Faculty Advisor: **Boyi Dai**. “The effect of rotational movements on landing biomechanics: implication for ACL injuries.” Student Research Grant. College of Health Sciences, University of Wyoming, 2017-2018. ($1,000, funded). 15. Taylour Hinshaw. Faculty Advisor: **Boyi Dai**. “The effect of mid-flight trunk motion on landing mechanics.” Student Research Grant. College of Health Sciences, University of Wyoming, 2016-2017. ($1,000, funded). 16. Tyler Trumble. Faculty Advisor: **Boyi Dai**. “Using eye height to increase knee flexion angles during landing.” Student Research Grant. College of Health Sciences, University of Wyoming, 2015-2016. ($400, funded). 17. Hunter Perala. Faculty Advisor: **Boyi Dai**. “The effect of footwear on rotational torque during a 180º-turn in country swing dance.” Student Research Grant. College of Health Sciences, University of Wyoming, 2015-2016. ($600, funded). 18. Katherine Cawthorn. Faculty Advisor: **Boyi Dai**. “Strength, balance, and body composition asymmetry in individuals with scoliosis.” Student Research Grant. College of Health Sciences, University of Wyoming, 2014-2015. ($1,000, funded). 19. Mitchell Stephenson. Faculty Advisor: **Boyi Dai**. “Effect of available response time to directional signal in abrupt movement change: Implications for ACL injury.” Student Research Grant. College of Health Sciences, University of Wyoming, 2014-2015. ($600, funded). 20. Harry Fisher. Faculty Advisor: **Boyi Dai**. “Lower extremity force production and knee flexion angle during landing.” Student Research Grant. College of Health Sciences, University of Wyoming, 2014-2015. ($700, funded). 21. Erika Heinbaugh. Faculty Advisor: **Boyi Dai**. “Effects of time of day on balance performance, push-up mechanics, and jump landing mechanics.” Student Research Grant. College of Health Sciences, University of Wyoming, 2013-2014. ($1,000, funded). 22. Michael Donahue. Faculty Advisor: **Boyi Dai**. “The relationships between squatting mechanics and jump landing mechanics.” Student Research Grant. College of Health Sciences, University of Wyoming, 2013-2014. ($1,000, funded). | | | | | | | | |
| **Student Research/Travel Awards** | | | | | | | | |
| 1. Yu Song. Faculty Advisor: **Boyi Dai**. Honorable Mention for the AKA National Doctoral Scholar Award. American Kinesiology Association, 2023. 2. Yu Song. Faculty Advisor: **Boyi Dai**. Student Travel Award ($500). International Society of Biomechanics in Sports, 2023. 3. Reilly Gilbert. Faculty Advisor: **Boyi Dai**. Undergraduate Student Research Fellowship ($6,000). “The effect of the complexity of reactive signals on pre-landing and early landing mechanics associated with anterior cruciate ligament loading.” University of Wyoming INBRE, Summer 2023. 4. Ling Li. Faculty Advisor: **Boyi Dai**. Top Student Podium Presentation Award ($150). “Effects of vision and knowledge of landing conditions on pre-landing and early landing mechanics associated with ACL loading.” University of Wyoming College of Health Sciences Research Day, 2023. 5. Yu Song. Faculty Advisor: **Boyi Dai**. Top Student Poster Presentation Award ($100). “Time to fall: falling decreased anterior cruciate ligament loading variables during single-leg landings after mid-flight external trunk perturbation.” University of Wyoming College of Health Sciences Research Day, 2023. 6. Ling Li. Faculty Advisor: **Boyi Dai**. Travel Award ($675). University of Wyoming College of Health Sciences Research Day, 2023. 7. Yu Song. Faculty Advisor: **Boyi Dai**. Travel Award ($675). University of Wyoming College of Health Sciences Research Day, 2023. 8. Yu Song. Faculty Advisor: **Boyi Dai**. Biomedical Sciences Graduate Program Travel Award, College of Health Sciences, University of Wyoming, 2023. ($500). 9. Ling Li. Faculty Advisor: **Boyi Dai**. Biomedical Sciences Graduate Program Travel Award, College of Health Sciences, University of Wyoming, 2023. ($500). 10. Lauren Salsgiver. Faculty Advisor: **Boyi Dai**. Best Undergraduate Student Podium Presentation ($100). “Single-leg backward hopping can better detect quadriceps strength deficits induced by a fatigue protocol compared to forward and vertical hopping.” Rocky Mountain American Society of Biomechanics Annual Meeting, 2023. 11. Ling Li. Faculty Advisor: **Boyi Dai**. Graduate Student Travel Award ($200). School of Graduate Education, University of Wyoming, 2023. 12. Lauren Salsgiver. Faculty Advisor: **Boyi Dai**. Undergraduate Student Research Fellowship ($2,240). “The effect of quadriceps fatigue on single-leg jump performance and knee mechanics.” University of Wyoming INBRE, Fall, 2022 and Spring 2023. 13. Yu Song. Faculty Advisor: **Boyi Dai**. Most Amazing Podium Presentation ($150). “The effect of mid-flight external perturbation on double-leg landing forces - a preliminary study.” Rocky Mountain American Society of Biomechanics Annual Meeting, 2022. 14. Yu Song. Faculty Advisor: **Boyi Dai**. Biomedical Sciences Graduate Program Travel Award, College of Health Sciences, University of Wyoming, 2022. ($500). 15. Yu Song. Faculty Advisor: **Boyi Dai**. Student Travel Award ($500). International Society of Biomechanics in Sports, 2022. 16. Yu Song. Faculty Advisor: **Boyi Dai**. Student Travel Award ($250). American Society of Biomechanics, 2022. 17. Yu Song. Faculty Advisor: **Boyi Dai**. 1st Place of Oral Presentation - Sports Rehabilitation ($200). “Using trunk kinematics to predict kinetic asymmetries during double-leg jump-landings in collegiate athletes following anterior cruciate ligament reconstruction.” Hong Kong Association of Sports Medicine and Sports Science Student Conference, 2021. 18. Ling Li. Faculty Advisor: **Boyi Dai**. 1st Place in Student Oral Presentations ($250). “Comparisons of pre-landing knee flexion angles between sexes and landings tasks.” University of Wyoming College of Health Sciences Research Day, 2021. 19. Song Yu. Faculty Advisor: **Boyi Dai**. 1st Place in Student Poster Presentations ($150). “Medial-lateral shoulder and hip positions predicted kinetic asymmetries during double-leg squats in collegiate athletes following ACL reconstruction.” University of Wyoming College of Health Sciences Research Day, 2021. 20. Ling Li. Faculty Advisor: **Boyi Dai**. People's Choice Award. “Falling as a strategy to decrease knee loading during landings.” Online Presentation. International Society of Biomechanics in Sports Meeting. Liverpool, UK, 2020. 21. Ling Li. Faculty Advisor: **Boyi Dai**. Student Abstract Awards ($150). “Falling as a strategy to decrease knee loading during landings.” University of Wyoming College of Health Sciences Research Day, 2020. 22. Brenna McGuinness. Faculty Advisor: **Boyi Dai**. Student Abstract Awards ($150). “Strength and balance performance before and after labrum repairs in collegiate athletes.” University of Wyoming College of Health Sciences Research Day, 2020. 23. Nicole Bordelon. Faculty Advisor: **Boyi Dai**. Master's Student Outstanding Podium Presentation. “ACL injuries increase balance and jump-landing asymmetries in collegiate athletes: a longitudinal study with pre-injury assessments.” National Strength and Conditioning Association National Conference, 2019. 24. Nicole Sauls. Faculty Advisor: **Boyi Dai**. Most Amazing Poster Presentation ($250). “The effect of load placement on force, velocity, and power production during a countermovement jump.” Rocky Mountain American Society of Biomechanics Annual Meeting, 2019. 25. LuAnna Rochelle. Faculty Advisor: **Boyi Dai**. Undergraduate Student Research Fellowship ($5,400). “Biomechanical comparison of back squats and front squats using a conventional bar or transformer bar.” University of Wyoming INBRE, Summer, 2019. 26. Marten Baur. Faculty Advisor: **Boyi Dai**. Undergraduate Student Research Fellowship ($800). “Falling as a strategy to change knee loading during double-leg and single-leg landings.” University of Wyoming INBRE, Spring, 2019. 27. Aaron Gann. Faculty Advisor: **Boyi Dai**. Undergraduate Student Research Fellowship ($800). “The effect of mid-flight external perturbation on landing mechanics.” University of Wyoming INBRE, Spring, 2019. 28. Daniel Davis. Faculty Advisor: **Boyi Dai**. 1st Place in Student Poster Presentations ($150). “The effect of mid-flight trunk flexion and extension on center of mass redistribution and landing mechanics.” University of Wyoming College of Health Sciences Research Day, 2018. 29. Michaela Keener. Faculty Advisor: **Boyi Dai**. 2nd Place in Student Poster Presentations ($100). “The effect of stirrup length on impacts on the rider.” University of Wyoming College of Health Sciences Research Day, 2018. 30. Meghan Critchley. Faculty Advisor: **Boyi Dai**. Travel Award ($750). College of Health Sciences, University of Wyoming, 2018. 31. Devin Jones. Faculty Advisor: **Boyi Dai**. Undergraduate Student Research Fellowship ($800). “The effect of load placements on force and power production during a countermovement jump.” University of Wyoming INBRE, Spring, 2018. 32. Daniel Davis. Faculty Advisor: **Boyi Dai**. Undergraduate Student Research Fellowship ($1,600). “Medial and lateral single-leg landings.” University of Wyoming INBRE, Fall, 2017 and Spring, 2018. 33. Jacob Layer. Faculty Advisor: **Boyi Dai**. 2nd Place in Student Oral Presentations ($200). “Biomechanical comparison of isometric back and belt squats.” University of Wyoming College of Health Sciences Research Day, 2017. 34. Taylour Hinshaw. Faculty Advisor: **Boyi Dai**. Honorable Mention for the 2017 AKA National Master’s Scholar. American Kinesiology Association. 35. Taylour Hinshaw. Faculty Advisor: **Boyi Dai**. 2nd Place in Student Poster Presentations ($100). “Mid-flight trunk motion increased unilateral loading during landing: a center of mass analysis.” University of Wyoming College of Health Sciences Research Day, 2017. 36. Daniel Davis. Faculty Advisor: **Boyi Dai**. Undergraduate Student Research Fellowship ($1,600). “The effect of mid-flight trunk motion on landing mechanics.” University of Wyoming INBRE, Fall, 2016 and Spring, 2017. 37. Ross Cook. Faculty Advisor: **Boyi Dai**. Undergraduate Student Research Fellowship ($4,500). “Biomechanical analysis of landing techniques in Parkour.” University of Wyoming EPSCoR, Summer, 2016. 38. Hunter Perala. Faculty Advisor: **Boyi Dai**. 2nd Place in Student Oral Presentations ($200). “The effect of footwear on rotational torques in country swing dance.” University of Wyoming College of Health Sciences Research Day, 2016. 39. Yvonne Sciascia. Faculty Advisor: **Boyi Dai**. 3rd Place in Student Oral Presentations ($150). “The effect of a cognitive task on lower extremity biomechanics and performance during landing.” University of Wyoming College of Health Sciences Research Day, 2016. 40. Taylour Hinshaw. Faculty Advisor: **Boyi Dai**. 3rd Place in Student Poster Presentations ($50). “External loading effect on force and power production during push-up.” University of Wyoming College of Health Sciences Research Day, 2016. 41. Tyler Trumble. Faculty Advisor: **Boyi Dai**. Undergraduate Student Research Fellowship ($1,600). “Using eye height to increase knee flexion angles during landing.” University of Wyoming EPSCoR, Fall, 2015 and Spring, 2016. 42. Elizabeth Meyer. Faculty Advisor: **Boyi Dai**. Undergraduate Student Research Fellowship ($1,600). “The effect of a secondary cognitive task on lower extremity biomechanics during landing.” University of Wyoming EPSCoR, Fall, 2015 and Spring, 2016. 43. Taylour Hinshaw. Faculty Advisor: **Boyi Dai**. Undergraduate Student Research Fellowship ($4,500). “Age and sex effects on balance, strength, and landing mechanics in youth soccer players.” University of Wyoming EPSCoR, Summer, 2015. 44. Hunter Perala. Faculty Advisor: **Boyi Dai**. Undergraduate Student Research Fellowship ($4,500). “The effect of footwear on rotational torque during a 180º-turn in country swing dance.” University of Wyoming EPSCoR, Summer, 2015. 45. Mara Cosgrove. Faculty Advisor: **Boyi Dai**. 1st Place in Student Oral Presentations ($250). “Age and sex effects on force asymmetry during jump and push-up tasks in youth soccer players.” University of Wyoming College of Health Sciences Research Day, 2015. 46. Mara Cosgrove. Faculty Advisor: **Boyi Dai**. Travel Award ($750). College of Health Sciences, University of Wyoming, 2015. 47. Mitchell Stephenson. Faculty Advisor: **Boyi Dai**. Travel Award ($750). College of Health Sciences, University of Wyoming, 2015. 48. Harry Fisher. Faculty Advisor: **Boyi Dai**. Travel Award ($750). College of Health Sciences, University of Wyoming, 2015. 49. Kyle Graves. Faculty Advisor: **Boyi Dai**. Undergraduate Student Research Fellowship ($800). “The effects of forms and external loading on maximum power production during push-up exercises.” University of Wyoming EPSCoR, Spring, 2015. 50. Taylour Hinshaw. Faculty Advisor: **Boyi Dai**. Undergraduate Student Research Fellowship ($800). “The effects of specific signal latencies on ACL loading factors in an unanticipated jump and cut maneuver.” University of Wyoming EPSCoR, Spring, 2015. 51. Mitchell Stephenson. Faculty Advisor: **Boyi Dai**. 2nd Place in Student Oral Presentations ($200). “Total and lower extremity lean mass percentage positively correlates with jump performance.” University of Wyoming College of Health Sciences Research Day, 2014. 52. Lucas Carr. Faculty Advisor: **Boyi Dai**. Undergraduate Student Research Fellowship ($750). “Lower extremity force production and knee flexion angle during landing.”University of Wyoming EPSCoR, Spring, 2014. 53. Samantha Ellis. Faculty Advisor: **Boyi Dai**. Undergraduate Student Research Fellowship ($750). “Using tactile feedback to increase knee flexion angles during a jump-landing task.”University of Wyoming EPSCoR, Fall, 2013. 54. Erika Heinbaugh. Faculty Advisor: **Boyi Dai**. 3rd Place in Student Presentations ($300). “Relationship between lean mass/fat mass ratio and force production during jumping.” Rocky Mountain Chapter of American College of SportMedicine Meeting. 2013. 55. Erika Heinbaugh. Faculty Advisor: **Boyi Dai**. Travel Award ($750). College of Health Sciences, University of Wyoming, 2013 56. Michael Donahue. Faculty Advisor: **Boyi Dai**. 1st Place in Student Oral Presentations ($250). “Squatting and jump landing mechanics: a pilot study.” University of Wyoming College of Health Sciences Research Day, 2013. 57. Michael Donahue. Faculty Advisor: **Boyi Dai**. Undergraduate Student Research Fellowship ($750). “The relationships between squatting mechanics and jump landing mechanics.” University of Wyoming INBRE, Spring, 2013. | | | | | | | | |
| **Teaching** | | | | | | | | |
| **Course Number** | | **Course Title** | **Credit Hours** | | **Year** | | **Number of Students** | |
| KIN 3042  (On-campus) | | Biomechanics of Human Movement | 3 | | Fall, 2012  Spring, 2013  Fall, 2013  Spring, 2014  Summer, 2014  Fall, 2014  Spring, 2015  Fall, 2015  Spring, 2016  Fall, 2016  Spring, 2017  Fall, 2017  Spring, 2018  Fall, 2018  Spring, 2019  Fall, 2019  Spring, 2020  Fall, 2020  Spring, 2021  Summer, 2021  Fall 2021  Spring 2022  Summer 2022  Fall 2022 | | 46  24  39  41  12  39  38  43  43  40  45  49  43  51  44  48  48  68  46  18  65  46  18  36 | |
| KIN 4042  (On-campus) | | Applied Biomechanics | 3 | | Spring, 2014  Spring, 2015  Spring, 2016 | | 6  15  10 | |
| KIN 5046  (On-campus) | | Advanced Biomechanics and Programming | 3 | | Fall, 2013  Fall, 2015  Fall, 2017  Fall, 2019  Fall 2021 | | 11  7  10  8  5 | |
| KIN 5047  (On-campus)  KIN 5085  (On-campus) | | Biomechanics in Sport  Research Methods | 3  3 | | Fall, 2014  Fall, 2016  Fall, 2018  Fall, 2020  Fall, 2022  Spring, 2018  Spring, 2019  Spring, 2020  Spring, 2021  Spring, 2022 | | 7  9  7  11  6  10  8  15  9  10 | |
| **Guest Lectures** | | | | | | | | |
| 1. “Introduction to biomechanics,” KIN 1005/1006/1101, Introduction to Kinesiology and Health Promotion, University of Wyoming, 2012-2021. 2. “Biomechanical analysis of conducting,” MUSC 5370, Advanced Choral Conducting, University of Wyoming, 2019. 3. “ACL injury prevention in pediatric and adolescent populations,” KIN 4900, Pediatric Exercise Physiology, 2016-2017. 4. “Anterior cruciate ligament injury,” Structural Kinesiology, Massey University, New Zealand, 2014. | | | | | | | | |
| **Academic Advising** | | | | | | | | |
| **Year** | | **Number of Undergraduate Advisees** | | **Number of Graduate Advisees** | | | | |
| Fall, 2012  Spring, 2013  Fall, 2013  Spring, 2014  Fall, 2014  Spring, 2015  Fall, 2015  Spring, 2016  Fall, 2016  Spring, 2017  Fall, 2017  Spring 2018  Fall 2018  Spring 2019  Fall, 2019  Spring, 2020  Fall, 2020  Spring, 2021  Fall, 2021  Spring, 2022  Fall, 2022  Spring, 2023 | | 12  12  27  24  26  32  30  32  25  32  37  36  20  24  22  13  18  22  18  23  20  20 | | 1  1  4  5  5  4  4  4  5  5  6  6  5  6  5  5  6  6  4  4  7  7 | | | | |
| **University Service** | | | | | | | | |
| University of Wyoming  Institutional Review Board Committee, 2016-present.  Faculty Senator Committee  Senator, 2017-2018, 2019-present.  Alternate, 2018-2019.  Food Security Task Force, 2020-2022.  College of Health Sciences  Research Committee,  Chair, 2022-present  Member, 2013-2015, 2018-2022.  Division of Kinesiology and Health  K&H Seminar Committee, 2017-present.  Faculty Search Committee, 2015, 2018, 2020.  Critical Thinking Assessment Test Committee, 2012-2016. | | | | | | | | |
| **Professional Service**  Grant Proposal Reviewer  National Institute for Occupational Safety and Health, 2023  National Science Foundation, 2022.  Institute of Translational Health Sciences, 2017, 2022 | | | | | | | | |
| External Reviewer for Tenure and Promotion  Department of Movement Sciences, University of Idaho, 2023.  Department of Kinesiology and Health Science, Utah State University, 2022  Department of Kinesiology, Boise State University, 2020, 2022  Department of Kinesiology, University of North Carolina at Charlotte, 2021  Department of Health & Human Performance, Texas State University, 2021  Conference Organizing Committee  Co-chair, Rocky Mountain American Society of Biomechanics Regional Meeting, Estes Park, Colorado, April 5-6, 2019. Hosting Institution: University of Colorado Boulder.  Co-chair, Rocky Mountain American Society of Biomechanics Regional Meeting, Estes Park, Colorado, April 13-14, 2018. Hosting Institution: University of Wyoming.  Conference Session Moderator  Rocky Mountain American Society of Biomechanics Regional Meeting, 2017.  Thesis Examiner  Sports Science, University of The Sunshine Coast, 2018.  Manuscript Reviewer  Sports Biomechanics, 2011-2023.  Research in Sports Medicine, 2013-2023.  Journal of Applied Biomechanics, 2013-2014, 2016-2023.  Journal of Biomechanics, 2013-2015, 2018-2023.  Medicine & Science in Sports & Exercise, 2014-2016, 2021-2023.  Gait & Posture, 2018, 2021-2023.  Physical Therapy in Sport, 2019-2023.  Clinical Journal of Sport Medicine, 2013-2015, 2022.  Journal of Sports Sciences, 2016-2017, 2019-2022.  Journal of Science and Medicine in Sport, 2016-2019, 2021-2022.  BMC Sports Science, Medicine and Rehabilitation, 2017, 2020-2022.  Physiotherapy Theory and Practice, 2017-2018, 2020-2022.  Research Quarterly for Exercise and Sport, 2017-2022.  Journal of Human Kinetics, 2018-2019, 2021-2022.  American Journal of Sports Medicine, 2017,2022.  Ergonomics, 2015, 2022.  Journal of Exercise Science & Fitness, 2022.  Journal of Strength and Conditioning Research, 2016-2021.  Journal of Science in Sport and Exercise, 2019-2021.  Frontiers in Sports and Active Living, 2022.  Clinical Biomechanics, 2021.  The Knee, 2015-2016, 2018, 2020-2021.  Sports Medicine, 2018, 2021.  Journal of Electromyography and Kinesiology, 2016, 2021  Journal of Athletic Training, 2013-2017,2019-2020.  PLOS ONE, 2017-2020.  International Journal of Sports Medicine, 2017, 2019-2020.  International Journal of Environmental Research and Public Health, 2020.  Journal of Dance Medicine & Science, 2019-2020.  European Journal of Sport Science, 2020.  PeerJ, 2020.  Journal of Medical Imaging and Health Informatics, 2020.  Sensors, 2020.  Journal of Sport and Health Science, 2014, 2017-2019.  IEEE Robotics and Automation Magazine, 2019.  Journal of Medical Imaging and Health Informatics, 2019.  Translational Journal of the American College of Sports Medicine, 2019.  Journal of Orthopaedic & Sports Physical Therapy, 2017-2018.  Human Movement Science, 2018.  BMC Musculoskeletal Disorders, 2018.  Journal of Biomechanical Engineering, 2018.  Measurement in Physical Education and Exercise Science, 2017.  Scandinavian Journal of Medicine and Science in Sports, 2015-2016.  Disability and Rehabilitation, 2016.  Journal of Ergonomics, 2014-2015.  Archives of Gerontology and Geriatrics, 2015.  Journal of Aging and Physical Activity, 2013.  Health and Quality of Life Outcomes, 2013.  IEEE Sensors Journal, 2012.  Book Reviewer  Routledge, Taylor & Francis Group, 2016-2017.  Conference Abstract Reviewer  International Chinese Society for Physical Activities and Health Annual Meeting, 2017-2018, 2022-2023.  International Society of Biomechanics in Sports Annual Meeting, 2020-2023.  American Society of Biomechanics Annual Meeting, 2016-2018.  Society of Health and Physical Educators Annual Meeting, 2020.  Scientific Services Project  Balance and Strength Assessment: A Research and Service Project with University of Wyoming Athletics Department, 2015-2020.  Technical Analysis of Discus and Javelin Throwing. USA Track & Field, 2011-2014. | | | | | | | | |
| Student Advisory Committee Member. American Society of Biomechanics, 2011-2012.  **Professional Society** | | | | | | | | |
| International Society of Biomechanics in Sports, 2014-Present.  International Chinese Society for Physical Activities and Health, 2022-Present  American Society of Biomechanics, 2010-2019, 2022-2023.  National Strength and Conditioning Association, 2014-2017.  American College of Sports Medicine, 2012-2013, 2016-2017. | | | | | | | | |
| **Media Coverage and Community Service** | | | | | | | | |
| 1. Biomechanics of Parkour Landing in “Parkour Jumper Who Made Viral Leap Explains How He Didn't Die.” www.inverse.com, 2016: <https://www.inverse.com/article/18809-parkour-expertise-comes-with-practice>. 2. Resistance is useful: Ankle band activates hip during landing, Lower Extremity Review Magazine, 2014: <http://lermagazine.com/news/in-the-moment-sports-medicine/resistance-is-useful-ankle-band-activates-hip-during-landing>. 3. Biomechanics of Jump Shot in “Leap of Faith” (Documentary of Kenneth Sailors), Wyoming PBS, 2013: <http://www.wyoptv.org/programming/viewprogram.php?id=3782&aid=6297>. 4. Volunteer Assistant Coach. Women’s Volleyball Team, University of Wyoming, 2012. 5. Volunteer Assistant Coach. Women’s Volleyball Team, Iowa State University, 2007-2009. | | | | | | | | |