

Boyi Dai
Associate Professor
10/05/2018

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
2017-present	Division of Kinesiology and Health University of Wyoming	Associate Professor (Tenured)
2012-2017	Division of Kinesiology and Health University of Wyoming	Assistant Professor
2009-2012	Division of Physical Therapy University of North Carolina at Chapel Hill	Research and Teaching Assistant
2009-2012	Michael W. Krzyzewski Human Performance Lab Duke University	Research Assistant
2007-2009	Department of Kinesiology Iowa State University	Teaching Assistant

Awards and Honors

1. New Investigator Award, College of Health Sciences, University of Wyoming, 2016
2. Travel Award, Third Annual Mountain West Clinical and Translational Research –Infrastructure Network (CTR-IN) Meeting, 2016
3. Top Prof Award, Cap and Gown Chapter of Mortar Board, University of Wyoming, 2015
4. Travel Award, College of Health Sciences, University of Wyoming, 2013
5. Travel Award, Graduate and Professional Student Federation, UNC-Chapel Hill, 2011
6. Graduate Student Writing Award, American Kinesiology Association, 2011
7. Outstanding Master Student, Department of Kinesiology, Iowa State University, 2009
8. Chinese National Scholarship, Chinese Government, 2005
9. Outstanding Student, Beijing Sport University, 2005
10. University Scholarship, Beijing Sport University, 2004, 2006

Funded Research Grants

1. 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, funded).
2. Novak, D. [PI], Gorsic, 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, funded).
3. **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, funded).
4. **Dai, B.** (2016-2017). *Strength and balance assessments in collegiate athletes*. Seed Grant, College of Health Sciences, University of Wyoming. (\$3,750, funded).
 5. **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. CTR-IN is supported through the National Institute of General Medical Sciences under the Institutional Development Award program. (\$13,546, funded).
 6. **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, funded).
 7. **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, funded).
 8. **Dai, B.** (2013). *Equipment Grant*. University of Wyoming INBRE. (\$7,080, funded).

Other Funding

1. Applicant: **Dai, B.**; Supporting Student: Yu, S. (2018-2019). Internship Grant. International Society of Biomechanics in Sports. (\$2,307).
2. Applicant: **Dai, B.**; Supporting Student: Layer, J.S. (2018-2019). Graduate Assistantship. University of Wyoming INBRE. (\$26,200).
3. **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).

Non-funded Research Grant Applications

1. **Dai, B.** (2018-2020). *The effect of an anterior cruciate ligament injury on strength, balance, and movement biomechanics: a longitudinal study*. Pilot Research Projects, University of Wyoming INBRE. (Pre-proposal, not funded).
2. **Dai, B.** (2018-2019). *Assessing strength and balance impairments following a severe upper or lower extremity injury in collegiate athletes: a longitudinal study*. Early Career Research Award (R03), National Center for Medical Rehabilitation Research, National Institutes of Health. (\$273,032, not funded).
3. **Dai, B.** [PI], & Zhu, Q. (2017-2018). *Understanding and preventing ACL injuries in Badminton*. Research Grant, Badminton World Federation. (\$29,000, not funded).
4. **Dai, B.** (2017-2020). *Assessing strength and balance impairments following a major injury in collegiate athletes*. National Athletic Trainers' Association Research Grant. (\$57,283, not funded).
5. **Dai, B.** (2017-2019). *Assessing strength and balance impairments following a severe upper or lower extremity injury in collegiate athletes: a longitudinal study*. Pilot Research Projects, University of Wyoming INBRE. (Pre-proposal, not funded).
6. **Dai, B.** (2017). *Equipment Grant*. University of Wyoming INBRE. (\$24,229, not funded).
7. **Dai, B.** [Co-PI] & Marion, S.M. [Co-PI] (2016-2018). *Assessing strength and balance impairments following a major injury in collegiate athletes*. University of Wyoming and Community College Collaborative Grant, University of Wyoming INBRE. (\$40,000, funding was declined due to a lack of institutional support from the community college).
8. **Dai, B.** [PI] & Dufek, J. (2016-2017). *Assessing strength asymmetries in patients following ACL injuries*. CTR-IN Pilot Grant, University of Nevada, Las Vegas. (\$71,388, not funded).
9. **Dai, B.** (2016-2017). *Baseline assessments of strength and balance for post-injury management in collegiate athletes*. Young Investigator Grant, National Strength and Conditioning Association. (\$5,160,

- not funded).
10. **Dai, B.** [PI] (2016-2017). *Biomechanical assessments of strength and balance for post-injury management in collegiate athletes*. Pilot Research Projects, University of Wyoming INBRE. (Pre-proposal, not funded).
 11. **Dai, B.** [PI] & Dufek, J. (2016-2017). *The biomechanics of landing techniques in Parkour*. Faculty Grand-in-Aid, University of Wyoming. (\$7,500, not funded).
 12. **Dai, B.** [PI] Zhu, Q., Smith, D.T. (2015). *Cost-effective self-implemented jump-landing to reduce biomechanical risks for ACL injury*. Pre-proposal for the Pew Charitable Trust Scholar Program. (Pre-proposal, not funded)
 13. **Dai, B.** [PI] & Weigel, R.R. (2014). *Joint loading during agriculture-related manual material handling tasks in youth*. HICAHA Pilot / Feasibility Research Projects, Colorado State University. (\$19,944, not funded).
 14. **Dai, B.** [PI] & Cawthorn, K.J. (2014). *Functional asymmetries in physically active individuals with scoliosis*. CTR-IN-Mini-Grants, University of Nevada, Las Vegas. (\$10,000, not funded).
 15. **Dai, B.** [PI], Zhu, Q., Benham-Deal, T.B., & Jenkins J.M. (2014). *Risk factors for physical activity-related injuries in high school students*. CTR-IN - Pilot Grants, University of Nevada, Las Vegas. (\$82,390, not funded).
 16. Zhu, Q. [PI], & **Dai, B.** (2014). *Task-specific perceptual-motor bimanual training to improve upper limb function post stroke*. CTR-IN - Pilot Grants, University of Nevada, Las Vegas. (\$82,487, not funded).
 17. **Dai, B.** [PI], & Zhu, Q. (2014). *The effects of three landing techniques after an overhead smashing on Achilles tendon loading, anterior cruciate ligament loading, and performance*. Research Grant, Badminton World Federation. (\$19,400, not funded).
 18. Zhu, Q. [PI], & **Dai, B.** (2014). *Coordination dynamics in badminton*. Research Grant, Badminton World Federation. (\$46,500, not funded).
 19. **Dai, B.** [PI], Wilson, M.A., & Thomas, J.J. (2014). *Field-based physical and biomechanical tests to identify injury risk factors in youth soccer players*. New Grant Initiative, University of Wyoming. (\$15,260, not funded).
 20. **Dai, B.** [PI], Ning, X., & Weigel, R.R. (2013). *The effects of lifting tasks and age on spinal loading in youth*. HICAHA Pilot / Feasibility Research Projects, Colorado State University. (\$24,609, not funded).
 21. **Dai, B.** [PI], Zhu, Q., Thomas J.J., & Reiser, R.F. (2013). *Onsite functional and biomechanical screening for exercise and sports injury risks in rural children and adolescents*. UW-CSU Collaborative Research Grant, University of Wyoming INBRE. (\$50,000, not funded).

Publications (Peer-Reviewed Journal Articles)

1. Layer, J.S.*, Grenz, C.*, Hinshaw, T.J.*, Smith, D.T., Barrett, S.F., **Dai, B. (Corresponding Author)** (In press). Kinetic analysis of isometric back squats and belt squats. *Journal of Strength and Conditioning Research*. [Data-based]
2. Hinshaw, T.J.*, Davis, D.J.*, Layer, J.S.*, Wilson, M.A., Zhu, Q., **Dai, B. (Corresponding Author)** (In press). Mid-flight lateral trunk bending increased ipsilateral leg loading during landing: a center of mass analysis. *Journal of Sports Sciences*. [Data-based]
3. **Dai, B. (Corresponding Author)**, Layer, J.S.*, Vertz, C., Hinshaw, T.J.*, Cook, R.F.*, Li, Y., Sha, Z. (In press). Baseline assessments of strength and balance performance and bilateral asymmetries in collegiate athletes. *Journal of Strength and Conditioning Research*. [Data-based]
4. **Dai, B.**, Garrett, W.E., Gross, M.T., Padua, D.A., Queen, R.M., & Yu, B. (In press). The effect of performance demands on lower extremity biomechanics during landing and cutting tasks. *Journal of Sport and Health Science*. [Data-based]

5. Beardt, B.S.*, McCollum, M.R.*, Hinshaw, T.J.*, Layer, J.S.*, Wilson, M.A., Zhu, Q., **Dai, B. (Corresponding Author)** (2018). Lower extremity kinematics differed between a controlled drop-jump and volleyball-takeoffs. *Journal of Applied Biomechanics*. 34(4):327-335. [Data-based]
6. **Dai, B. (Corresponding Author)**, 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]
7. Perala, H.D.*, Wilson, M.A., & **Dai, B. (Corresponding Author)** (2018). The effect of footwear on rotational torques in country swing dance. *Journal of Dance Medicine & Science*. 15;22(2):84-90. [Data-based]
8. **Dai, B. (Corresponding Author)**, 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]
9. Hinshaw, T.J.*, Stephenson, M.L.*, Sha, Z., & **Dai, B. (Corresponding Author)** (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]
10. Stephenson, M.L.*, Hinshaw, T.J.*, Wadley, H.A.*, Zhu, Q., Wilson, M.A., Byra, M., & **Dai, B. (Corresponding Author)** (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]
11. 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]
12. 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]
13. 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]
14. 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]
15. **Dai, B. (Corresponding Author)**, 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]
16. Fisher, H.*, Stephenson, M.L.*, Graves, K.K.*, Hinshaw, T.J.*, Smith, D.T., Zhu, Q., Wilson, M.A., & **Dai, B. (Corresponding Author)** (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]
17. 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]
18. **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]
19. Donohue, M.R.*, Ellis, S.M.*, Heinbaugh, E.M.*, Stephenson, M.L.*, Zhu, Q., & **Dai, B. (Corresponding Author)** (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]
20. 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]
21. Heinbaugh, E.M. *, Smith, D.T., Zhu, Q., Wilson, M.A., & **Dai, B. (Corresponding Author)** (2015). The effect of time-of-day on static and dynamic balance in recreational athletes. *Sports Biomechanics*. 14(3):361-373. [Data-based]
 22. Stephenson, M.L. *, Smith, D.T., Heinbaugh, E.M. *, Moynes, R.C. *, Rockey, S.S. *, Thomas, J.J.* & **Dai, B. (Corresponding Author)** (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]
 23. 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]
 24. **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]
 25. **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. [Review, invited publication]
 26. **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]
 27. **Dai, B. (Corresponding Author)**, 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]
 28. 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]
 29. 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]
 30. 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]
 31. 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]
 32. **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]
 33. **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]
 34. **Dai, B. (Corresponding Author)**, 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]
 35. **Dai, B. (Corresponding Author)**, 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]

36. **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]
37. **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]
38. **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]
39. **Dai, B. (Corresponding Author)**, 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]

* **Students from University of Wyoming**

Publications (Other)

1. **Dai, B. (Corresponding Author)** & Sha, Z. (2016). Biomechanical considerations in strength assessments. *China Sports Coaches*, 24(4):21-22. [Invited publication, in Chinese]
2. **Dai, B. (Corresponding Author)**, Layer, J.S., & Hinshaw, T.J. (2016). Posture-specific strength and landing mechanics. *Lower Extremity Review Magazine*, 8(6):43-47. [Invited publication]
3. **Dai, B. (Corresponding Author)** & Gillette, J.C. (2013). Detraining and lower extremity injury risks. *Lower Extremity Review Magazine*, 5(1):21-25. [Invited publication]

Presentations (Refereed National and International Abstracts)

1. 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.
2. 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.
3. 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.
4. 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.
5. Johnson, A.P., Gorsic, 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
6. 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.
7. **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.
8. 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.
9. 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.
10. Sha, Z., Zhou, Z., **Dai, B.** (2017). Classifying landing performance using frequency domain analyses. Poster at American Society of Biomechanics Meeting, Boulder, CO.
 11. 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.
 12. **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.
 13. **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.
 14. 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.
 15. 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.
 16. 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.
 17. 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.
 18. **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.
 19. 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.
 20. 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.
 21. 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.
 22. 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 Sport Meeting, Poitiers, France.
 23. 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.
 24. 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.
 25. 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.
26. **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.
 27. **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 Sport Meeting, Johnson City, TN.
 28. **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 Sport Meeting, Johnson City, TN.
 29. 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 Sport Meeting, Johnson City, TN.
 30. 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.
 31. 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.
 32. 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.
 33. 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.
 34. **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.
 35. **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.
 36. 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.
 37. 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.
 38. **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).
 39. 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).
 40. 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).

41. **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.
42. **Dai, B.**, Yu, B. (2012). *Estimating ACL force from lower extremity kinematics and kinetics*. Poster at American Society of Biomechanics Meeting, Gainesville, FL.
43. 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)
44. 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)
45. Russell, M.E., **Dai, B.**, Butler, R.J., & Queen, R.M. (2012). *Changes in plantar loading during the lower quarter Y balance test*. Poster at American College of Sports Medicine Meeting, San Francisco, CA. (*Medicine and Science in Sports and Exercise*, 44: 5, Supplement).
46. **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.)
47. **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.
48. **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.
49. **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.
50. 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)
51. 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).
52. 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.
53. **Dai, B.** & Gillette, J.C. (2010). *Knee kinematics and kinetics at two landings in a vertical stop jump task*. Oral presentation at ACL Research Retreat, Greensboro, NC. (*Journal of Athletic Training*, 45: 5, 536–537.)
54. **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.
55. 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.

Presentations (Refereed Local and Regional Abstracts)

1. 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. Oral presentation at Rocky Mountain Chapter of American Society of Biomechanics, Estes Park, CO.
2. 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 Rocky Mountain Chapter of American Society of Biomechanics, Estes Park, CO.
3. Keener, M.M., Critchley, M.L., Layer, J.S., **Dai, B.** (2018). The effect of stirrup length on impacts on the rider. Poster at Rocky Mountain Chapter of American Society of Biomechanics, Estes Park, CO.
4. Kuehn, T.C., Qin, Z., **Dai, B.** (2018). Effects of kinesio-taping hamstrings on knee joint position sense and biomechanics in a fatigued jump-landing task: a pilot study. Poster at Rocky Mountain Chapter of American Society of Biomechanics, Estes Park, CO.
5. Gorsic, M., Regmi, Y., Johnson, A.P., **Dai, B.**, Novak, D. (2018). Reconfigurable orthosis for chronic low back pain prevention: pilot evaluation of trunk stability. Poster at Rocky Mountain Chapter of American Society of Biomechanics, Estes Park, CO.
6. 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 Rocky Mountain Chapter of American Society of Biomechanics, Estes Park, CO.
7. Beardt, B.S., McCollum, M.R., Hinshaw, T.J., Layer, J.S., **Dai, B.** (2017). Landing mechanics differed between controlled screening tasks and simulated volleyball games. Poster at Rocky Mountain Chapter of American Society of Biomechanics, Estes Park, CO.
8. Hinshaw, T.J., Stephenson, M.L., & **Dai, B.** (2016). *External loading effect on force and power production during push-up*. Poster at Rocky Mountain Chapter of American Society of Biomechanics, Estes Park, CO.
9. Perala, H.D., Wilson, M.A., & **Dai, B.** (2016). *The effect of footwear on rotational torques in country swing dance*. Oral presentation at Rocky Mountain Chapter of American Society of Biomechanics, Estes Park, CO.
10. 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 Rocky Mountain Chapter of American College of Sports Medicine Meeting, Denver, CO.
11. 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 in youth soccer players*. Poster at Rocky Mountain Chapter of American College of Sports Medicine Meeting, Denver, CO.
12. 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 Rocky Mountain Chapter of American Society of Biomechanics, Estes Park, CO.
13. **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*. Poster presentation at Rocky Mountain Chapter of American Society of Biomechanics, Estes Park, CO.
14. Stephenson, M.L., Smith, D.T., Heinbaugh, E.M., Moynes, R.C., Rockey, S.S., Thomas, J.J. & **Dai, B.** (2014). *Maximum pushup force as an alternative to assess upper extremity strength*. Poster at Rocky Mountain Chapter of American College of Sports Medicine Meeting, Denver, CO.
15. Heinbaugh, E.M., Moynes, R.C., Rockey, S.S., Smith, D.T., & **Dai, B.** (2013). *Relationship between lean mass/fat mass ratio and force production during jumping*. Oral presentation at Rocky Mountain Chapter of American College of Sports Medicine Meeting, Denver, CO.
16. 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 Rocky Mountain Chapter of American College of Sports Medicine Meeting, Denver, CO.
17. **Dai, B.**, Butler, R.J., Garrett, W.E., & Queen, R.M. (2012). *Predicting knee kinetic asymmetries from ground reaction forces in adolescent patients post ACL reconstruction*. Oral presentation at Human Movement Science Research Symposium, Chapel Hill, NC.
 18. **Dai, B.**, Ware, W.B., & Giuliani, C.A. (2012). *A structural equation model relating physical function, pain, impaired mobility, and falls in older adults*. Poster at Human Movement Science Research Symposium, Chapel Hill, NC.
 19. Butler, R.J., Garrett, W.E., Taylor, D., **Dai, B.**, & Queen, R.M. (2012). *Functional testing following ACL rehabilitation: Are our patients “normal” at discharge?*. Oral presentation at Southern Orthopaedic Association Meeting, White Sulphur Springs, WV.
 20. Butler, R.J., Garrett, W.E., **Dai, B.**, & Queen, R.M. (2012). *Do lower extremity mechanics correlate between a jump landing and a deep squat?*. Oral presentation at Southern Orthopaedic Association Meeting, White Sulphur Springs, WV.
 21. **Dai, B.**, Butler, R.J., Garrett, W.E., & Queen, R.M. (2011). *Limb asymmetries and bracing effects during a side-cutting task in adolescent patients following ACL reconstruction*. Poster at Human Movement Science Research Symposium, Chapel Hill, NC.
 22. **Dai, B.**, Derrick, T.R., & Gillette, J.C. (2010). *The effects of postseason break on knee sagittal plane kinematics and kinetics during a stop-jump task*. Oral presentation at Human Movement Science Research Symposium, Chapel Hill, NC.

Presentation (other)

1. **Dai, B.** (2018). *Jump-landing Biomechanics and Anterior Cruciate Ligament Injury Risk*. Oral presentation at Beijing Sport University, Beijing, China. [Invited presentation]
2. **Dai, B.** (2018). *Strength and Balance Assessments for Post-Injury Athlete*. Oral presentation at Shanghai University of Sport, Shanghai, China. [Invited presentation]
3. **Dai, B.** (2018). *Strength and Balance Assessments for Post-Injury Athletes*. Oral presentation at Chengdu University of Sport, Chengdu, China. [Invited presentation]
4. **Dai, B.** (2017). *The 4-Step Sequence of Prevention of Anterior Cruciate Ligament Injury*. Oral presentation at Shanghai University of Sport, Shanghai, China. [Invited presentation]
5. **Dai, B.** (2017). *The 4-Step Sequence of Prevention of Anterior Cruciate Ligament Injury*. Oral presentation at East China Normal University, Shanghai, China. [Invited presentation]
6. **Dai, B.** (2017). *Jump-landing mechanics and anterior cruciate ligament injury risk*. Oral presentation at the University of Wyoming College of Health Sciences Grand Rounds, Laramie, WY. [Invited presentation]
7. **Dai, B.** (2016). *Applying cooperative learning to solving in-class problems*. Oral presentation at the University of Wyoming John P. Ellbogen Summer Institute, Laramie, WY. [Invited presentation]

Manuscripts in Review / Revision

1. Davis, D.J.*, Hinshaw, T.J.*, Critchley, M.L.*, **Dai, B. (Corresponding Author)** (in first review). Mid-flight trunk flexion and extension altered segment and lower extremity joint movements and subsequent landing mechanics. *Journal of Science and Medicine in Sport*.
2. **Dai, B. (Corresponding Author)**, Layer, J.S.*, Hinshaw, T.J.*, Cook, R.F.*, Dufek, J.S. (in first review). Kinematic analyses of parkour landings from as high as 2.7 meters. *International Journal of Sports Medicine*.
3. Critchley, M.L.*, Davis, D.J.*, Keener, M.M.*, Layer, J.S.*, Wilson, M.A., Zhu, Q., **Dai, B.**

- (**Corresponding Author**) (in first review). The effects of mid-flight whole-body and trunk rotation on landing mechanics: implications for ACL injuries. *Journal of Sport and Health Science*.
4. Zhang, X., Xia, R., **Dai, B.**, Sun, X., Fu, W. (in second review). Effects of exercise-induced fatigue on lower extremity joint mechanics, stiffness, and energy absorption during landings. *Journal of Sports Science and Medicine*.

*** Students from University of Wyoming**

Graduate Student Research Supervision

Advisor and Committee Chair or Co-chair

- Jacob Layer. Doctoral student in Biomedical Sciences. 2017-present
- Nicole Sauls. Master's student in Kinesiology and Health. 2017-present. (Co-chair)
- Kaleb Ashworth. Master's student in Kinesiology and Health. 2017-present. (Non-thesis)
- Uchechukwu Monago. Master's student in Kinesiology and Health. 2017-present. (Non-thesis)
- Sydne LaCroix. Master's student in Kinesiology and Health. 2018-present.
- Michaela Keener. Master's student in Kinesiology and Health. 2016-present.
Thesis Title: The effect of stirrup length on impacts on the rider
Post-Graduation: Part-time lecture at University of Wyoming.
- Meghan Critchley. Master's student in Kinesiology and Health. 2016-present.
Thesis Title: 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 Kinesiology and Health. 2015-2017.
Thesis Title: A biomechanical comparison of isometric back squats and belt squats
Post-Graduation: Doctor of philosophy student at University of Wyoming.
- Taylor Hinshaw. Master's student in Kinesiology and Health. 2015-2017.
Thesis Title: The effect of mid-flight trunk motion on landing mechanics
Post-Graduation: Scientific Coordinator at Charles River
- Brad Beardt. Master's student in Kinesiology and Health. 2015-2017.
Thesis Title: 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 Kinesiology and Health. 2014-2016.
Thesis Title: 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 Kinesiology and Health. 2013-2015.
Thesis Title: 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 Kinesiology and Health. 2013-2015.
Thesis Title: 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 Kinesiology and Health. 2013-2015.
Thesis Title: 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 Kinesiology and Health. 2012-2014.
Thesis Title: The effects of time of day on balance performance in recreational athletes.

Post-Graduation: Doctor of physical therapy student at Northern Arizona University

Lauren Eberts. Master's student in Kinesiology and Health. 2014 (withdrawal).

Committee Member

Shaochen Huang. Doctoral student in Biomedical Sciences. 2017-present.

Joi Thomas. Doctoral student in Biomedical Sciences. 2016- present.

Yubi Regmi, Master's student in Electrical Engineering. 2018. (Thesis)

Thomas Hart. Master's student in Kinesiology and Health. 2017. (Thesis)

Shaochen Huang. Master's student in Kinesiology and Health. 2016. (Thesis)

Chelsea Slagowski. Master's student in Kinesiology and Health. 2015. (Thesis)

Sarah Dixon. Master's student in Kinesiology and Health. 2015. (Thesis)

Rebecca Moynes. Master's student in Kinesiology and Health. 2015. (Thesis)

Sushma Alphosa. Master's student in Kinesiology and Health. 2013. (Thesis)

Megan Neemann. Master's student in Kinesiology and Health. 2013. (Non-thesis)

Advisor (Visiting Students)

Rui Xia. Master's student in Exercise Science at Shanghai University of Sport, China. 2015-2016

Undergraduate Student Research Supervision

Kael Sweeney (4 research credits). 2018

Devin Jones (4 research credits). 2018

Cormick Eaton (2 research credits). 2018

Cameron Z 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

Taylor 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. 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).

2. 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).
3. 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).
4. 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).
5. Hunter Perala. Faculty Advisor: **Boyi Dai**. “The effect of footwear on rotational torque during a 180°-turn in country swing dance.” Student Research Grant. College of Health Sciences, University of Wyoming, 2015-2016. (\$600, funded).
6. 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).
7. 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).
8. 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).
9. 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).
10. 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 Awards

1. 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 Grand Rounds, 2018.
2. 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 Grand Rounds, 2018.
3. Meghan Critchley. Faculty Advisor: **Boyi Dai**. Travel Award (\$750). College of Health Sciences, University of Wyoming, 2018.
4. 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.
5. 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.
6. 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 Grand Rounds, 2017.
7. 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 Grand Rounds, 2017.
8. 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.
 9. 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.
 10. 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 Grand Rounds, 2016.
 11. 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 Grand Rounds, 2016.
 12. 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 Grand Rounds, 2016.
 13. 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.
 14. 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.
 15. 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.
 16. Hunter Perala. Faculty Advisor: **Boyi Dai**. Undergraduate Student Research Fellowship (\$4,500). “The effect of footwear on rotational torque during a 180°-turn in country swing dance.” University of Wyoming EPSCoR, Summer, 2015.
 17. 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 Grand Rounds, 2015.
 18. Mara Cosgrove. Faculty Advisor: **Boyi Dai**. Travel Award (\$750). College of Health Sciences, University of Wyoming, 2015.
 19. Mitchell Stephenson. Faculty Advisor: **Boyi Dai**. Travel Award (\$750). College of Health Sciences, University of Wyoming, 2015.
 20. Harry Fisher. Faculty Advisor: **Boyi Dai**. Travel Award (\$750). College of Health Sciences, University of Wyoming, 2015.
 21. 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.
 22. 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.
 23. 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 Grand Rounds, 2014.
24. 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.
 25. 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.
 26. 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 Sport Medicine Meeting. 2013.
 27. Erika Heinbaugh. Faculty Advisor: **Boyi Dai**. Travel Award (\$750). College of Health Sciences, University of Wyoming, 2013
 28. 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 Grand Rounds, 2013.
 29. 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	46
			Spring, 2013	24
			Fall, 2013	39
			Spring, 2014	41
			Summer, 2014	12
			Fall, 2014	39
			Spring, 2015	38
			Fall, 2015	43
			Spring, 2016	43
			Fall, 2016	40
			Spring, 2017	45
			Fall, 2017	49
KIN 4042 (On-campus)	Applied Biomechanics	3	Spring, 2014	6
			Spring, 2015	15
			Spring, 2016	10
KIN 5046 (On-campus)	Advanced Biomechanics and Programming	3	Fall, 2013	11
			Fall, 2015	7
			Fall, 2017	10
KIN 5047 (On-campus)	Biomechanics in Sport	3	Fall, 2014	7
			Fall, 2016	9

			Fall, 2018	7
KIN 5085 (On-campus)	Research Methods	3	Spring, 2018	10

Guest Lectures

1. "Introduction to Biomechanics," KIN 1005/1006/1101, Introduction to Kinesiology and Health Promotion, University of Wyoming, 2012-present
2. "ACL Injury Prevention in Pediatric and Adolescent Populations," KIN4900-02, Pediatric Exercise Physiology, 2016-2017
3. "Anterior Cruciate Ligament Injury," Structural Kinesiology, Massey University, New Zealand, 2014.

Academic Advising

Year	Number of Undergraduate Advisees	Number of Graduate Advisees
Fall, 2012	12	1
Spring, 2013	12	1
Fall, 2013	27	4
Spring, 2014	24	5
Fall, 2014	26	5
Spring, 2015	32	4
Fall, 2015	30	4
Spring, 2016	32	4
Fall, 2016	25	5
Spring, 2017	32	5
Fall, 2017	37	6
Spring 2018	36	6
Fall 2018		5

University Service

University of Wyoming

Institutional Review Board Committee, 2016-present

Faculty Senator Committee

Alternate, 2018-present

Senator, 2017-2018

College of Health Sciences

Research Committee, 2013-2015, 2018-present

Division of Kinesiology and Health

K&HP curriculum committee, 2012-present

Faculty search committee, 2015, 2018

Critical Thinking Assessment Test committee, 2012-2016

Professional Service

Editorial Board Member

Sports Biomechanics, 2015-present

Research in Sports Medicine, 2015-present

Conference Organizing Committee

Co-chair, Rocky Mountain American Society of Biomechanics Regional Meeting, Estes Park, Colorado, TBD, 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.

Session Moderator

Rocky Mountain American Society of Biomechanics Regional Meeting, 2017

Scientific Services Project

Balance and Strength Assessment: a Research and Service Project with University of Wyoming Athletics Department, 2015-present

Technical Analysis of Discus and Javelin Throwing. USA Track & Field, 2011-2014

Manuscript Reviewer

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