TEXAS STATE VITA

I. Academic/Professional Background

A. Name: Rachel (Koldenhoven) Rolfe Title: Assistant Professor

B. Educational Background

Degree	***Year***	***University***	***Major***	***Thesis/Dissertation***
PhD	2019	University of Virginia	Kinesiology - Sports Medicine	Visual biofeedback and impairment-based rehabilitation for chronic ankle instability
MEd	2015	University of Virginia	Athletic Training	Surface electromyography and plantar pressure during walking in young adults with chronic ankle instability
BS	2014	Illinois State University	Athletic Training	

C. University Experience

Position	***University***	***Dates***
Associate Professor (with tenure)	Texas State University Department of Health & Human Performance	Sept 2025 – *present*
Assistant Professor	Texas State University Department of Health & Human Performance	Sept 2019 – 2025

D. Relevant Professional Experience

Position	***Entity***	***Dates***
Athletic Trainer (Volunteer)	New Braunfels Youth Lacrosse	Jan 2022 – June 2023
Assistant Athletic Trainer	Western Albemarle High School Crozet, Virginia	Aug 2014 – Jun 2015
Physical Therapist Extender	PT Plus Health, LLC Charlottesville, Virginia	Jul 2014 – Jun 2015

Athletic Trainer (Per Diem)	University of Virginia Sports Camps	Jun 2014 – May 2019
Athletic Trainer (Per Diem)	Physical Therapy at ACAC Soccer Organization of Charlottesville-Albemarle, Virginia	Aug 2015 – May 2016

E. Other Professional Credentials (licensure, certification, etc.)

Licensed Athletic Trainer – Texas (AT8136), October 2019-*present*
Board of Certification; Certified Athletic Trainer (2000016373), May 2014-*present*
National Provider Identifier (1821440926), June 2014-present
CPR/AED Professional Rescuer – American Red Cross, February 2014-*present*
CPR/AED Instructor – American Red Cross, May 2015-May 2021
Licensed Athletic Trainer – Virginia (0126002162), May 2014-April 2021

II. TEACHING

A. Teaching Honors and Awards:

B. Courses Taught:

Texas State University

Graduate:

Biomechanics of Musculoskeletal Injury (AT 5311, ESS 5314)
Evaluation of the Upper and Lower Extremities (AT 5401)
Musculoskeletal Assessment of the Lower Extremity (AT 5300)
Independent Study in Athletic Training (AT 5347)
Independent Study in Exercise Science (ESS 5347)
Thesis (ESS 5399A)
Thesis (ESS 5399B)

Undergraduate:

Functional Anatomy (AT 2400)

University of Virginia

Undergraduate:

Emergency Medical Care (KINE 3630)
Musculoskeletal Cadaver Anatomy Lab (KINE 3601)

C. Directed Student Learning (i.e. theses, dissertations, exit committees, etc.):

Texas State University Doctoral Dissertation Committees (**Member**)

In Progress

1. **Kayastha, Rujan.** Innovative smart insole design for construction workers: integrating biomechanical gait analysis and pressure sensing technology for musculoskeletal pains or injury prevention and comfort. (PhD Materials Sciences, Engineering, and Commercialization, *May 2026*)

Texas State University Thesis Committees (**Chair**)

Completed

1. **Perez, Nadia.** Kinesiophobia in collegiate athletes with chronic ankle instability. (MS Exercise Science, May 2023)

Texas State University Thesis Committees (**Member**)

In Progress

1. **Williams, Kelsey.** You say you're in a slump: athletes and coaches views of causes and cures for performance slumps. (MA Psychology Research, *May 2026*)

Texas State University Thesis Committees (**Member**)

Completed

1. **Sadekin, Sirazam.** Design and optimization of ice hockey skating blade and its impact on ankle sprain. (MS Mechanical and Manufacturing Engineering, December 2025)
2. **Khan, Javed.** Design and manufacturing of a portable slip simulator. (MS Mechanical and Manufacturing Engineering, May 2023)
3. **Sharotry, Abhimanyu**. A digital framework of a material handling operation in Industry 4.0 environments. (MS Industrial Engineering, December 2020)

Texas State University Culminating Project Committees (**Chair**)

In Progress

1. **Alvarado, Julian.** Clinically accessible gait training for individuals with chronic ankle instability. (MS Athletic Training, May 2026)
2. **Blakley, Ashlyn.** Clinically accessible gait training for individuals with chronic ankle instability. (MS Athletic Training, May 2026)
3. **Cortez, Marina.** Effects of walking gait training on running gait biomechanics in individuals with chronic ankle instability. (MS Athletic Training, May 2026)
4. **Rodriguez, Caitlin.** Effects of walking gait training on running gait biomechanics in individuals with chronic ankle instability. (MS Athletic Training, May 2026)

Texas State University Culminating Project Committees (**Chair**)

Completed

1. **Phillips, Jasmine.** Effects of kinesiotape on pain, range of motion, and quality of life in individuals with a history of lateral ankle sprain: a critically appraised topic. (MS Athletic Training, May 2025)
2. **Pitts, Thomas "Trace".** Effects of kinesiotape on pain, range of motion, and quality of life in individuals with a history of lateral ankle sprain: a critically appraised topic. (MS Athletic Training, May 2025)
3. **Waller, Scott.** Effects of visual biofeedback gait training during walking on running gait biomechanics in individuals with chronic ankle instability. (MS Exercise Science, May 2024).
4. **Ortega, Christine.** Effects of gait training for individuals with chronic ankle instability: a systematic review and meta-analysis. (MS Athletic Training, May 2023)
5. **McCarthy, Mary.** Injury and treatment characteristics of middle-school patients under the care of athletic trainers from 2010-2022: a report from the athletic training practice-based network. (MS Exercise Science, May 2023)
6. **Sigmon, Taylor.** Injury and treatment characteristics of middle-school patients under the care of athletic trainers from 2010-2022: a report from the athletic training practice-based network. (MS Exercise Science, May 2023)

7. **Tonniges, Stirling.** Effects of fatigue on biomechanics of lifting and lowering in experienced and inexperienced industry workers. (MS Exercise Science, May 2023)
8. **Aguilar, Karina.** Rehabilitation techniques for chronic ankle instability. (MS Athletic Training, May 2022)
9. **Hollmann, Tyler.** Using intramedullary rods for healing chronic tibial stress fractures in a collegiate female athlete: a case report. (MS Exercise Science, May 2022)
10. **Keaton Rodriquez.** Gait biomechanics of individuals with and without femoroacetabular impingement. (MS Exercise Science, May 2022)
11. **Stipp, Shelby.** Orthotics for therapeutic intervention in individuals with exercise related lower leg pain: a critically appraised topic. (MS Athletic Training, May 2022)
12. **Swaim, Erin.** Gait biomechanics of individuals with and without femoroacetabular impingement. (MS Exercise Science, May 2022)
13. **Choung, Woocheol.** Perceptions of ankle sprains in parents of middle school athletes. (MS Exercise Science, May 2021)
14. **Ramirez, Daisy.** Perceptions of ankle sprains in middle school athletes. (MS Exercise Science, May 2021)

Texas State University Culminating Project Committees (**Member**)
In Progress

1. **Delgado, Madelyn.** Validity and reliability of 2-dimensional joint angle analysis during running and walking. (MS Athletic Training, May 2026)
2. **Llanas, Elizabeth.** Validity and reliability of 2-dimensional joint angle analysis during running and walking. (MS Athletic Training, May 2026)

Texas State University Culminating Project Committees (**Member**)
Completed

1. **Bell, ArieAnn.** Biomechanical analysis of the 3 minute all out test in collegiate runners. (MS Exercise Science, December 2022)

Texas State University National Science Foundation Research Experiences for Undergraduates (**Chair**)
Completed

1. **Nachega, Maya**. Enhancing Early Diagnosis of Autism with Machine Learning Algorithms using Postural Control Features. (REU Summer 2024)
2. **Yahaya, Sugru**. Enhancing Early Diagnosis of Autism with Machine Learning Algorithms using Postural Control Features. (REU Summer 2024)
3. **Wallace, Ila**. Enhancing Early Diagnosis of Autism with Machine Learning Algorithms using Postural Control Features. (REU Summer 2023)

University of South Florida Capstone Project Committee (**Chair**)
Completed

1. **Wood, Briana.** Evaluating the effectiveness of the implementation of intrinsic foot muscle exercises for individuals with chronic ankle instability. (MS Athletic Training, May 2021)

University of Virginia Thesis Committee (**Member** – Supervising Doctoral Student)
Completed

1. **Virostek, Amy**. Runners with exercise related lower leg pain exhibit increased contact time and strength deficits. (MEd Athletic Training, August 2018)

2. **Gregory, Christopher.** Effects of external supports on running mechanics in individuals with history of lateral ankle sprains. (MEd Athletic Training, August 2017)
3. **Martin, Kelly.** Walking gait mechanics and gaze fixation in individuals with chronic ankle instability. (MEd Athletic Training, August 2017)
4. **Hollis, Christina**. Gait mechanics as measured by a wearable sensor during running at two speeds on different surfaces. (MEd Athletic Training, August 2016)

D. Courses Prepared and Curriculum Development:

Texas State University

1. AT 5300 - Musculoskeletal Assessment of the Lower Extremity
    a. New face-to-face course created for Fall 2022 semester

2. AT 5311/ESS 5314 – Biomechanics of Musculoskeletal Injury
    a. Created materials for an existing face-to-face course were created for Spring 2022 semester as this was my first semester teaching the course.

3. AT 5401 - Evaluation of the Upper and Lower Extremities
    a. Course re-designed for Fall 2021 as Dr. Natalie Meyers no longer co-taught this course. A new textbook was adopted, lectures were updated, and new labs were created.
    b. New face-to-face course co-created with Dr. Natalie Meyers for Fall 2020 semester. This course was co-taught with Dr. Meyers.

4. AT 2400 - Functional Anatomy
    a. Course re-designed from online format to hybrid format for Spring 2021 semester
    b. Course re-designed from face-to-face format to online format for Fall 2020 semester
    c. New face-to-face course created for Fall 2019 semester

University of Virginia

1. KINE 3630 - Emergency Medical Care
    a. Existing face-to-face course redeveloped for updated textbook for Spring 2018 semester

2. KINE 3601 - Musculoskeletal Anatomy Lab (Cadaver)
    a. Existing face-to-face course redeveloped with co-instructors for Fall 2015 semester

E. Teaching Grants and Contracts

F. Other:

1. Guest Lecture, Ultrasound Imaging for Athletic Trainers, Texas State University (March 1, 2022)
2. Guest Lecture, EXSS 265 - Fundamentals of Sports Medicine, University of North Carolina (February 11, 2021)
3. Guest Lecture, Surface Electromyography for Athletic Trainers, Texas State University (November 18, 2019)

G. Teaching Professional Development Activities Attended

Texas State University

1. AI for Everyday Teaching: Getting Started with Gemini & NotebookLM (September 4, 2025)
2. Promotion to Professor: Advice for Associate Professors (February 20, 2025)
3. Enhancing Online Courses with H5P (January 9, 2025)
4. The AI Advantage: Engaging Students through Artificial Intelligence Tools (November 5, 2024)
5. How Humans Learn: Effective and Compassionate Teaching and Learning (November 14, 2023)
6. Mentoring Graduate Students: Best Practices in Helping Your Students Soar (November 8, 2023)
7. Civilian Response for Active Shooter Events (CRASE) (September 9, 2022)
8. Introduction to YuJa (May 17, 2022)
9. Athletic Trainer's Utilization and Clinical Establishment of IV Access and Fluid Administration to Improve Patient Care (April 24, 2022)
10. Inclusive Language in Pedagogy (October 22,2021)
11. Hidden Gems of Canvas (October 15, 2021)
12. Setting Your Intentions: Inclusive Syllabi Design (June 22, 2021)
13. Scholarship Committee Review Training BOSS (March 3, 2021)
14. Development of a Collaborative, Simulation-Based Virtual Athletic Training Clinic (July 23, 2020)
15. Open Educational Resources (February 10, 2020)
16. Scholarship and Teaching Excellence (STEP) program (September 2019 – May 2020)
17. Promoting Active Learning in Large Enrollment Hybrid Courses (September-December 2019)

University of Virginia

1. Center for Teaching Excellence: Engaging Student Perspectives Survey (October 15, 2018)
2. Center for Teaching Excellence: In-class Observation and Consultation (October 15, 2018)
3. Writing a Reflective Teaching Statement & Philosophy (September 4, 2018)

III. SCHOLARLY/CREATIVE

A. Works in Print (including works accepted, forthcoming, in press):

1. Books:

a. Scholarly Monographs:

b. Textbooks:

1. **Koldenhoven RM,** Behnke RS. *Kinetic Anatomy.* 5th ed. Human Kinetics; *2026*
   a. *This textbook edition is in progress with the intention of being published for spring 2026.*

c. Edited Books:

d. Chapters in Books:

1. McKinney A, **Koldenhoven R,** Mathew B. When are foot and ankle impairments important for hip and knee disorders? In: Mathew B, Courtney C, Fernández-de-las-Peñas C, *Hip and Knee Pain Disorders.* Handspring Publishing; 2022:307-325.

e. Creative Books:

2. Articles:

a. Refereed Journal Articles:
(* denotes student mentored project)
Accepted or In Press

1. Li Y, **Koldenhoven RM,** Jiwan NC, Zhan J, Liu T. Automated rowing event assignment: a machine learning approach. *Sports Biomechanics.* Published online ahead of print July 11, 2025. doi: 10.1080/14763141.2025.2528885
2. Forsyth L, Simpson JD, Pourkazemi F, Torp D, Burcal C, **Koldenhoven RM,** Jaffri AH, Al Adal S, Mitchell A, Riches P, Childs C. Modified Star Excursion Balance Test performance in individuals with chronic ankle instability: a participant-level analysis. *Journal of Foot and Ankle Research*. Accepted December 11, 2025.

Published

1. Miller KC, Beck JL, Valadez SG, **Koldenhoven RM**, Uriegas NA, Lally EM. Using ice packing and the polar life pod to treat severe hyperthermia. Am J Emerg Med. 2026;99:201-206. doi:10.1016/j.ajem.2025.09.038
2. Miller KC, **Koldenhoven RM,** Lally EM. Validity of common body temperature sites and gait parameters during a heat tolerance test. *Temperature.* 2025;12(3):231-244. doi: 10.1080/23328940.2025.2493456.
3. Jaffri A, **Koldenhoven R**, Lempke A, Park J, Hart J, Hertel J, Saliba S. Intrinsic foot muscle size and quality changes after impairment-based rehabilitation in patients with chronic ankle instability. *Physical Therapy in Sport.* 2025;74:51-57. doi: 10.1016/j.ptsp.2025.05.008

4. McCurdy K, **Koldenhoven RM**. Comparison of muscle activation and range of motion between the traditional and landmine Romanian deadlift. *International Journal of Strength and Conditioning.* 2025;5(1):1-10. doi: 10.47206/ijsc.v5i1.370
5. Ortega C*, Simpson JD, Donovan L, Torp DM, Forsyth L, **Koldenhoven RM.** Gait training interventions for individuals with chronic ankle instability: a systematic review & meta-analysis. *Journal of Athletic Training*.2025;60(5):332-351. doi:10.4085/1062-6050-0499.23
6. Perez N*, Griffin K, Osborne R, **Koldenhoven RM.** Kinesiophobia in collegiate athletes with and without chronic ankle instability. *Journal of Sport Rehabilitation.* 2025;34(7):760-766. doi: https://doi.org/10.1123/jsr.2024-0276
7. McCarthy M*, Sigmon T*, Marshall A, Lam K, **Koldenhoven RM.** Injury and treatment characteristics of middle school-aged patients under the care of athletic trainers from 2010-2022: a report from the athletic training practice-based research network. *Journal of Athletic Training.* 2024;59(6):649-654. doi:10.4085/1062-6050-0359.23
8. Li Y, **Koldenhoven RM**, Jiwan NC, Zhan J, Liu T. Intra-trunk and arm coordination displayed by Olympic rowing athletes. *Sports Biomechanics.* 2024;23(5):655-669. doi: 10.1080/14763141.2021.1883728.
9. Jaffri AH, **Koldenhoven R**, Saliba S, Hertel J. Evidence of intrinsic foot muscle in improving foot function: a systematic review and meta-analysis. *Journal of Athletic Training*. 2023;58(11-12):941-951. doi:10.4085/1062-6050-0162.22
10. Li Y, **Koldenhoven RM**, Jiwan NC, Zhan J, Liu T. Trunk and shoulder kinematics of rowing displayed by Olympic athletes. *Sports Biomechanics*. 2023;22(9):1095-1107. doi:10.1080/14763141.2020.1781238
11. Powden CJ, **Koldenhoven RM**, Simon JE, Rosen AB, Jaffri AH, Mitchell A, Hoch M, Burcal C. Participant-level analysis of the effects of interventions on patient-reported outcomes in patients with chronic ankle instability. *Journal of Sport Rehabilitation.* 2023;32(2):124-132. doi: 10.1123/jsr.2022-0053
12. Jaffri AH, Fraser JF, **Koldenhoven RM,** Hertel J. Effects of midfoot joint mobilization on perceived ankle-foot function in chronic ankle instability: a crossover clinical trial. *Journal of Sport Rehabilitation.* 2022;31(8):1031-1040. doi: 10.1123/jsr.2021-0462
13. Rosen AB, Jaffri AH, Mitchell A, **Koldenhoven RM**, Powden CJ, Fraser JJ, Simon JE, Hoch M, Burcal C. Association of ankle sprain frequency with body mass and self-reported function: a pooled multisite analysis. *Journal of Sport Rehabilitation*. 2022;31(8):1000-1005. doi: 10.1123/jsr.2021-0453
14. **Koldenhoven RM**, Simpson JD, Forsyth L, Donovan L, & Torp DM. Utility of gait biofeedback training to improve walking biomechanics in patients with chronic ankle instability: a critically appraised topic. *Journal of Sport Rehabilitation*. 2022;31(6):819-825. doi:10.1123/jsr.2021-0395

15. Fraser JJ, **Koldenhoven RM**, Hertel J. Ultrasound measures of intrinsic foot muscle size and motor activation following lateral ankle sprain and chronic ankle instability. *Journal of Sport Rehabilitation.* 2022;30(7):1008-1018. doi: 10.1123/jsr.2020-0372.

16. Simpson JD, **Koldenhoven RM**, Wilson S, Stewart E, Turner A, Chander H, Knight AC. Lower extremity joint kinematics of a simulated lateral ankle sprain after drop landings in subjects with chronic ankle instability. *Sports Biomechanics.* 2022;21(4):428-446. doi:10.1080/14763141.2021.1908414

17. **Koldenhoven RM**, Hart J, Abel MF, Saliba S, Hertel J. Running gait biomechanics in females with chronic ankle instability and ankle sprain copers. *Sports Biomechanics.* 2022;21(4):447-459. doi:10.1080/14763141.2021.1977378

18. DeJong AF, **Koldenhoven RM**, Hertel J. Hip biomechanical alterations during walking in chronic ankle instability patients: a cross-correlation analysis. *Sports Biomechanics*. 2022;21(4):460-471. doi:10.1080/14763141.2021.1884285

19. DeJong AF, **Koldenhoven RM**, Jaffri AH, Hertel J. Gluteal activity during gait in chronic ankle instability patients following rehabilitation: a randomized controlled trial. *Journal of Sport Rehabilitation.* 2022;31(2):158-164. doi:10.1123/jsr.2021-0148

20. Sharotry A*, Jimenez JA, Mendez FA, Wierschem DC, **Koldenhoven RM**, Valles Molina, D. Manufacturing operator ergonomics: A conceptual digital twin approach to detect biomechanical fatigue. *IEEE Access.* 2022;10:12774-12791. doi: 10.1109/ACCESS.2022.3145984

21. Li Y, **Koldenhoven RM**, Liu T, Venuti CE. Age-related gait development in children with autism spectrum disorder. *Gait & Posture*. 2021;84:260-266. doi: 10.1016/j.gaitpost.2020.12.022

22. Hollis C*, **Koldenhoven RM**, Resch JE, Hertel J. Running biomechanics as measured by wearable sensors: effects of speed and surface. *Sports Biomechanics*. 2021;20(5):521-531. doi: 10.1080/14763141.2019.1579366

23. **Koldenhoven RM**, Martin K*, Jaffri AH, Saliba S, Hertel J. Walking gait mechanics and gaze fixation in individuals with chronic ankle instability. *Journal of Sport Rehabilitation.* 2021;20(2):286-292. doi:10.1123/jsr.2019-0288

24. **Koldenhoven RM**, Jaffri AH, DeJong AF, Abel MF, Saliba S, Hart J, Hertel J. Gait biofeedback and impairment-based rehabilitation for chronic ankle instability: a randomized controlled trial. *Scandinavian Journal of Medicine & Science in Sports.* 2021;31(1):193-204. doi: 10.111/sms.13823.

25. **Koldenhoven RM**, Virostek A*, DeJong AF, Higgins M, Hertel J. Increased contact time and strength deficits in runners with exercise-related lower leg pain. *Journal of Athletic Training.* 2020;55(12):1247-1254. doi: 10.4085/1062-6050-0514.19

26. Simpson JD, **Koldenhoven RM**, Wilson SJ, Stewart EM, Turner AJ, Chander H, Knight AC. Ankle kinematics, center of pressure progression, and lower extremity muscle activity during a side-cutting task in participants with and

without chronic ankle instability. *Journal of Electromyography & Kinesiology*. 2020;54:102454. doi:10.1016/j.jelekin.2020.102454

27. DeJong AF, **Koldenhoven RM**, Hertel J. Proximal adaptations in chronic ankle instability: systematic review and meta-analysis. *Medicine & Science in Sports & Exercise*. 2020;52(7):1563–1575. doi:10.1249/MSS.0000000000002282

28. Fraser JJ, **Koldenhoven RM**, Jaffri AH, Park JS, Saliba S, Hart J, Hertel J. Foot impairments contribute to functional limitation in individuals with ankle sprain and chronic ankle instability. *Knee Surgery Sports Traumatology Arthroscopy*. 2020;28(5):1600-1610. doi:10.1007/s00167-018-5028-x.

29. DeJong AF, **Koldenhoven RM**, Hertel J. Cross-correlations between gluteal muscle thickness derived from ultrasound imaging and hip biomechanics during walking gait. *Journal of Electromyography & Kinesiology*. 2020;51:102406. doi:10.1016/j.jelekin.2020.102406

30. DeJong AF, **Koldenhoven RM**, Hart JM, Hertel J. Gluteus medius dysfunction in females with chronic ankle instability is consistent at different walking speeds. *Clinical Biomechanics*. 2020;73:140-148. doi:10.1016/j.clinbiomech.2020.01.013

31. Aghdasi B, Bachmann KR, Clark D, **Koldenhoven R**, Sultan M, George J, Singla A, Abel MF. Patient-reported outcomes following surgical intervention for adolescent idiopathic scoliosis: a systematic review and meta-analysis. *Clinical Spine Surgery*. 2020;33(1):24-34. doi:10.1097/BSD.0000000000000822.

32. **Koldenhoven RM**, Abel MF, Saliba S, Hart J, Hertel J. Gait kinematics & kinetics at three walking speeds in individuals with chronic ankle instability and ankle sprain copers. *Gait & Posture*. 2019;74:169-175. doi:10.1016/j.gaitpost.2019.09.010

33. **Koldenhoven RM**, Fraser JJ, Saliba S, Hertel J. Ultrasonography of gluteal and fibularis muscles during exercises in individuals with a history of lateral ankle sprain. *Journal of Athletic Training.* 2019;54(12):1287-1295. doi: 10.4085/1062-6050-406-18

34. Gregory C*, **Koldenhoven RM**, Higgins M, Hertel J. External ankle supports alter running biomechanics: a field-based study using wearable sensors. *Physiological Measurement*. 2019;40(4):044003. doi:10.1088/1361-6579/ab15ad

35. **Koldenhoven RM**, Feger MA, Fraser JJ, Hertel J. Variability in center of pressure position and muscle activation during walking with chronic ankle instability. *Journal of Electromyography and Kinesiology*. 2018;38:155-161. doi:10.1016/j.jelekin.2017.12.003

36. **Koldenhoven RM**, Hertel J. Validation of a wearable sensor for measuring running biomechanics. *Digital Biomarkers*. 2018;2(2):74-78. doi: 10.1159/000491645.

37. Fraser JJ, **Koldenhoven RM**, Saliba SA, Hertel J. Reliability of ankle-foot morphology, mobility, strength, and motor performance measures.

International Journal of Sports Physical Therapy. 2017;12(7):1134-1149. doi: 10.26603/ijspt20171134

38. Clifton DR, **Koldenhoven RM**, Hertel J, Onate JA, Dompier TP, Kerr ZY. Epidemiological patterns of ankle sprains in youth, high school, and college football. *American Journal of Sports Medicine*. 2017;45(2):417-425. doi: 10.1177/0363546516667914

39. **Koldenhoven RM**, Feger MA, Fraser JJ, Saliba S, Hertel J. Surface electromyography and plantar pressure during walking in young adults with chronic ankle instability. *Knee Surgery Sports Traumatology Arthroscopy*. 2016:24(4):1060-70. doi: 10.1007/s00167-016-4015-3

b. Non-refereed Articles:

1. **Koldenhoven RM**. Correcting chronic ankle instability with exercises. *Sports Medicine Research: In the Lab & In the Field.* https://bit.ly/2lXKOs0 November 2017.
2. **Koldenhoven RM,** DeJong AF. Assessing runners' gait using wearable sensors. *Lower Extremity Review Magazine*. https://bit.ly/2kW705B. November 2017.
3. **Koldenhoven RM**. One exercise wonder? Proceed with caution. *Sports Medicine Research: In the Lab & In the Field*. http://bit.ly/2hm1FCR. November 2016.
4. **Koldenhoven RM**. Chronic ankle instability, gait, and muscle activity. *Lower Extremity Review Magazine*. http://bit.ly/2dCv4UV. September 2016.

3. Conference Proceedings:

a. Refereed Conference Proceedings:
(* denotes student mentored project)

1. Nachega M*, Yahaya S*, Wallace I*, Liu T, Valles Molina D, Li Y, **Koldenhoven RM.** Enhancing early diagnosis of autism with machine learning algorithms using postural control features. Paper accepted for presentation at IEEE 15th Annual Ubiquitous Computing, Electronics & Mobile Communication Conference (UEMCON). New York, NY. October 2024.
2. Rafiq SA*, Ellsworth ES*, Resendiz O*, Varanasi S*, Ishola AA*, **Koldenhoven RM,** Farrell JW, Li Y, Resendis MD, Aslan S, Liu T, Valles D. Design of autonomous rover for firefighter rescue: integrating deep learning with ROS2. Paper presented at IEEE World AI IoT Congress (AIIoT). Seattle, WA. May 2024. (pp. 421-428). doi: 10.1109/AIIoT61789.2024.10578950.
3. Smith E*, **Koldenhoven RM**, Farrell JW, Li Y, Aslan S, Resendiz MD, Liu T, Valles Molina D. Development of an augmented reality handwashing tool for children with autism spectrum disorder. Paper presented at IEEE Annual Computing and Communication Workshop and Conference (CCWC). Las Vegas, NV. January 2024. (pp. 0249-0256). doi: 10.1109/CCWC60891.2024.10427963.
4. Hernandez M*, Valles Molina D, Wierschem D, **Koldenhoven RM,** Koutitas G, Mendez F, Aslan S, Jimenez J. An initial Julia simulation approach to material handling operations from motion captured data. Paper presented at IEEE Annual Information Technology, Electronics and Mobile Communication Conference, Virtual, October 2020. (pp. 0718-0722). doi: 10.1109/IEMCON51383.2020.9284829.
5. Carroll T*, Hernandez G*, Koutitas G, Wierschem DC, Mendez FA, Valles Molina D, Aslan S, **Koldenhoven RM,** Jimenez J. Comparison of inverse kinematics algorithms for digital twin Industry 4.0 applications. Paper presented at IEEE International Conference on Systems, Man, and Cybernetics, TORONTO, CANADA, October 2020. (pp 0300-0305). doi: 10.1109/SMC42975.2020.9283253.

6. Sharotry A*, Jimenez J, Wierschem DC, Mendez FA, Koutitas G, Valles Molina D, Aslan S, **Koldenhoven RM**. A digital twin framework of a material handling operator in Industry 4.0 environments. Information Systems, Logistics and Supply Chain (ILS) Conference, Austin TX, April 2020. (pp. 45-52).
7. Sharotry A*, Jimenez J, Wierschem DC, Mendez FA, **Koldenhoven RM,** Valles D, Koutitas G, Aslan S. A digital twin framework for real-time analysis and feedback of repetitive work in the manual material handling industry. Paper presented at IEEE 2020 Winter Simulation Conference, Orlando FL, March 2020. (pp. 2637-2648). doi: 10.1109/WSC48552.2020.9384043.
8. Hernandez G*, Valles Molina D, Wierschem DC, **Koldenhoven RM,** Koutitas G, Aslan S, Mendez FA, Jimenez J. Machine learning techniques for motion analysis of fatigue from manual material handling operations using 3D motion capture data. Paper presented at 10th IEEE Computing and Communication Workshop and Conference (IEEE-CCWC'20), University of Las Vegas Nevada, Las Vegas, NV. Jan 2020. (pp 0300-0305). doi: 10.1109/CCWC47524.2020.9031222.

b. Non-refereed:

4. Abstracts:

5. Reports:

6. Book Reviews:

7. Essays:

8. Poems:

9. Short Stories:

10. Other Works in Print:

B. Works Not in Print:

1. Papers Presented at Professional Meetings:

(* denotes student mentored project)

1. Swaim EM, **Koldenhoven RM,** Saliba S. Walking kinematics and kinetics: a comparison of the affected and unaffected limb of individuals with unilateral femoroacetabular impingement. National Athletic Trainers' Association Annual Convention. Orlando, FL. June 2025. (Abstract published in *Journal of Athletic Training.* 2025; 60(6s):S264)

2. **Koldenhoven RM,** Jang J, Forsyth L. Biomechanics impairments in chronic ankle instability (CAI). 10th International Ankle Symposium. STRASBOURG, FRANCE. October 2024.

3. McCurdy K, **Koldenhoven RM**. Comparison of hip muscle activation and range of motion between the traditional and landmine Romanian deadlift. National Strength and Conditioning Association National Conference. Baltimore, MD. July 2024.
4. Perez NM*, Griffin LK, Osborne R, **Koldenhoven RM**. Kinesiophobia in collegiate athletes and non-athletes with and without chronic ankle instability. National Athletic Trainers' Association Annual Convention. New Orleans, LA. June 2024. (Abstract published in *Journal of Athletic Training.* 2024; 59(6s):S136)
5. McCarthy M*, Sigmon T*, Marshall A, Lam K, **Koldenhoven RM.** Injury and treatment characteristics of middle school-aged patients under the care of athletic trainers from 2010-2022: a report from the athletic training practice-based research network. National Athletic Trainers' Association Annual Meeting. Indianapolis, IN. June 2023. (Abstract published in *Journal of Athletic Training.* 2023; 58(6s):S73)
6. Swaim E*, Rodriques K*, Li Y, Knudson D, **Koldenhoven RM.** Walking kinematics, kinetics, and muscle activation with and without femoroacetabular impingement. National Athletic Trainers' Association Annual Meeting. Indianapolis, IN. June 2023. (Abstract published in *Journal of Athletic Training.* 2023; 58(6s):S60)
7. Dixon K*, Tonniges S*, **Koldenhoven RM.** Drop vertical jump kinematics, kinetics, and muscle activity in individuals with chronic ankle instability and ankle sprain copers. 9th International Ankle Symposium, OSAKA, JAPAN. Virtual. October 2022.
8. Choung W*, Ramirez DN*, Meyers N, Corbett RO, **Koldenhoven RM.** Perceptions of lateral ankle sprains in middle school athlete's parents and guardians. National Athletic Trainers' Association Annual Meeting. Philadelphia, PA. June 2022. (Abstract published in *Journal of Athletic Training.* 2022; 57(6s):S254)
9. Ramirez DN*, Choung W*, Meyers N, Corbett RO, **Koldenhoven RM.** Perceptions of lateral ankle sprains in middle school student athletes. National Athletic Trainers' Association Annual Meeting. Philadelphia, PA, June 2022. (Abstract published in *Journal of Athletic Training.* 2022; 57(6s):S255)
10. Stapleton T, Fuentes R, Jeter SR, **Koldenhoven RM**, Knudson DV, Valles Molina D, Mendez FA. Development of an artificial intelligence system to prevent overexertion injuries at the workplace. Conference on Statistical Practice 2022, American Statistical Association, New Orleans, LA. February 2022.
11. **Koldenhoven RM**, Abel MF, Saliba S, Hart J, Hertel J. Running gait kinematics, kinetics, and surface electromyography in females with chronic ankle instability. National Athletic Trainers' Association Annual Meeting. Virtual. June 2021. (Abstract published in *Journal of Athletic Training.* 2021; 56(6s):S134)
12. Powden C, **Koldenhoven RM,** Simon JE, Rosen AB, Jaffri AH, Mitchell A, Hoch M, Burcal CJ. Changes in patient-reported outcome measures following varied interventions in patients with chronic ankle instability. National Athletic Trainers' Association Annual Meeting. Virtual. June 2021. (Abstract published in *Journal of Athletic Training.* 2021; 56(6s):S25)

13. Rosen AB, Jaffri AH, Mitchell A, **Koldenhoven RM,** Powden C, Fraser JJ, Simon JE, Hoch M, Burcal CJ. Differences in anthropometrics and patient-reported outcomes based on the number of ankle sprains sustained. National Athletic Trainers' Association Annual Meeting. Virtual. June 2021. (Abstract published in *Journal of Athletic Training.* 2021; 56(6s):S81)
14. **Koldenhoven RM**, Abel MF, Saliba S, Hart J, Hertel J. Running gait kinematics, kinetics, and surface electromyography in females with chronic ankle instability. University of Virginia Running Medicine Conference. Virtual. March 2021.
15. Jaffri AH, **Koldenhoven RM,** Baellow A, Park J, Hart J, Hertel J, Saliba S. Intrinsic foot muscle function impairments in chronic ankle instability group compared to healthy. American Physical Therapy Association Combined Sections Meeting. Virtual. February 2021.
16. **Koldenhoven RM**, Jaffri AH, DeJong AF, Abel MF, Saliba S, Hart J, Hertel J. Gait biofeedback and impairment-based rehabilitation for chronic ankle instability: a randomized controlled trial. National Athletic Trainers' Association Annual Meeting, Atlanta, GA. June 2020. (Abstract published in *Journal of Athletic Training.* 2020; 55(6s):S26)
17. Cagle G, Rendos N, **Koldenhoven RM**, Wilson S, Stewart E, Turner A, Chander H, Knight A, Simpson J. Ankle kinematics during inversion perturbations in subjects with chronic ankle instability. Southeast American College of Sports Medicine Annual Meeting. Jacksonville, FL. February 2020.
18. Simpson J, Rendos N, **Koldenhoven RM**, Wilson S, Stewart E, Turner A, Chander H, Knight A. Knee and hip kinematics in individuals with chronic ankle instability during single-leg drop landings. Southeast American College of Sports Medicine Annual Meeting. Jacksonville, FL. February 2020.
19. Jaffri AH, **Koldenhoven RM**. Evidence of intrinsic foot muscle training in improving foot function: a systematic review. Combined Sections Meeting. Denver, CO. February 2020.
20. **Koldenhoven RM,** Abel MF, Saliba S, Hart J, Hertel J. Gait kinematics & kinetics at three walking speeds in individuals with chronic ankle instability and ankle sprain copers. 8th International Ankle Symposium, AMSTERDAM, NETHERLANDS, October 2019.
21. DeJong AF, **Koldenhoven RM,** Hertel J. Gluteus medius dysfunction throughout walking gait in chronic ankle instability patients compared to copers. 8th International Ankle Symposium, AMSTERDAM, NETHERLANDS, October 2019.
22. Simpson J, Rendos N, Stewart E, **Koldenhoven R**, Macias D, Wilson S, Chander H, Knight A. Single leg drop-landing strategies during unanticipated and anticipated ankle inversion perturbations in participants with chronic ankle instability. 8th International Ankle Symposium, AMSTERDAM, NETHERLANDS, October 2019.
23. DeJong AF, **Koldenhoven RM,** Hertel J. Depressed gluteus medius activity during gait in chronic ankle instability versus coper and healthy groups. International Society of Biomechanics and 43rd Annual Meeting of the American Society of Biomechanics, CALGARY, CANADA, August 2019.
24. **Koldenhoven RM,** Virostek A*, Higgins M, Hertel J. Runners with exercise-related lower leg pain exhibit increased contact time and strength deficits.

National Athletic Trainers' Association Annual Meeting, Las Vegas, NV, June 2019. (Abstract published in *Journal of Athletic Training.* 2019; 54(6s):S157).

25. **Koldenhoven RM**, Fraser JJ, Saliba S, Hertel J. Ultrasonography of gluteal and fibularis muscles during tabletop and band walking activities in individuals with and without history of lateral ankle sprain. National Athletic Trainers' Association Annual Meeting, New Orleans, LA, June 2018. (Abstract published in *Journal of Athletic Training.* 2018; 53(6s):S261).
26. Gregory C*, **Koldenhoven RM**, Higgins M, Hertel J. Effects of external supports on running mechanics in individuals with history of lateral ankle sprains. National Athletic Trainers' Association Annual Meeting, New Orleans, LA, June 2018. (Abstract published in *Journal of Athletic Training.* 2018; 53(6s):S375).
27. Martin K*, **Koldenhoven RM**, Jaffri AH, Bodkin SG, Hart J, Saliba S, Hertel J. Walking gait mechanics and gaze fixation in individuals with chronic ankle instability. National Athletic Trainers' Association Annual Meeting, New Orleans, LA, June 2018. (Abstract published in *Journal of Athletic Training.* 2018; 53(6s):S84).
28. Fraser JJ, **Koldenhoven RM,** Jaffri AH, Saliba S, Hart J, Hertel J. Effects of midfoot joint mobilization on ankle-foot morphology and function following acute ankle sprain. a randomized control trial. American Physical Therapy Association Combined Sections Meeting, New Orleans, LA, February 2018. (Abstract published in: *Journal of Orthopaedic & Sports Physical Therapy.* 2018; 48(1):A10).
29. **Koldenhoven RM,** Fraser JJ, Mangum LC, Higgins MJ, Hertel J. Gluteal muscle thickness during lateral band walking in individuals with history of lateral ankle sprain. 7th International Ankle Symposium, CHAPEL HILL, NC, September 2017. (Abstract published in *British Journal of Sports Medicine* 2017; 51 (Suppl 1) A24-A25).
30. **Koldenhoven RM**, Hertel J. Validation of a wearable sensor for measuring running biomechanics. National Athletic Trainers' Association Annual Meeting, Houston, TX, June 2017. (Abstract published in *Journal of Athletic Training.* 2017; 52(6s):S75).
31. Hollis C*, **Koldenhoven RM**, Resch JE, Hertel J. Gait mechanics as measured by a wearable sensor during running at two speeds on different surfaces. National Athletic Trainers' Association Annual Meeting, Houston, TX, June 2017. (Abstract published in *Journal of Athletic Training.* 2017; 52:S76).
32. Fraser JJ, **Koldenhoven RM,** Hertel J. Reliability of measures of ankle-foot morphology, mobility, and strength. American Physical Therapy Association Combined Sections Meeting, San Antonio, TX, February 2017. (Abstract published in: *Journal of Orthopaedic & Sports Physical Therapy.* 2017; 47:A94).
33. **Koldenhoven RM,** Feger MA, Fraser JJ, Saliba SA, Hertel J. Surface electromyography and plantar pressure during walking in young adults with chronic ankle instability. National Athletic Trainers' Association Annual Meeting, Baltimore, MD, June 2016. (Abstract published in *Journal of Athletic Training.* 2016; 51:S158).

34. Kerr ZY, Clifton D, **Koldenhoven R,** Onate J, Hertel J, Dompier TP. The epidemiology of ankle sprains in youth, high school, and collegiate football. National Athletic Trainers' Association Annual Meeting, Baltimore, MD, June 2016. (Abstract published in *Journal of Athletic Training.* 2016; 51:S191).

35. **Koldenhoven RM,** Feger MA, Fraser JJ, Hertel J, FACSM. Variability in center of pressure position and muscle activation during walking with chronic ankle instability. The American College of Sports Medicine Annual Meeting, Boston, MA, June 2016. (Abstract published in: *Medicine & Science in Sports & Exercise*. 2016; 48(5S): S724).
36. **Koldenhoven RM,** Feger MA, Fraser JJ, Saliba SA, Hertel J. Surface electromyography and plantar pressure during walking in young adults with chronic ankle instability. Virginia Athletic Trainers' Association Annual Meeting and Symposium, Williamsburg, VA, January 2016.
37. **Koldenhoven RM,** Mathew P, Humble-Guither A, Luman A, Jones J, Torry MR. Immediate effects of a prophylactic knee support on frontal plane knee mechanics during walking. The American College of Sports Medicine Annual Meeting, Orlando, FL, May 2014. (Abstract published in: *Medicine & Science in Sports & Exercise*. 2014; 46(5S): S406).

2. Invited Talks, Lectures, and Presentations:

1. **Koldenhoven RM.** Visual and haptic feedback for improving biomechanics. National Athletic Trainers' Association. New Orleans, LA. Interactive Lecture on June 26, 2024.
2. **Koldenhoven RM.** Gait training for clinicians. South Padre Athletic Trainers' Symposium. Valley Athletic Trainers' Association. South Padre Island, TX. Lecture on June 9, 2024.
3. **Koldenhoven RM.** Gait analysis in and out of the laboratory. British Association of Sport & Exercise Sciences, Biomechanics Interest Group (BIG) Online Conference. Keynote presentation on May 25, 2022.
4. **Koldenhoven RM.** Fundamentals of sports medicine: ankle injuries. University of North Carolina. EXSS 256 – Fundamentals of Sports Medicine. Chapel Hill, NC. Lecture on February 11, 2021.
5. **Koldenhoven RM.** Gait assessment for athletic trainers. Southwest Athletic Trainers' Association Competency Workshop, Texas State University, San Marcos, TX. Presentation on January 30, 2020.
6. **Koldenhoven RM.** Electromyography for athletic trainers. Texas State University, San Marcos, TX. Lecture presented on November 18, 2019.
7. **Koldenhoven RM.** Selective versus non-selective fusion for ais: five-year assessment of radiographic outcomes and lumbar flexibility in Lenke 1-4c curves. The Harms Study Group Annual Meeting, Park City, UT. Presentation on January 4, 2018.
8. **Koldenhoven RM.** Gait changes following lateral ankle sprain. The University of Virginia Art & Science of Sports Medicine Conference. Charlottesville, VA. Presentation on June 6, 2017.
9. **Koldenhoven RM.** Gait assessment in and out of the lab. The University of Virginia Art & Science of Sports Medicine Conference. Charlottesville, VA. Presentation on June 5, 2016.

3. Consultancies:

1. Two Rivers Running, Gait Assessment Session

4. Workshops:

5. Other Works not in Print:

a. Works "submitted" or "under review":

1. Jaffri A, **Koldenhoven RM,** DeJong Lempke A, Hart J, Park J, Hertel J, Saliba S. Peroneal muscle size and quality changes after impairment-based rehabilitation in patients with chronic ankle instability. *Journal of Athletic Training.* Submitted September 25, 2025.
2. Swaim E*, Rodriques K*, Li Y, Knudson D, **Koldenhoven RM.** Gait biomechanics in individuals with and without femoroacetabular impingement.

b. Works "in progress":

1. Miller KC, Valadez S, Beck J, **Koldenhoven RM,** Uriegas NA, Lally EM. Gait parameters during high intensity exercise in the heat.
2. Choung W*, Myers NL, Corbett RO, **Koldenhoven RM**. Perceptions of ankle sprains in parents of middle school athletes.
3. Ramirez D*, Myers NL, Corbett RO, **Koldenhoven RM**. Perceptions of ankle sprains in middle school athletes.
4. Dixon K*, Tonniges S*, **Koldenhoven RM**. Drop vertical jump kinematics, kinetics, and muscle activity in individuals with chronic ankle instability and ankle sprain copers.
5. Simpson JD, Rendos N, Stewart E, **Koldenhoven RM**, Macias D, Wilson S, Chander H, Knight A. Single leg drop-landing strategies during unanticipated and anticipated ankle inversion perturbations in participants with chronic ankle instability.
6. **Koldenhoven RM,** *Waller S, DeJong AF, Jaffri AH, Lally EM. Effects of walking gait biofeedback training on running gait biomechanics in individuals with CAI.
7. **Koldenhoven RM,** DeJong AF, Jaffri AH, Abel MF, Saliba S, Hart J, Hertel J. Effects of walking gait biofeedback training on drop vertical jump biomechanics in individuals with CAI.
8. Delahunt E, Hertel J, Gaine S, Wang D, …, **Koldenhoven RM**, …, Wikstrom EA. Implementing the 2019 Model of chronic ankle instability in clinical practice.

C. Scholarly / Creative Grants and Contracts:

1. Funded External Grants and Contracts:

National Science Foundation
REU Site: Undergraduate Research Experiences in Artificial Intelligence, Data Analytics, and Mixed Reality for Smart and Connected Health
Principal Investigators: Valles Molina D, Liu T
Supporting Faculty: Resendiz MD, Aslan S, Farrell JW, **Koldenhoven RM**
Funded: January 2025 – December 2027
$372,000.00
**This is a renewal for 3 more years of funding for our previously funded grant.*

National Science Foundation
REU Site: Undergraduate Research Experiences in Machine Learning, Analytics, and Augmented Reality for Smart and Connected Health
Principal Investigators: Valles Molina D, Liu T
Supporting Faculty: Resendiz MD, Aslan S, Farrell JW, Li Y, **Koldenhoven RM**
Funded: January 2022 – December 2024
$344,029.00
**Added beginning in 2023. Roles and responsibilities included 8-weeks of individualized student mentorship of an REU student during the summer, data collection supervision, manuscript and poster preparation.*

Chinese Rowing Association
Impact of a 4-6 week training intervention on biomechanical and physiological markers in Olympic rowing athletes
Principal Investigator: Liu T
Co-Investigators: Li Y, McAllister M, **Koldenhoven RM,** Patek K
Funded: December 2019 – December 2020
$2,098.00

National Athletic Trainers' Association Research and Education Foundation - Dissertation Award
Effects of biofeedback and impairment-based rehabilitation in individuals with chronic ankle instability
Principal Investigator: **Koldenhoven RM**
Co-Investigators: Hertel J
Funded: May 2018 – May 2019
$2,500.00

Mid-Atlantic Athletic Trainers' Association - District III Research Grant
Effects of biofeedback and impairment-based rehabilitation in individuals with chronic ankle instability
Principal Investigator: **Koldenhoven RM**
Co-Investigators: Hertel J
Funded: November 2017 – May 2019
$1,000.00

2. Submitted, but not Funded, External Grants and Contracts:

National Athletic Trainers' Association Research and Education Foundation – General Grant
A comparison of running biomechanics and patient outcomes in runners with patellofemoral pain receiving music-based gait retraining, metronome-based gait retraining, and a control group.
Principal Investigators: Lally EM, **Koldenhoven RM**
No budget submitted as part of pre-proposal

National Institutes of Health

Environmental Influences on Running Biomechanics and Physiological Adaptations (EnviRunMent)
Principal Investigators: DeJong Lempke AF, Hermansen J, **Koldenhoven RM,** Casa D
Co-Investigators: Perera R, Miller K, Lally EM, Szymanski M, Huggins R, Butler C
Sub-award: $1,762,690.00

National Athletic Trainers' Association Research and Education Foundation – General Grant
Clinical based gait training strategies for individuals with chronic ankle instability
Principal Investigators: **Koldenhoven RM,** Lally EM
Submitted: February 15, 2025
$50,000.00

Wu Tsai Human Performance Alliance External Agility Project
The Effects of Increasing Running Step-rate on Biomechanics and Performance in Runners with Patellofemoral Pain
Principal Investigator: Lally EM
Co-PIs: **Koldenhoven RM**, Uriegas NA
Submitted: November 1, 2024
$200,000.00

National Science Foundation
NSF Engineering Research Center for REShaping Human Abilities with Performance Enhancing Robots (RESHAPE)
Principal Investigator: Vangelis M
Co-PIs: Valles Molina D, Queiroz de Farias MC, Gobert DVN, Trujilo LT, **Koldenhoven RM**
Submitted: September 30, 2024
**Note: This was a preliminary proposal for Gen-4 Engineering Research Centers (ERC) Convergent Research and Innovation through Inclusive Partnerships and Workforce Development. No budget was submitted.*

Department of Defense Broad Agency Announcement for Extramural Medical Research
Environmental influences on running biomechanics and physiological adaptations during military fitness testing (EnviRunMent)
Principal Investigators: DeJong Lempke AF, Hermansen J, **Koldenhoven RM,** Casa D
Co-Investigators: Perera R, Miller K, Lally EM, Szymanski M, Huggins R, Butler C
$2,821,374.00 *(Sub-award: $1,452,146.00)*
**Grant was discussed and scored 2.6 (1 = highest merit, 5 = lowest merit). We revised and resubmitted, however, were rejected due to drastic budget cuts in federal funding.*

National Athletic Trainers' Association Research and Education Foundation – General Grant
Clinical based gait training strategies for individuals with chronic ankle instability
Principal Investigators: **Koldenhoven RM,** Lally EM
Submitted: February 2024
$50,000.00
**Grant was discussed and scored 4.4 (1=exceptional, 9=poor) and invited for revised resubmission during the next opening*

National Athletic Trainers' Association Research and Education Foundation - New Investigator Grant
Visual and haptic biofeedback gait training for individuals with chronic ankle instability
Principal Investigator: **Koldenhoven RM**
Submitted: February 2023
$23,000.00

National Roofing Alliance
Gait kinematics and plantar pressure assessment among construction roofers to educate and train best practices
Principal Investigators: Kisi KP, **Koldenhoven RM**
Submitted: December 2022
$65,000.00

National Science Foundation
Engineering Research Center for AUgmenTing Human pErformaNce Through robotICs (AUTHENTIC)
Principal Investigator: Vangelis M
Co-PIs: Valles Molina D, Jimenez J, Gobert DVN, Trujilo LT, **Koldenhoven RM**
Submitted: October 2022
**Note: This was a preliminary proposal for Gen-4 Engineering Research Centers (ERC) Convergent Research and Innovation through Inclusive Partnerships and Workforce Development. No budget was submitted.*

National Athletic Trainers' Association Research and Education Foundation - New Investigator Grant
Real-time visual biofeedback gait training for individuals with chronic ankle instability
Principal Investigator: **Koldenhoven RM**
Submitted: February 2022
$22,957.00

National Strength and Conditioning Association's Young Investigator Award
The efficacy of contralateral resistance training for reducing asymmetry in muscular fitness outcomes and improving mobility in persons with multiple sclerosis
Principal Investigator: Farrell JW
Co-Investigators: Pilutti LA, Mettler J, **Koldenhoven RM**
Submitted: February 2022
$23,999.00

Toyota Material Handling North America/Raymond Corporation - Raymond URP Proposal
The application of non-invasive motion capture technology for productivity assessment within the material handling industry.
Principal Investigator: Jimenez J
Co-Investigators: Aslan S, Valles Molina D, Mendez F, Wierschem DC, **Koldenhoven RM,** Farrell JW
Submitted: November 2021
$293,262.63

National Science Foundation
Optimized safe ranges using motion capture for human-cobot interactions for material handling
Principal Investigator: Valles D
Co-Investigators: Aslan S, Koutitas G, Heping C, Jimenez J, Wierschem D, Mendez F, **Koldenhoven RM.**
Submitted: February 2020
$733,820.00

Toyota Material Handling University Research Program
Using Industry 4.0 digital twin for technology development of an augmented reality/virtual reality-based operator training module
Principal Investigator: Jimenez J
Co-Investigators: Aslan S, Koutitas G, Valles Molina D, Mendez F, Wierschem D, **Koldenhoven RM,** Smith K, Lawrence G.
Submitted: December 2019
$298,725.80

3. Funded Internal Grants and Contracts:

Texas State University Research Enhancement Program
Impacts of music-based gait retraining in runners with patellofemoral pain
Principal Investigator: Lally EM
Co-Investigator: **Koldenhoven**
Funded: January 2026 – May 2027
$24,000.00

Texas State University Research Enhancement Program
Clinically accessible gait training strategies for individuals with chronic ankle instability
Principal Investigator: **Koldenhoven RM**
Co-Investigator: Lally EM
Funded: January 2024 – May 2025
$16,000.00

Materials Application Research Center (MARC)
The integration of physiological and biomechanical measures to enhance engagement with adaptive sports and recreation for manual wheelchair users
Principal Investigator: Farrell JW
Co-Investigators: Thomas A, Jimenez J, **Koldenhoven RM**
Funded: September 2022
$89,892.00

Texas State University Research Enhancement Program
Biomechanics of lifting, pushing, and pulling tasks in inexperienced and experienced industry workers
Principal Investigator: **Koldenhoven RM**
Co-Investigator: Jimenez J
Funded: December 2019 – May 2022
$16,000.00

University of Virginia Curry School of Education, IDEAs (Innovative, Developmental, Exploratory Awards) Dissertation Award
Principal Investigator: **Koldenhoven RM**
Co-Investigator: Hertel J
Funded: June 2017 – May 2018
$1,000.

4. Submitted, but not funded, Internal Grants and Contracts:

Texas State University Research Enhancement Program (***UNDER REVIEW)***
Impacts of music-based gait retraining and metronome-based gait retraining in runners with patellofemoral pain.
Principal Investigator: Lally EM
Co-Investigator: **Koldenhoven RM**
$24,000.00

Texas State University Multidisciplinary Internal Research Grant Program (MIRG)
Intelligent 3D Printed Shoe Insole for Fall Risk Prediction

Principal Investigator: Emami A
Co-Investigators: Khaleghian M, **Koldenhoven RM,** Li Y
Submitted: February 2022
$29,996.16

Texas State University Multidisciplinary Internal Research Grant Program (MIRG)
Development of a novel HoloLens platform for investigating the assessment and rehabilitation of sport-related concussion
Principal Investigator: Fraser MA
Co-Investigators: Griffith HK, **Koldenhoven RM,** Li Y.
Submitted: January 2021
$29,918.00

D. Scholarly / Creative Fellowships, Awards, Honors:

1. **Student Mentee Awarded* Best Poster in Engineering, Data Science, and Math, Fall Undergraduate Research Fair, Vanderbilt University, 2024.
2. College Achievement Award, Presidential Awards Program, Texas State University, 2023.
3. Top Cited Article 2021-2022, Scandinavian Journal of Medicine & Science in Sports, Wiley, February 2023.
4. Nominee: David H. Perrin Doctoral Dissertation Award, NATA Foundation, 2021.
5. NATA Research and Education Foundation, Free Communications Award for Early-Career, Presented at the National Athletic Trainers' Association Annual Meeting, Atlanta, GA, June 2020.
6. Gansneder Outstanding Quantitative Dissertation Award, University of Virginia, Curry School of Education Foundation, May 2019.
7. NATA Research and Education Foundation, Free Communications Doctoral Poster Winner, Presented at the National Athletic Trainers' Association Annual Meeting, New Orleans, LA, June 2018.A
8. NATA Research and Education Foundation Scholarship, Joe Gieck Research Endowment, 2018
9. David H. Perrin Athletic Training and Sports Medicine Award, University of Virginia, Curry School of Education Foundation, 2018

E. Scholarly / Creative Professional Development Activities Attended:

1. National Athletic Trainers' Association Annual Convention, Orlando, FL (June 24-27, 2025)
2. Research GPS: Charting Your Course Through Managing Awards (February 6, 2025)
3. Research GPS: Charting Your Course Through Submitting Proposals (January 30, 2025)
4. International Ankle Symposium, Strasbourg, France (October 4-5, 2024)
5. National Athletic Trainers' Association Annual Convention, New Orleans, LA (June 25-28, 2024)
6. South Padre Athletic Trainers' Seminar, Valley Athletic Trainers' Association, South Padre Island, TX (June 8-9, 2024)
7. The Write Team: Publishing Partnerships Between Faculty and Students, Texas State University (November 9, 2023)
8. NIH Grant Writing Boot Camp, Columbia University, Mailman School of Public Health, Virtual (July 10-11, 2023)
9. National Athletic Trainers' Association Annual Convention, Indianapolis, IN (June 21-24, 2023)
10. Grant Writing and Grant Finding: Advice for Faculty at an HSI, Texas State University (April 10, 2023)

11. State Foundation: Research Grant Experiences with the Greater Texas Foundation, Texas State University (February 3, 2023)
12. Virtual International Ankle Symposium (October 29-November 30, 2022)
13. National Athletic Trainers' Association Annual Convention, Philadelphia, PA (June 28- July 1, 2022)
14. National Athletic Trainers' Association Foundation Faculty Mentor Program, National Athletic Trainers' Association (June 2021-2022)
15. NIH Demystifying the Grant Writing Experience, Texas State University (April 22, 2022)
16. NSF My CAREER Success Story: How I Bolstered My Qualitative Research Agenda, Texas State University (February 25, 2022)
17. Virtual National Athletic Trainers' Association Annual Convention (June 22-October 18, 2021)
18. WANTED: Visionaries, Innovators & Problem Solvers (March 2, 2021)
19. Faculty Focus: Pursuing Funding from Foundations and Private Sources, Texas State University Faculty Development, San Marcos, TX. (October 5, 2020)
20. NSF Opportunities: Broadening Participation in STEM through Diversity, Equity, and Inclusion Webinar, National Science Foundation. (September 30, 2020)
21. Virtual National Athletic Trainers' Association Annual Convention (July 13-October 14, 2020)
22. Scholarship and Teaching Excellence Program, Texas State University. (August 2019-May 2020)

F. Media Recognition:

1. *Journal of Athletic Training:* JAT Chat Podcast "Exploring gait training for chronic ankle instability" (July 15, 2025)
2. *Journal of Sport Rehabilitation:* Twitter feature "Meet the Author" (September 30, 2022)

IV. SERVICE

A. Institutional

1. University:

1. *Commencement*
    a. Undergraduate Marshal, 2024, 2025
2. *Faculty Development*
    a. New Tenure-Track Orientation Round Table Speaker, 2022
3. *Athletics*
    a. Volunteer Athletic Trainer, Texas State University Track and Field Bobcat Invitational, 2021

2. College:

1. *College of Education Research Office Advisory Committee*
    a. Member, 2024-*present*
2. *Scholarship Committees*
    a. College of Education Scholarship Committee, 2023-*2026*
3. *College of Education Bobcat Welcome Day*

a. Volunteer, 2023

3. Department:

1. *Faculty Evaluation Committee*
    a. Chair 2025-*2028*
2. *Student Recruitment Committee*
    a. Member 2024-*2027*
3. *Scholar's Day Committee*
    a. Chair, 2022-2024
    b. Member, 2021
4. *Scholarship Committees*
    a. Patton Scholarship Committee, 2020-*2026*
    b. Health and Human Performance Scholarship Committee, 2020-2023
5. *Search Committees*
    a. Chair, Academic Budget Specialist, 2025
    b. Member, Assistant or Associate Professor in Rehabilitation Sciences or Athletic Training, 2022-2023
    c. Member, Associate Professor or Professor in Rehabilitation Sciences or Athletic Training, 2021-2022
    d. Member, Assistant Professor-Clinical Coordinator, Master of Science in Athletic Training, 2020
6. *PhD Feasibility Analysis Committee Member*, 2022
7. *Athletic Training Hooding Ceremony Planning*
    a. Volunteer, 2024-*present*
8. *Iota Tau Alpha Athletic Training Honor Society*
    a. Faculty Advisor, 2024-*present*
9. *Athletic Training Student Injury Clinic*
    a. Volunteer, 2023-*present*
10. *Athletic Training Program Admissions*
    a. Reviewer, 2019-2022, 2024
11. *Athletic Training Cadaver Lab Preparations*
    a. Assisted with final cadaver body preparations for departure from the cadaver lab at end of academic year, 2021, 2023
12. *Got Your Back 5k*
    a. Volunteer, 2024
    b. Participant, 2019-2022

B. Professional:

1. *National Athletic Trainers' Association*
    a. Convention Program Committee, District 6 Representative, 2024-*2028*
    b. Moderator for Annual Convention 2022, 2023
2. *International Ankle Consortium*
    a. Membership & Engagement Committee, Chair, 2025-*2028*
    b. Membership & Engagement Committee, Member, 2023-2025
3. *Guest Editor*
    a. Frontiers in Sports and Active Living, Women in Injury Prevention and Rehabilitation, 2022-2023
        i. Special issue was not published due to lack of submissions
4. *World Federation of Athletic Training & Therapy*

a. Global Bodies Initiative, Founding Member, 2021-present

5. *Grant Reviewer*
    a. National Athletic Trainers' Association Research & Education Foundation, New Investigator Award, Reviewer, 2021
6. *Manuscript Reviewer*
    a. BMC Musculoskeletal Disorders, 2020
    b. Clinical Practice in Athletic Training, 2018
    c. Gait & Posture, 2018, 2019, 2020
    d. Human Movement Science, 2019, 2020, 2021
    e. International Journal of Athletic Therapy & Training, 2019
    f. Journal of Athletic Training, 2019, 2020, 2021, 2022, 2023, 2024
    g. Journal of Foot and Ankle Research, 2021
    h. Journal of Functional Morphology and Kinesiology, 2016
    i. Journal of Science and Medicine in Sport, 2016
    j. JoVE, 2020
    k. JSM Foot & Ankle, 2016
    l. Physical Therapy in Sport, 2019, 2020, 2021
    m. PLOS ONE, 2019, 2020
    n. Sports Biomechanics, 2019, 2020, 2021, 2022
    o. Translational Journal of the American College of Sports Medicine, 2022, 2023
7. *Data Collection Volunteer*
    a. Consortium for Health and Military Performance, 2018
8. *Medical Volunteer*
    a. Special Olympics Illinois, 2013
    b. Midwest Nationals Wrestling Tournament, 2013
    c. Hopedale Medical Complex Independence Day 5K, 2013
9. *Other*
    a. Account Manager: Exercise & Sport Injury Lab Twitter, 2017-2019
    b. Quiz Bowl Question Writer: Virginia Athletic Trainers' Association, 2017

C. Community:

1. *Donor*
    a. Mothers' Milk Bank at Austin, 2023-2024
    b. Mothers' Milk Bank of the Western Great Lakes, 2023-2024
2. *Board Member*
    a. Advisory Board, Two Rivers Running, 2021-2022
3. *Volunteer*
    a. New Braunfels Youth Lacrosse, Volunteer Athletic Trainer 2022-2023
    b. Rock 'n' Roll Running Series, San Antonio Marathon, 2021-2022
    c. Dos Rios Watershed Clean-Up, 2021
    d. REACH – Charlottesville Area Community Service, 2016-2018
    e. McLean County Nursing Home – Volunteer, 2010-2014
3. *Instructor/Speaker*
    a. New Braunfels Utilities – The Benefits of Walking, February 13, 2024
    b. Das Rec New Braunfels – The Benefits of Walking, December 16, 2022
    c. Two Rivers Running – Gait Mechanics and Cadence, August 17, 2022
    d. Das Rec New Braunfels – The Benefits of Walking, January 14, 2022
    e. Two Rivers Running – Gait Assessment Training, 2021

D. Organization Memberships:

National Athletic Trainers' Association, 2014-present
Southwest Athletic Trainers' Association, 2019-present
Texas State Athletic Trainers' Association, 2019-present
Mid-Atlantic Athletic Trainers' Association, 2014-2019
Virginia Athletic Trainers' Association, 2014-2019
American College of Sports Medicine, 2015-2020
International Womxn In Biomechanics, 2020-present
The McCue Society, 2015-present
Iota Tau Alpha, Athletic Training Honor Society, 2013-2014
National Society of Collegiate Scholars, 2012-2014
Delta Delta Delta, 2010-2014

E. Service Honors and Awards:

1. Presidential Distinction Award for Excellence in Service, Presidential Awards Program, Texas State University, 2025
2. Namesake for Bobcat Preview 2020, Texas State University

F. Service Grants and Contracts:

G. Service Professional Development Activities Attended:

1. LGBTQiA Ally Training (May 22, 2020)
2. Bobcats Dreamer's Ally Workshop – In Limbo: Dilemmas Faced by Undocumented and DACAmented Students (February 14, 2020)

RMR: 9/30/2025