

Samuel Montalvo, PhD

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EDUCATION

Postdoctoral Training, Myocardial Biology, Bioinformatics, Stanford University, USA (Aug 2024 - Present)
Postdoctoral Fellowship, Human Performance, Clinical Exercise Physiology, Stanford University, USA (Aug 2022 - Aug 2024)
PhD, Interdisciplinary Health Science, Exercise Physiology, Biomechanics, University of Texas at El Paso, USA (Aug 2016 - May 2021)
MS, Kinesiology, Clinical Exercise Physiology, University of Texas at El Paso, USA (Aug 2011 - Aug 2015)
BS, Kinesiology, Physical Education, University of Texas at El Paso, USA (Aug 2007 - Aug 2011)

ACADEMIC APPOINTMENTS

Postdoctoral Researcher, Division of Cardiovascular Medicine, Stanford University School of Medicine, Stanford, California (2024 - Present)
• Contributes to the Stanford Bioinformatics Core and NIH-funded Molecular Transducers of Physical Activity Consortium (MoTrPAC).
• Analyzes clinical, exercise, multi-omic, multi-tissue, multi-exercise modality, and multi-species datasets.
Postdoctoral Researcher, Wu Tsai Human Performance Alliance, Stanford University, Stanford, California (2022 - 2024)
Research Associate, Doctor of Physical Therapy Program, Rehabilitation Science Department, University of Texas at El Paso, El Paso, Texas (2021 - 2022)
Adjunct Professor, Kinesiology Department, University of Texas at El Paso, El Paso, Texas (2021 - 2022)
Adjunct Professor, Kinesiology Department, El Paso Community College, El Paso, Texas (2018 - 2020)
Graduate Research Associate, University of Texas at El Paso, El Paso, Texas (2015 - 2020)
Physical Education and Health K-12 Teacher, Ysleta Independent School District, El Paso, Texas (2011 - 2015)

PUBLICATIONS

Peer-Reviewed Publications

- Schmiedmayer, P., Johnson, A., Schuetz, N., Kollmer, L., Goldschmidt, P., Delgado-SanMartin, J., Zhang, K. W., Mantena, S. D., Tolas, A., **Montalvo, S.**, Ramirez-Posada, M., O'Sullivan, J. W., Oppezzo, M., King, A. C., Rodriguez, F., Ashley, E., Lawrie, A., & Kim, D. S. (2026). Design and rationale of the My Heart Counts cardiovascular health study: a large-scale, fully digital biobank, and randomized trial of large language model-driven coaching of physical activity. *American Journal of Preventive Cardiology*, 28, 101565. <https://doi.org/10.1016/j.ajpc.2026.101565>
- Montalvo, S.**, Terrazas, L., Edwards, A., Ríos-Gallardo, P. T., Gomez-Castillo, D., Gonzalez, M. P., Dietze-Hermosa, M., & Dorgo, S. (2026). Lean mass gain and strength improvements after manual- and weight-resistance training: A secondary exploratory mediation analysis of a randomized trial. *Journal of Bodywork and Movement Therapies*, 48, 308-315. <https://doi.org/10.1016/j.jbmt.2026.06.025>
- Aguila Camacho, A., Ochoa Ahmed, F., Rowlett, M., Ríos-Gallardo, P. T., Cabarkapa, D. V., Cabarkapa, D., & **Montalvo, S.** (2026). Longitudinal Changes in Countermovement Jump and Isometric Mid-Thigh Pull Metrics and Their Relationship With On-Court Basketball Performance in Elite Female Collegiate Basketball Players. *Journal of Strength and Conditioning Research*. Advance online publication. <https://doi.org/10.1519/JSC.0000000000005468>
- Ríos-Gallardo, P. T., Carranza-García, L. E., Balsalobre-Fernández, C., & **Montalvo, S.** (2026). Reliability and Validity of an AI-Driven Smartphone Application for Measuring Countermovement Jump Height: A Comparison with Force Platform, Infrared Optical Timing, and Manual Video Analysis. *Measurement in Physical Education and Exercise Science*, 30(1), 73-86. <https://doi.org/10.1080/1091367X.2025.2532391>
- Ríos-Gallardo, P. T., Carranza-García, L. E., Dietze-Hermosa, M., Gonzalez, M. P., Balsalobre-Fernández, C., Dorgo, S., & **Montalvo, S.** (2026). Validity and Reliability of an AI-Based Jump Height App vs. Infrared Contact Mat: Minimal Influence of Skin Pigmentation Under Standardized Lighting. *Journal of Strength and Conditioning Research*, 40(8), e792-e804. <https://doi.org/10.1519/JSC.0000000000005433>
- Ríos-Gallardo, P. T., Gotoo-Vázquez, P. J., López-Walle, J., Mendoza-Farías, F. J., Figueroa-Jimenez, M. O., & **Montalvo, S.** (2026). Profiling Fireball Extreme Challenge™ athletes: an exploratory multidimensional study in an emerging co-ed sport. *Journal of Sports Medicine and Physical Fitness*, 66(5), 593-605. <https://doi.org/10.23736/S0022-4707.25.17557-9>
- Tso, J. V., **Montalvo, S.**, Ferrari, F., Collins, B., Jones, S., Christle, J. W., Hadley, D., Petek, B. J., & Froelicher, V. (2026). Race- and Sex-Associated Electrocardiographic Repolarization Characteristics in Young American Athletes in the Digital Age. *JACC: Advances*, 5(1), 102409. <https://doi.org/10.1016/j.jacadv.2025.102409>
- Montalvo, S.**, Tso, J. V., Christle, J. W., Hadley, D., Wheeler, M., Perez, M., Myers, J., Ashley, E., & Froelicher, V. (2026). Sex-specific electrocardiographic criteria for left ventricular hypertrophy in young athletes. *Heart Rhythm*, 23(2), 281-288. <https://doi.org/10.1016/j.hrthm.2025.03.162>

9. Ríos-Gallardo, P. T., Camacho-Tristán, G., Díaz-Ochoa, E. A., Ovalle-Hernández, J. D. D., & **Montalvo, S.** (2025). Concurrent validity and agreement between My Jump 2 and an infrared contact mat for measuring squat and countermovement jump height and elasticity index in university basketball players. *Journal of Physical Education and Sport*, 25(11), 2258-2266. <https://doi.org/10.7752/jpes.2025.11249>
10. Díaz-Ochoa, A., Dietze-Hermosa, M., & **Montalvo, S.** (2025). Advancing Strength and Conditioning Practices for Collegiate Female Flag Football: A Narrative Review and Practical Framework. *Strength and Conditioning Journal*, 47(6), 648-656.
11. Brochet, P., **Montalvo, S.**, Lindholm, M. E., Jimenez-Morales, D., Jin, C. A., Rasmussen, B. B., Kraus, W. E., Yan, Z., Wheeler, M. T., & Katz, D. H. (2025). Endurance Training Enhances Sex-Specific Cardioprotective Metabolism. *Circulation Research*, 137(7), 1045-1047. <https://doi.org/10.1161/CIRCRESAHA.125.326494>
12. Tan, E. C. H., Rio-Rodriguez, D., Mancilla, A., Gonzalez, M. P., & **Montalvo, S.** (2025). Countermovement jump performance in Malaysian young wushu athletes: normative values and sex-based differences. *Revista de Artes Marciales Asiaticas*, 20(2), 209-219.
13. Dietze-Hermosa, M., **Montalvo, S.**, Gonzalez, M. P., Briggs, A., & Dorgo, S. (2025). Resisted Sprint Training Improves Overground Sprint, Jump, and Isometric Mid-Thigh Pull Kinetics and Kinematics in Male Youth Ice Hockey Players: A Randomized Control Trial. *Journal of Human Kinetics*, 98, 117-131.
14. Blumberg, Y., de Monts, C., **Montalvo, S.**, Tang, W. J., Dunaway Young, S., Hageman, N., Sanchis-Gomar, F., Ashley, E. A., Amar, D., Myers, J., Wheeler, M. T., Day, J. W., Duong, et al. (2025). Cardiopulmonary Recovery After Maximal Exercise in Individuals with Neuromuscular Disease and Limited Mobility. *Journal of Clinical Medicine*, 14(12), 4190. <https://doi.org/10.3390/jcm14124190>
15. Terrazas, L., **Montalvo, S.**, & Dorgo, S. (2025). Manual resistance training and resistance training elicit neuromuscular strength adaptations but not body composition changes in an 8-week exercise intervention. *Journal of Bodywork and Movement Therapies*, 42, 810-815.
16. Gomez, M., **Montalvo, S.**, Conde, D., Ibarra-Mejia, G., & Gurovich, A. N. (2025). The effects of eccentric cycling on vascular reactivity. *Frontiers in Physiology*, 16, 1554054.
17. Froelicher, V., Husaini, M., Tso, J. V., **Montalvo, S.**, Christle, J., Perez, M. V., Hadley, D., Wheeler, M., Stein, R., Vetter, V., Hsu, J. J., Asif, I. M., Hedman, et al. (2025). Proposed enhanced recommendations for interpretation of electrocardiographic screening of athletes. *Progress in Cardiovascular Diseases*, 89, 69-77. <https://doi.org/10.1016/j.pcad.2025.03.003>
18. **Montalvo, S.**, Gonzalez, M. P., Dietze-Hermosa, M. S., Martinez, A., Rodriguez, S., Gomez, M., Cubillos, N., Ibarra-Mejia, G., Tan, E., & Dorgo, S. (2025). Effects of Different Stretching Modalities on the Antagonist and Agonist Muscles on Isokinetic Strength and Vertical Jump Performance in Young Men. *Journal of Strength and Conditioning Research*, 39(2), 173-183. <https://doi.org/10.1519/JSC.0000000000004937>
19. **Montalvo, S.**, Gonzales, F., Lance, G., Gonzalez, M. P., Dietze-Hermosa, M. S., & Dorgo, S. (2025). Comparative kinematic analysis of high-speed treadmill vs. overground sprinting across athletic levels and sex. *Journal of Sports Medicine and Physical Fitness*, 65(2), 171-179. <https://doi.org/10.23736/S0022-4707.24.16089-6>
20. Gomez, M., **Montalvo, S.**, Sanchez, A., Conde, D., Ibarra-Mejia, G., Peñaillilo, L. E., & Gurovich, A. N. (2025). Effects of Different Eccentric Cycling Intensities on Brachial Artery Endothelial Shear Stress and Blood Flow Patterns. *Research Quarterly for Exercise and Sport*, 96(2), 287-297. <https://doi.org/10.1080/02701367.2024.2404139>
21. Alvurdu, S., Akarçesme, C., Altundağ, E., & **Montalvo, S.** (2024). Concurrent validity and reliability of iVMES portable force plate for measuring vertical jump height. *Journal of Physical Education and Sport*, 24(4), 1024-1031. <https://doi.org/10.7752/jpes.2024.04117>
22. Toledo, H., Sandoval, J., Mancilla, A., Pourjahani, S., Tan, E., & **Montalvo, S.** (2024). Differences in Hamstring Flexibility between Athletes in the Chilean National Wushu Team versus Athletes not in the Chilean National Wushu Team. *Journal of Taiji Science*, 3(1), 48-55. <https://doi.org/10.57612/JS24.JTS.03>
23. Froelicher, V., Tso, J. V., **Montalvo, S.**, Christle, J., Perez, M. V., Hadley, D., Wheeler, M., Hwang, C. E., Uberoi, A., Abrams, G., & Ashley, E. (2024). The Stanford Legacy and the Future of Electrocardiographic Screening of Athletes. *Medical Research Archives*, 12(5). <https://doi.org/10.18103/mra.v12i5.5355>
24. Tso, J. V., **Montalvo, S.**, Christle, J., & Froelicher, V. (2024). Can the outlier percentiles from norms increase the sensitivity of the ECG criteria for screening athletes? *Progress in Cardiovascular Diseases*, 86, 93-95. <https://doi.org/10.1016/j.pcad.2024.09.003>
25. Tan, E. C. H., Weng Onn, S., & **Montalvo, S.** (2024). Measuring Vertical Jump Height With Artificial Intelligence Through a Cell Phone: A Validity and Reliability Report. *Journal of Strength and Conditioning Research*, 38(9), e529-e533. <https://doi.org/10.1519/JSC.0000000000004854>
26. Gurovich, A. N., **Montalvo, S.**, Hassan, P. F., & Gomez, M. (2024). Carotid Arterial Compliance during Different Intensities of Submaximal Endurance Exercise. *Journal of Clinical Medicine*, 13(11), 3316. <https://doi.org/10.3390/jcm13113316>
27. Dietze-Hermosa, M. S., **Montalvo, S.**, Gonzalez, M. P., & Dorgo, S. (2024). The Impact of an 8-Week Resisted Sprint Training Program on Ice Skating Performance in Male Youth Ice Hockey Players. *Journal of Strength and Conditioning Research*, 38(5), 957-965. <https://doi.org/10.1519/JSC.0000000000004732>
28. **Montalvo, S.**, Froelicher, V. F., Hadley, D., & Wheeler, M. T. (2024). Digitized Electrocardiography Measurements Support the Biological Plausibility of the Pathological Significance of ST Segments in Athletes. *Clinical Journal of Sport Medicine*, 34(4), 362-369. <https://doi.org/10.1097/JSM.0000000000001199>
29. Tso, J. V., **Montalvo, S.**, Christle, J., Hadley, D., & Froelicher, V. (2024). Should ECG criteria for Low QRS voltage (LQRSV) be specific for Sex? *American Heart Journal*, 270, 117-124. <https://doi.org/10.1016/j.ahj.2024.02.002>
30. Tang, W. J., Gu, B., **Montalvo, S.**, Dunaway Young, S., Parker, D. M., de Monts, C., Ataide, P., Ni Ghiollagain, N., Wheeler, M. T., Tesi Rocha, C., Christle, J. W., He, Z., Day, et al. (2023). Assessing the Assisted Six-Minute Cycling Test as a Measure of Endurance in Non-Ambulatory Patients with Spinal Muscular Atrophy (SMA). *Journal of Clinical Medicine*, 12(24), 7582. <https://doi.org/10.3390/jcm12247582>

31. Dorgo, S., Terrazas, L. A., Gonzalez, M. P., Dietze-Hermosa, M. S., & **Montalvo, S.** (2023). Effects of manual resistance versus weight resistance training on body composition and strength in young adults after a 14-week intervention. *Journal of Bodywork and Movement Therapies*, 36, 313-319.
32. **Montalvo, S.**, Martinez, A., Arias, S., Lozano, A., Gonzalez, M. P., Dietze-Hermosa, M. S., Boyea, B. L., & Dorgo, S. (2023). Commercial Smart Watches and Heart Rate Monitors: A Concurrent Validity Analysis. *Journal of Strength and Conditioning Research*.
33. Dietze-Hermosa, M., **Montalvo, S.**, Gonzalez, M. P., Cubillos, N. R., & Dorgo, S. (2023). Differences in sprint profile, sprint completion times, and jumping performance between division I track and field sprinters, throwers, and long-distance runners. *Journal of Physical Education and Sport*, 23(1), 10-23. <https://doi.org/10.7752/jpes.2023.01002>
34. **Montalvo, S.**, Conde, D., Sanchez, M., Martinez, P., Trevizo, R., & Ibarra-Mejia, G. (2023). Dynamic stretching improves muscle activation and pain pressure threshold but not isometric hand strength when compared to static stretching. *Journal of Physical Education and Sport*, 23(2), 293-300. <https://doi.org/10.7752/jpes.2023.02035>
35. Gonzalez, M. P., **Montalvo, S.**, Dietze-Hermosa, M., Gomez, M., & Dorgo, S. (2023). A Comparison of Morphological, Jump, and Sprint Kinematic Asymmetries in Division I Track and Field Athletes. *International Journal of Exercise Science*, 16(1), 1306-1319.
36. Gomez, M., **Montalvo, S.**, & Gurovich, A. N. (2022). Near Infrared Spectroscopy is not a Surrogate of Venous Occlusion Plethysmography to Assess Microvascular Resting Blood Flow and Function. *International Journal of Exercise Science*, 15(2), 1616-1626.
37. **Montalvo, S.**, Gomez, M., Lozano, A., Arias, S., Rodriguez, L., Morales-Acuna, F., & Gurovich, A. N. (2022). Differences in Blood Flow Patterns and Endothelial Shear Stress at the Carotid Artery Using Different Exercise Modalities and Intensities. *Frontiers in Physiology*, 13, 857816.
38. Tan, E., **Montalvo, S.**, Gonzales, M. P., Dietze-Hermosa, M. S., Min, S., & Dorgo, S. (2022). Changes in vertical jump performance and body composition before and after COVID-19 lockdown. *Journal of Human Exercise and Sport*, 18(1), 224-241.
39. Dietze-Hermosa, M., **Montalvo, S.**, Gonzalez, M. P., Rodriguez, S., Cubillos, N. R., & Dorgo, S. (2021). Association and Predictive Ability of Jump Performance with Sprint Profile of Collegiate Track and Field Athletes. *Sports Biomechanics*, 1-20.
40. **Montalvo, S.**, Gruber, L. D., Gonzalez, M. P., Dietze-Hermosa, M. S., & Dorgo, S. (2021). Effects of Augmented Eccentric Load Bench Press Training on One Repetition Maximum Performance and Electromyographic Activity in Trained Powerlifters. *Journal of Strength and Conditioning Research*, 35(6), 1512-1519.
41. **Montalvo, S.**, Gonzalez, M. P., Dietze-Hermosa, M. S., Eggleston, J. D., & Dorgo, S. (2021). Common Vertical Jump and Reactive Strength Index Measuring Devices: A Validity and Reliability Analysis. *Journal of Strength and Conditioning Research*, 35(5), 1234-1243.
42. Dietze-Hermosa, M. S., **Montalvo, S.**, Gonzalez, M. P., & Dorgo, S. (2021). Association Between the Modified Functional Movement Screen Scores, Fear of Falling, and Self-Perceived Balance in Active Older Adults. *Topics in Geriatric Rehabilitation*, 37(2), 64-73.
43. Dietze-Hermosa, M., **Montalvo, S.**, Gonzalez, M. P., & Dorgo, S. (2021). Physical fitness in older adults: Is there a relationship with the modified Functional Movement Screen? *Journal of Bodywork and Movement Therapies*, 25, 28-34.
44. **Montalvo, S.**, Conde, D., Gonzales, M. P., Dietze-Hermosa, M. S., Ibarra-Mejia, G., & Dorgo, S. (2021). Heart rate percentage as a method for determining intra-set resting during a post-activation performance enhancement exercise to increase vertical jump performance. *Journal of Physical Education and Sport*, 21(5), 2730-2736.
45. Dorgo, S., Perales, J. J., Boyle, J. B., Hausselle, J., & **Montalvo, S.** (2020). Sprint Training on a Treadmill vs. Overground Results in Modality-Specific Impact on Sprint Performance but Similar Positive Improvement in Body Composition in Young Adults. *Journal of Strength and Conditioning Research*, 34(2), 463-472.
46. Dietze-Hermosa, M., **Montalvo, S.**, Cubillo, N. R., Gonzales, M. P., & Dorgo, S. (2020). Association and predictive ability of vertical countermovement jump performance on unilateral agility in recreationally trained individuals. *Journal of Physical Education and Sport*, 20, 2076-2085.
47. **Montalvo, S.**, & Dorgo, S. (2019). The effect of different stretching protocols on vertical jump measures in college age gymnasts. *Journal of Sports Medicine and Physical Fitness*, 59(12), 1956-1962.

Preprints

1. Robbins, J. M., Katz, D. H., Many, G. M., Rao, P., Smith, G. R., Tiwari, G., Jin, C., Spielmann, G., **Montalvo, S.**, Iyer, G., Amar, D., Leach, D., Coyne, et al. (2026). Blood Biochemical Responses to Acute Exercise: Findings from the Molecular Transducers of Physical Activity Consortium (MoTrPAC). *bioRxiv*. <https://doi.org/10.64898/2026.03.02.704798>
2. Keshishian, H., Many, G. M., Smith, G., Clark, N. M., Iyer, G., Hart, P., Lindholm, M. E., **Montalvo, S.**, Zhang, Z., Jin, C., Sanford, J. A., Carr, S. A., Adkins, et al. (2026). Integrative Multi-omics Analysis of the Human Skeletal Muscle Response to Endurance or Resistance Exercise: Findings from the Molecular Transducers of Physical Activity Consortium (MoTrPAC). *bioRxiv*. <https://doi.org/10.64898/2026.03.04.705181>
3. Brandt, A. R., Fleg, J., Goodpaster, B. H., Jaeger, B., Jin, C. A., Johannsen, N. M., Katz, D., Keshishian, H., Kohrt, W. M., Kraus, W. E., Lester, B., Melanson, E. L., Miller, et al. (2026). Molecular Transducers of Physical Activity Consortium (MoTrPAC): Initial Insights into the Dynamic Human Responses to Exercise. *bioRxiv*. <https://doi.org/10.64898/2026.03.02.705347>
4. MoTrPAC Study Group; Katz, D. H., Jin, C. A., Many, G. M., Smith, G. R., Keshishian, H., Clark, N. M., Iyer, G., Ahn, C., Lindholm, M. E., Sagendorf, T. J., Amar, D., Barber, J. L., Brandt, A. R., Coen, P. M., Ge, Y., Hart, P., Hsu, F. C., Jaeger, B. C., Jimenez-Morales, D., Leach, D. T., Mani, D. R., **Montalvo, S.**, et al. (2026). Multi-Omic, Multi-Tissue Responses to Acute Exercise in Sedentary Adults: Findings from the Molecular Transducers of Physical Activity Consortium. *bioRxiv*. <https://doi.org/10.64898/2026.02.27.702183>
5. Mantena, S., Johnson, A., Schuetz, N., Tolas, A., **Montalvo, S.**, Delgado-SanMartin, J., Ramirez-Posada, M., Du, L., Zhang, S., Huynh, A. D., Oppezzo, M., King, A. C., Schmiedmayer, P., Lawrie, A., Rodriguez, F., Ashley, E. A., & Kim, D. S. (2026). Grounding Language Models in Behavioral Science to Scale Physical Activity Interventions for Hispanic/Latinx Populations. *medRxiv*. <https://doi.org/10.64898/2026.05.26.26354165>

Published Abstracts

1. Zhong, Y., Christle, J., **Montalvo Hernandez, S.**, Schuetz, N., Aresh, N., Ashley, E. A., Myers, J. N., & Kim, D. S. (2026). Comparison of novel physiology-based FRIEND equations for VO₂peak with conventional measures for predicting clinical outcomes. *Journal of the American College of Cardiology*, 87(13 Supplement), A1238.
2. Duong, T., **Montalvo, S.**, de Monts, C., Blumberg, Y., Vogt-Domke, S., Salvatore, S., Tang, W., Meyer, J., Wheeler, M., Day, J. W., Hageman, N., & Christle, J. (2025). Prediction of VO₂max and cardiopulmonary responses from ventilatory threshold VO₂ in neuromuscular disease patients using machine learning. *Neuromuscular Disorders*, 53, 106032.
3. Duong, T., **Montalvo, S.**, de Monts, C., Blumberg, Y., Vogt-Domke, S., Salvatore, S., Tang, W., Dunaway Young, S., Wheeler, M., Day, J. W., Hageman, N., Taivassalo, T., & Christle, J. (2025). Delayed exercise recovery ventilatory responses between individuals with neuromuscular disease. *Neuromuscular Disorders*, 53, 106033.
4. Rogers, A. M., Jr., Gonzalez, M. P., **Montalvo, S.**, & Dorgo, S. (2025). The Comparison of Time to Peak Rapid Force Production in Division One Collegiate Male Football, Track, and Basketball Players. *International Journal of Exercise Science: Conference Proceedings*, 2(17), 182.
5. Brochet, P., Njoroge, J., **Montalvo Hernandez, S.**, Lindholm, M., Smith, G., Amar, D., Gay, N., Zhao, B., Hung, C., Jin, C., Chavez, C., Nachun, D., Zaslavsky, et al. (2025). Multi-omics analysis of endurance exercise reveals cardioprotective remodeling in rat heart. *Circulation*, 152(Suppl 3), 4367025. https://doi.org/10.1161/circ.152.suppl_3.4367025
6. Iyer, G., Smith, G., Many, G., Clark, N., Jin, C., **Montalvo Hernandez, S.**, Thalacker-Mercer, A., Houmard, J., Bergman, B., Nie, J., Espinoza, S., Trappe, S., Sparks, et al. (2025). Integrated Multi-omics Analysis of Skeletal Muscle in Response to a Bout of Resistance or Endurance Exercise. *Circulation*, 152(Suppl 3), 4367452. https://doi.org/10.1161/circ.152.suppl_3.4367452
7. Carnero, E. A., Coyne, B. J., Christle, J. W., Brubaker, P. H., Kraus, W. E., Goodpaster, B. H., Stowe, C. L., Rejeski, W. J., **Montalvo, S.**, & Fleg, J. L. (2025). MoTrPAC CPET Core Lab - Quality Control and Threshold Determinations. *Medicine & Science in Sports & Exercise*, 57(10S), 426. <https://doi.org/10.1249/01.mss.0001158304.87226.13>
8. Silva, A., **Montalvo, S.**, Christle, J., & Myers, J. (2025). A nonexercise equation to predict oxygen consumption peak in chronic heart failure: integrating clinical variables for prognostic assessment. *European Respiratory Journal*, 66(Suppl 69), PA1994. <https://doi.org/10.1183/13993003.congress-2025.PA1994>
9. Katz, D., Jin, C., Smith, G., Clark, N., Iyer, G., Keshishian, H., Hart, P., Sanford, J., Zhang, Z., Ge, Y., Robbins, J., Barber, J., **Montalvo, S.**, et al. (2024). The multi-omic, multi-tissue response to acute endurance and resistance exercise: Results from the Molecular Transducers of Physical Activity Consortium. *Circulation*, 150(Suppl 1), A4143199.
10. Tso, J. V., **Montalvo, S.**, Christle, J., Hadley, D., & Froelicher, V. (2024). Sex-associated Differences in Low QRS Voltage in Young Athletes. *Medicine & Science in Sports & Exercise*, 56(10S), 244-245.
11. Tang, W., de Monts, C., **Montalvo, S.**, Dunaway Young, S., Salvatore, S., Khonde, S., Smith, S., Hageman, N., Blumberg, Y., Ataide, P., Ni Ghiollagain, N., Parker, D., Wheeler, M., Day, J., & Duong, T. (2024). Exploring muscle endurance in a neuromuscular population: insights from the assisted 6-minute cycling test combined with cardiopulmonary exercise testing and near-infrared spectroscopy. *Neuromuscular Disorders*, 43, 104441.85.
12. Tang, W., Salvatore, S., Khonde, S., **Montalvo, S.**, de Monts, C., Smith, S., Hageman, N., Blumberg, Y., Ataide, P., Ni Ghiollagain, N., Parker, D., Wheeler, M., Day, J., Christle, J., & Duong, T. (2024). Feasibility of assessing muscle oxygenation in patients with neuromuscular disease using near-infrared spectroscopy. *Neuromuscular Disorders*, 43, 104441.84.
13. **Montalvo, S.**, Blumberg, Y., de Monts, C., Tang, W. J., Ataide, P., Young, S., Ghiollagain, N., Parker, D. M., Day, J. W., Myers, J. N., Wheeler, M. T., Duong, T., Christle, et al. (2024). Exercise and Recovery Ventilatory Responses Between Individuals With Neuromuscular Disease and Healthy Adults. *Medicine & Science in Sports & Exercise*, 56(10S), 925-926. <https://doi.org/10.1249/01.mss.0001060720.31210.5d>
14. Blumberg, Y., Patti, A., De Monts, C., **Montalvo, S.**, Ataide, P., Tang, W., Young, S., Myers, J., Wheeler, M. T., Duong, T., Christle, J. W., & Day, J. W. (2024). Investigating Recovery From Maximal Exercise In Patients With Neuromuscular Disease. *Medicine & Science in Sports & Exercise*, 56(10S), 657. <https://doi.org/10.1249/01.mss.0001058296.87684.06>
15. Blumberg, Y., De Monts, C., Tang, W., **Montalvo, S.**, Ataide, P., Dunaway Young, S., Wheeler, M., Ashley, E., Myers, J., Day, J., Christle, J., & Duong, T. (2023). Assessment of maximal effort for weaker individuals with neuromuscular disease during the assisted six-minute cycling test. *Neuromuscular Disorders*, 33, S187.
16. Tang, W., **Montalvo, S.**, De Monts, C., Dunaway Young, S., Ataide, P., Ni Ghiollagain, N., Stevens, V., Parker, D., He, Z., Tesi Rocha, C., Day, J., & Duong, T. (2023). Assisted Six Minute Cycle Test (A6MCT): A Feasible and Valid Measurement of Functional and Fatigue Changes in Individuals with Spinal Muscular Atrophy. *Neuromuscular Disorders*, 33, S135.
17. Moreno, K. S. J., Ferguson, C. P., Garcia, V. A., **Montalvo, S.**, & Gurovich, A. N. (2023). The Effects of a Physical Therapy Program and the COVID-19 Pandemic on Student's Health Outcomes. 2023 Combined Sections Meeting (CSM), American Physical Therapy Association.
18. Sanchez, A. R., Gomez, M., **Montalvo, S.**, Lozano, A., Arias, S., & Gurovich, A. N. (2023). The Effects of Different Intensities on Eccentric Cycling Blood Flow Patterns at a Concentric Cycling Workload Match. *International Journal of Exercise Science: Conference Proceedings*, 2(15), 98.
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22. Gomez, M., **Montalvo, S.**, Lozano, A., Arias, S., & Gurovich, A. N. (2022). Brachial Artery Blood Flow Patterns During Eccentric Cycling Exercise. *Medicine & Science in Sports & Exercise*, 54(9S), 32-33.
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26. Dietze-Hermosa, M., Rodriguez, S., **Montalvo, S.**, Gonzalez, M., Cubillos, N., Martinez, E., Del Rio, J., & Dorgo, S. (2021). The Relationship between Squat Jump Performance and Sprint Profile in Collegiate Track and Field Athletes. *International Journal of Exercise Science: Conference Proceedings*, 2(13), Article 10. <https://digitalcommons.wku.edu/ijesab/vol2/iss13/10/>
27. Gonzalez, M. P., **Montalvo, S.**, Dietze-Hermosa, M., Cubillos, N. R., Rodriguez, S., Horsch, E., & Dorgo, S. (2021). Associations Between Jump Performance and Asymmetries with 30-m Sprint Completion Time. *International Journal of Exercise Science: Conference Proceedings*, 2(13), 11.
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29. **Montalvo, S.**, Tan, E., Conde, D., Mejia-Ibarra, G., & Dorgo, S. (2020). Injury Rates Among Elite Wushu Kung-Fu Martial Artists and Access to Health Care. *Medicine & Science in Sports & Exercise*, 52(7S), 1057.
30. Dietze-Hermosa, M. S., **Montalvo, S.**, Gonzalez, M. P., Rodriguez, A., Jarquin, I., & Dorgo, S. (2020). Physical Fitness in Older Adults: Is There a Relationship With the Modified Functional Movement Screen? *Medicine & Science in Sports & Exercise*, 52(7S), 551.
31. Dietze-Hermosa, M. S., **Montalvo, S.**, Cubillos, N. R., Rodriguez, A., Gonzalez, M. P., Rodriguez, S., & Dorgo, S. (2020). Association Between Single-Leg Agility and Single-Leg Vertical Jumping Performance in Active Adults. *International Journal of Exercise Science: Conference Proceedings*, 2(12), 9.
32. Dietze-Hermosa, M. S., **Montalvo, S.**, Gruber, L., Terrazas, L., Gonzalez, M., & Dorgo, S. (2019). Scores for the Modified Functional Movement Screen in Active Older Adults. *International Journal of Exercise Science: Conference Proceedings*, 2(11), 39.
33. Gonzalez, M. P., **Montalvo, S.**, Dietze-Hermosa, M., & Dorgo, S. (2019). Manual Resistance Training as an Alternative Post-Activation Potentiation Method: A Pilot Study. *International Journal of Exercise Science: Conference Proceedings*, 2(11), 101.
34. Jarquin, I. A., **Montalvo, S.**, Conde, D., Ibarra-Mejia, G., & Dorgo, S. (2019). The Effects of Two Post-Activation Potentiation Methods on Muscular Activation. *International Journal of Exercise Science: Conference Proceedings*, 2(11), 85.
35. **Montalvo, S.**, Gonzalez, M. P., Dietze-Hermosa, M., & Dorgo, S. (2019). The Effects of Three Post-Activation Potentiation Methods on Muscular Activation of Knee Extensors: A Pilot Study. *International Journal of Exercise Science: Conference Proceedings*, 2(11), 92.
36. Rodriguez, A., Gruber, L., **Montalvo, S.**, Gonzalez, M. P., Bastian, D., & Dorgo, S. (2019). Changes to Strength, Muscular Power, and Bar Velocity after 2 Weeks of Eccentric Overload Bench Press Training: A Case Study. *International Journal of Exercise Science: Conference Proceedings*, 2(11), 108.
37. De La Torre, I. N., **Montalvo, S.**, Conde, D., Mejia, G., & Dorgo, S. (2019). Increasing Vertical Jump Height Using Two Alternative Post-Activation Potentiation Methods. *International Journal of Exercise Science: Conference Proceedings*, 2(11), 95.
38. **Montalvo, S.**, Dorgo, S., Tune, C. H., Sapien, A. C., Gonzalez, M. P., & Sanchez, J. A. (2018). Validity of Vertical Jump Measuring Devices. *International Journal of Exercise Science: Conference Proceedings*, 2(10), Article 69. <https://digitalcommons.wku.edu/ijesab/vol2/iss10/69/>
39. Dorgo, S., Perales, J., & **Montalvo, S.** (2018). The Effects of Overground and Treadmill Sprint Training on Body Composition. *National Strength and Conditioning Association Conference Proceedings*.
40. Amador, M., Perales, J., **Montalvo, S.**, Dorgo, S., & Bajpeyi, S. (2016). The Effects of Two Different Sprint Training Modalities on Sprint Speed, Aerobic Fitness and Body Composition. *International Journal of Exercise Science: Conference Proceedings*, 2(8), Article 48. <https://digitalcommons.wku.edu/ijesab/vol2/iss8/48/>
41. Dorgo, S., Perales, J., **Montalvo, S.**, Amador, M., & Bajpeyi, B. (2016). Effects of Treadmill and Overground Sprint Training Modes on Sprint Speed, Body Composition and Aerobic Power. *National Strength and Conditioning Association Conference Proceedings*.

TEACHING

Kinesiology, Adjunct Professor | University of Texas at El Paso (2021 - 2022)

Kinesiology, Adjunct Professor | El Paso Community College (2018 - 2020)

Physical Education and Health, K-12, Teacher | Ysleta Independent School District (2011 - 2015)

MENTORING

Postdoctoral Mentorship Program, Lead Mentor and Coach | Stanford University (2024 - Present)

- Facilitates bi-weekly mentoring workshops for postdoctoral scholars in collaboration with the Stanford Office of Postdoctoral Affairs.

PhD student mentoring, Remote mentor | Universidad Autonoma de Nuevo Leon (2024 - Present)

MAVERICs program, Mentor for prospective and current medical students | Stanford Cardiovascular Institute (2024 - Present)

Stanford Cardiovascular Institute and Wu Tsai Human Performance Alliance trainee mentoring, Co-mentor | Stanford University (2023 - Present)

- Co-mentors undergraduate and graduate trainees from diverse backgrounds.

PRESENTATIONS

The Molecular Elite Athlete, Symposium Keynote Speaker | Henan University, China (2025)

From Molecules to High Performance in Exercise Science, Symposium Keynote Speaker | Universidad Autonoma de Nuevo Leon, Monterrey, Mexico (2025)

Molecular Transducers of Physical Activity, American College of Sports Medicine (2025)

Machine and Statistical Learning Methods for Sport Scientists, National Strength and Conditioning Association (2025)

Podium presentations, National Strength and Conditioning Association Conference (2024 - 2025)

Abstract and poster presentations, American College of Sports Medicine Annual Meeting (2019 - Present)

Abstract and poster presentations, National Strength and Conditioning Association Conference (2017 - Present)

AWARDS AND HONORS

NIH Extramural Loan Repayment Program Award, National Institutes of Health (NIH) | Research in Emerging Areas Critical to Human Health (LRP-REACH) | Award no. 1L70HL189429-01 | Awarded (2026)

- Project: A Translational Framework for Precision Exercise Medicine: Integrating Multi-Omic Signatures and Population Data
- Awarded July 10, 2026.

Selected Award Proposal, NIH Common Fund Data Ecosystem Training Center (CFDE TC) | \$5,000 | Selected (2026)

- Project: Cataloging MoTrPAC and Metabolomics Workbench Data

Metabo-Diet: Harmonizing Dietary Patterns, Clinical Phenotypes, and Metabolomics Across CFDE Resources, NIH Common Fund Data Ecosystem Training Center (CFDE TC) | Awarded (2026)

T32 Post-Doctoral Fellowship, Research Training in Myocardial Biology at Stanford (TIMBS), Stanford University (2024 - Present)

Recognition for Scientific Research and Applied Sports Sciences, Mexican Federation of Applied Sports Sciences (FEMECAD) and Mexican Sports Confederation (CODEME) (2024)

Invited International Guest Speaker Award, Universidad Autonoma de Nuevo Leon (2024)

Post-Doctoral Fellowship, Wu Tsai Human Performance Alliance, Stanford University School of Medicine (2022 - 2024)

National Sports Award "Luchador Olmeca", Confederacion Deportiva Mexicana (CODEME) (2011)

SERVICE

Post-Doc Mentoring Coach, Stanford Office of Postdoctoral Affairs (2024 - Present)

Stanford PRISM participant, Stanford University (2024 - Present)

PROFESSIONAL AFFILIATIONS AND MEMBERSHIPS

Member, Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (2025 - Present)

Postdoctoral Fellow, Wu Tsai Human Performance Alliance (2022 - Present)

Member, American Heart Association (2022 - Present)

Postdoc, Stanford Cardiovascular Institute (2022 - Present)

Member, National Strength and Conditioning Association (2018 - Present)

Member, American College of Sports Medicine (2018 - Present)

CERTIFICATIONS

Certified Performance and Sport Scientist (CPSS), National Strength and Conditioning Association

Certified Strength and Conditioning Specialist with Distinction (CSCS,*D), National Strength and Conditioning Association

RESEARCH EXPERTISE AND TECHNICAL COMPETENCIES

Clinical exercise physiology, Cardiopulmonary exercise testing, Sports biomechanics, Exercise and sports performance assessment, Multi-omics data analysis, MoTrPAC clinical phenotype analysis, R programming, Reproducible analytical pipelines, Bioinformatics, Machine learning and statistical learning for sport science, Applied artificial intelligence, AI agents, and agentic workflows

LANGUAGES

English, Spanish