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FORMACIÓN ACADÉMICA

Formación posdoctoral, Biología del miocardio, bioinformática, Stanford University, Estados Unidos (ago. 2024 - Actualidad)

Beca posdoctoral, Rendimiento humano, fisiología clínica del ejercicio, Stanford University, Estados Unidos (ago. 2022 - ago. 2024)

Doctorado (PhD), Ciencias interdisciplinarias de la salud, fisiología del ejercicio, biomecánica, University of Texas at El Paso, Estados Unidos (ago. 2016 - may. 2021)

Maestría en Ciencias (MS), Kinesiología, fisiología clínica del ejercicio, University of Texas at El Paso, Estados Unidos (ago. 2011 - ago. 2015)

Licenciatura en Ciencias (BS), Kinesiología, educación física, University of Texas at El Paso, Estados Unidos (ago. 2007 - ago. 2011)

EXPERIENCIA ACADÉMICA Y PROFESIONAL

Investigador posdoctoral, División de Medicina Cardiovascular, Stanford University School of Medicine, Stanford, California (2024 - Actualidad)

- Contribuye al Stanford Bioinformatics Core y al Molecular Transducers of Physical Activity Consortium (MoTrPAC), financiado por los NIH.
- Analiza conjuntos de datos clínicos, de ejercicio, multiómicos, multisulares, de múltiples modalidades de ejercicio y de múltiples especies.

Investigador posdoctoral, Wu Tsai Human Performance Alliance, Stanford University, Stanford, California (2022 - 2024)

Investigador asociado, Programa de Doctorado en Fisioterapia, Departamento de Ciencias de la Rehabilitación, University of Texas at El Paso, El Paso, Texas (2021 - 2022)

Profesor adjunto, Departamento de Kinesiología, University of Texas at El Paso, El Paso, Texas (2021 - 2022)

Profesor adjunto, Departamento de Kinesiología, El Paso Community College, El Paso, Texas (2018 - 2020)

Investigador asociado de posgrado, University of Texas at El Paso, El Paso, Texas (2015 - 2020)

Profesor de educación física y salud, K-12, Ysleta Independent School District, El Paso, Texas (2011 - 2015)

PUBLICACIONES

Publicaciones científicas arbitradas

1. Edwards, A., Rowlett, M., Jerazano Mora, J. M., Schoenfeld, B. J., & **Montalvo, S.** (2026). Sleep: The Overlooked Pillar of Muscle Hypertrophy—A Critical Review of Mechanistic and Observational Evidence. *Strength & Conditioning Journal*. Advance online publication. <https://doi.org/10.1519/SSC.0000000000001000>
2. Cabarkapa, D., Yang, Y., **Montalvo, S.**, Ríos-Gallardo, P. T., Camacho, A. A., & Munce, T. A. (2026). Relationships Between Isometric Shoulder Strength and Three-Point Shooting Accuracy in Male Basketball Players. *Journal of Strength and Conditioning Research*. Advance online publication. <https://doi.org/10.1519/JSC.0000000000005616>
3. 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>
4. **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>
5. 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>
6. 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>
7. 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>
8. 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>
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>

10. **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>
11. Rios-Gallardo, P. T., Camacho-Tristán, G., Diaz-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>
12. Diaz-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.
13. 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>
14. 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.
15. 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.
16. 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>
17. 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.
18. 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.
19. 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>
20. **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>
21. **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>
22. Gomez, M., **Montalvo, S.**, Sanchez, A., Conde, D., Ibarra-Mejia, G., Peñailillo, 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>
23. Alvirdu, 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>
24. 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>
25. 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>
26. 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>
27. 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>
28. 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>
29. 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>
30. **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>
31. 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>
32. 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>
33. 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.
34. **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*.
35. 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>

36. **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>
37. 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.
38. 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.
39. **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.
40. 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.
41. 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.
42. **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.
43. **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.
44. 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.
45. 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.
46. **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.
47. 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.
48. 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.
49. **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.

Prepublicaciones

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>

Resúmenes publicados

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.
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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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24. **Montalvo, S.**, Gonzalez, M. P., Dietze-Hermosa, M., Cubillos, N. R., Rodriguez, S., Martinez, E., Del Rio, J., Martinez Ruiz, A., & Dorgo, S. (2021). Bilateral broad jump as a better predictor of acceleration split times than unilateral broad jump. *International Journal of Exercise Science: Conference Proceedings*, 2(13), 79.
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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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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.

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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.
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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*.

DOCENCIA

Kinesiología, Profesor adjunto | University of Texas at El Paso (2021 - 2022)

Kinesiología, Profesor adjunto | El Paso Community College (2018 - 2020)

Educación física y salud, K-12, Profesor | Ysleta Independent School District (2011 - 2015)

DIRECCIÓN Y MENTORÍA

Codirección de tesis doctoral, Codirector de tesis | Universidad Autonoma de Nuevo Leon (2025 - 2025)

- Codirigió la tesis doctoral de Pablo Tadeo Ríos Gallardo sobre tecnología para medir el salto vertical.

Programa de mentoría posdoctoral, Mentor principal y orientador | Stanford University (2024 - Actualidad)

- Facilita talleres quincenales de mentoría para investigadores posdoctorales en colaboración con la Stanford Office of Postdoctoral Affairs.

Mentoría de estudiantes de doctorado, Mentor a distancia | Universidad Autonoma de Nuevo Leon (2024 - Actualidad)

Programa MAVERICS, Mentor de aspirantes y estudiantes actuales de medicina | Stanford Cardiovascular Institute (2024 - Actualidad)

Mentoría de investigadores en formación del Stanford Cardiovascular Institute y la Wu Tsai Human Performance Alliance, Mentor colaborador | Stanford University (2023 - Actualidad)

- Brinda mentoría conjunta a estudiantes de pregrado y posgrado de diversos orígenes.

PONENCIAS Y PRESENTACIONES

The Molecular Elite Athlete, Conferencista magistral del simposio | Henan University, China (2025)

From Molecules to High Performance in Exercise Science, Conferencista magistral del simposio | 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)

Presentaciones orales, National Strength and Conditioning Association Conference (2024 - 2025)

Presentaciones de resúmenes y pósteres, American College of Sports Medicine Annual Meeting (2019 - Actualidad)

Presentaciones de resúmenes y pósteres, National Strength and Conditioning Association Conference (2017 - Actualidad)

PREMIOS Y DISTINCIONES

NIH Extramural Loan Repayment Program Award, National Institutes of Health (NIH) | Research in Emerging Areas Critical to Human Health (LRP-REACH) | Núm. de premio 1L70HL189429-01 | Otorgado (2026)

- Proyecto: A Translational Framework for Precision Exercise Medicine: Integrating Multi-Omic Signatures and Population Data **Selected Award Proposal**, NIH Common Fund Data Ecosystem Training Center (CFDE TC) | \$5,000 | Seleccionado (2026)
- Proyecto: 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) | Otorgado (2026)

T32 Post-Doctoral Fellowship, Research Training in Myocardial Biology at Stanford (TIMBS), Stanford University (2024 - 2026)

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)

SERVICIO ACADÉMICO Y PROFESIONAL

Orientador de mentoría posdoctoral, Stanford Office of Postdoctoral Affairs (2024 - Actualidad)

Participante de Stanford PRISM, Stanford University (2024 - Actualidad)

Editor sénior, Journal of Strength and Conditioning Research

Editor de sección - Fisiología del ejercicio y biomecánica, Journal of Taiji Science

AFILIACIONES Y MEMBRESÍAS PROFESIONALES

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

Becario posdoctoral, Wu Tsai Human Performance Alliance (2022 - Actualidad)

Miembro, American Heart Association (2022 - Actualidad)

Investigador posdoctoral, Stanford Cardiovascular Institute (2022 - Actualidad)

Miembro, National Strength and Conditioning Association (2018 - Actualidad)

Miembro, American College of Sports Medicine (2018 - Actualidad)

CERTIFICACIONES

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

ÁREAS DE INVESTIGACIÓN Y COMPETENCIAS TÉCNICAS

Fisiología clínica del ejercicio, Pruebas de ejercicio cardiopulmonar, Biomecánica deportiva, Evaluación del ejercicio y del rendimiento deportivo, Análisis de datos multiómicos, Análisis de fenotipos clínicos de MoTrPAC, Programación en R, Flujos de trabajo analíticos reproducibles, Bioinformática, Aprendizaje automático y aprendizaje estadístico para las ciencias del deporte, Inteligencia artificial aplicada, agentes de IA y flujos de trabajo agénticos

IDIOMAS

Inglés, Español