

CENTROS DE INVESTIGACIÓN

CENTRO DE INVESTIGACIÓN EN RENDIMIENTO FÍSICO Y DEPORTIVO

Actividades

Durante el curso académico 2022-2023 se han llevado a cabo diversos estudios de investigación: evaluaciones del estado físico y mental de deportistas, población general y clínica, así como intervenciones basadas en programas de ejercicio físico.

Las instalaciones y material del Centro de Investigación en Rendimiento Físico y Deportivo han sido utilizados por un amplio número de grupos de investigación de la UPO. Se han realizado un total de 80 actuaciones formales de préstamo temporal de material deportivo e instrumental, dirigidas al desarrollo de proyectos de I+D, pruebas de concepto, tesis doctorales y proyectos de fin de Grado y Máster.

Asimismo, se han publicado 108 artículos científicos en revistas indexadas JCR, 10 colaboraciones en congresos y comunicaciones en congresos como el *26th Annual Congress of the European College of Sport Science*; *36th World Congress of Sports Medicine*; II Congreso Virtual de la Sociedad Española de Geriatría y Gerontología o the Conference of the International Society of Biomechanics in Sport. Además, el Departamento ha organizado 1 Jornada y se han aprobado 10 proyectos de investigación.

Publicaciones en JCR y revistas indexadas

1. Alcázar, J., Pareja-Blanco, F., Rodríguez-López, C., Gutiérrez-Reguero, H., Sánchez-Valdepeñas, J., Cornejo-Daza, P. J., Alegre, L. M. (2022). A novel equation that incorporates the linear and hyperbolic nature of the force–velocity relationship in lower and upper limb exercises. *European Journal of Applied Physiology*, 122(10), 2305-2313. doi:10.1007/s00421-022-05006-1.
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3. Ascenzi, G., Filetti, C., Di Salvo, V., Javier Núñez, F., Suárez-Arrones, L., Ruscello, B., Villanueva, A. M. (2022). Inter-limb asymmetry in youth elite soccer players: Effect of loading conditions. *PLoS ONE*, 17(6 June) doi: 10.1371/journal.pone.0269695.



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- 106.** Walker, S., Häkkinen, K., Virtanen, R., Mane, S., Bachero-Mena, B., & Pareja-Blanco, F. (2022). Acute neuromuscular and hormonal responses to 20 versus 40% velocity loss in males and females before and after 8 weeks of velocity-loss resistance training. *Experimental Physiology*, 107(9), 1046-1060. doi:10.1113/EP090371.
- 107.** Zabaloy, S., Carlos-Vivas, J., Freitas, T. T., Pareja-Blanco, F., Loturco, I., Comyns, T., . . . Alcaraz, P. E. (2022). Muscle activity, leg stiffness, and kinematics during unresisted and resisted sprinting conditions. *Journal of Strength and Conditioning Research*, 36(7), 1839-1846. doi:10.1519/JSC.00000000000003723.
- 108.** Zabaloy, S., Freitas, T. T., Pareja-Blanco, F., Alcaraz, P. E., & Loturco, I. (2023). Narrative review on the use of sled training to improve sprint performance in team sport athletes. *Strength and Conditioning Journal*, 45(1), 13-28. doi:10.1519/SSC.0000000000000730.

Ponencias, comunicaciones, jornadas o simposios y eventos de divulgación científica

- 1.** Asín Izquierdo, I., Manuel Ortega Becerra, Fernando Pareja Blanco. Comunicación: Innovación docente a través del aprendizaje experiencial en Metodología y Programación del Entrenamiento Deportivo. Nombre del Congreso: EduEmer 2023 | Congreso Internacional de Educación, Innovación y Transferencia del conocimiento. Lugar y fecha: On-line 25-26 de mayo de 2023.
- 2.** Berral de la Rosa, Francisco José. Comunicación: Body Composition. Nombre del Congreso: LONGEVITY STRATEGIES. Lugar y fecha: Lazise (Italia). 18 al 20 de noviembre de 2022. Organizado por Pharmahealth Institute y Unifarco Italia.
- 3.** Berral de la Rosa, Francisco José. Comunicación: "Quickness in the answer: assessing tetrapolar hand to hand bioimpedance reliability for fast body composition analysis". Nombre del Congreso: 10th Eieim Conference Exercise Is Medicine. Lugar y fecha: Padova (Italia). 27 al 29 de octubre de 2022. Organizado por la Universitá Degli Studi di Padova. Dipartamento di Medicina.



4. Brazo-Sayavera, J., Rodríguez, M. J., Fiordelmondo, C., del Campo, C., Martínez, L., Gamarra, M., Pintos-Toledo, E., Fernández-Giménez, S., Corvos, C. A., Souza-Marabotto, F., & Bizzozero-Peroni, B. Comunicación: Uruguayan Report Card on physical activity for children and adolescents: The Global Matrix 4.0. Nombre del Congreso: 9th International Society for Physical Activity and Health (ISPAH) Congress. Lugar y fecha: Abu Dhabi, 25/10/2022.
5. Camacho-Cardenosa, A., Camacho-Cardenosa, M., Olivares, P. R., Olcina, G., & Brazo-Sayavera, J. Comunicación: Health Related Quality of Life changes in a training program based on high-intensity training under hypoxic conditions. Nombre del Congreso: 27th Annual Congress of the European College of Sport Science. Lugar y fecha: Sevilla, 05/09/2022.
6. Cornejo Daza, P. J.; Juan Sánchez-Valdepeñas Mateos-Aparicio; Luis Rodiles Guerrero; José A. Paez Maldonado; Clara Cano Castillo; Juan A. León Prados; Fernando Pareja Blanco. Comunicación: Acute Responses to Different Blood Flow Restriction-Resistance Exercise Protocols Differingin the Rest Time Between Repetitions. Nombre del Congreso: Congress of the European College of Sport Science (ECSS 2023). Lugar y fecha: 30/08/2022-02/09/2022. Sevilla, Andalucía, España.
7. Fernández Martínez, A. Comunicación: TEC-MED Social Capitalisation. Professional Caregiving and Emotional Salary: the RIIAFEL approach. Nombre del Congreso: Meeting TEC_MED Project. "Development of a transcultural social-ethical-care model for dependent populations in the Mediterranean basin". Lugar y fecha: Tunis, Tunisia, during 25th - 28th July 2022.
8. Floría, P., Ferrer-Roca, V., & García-López, J. Comunicación: Acute effects of small changes in bicycle saddle height on pedalling coordination. Nombre del Congreso: 40th Conference of the International Society of Biomechanics in Sport. Datos de la publicación: In M. Robinson, M. Lake, B. Balzopoulos, & J. Vanrenterghem (Eds.), ISBS-Conference Proceedings (pp. 364–367). International Society of Biomechanics in Sport. Lugar y fecha: Liverpool (UK), 19-23 de julio de 2022.
9. Galiano, C., Floría, P., Muñoz-López, A., Sáez de Villarral, E., Nuñez, F.J. Comunicación: Strength training program with emphasis on eccentric actions: Do they improve physical performance inwomen the same way as men? Nombre del Congreso: 27th Annual Congress of the EuropeanCollege of Sport Science. Lugar y fecha: 30 August - 2 September 2022 in Sevilla - Spain.



- 10.** Jiménez-Daza, P., Ramírez-Capillo, R., Saez de Villareal, E. Comunicación: Maturity Offset, Anthropometric Profile, and the Vertical Forcevelocity Profile in Youth Basketball Players. Nombre del Congreso: XXVII European Congress of Sport Science. Lugar y fecha: 30-02 Sept. 2022. (Ponencia Oral).
- 11.** López-Gil, J. F., Aznar, S., Román-Viñas, B., Brazo-Sayavera, J., Izquierdo-Gómez, R., Barrios-Fernández, S., Rodríguez Ferrán, O., & Aubert, S. Comunicación: Results from Spain's 2022 Report Card on physical activity for children and adolescents living with disabilities. Nombre del Congreso: 9th International Society for Physical Activity and Health (ISPAH) Congress. Lugar y fecha: Abu Dhabi, 25/10/2022.
- 12.** Molina López, A., H. Moya Amaya, P. Estevan Navarro, P. Baratto, D. Rojano Ortega, F.J. Berral de la Rosa, J. Naranjo Orellana. Comunicación: Omega-3 supplementation and changes in AA/EPA and AA/DHA ratios in professional football players. Nombre del Congreso: Congreso de la Physiological Society: Europhysiology 2022, Lugar y fecha: Copenhague (Dinamarca), 15-18 septiembre 2022. Publicado en Acta Physiologica, Volume 236, Issue S725 (Special Issue: Abstracts of the Europhysiology 2022, 16-18 September 2022, Copenhagen). e13877: 743-744.
<https://doi.org/10.1111/apha.13877>
- 13.** Moya Amaya, H., A. Molina López, A. Portolan, D. Rojano Ortega, A.J. Berral Aguilar, J. Naranjo Orellana, F.J. Berral de la Rosa. Comunicación: Reliability and correlations of a single-frequency tetrapolar BIA device with DEXA in male university students. Nombre del Congreso: Congreso de la Physiological Society: Europhysiology 2022, Lugar y fecha: Copenhague (Dinamarca), 15-18 septiembre 2022. Publicado en Acta Physiologica, Volume 236, Issue S725 (Special Issue: Abstracts of the Europhysiology 2022, 16-18 September 2022, Copenhagen). e13877: 731-733.
<https://doi.org/10.1111/apha.13877>
- 14.** Páez Maldonado, J., Castillo Cano, C., Sánchez Valdepeñas, J., Cornejo Daza, P., Rodiles Guerrero, L., Ortega-Becerra, M., Pareja Blanco, F. Comunicación: Strength, stiffness and power of muscle Is it training volume a critical variable determining the adaptations to strength training? Nombre del Congreso: 27th Annual Congress of the European College of Sport Science. Lugar y fecha: Sevilla - Spain 30 August - 2 September 2022.



- 15.** Pecci, Javier; Sañudo, B; Ramírez-Campillo, R; Sánchez-Trigo, H; Sáez de Villarreal, E. Comunicación: The Use of Imaging Technology to Assess The Effects of Resistance Training on Biceps Femoris Muscle Architecture: A Systematic Review with Meta-Analysis. Nombre del Congreso: III International Conference on Technology in Physical Activity and Sport (TAPAS). Lugar y fecha: 16-17 Nov. 2022 (Ponencia Oral).
- 16.** Rodiles Guerrero, L.; Juan Sánchez-Valdepeñas Mateos-Aparicio; Pedro Jesús Cornejo Daza; José A. Paez Maldonado; Clara Cano Castillo; Beatriz Bachero Mena; Miguel Sánchez Moreno; Fernando Pareja Blanco. Comunicación: The Effects of Different Velocity Loss Thresholds During Bench Press Training With Light Loads. Nombre del Congreso: Congress of the European College of Sport Science (ECSS 2023). Lugar y fecha: 30/08/2022-02/09/2022. Sevilla, Andalucía, España.
- 17.** Rojano Ortega, D., J. Naranjo Orellana, A.J. Berral Aguilar, A. Molina López, H. Moya Amaya, P. Estevan Navarro, F.J. Berral de la Rosa. Comunicación: Regular green tea supplementation increases total antioxidant status and reduces exercise-induced oxidative stress: a systematic review. Nombre del Congreso: Congreso de la Physiological Society: Europhysiology 2022, Lugar y fecha: Copenhague (Dinamarca), 15-18 septiembre 2022. Publicado en Acta Physiologica, Volume 236, Issue S725 (Special Issue: Abstracts of the Europhysiology 2022, 16-18 September 2022, Copenhagen). e13877: 767-769.
<https://doi.org/10.1111/apha.13877>
- 18.** Sánchez-Valdepeñas, J., Mateos-Aparicio; Pedro Jesús Cornejo Daza; Luis Rodiles Guerrero; José A. Paez Maldonado; Clara Cano Castillo; Miguel Sánchez Moreno; Eduardo Saez de Villarreal Saez; Fernando Pareja Blanco. Comunicación: Effects of Different Velocity Loss Thresholds in Full Squat With Blood Flow Restrictionimplementation on Leg Strength and Jump Performance. Nombre del Congreso: Congress of the European College of Sport Science (ECSS 2023). Lugar y fecha: 30/08/2022-02/09/2022. Sevilla, Andalucía, España.
- 19.** Trapé, Á. A., Costa, G. P., Camacho-Cardenosa, A., de Carvalho, C. D., Camacho-Cardenosa, M., Merellano-Navarro, E., da Silva Lizzi, E. A., Sorgi, C. A., Papoti, M., & Brazo-Sayavera, J. Comunicación: Moderate-intensity training with cyclic hypoxia improves health indicators in COVID-19 recovered adults: The AEROBICOVID study. Nombre del Congreso: 9th International Society for Physical Activity and Health (ISPAH) Congress. Lugar y fecha: Abu Dhabi, 25/10/2022.



- 20.** Tundidor Duque, R, Asin-Izquierdo, I, Pareja, F, Sáez de Villarreal, E. Comunicación: Do Men and Women Improve Equally to The Same Concurrent Training Protocol? Nombre del Congreso; III International Conference on Technology in Physical Activity and Sport (TAPAS). Lugar y fecha: 16-17 Nov. 2022.

Proyectos, contratos y convenios de investigación

- 1.** Nuevo paradigma en el entrenamiento de fuerza: entrenamiento con restricción de flujo sanguíneo monitorizado a través de la velocidad de ejecución. PID2020-117915RA-I00. Programas Estatales de Generación de Conocimiento y Fortalecimiento Científico y Tecnológico del Sistema de I+D+i y de I+D+i orientada a los Retos de la Sociedad, del Plan Estatal de Investigación Científica y Técnica y de Innovación 2017-2020. Desde el 01/09/2021 hasta el 31/08/2024. Investigador/a principal: Fernando H Pareja Blanco. Financiación: 50.000 €. Número de investigadores/as participantes: 10.
- 2.** Actividad física, sedentaria, sueño y condición física en población andaluza con TMG. Análisis de datos composicional y efectos de un innovador programa de ejercicio físico. Ministerio de Ciencia e Innovación. Gobierno de España. 112.530 €. 1.^{er} año: 18.004,80 €, 2.^º año: 29.257,80 € y 3.^{er} año: 65.267,40 €. PID2020-118262RB-100. Vicerrectorado de Investigación y Nuevas Tecnologías. Universidad Pablo de Olavide de Sevilla. Desde el 1 de septiembre de 2021 al 2 de septiembre de 2024. Investigador /a principal: Dr. Diego Munguía Izquierdo. Número de investigadores/as: 15.
- 3.** Development and validation of the Global Adolescent and Child Physical Activity Questionnaire (GAC-PAQ): A multi-country study across six continents. Canadian Institutes of Health Research. From 2022-23: \$275.560; From 2023-24: \$508.725; Total: \$784.285. PRIZE 202203PJT. Investigador Principal: Richard Larouche y Mark Stephen Tremblay. Investigador participante: Francisco Javier Brazo Sayavera.
- 4.** Efectos de un programa de ejercicio físico adaptado a personas con obesidad, sobre indicadores de salud y calidad de vida. Universidad Pablo de Olavide (UPO-1381609). Investigador principal: José Antonio González Jurado. Investigadores/as participantes: África Calvo Lluch, Juan Antonio León Prados, Alberto Nuviala Nuviala.



5. Diagnóstico molecular de los defectos de la fosforilación oxidativa mitocondrial: Patogénesis de las deficiencias de coq10 (PI20/00541). Convocatoria Proyectos Investigación en Salud 2020. Instituto Carlos III. Desde el 1 de enero de 2021 hasta el 31 de diciembre de 2023. Financiación Total: 124.630€. Investigador principal: Carlos Santos Ocaña. Investigador participante: Guillermo López Lluch.
6. Estudio de la influencia de la actividad física en la salud y la capacidad cognitiva durante el envejecimiento (UPO-1259581). Universidad Pablo de Olavide. Desde el 1 de enero de 2020 hasta el 31 de diciembre de 2022. Financiación total: 34.583€ Investigador principal: Guillermo López Lluch. Investigadora participante: Elisabet Cristina Rodríguez Bies.
7. Estilo de vida, ejercicio físico y salud en personas con trastornos mentales (UPO- 1262802). Universidad Pablo de Olavide. Desde el 1 de enero de 2020 hasta el 31 de diciembre de 2022. Financiación total: 33.333€ Investigador principal: Diego Munguía Izquierdo. Investigadores participantes: Francisco José Berral de la Rosa, Eduardo Sáez de Villarreal Sáez, Luis Jesús Suárez Moreno Arrones.
8. Red de investigación sobre promoción de la salud a través de la actividad física en personas con trastornos mentales graves: RPSAF-TMG (14/UPB/22). Consejo Superior de Deportes. Desde el 1 de enero de 2020 hasta el 15 de noviembre de 2022. Financiación total: 8.000€ Investigador principal: Diego Munguía Izquierdo.

