

Kiros Karamanidis (PhD) is Professor of Movement and Exercise Science at the University of Koblenz (Germany) and holds in addition a Research Professorship of Ageing and Exercise Science at London South Bank University (United Kingdom). He received his PhD in Biomechanics in 2006 at the German Sport University of Cologne, Institute of Biomechanics and Orthopaedics (Germany). Kiros' main research covers the plasticity of the musculoskeletal system in response to mechanical loading and physical exercise, and the interaction between the neural and the motor system during functional activities such as walking, running and jumping. One of his main interests is to provide knowledge for researchers, clinicians and coaches focusing on the adaptation of the muscle-tendon unit across the adult life span, prevention and rehabilitation of musculoskeletal injuries as well as improvement, transfer and retention of balance recovery responses scoping fall resilience in various population groups. In several recent research projects Kiros Karamanidis research group in Koblenz and in London incorporates novel technological advantages in virtual and augmented reality to promote musculoskeletal health across the adult life span via exercise-related interventions aimed on reducing the risk of falls in healthy and pathological conditions.

Ten most important publications

1. Gießler, M., Werth, J., Waltersberger, B., & **Karamanidis, K.** (2024). A wearable sensor and framework for accurate remote monitoring of human motion. *Communications Engineering*, 3(1), 20.
2. Weber, A., Hartmann, U., Werth, J., Epro, G., Seeley, J., Nickel, P., **Karamanidis, K.** (2023). Enhancement of awareness through feedback does not lead to interlimb transfer of obstacle crossing in virtual reality. *Journal of Biomechanics*, 153:111600.
3. König, M., Santuz, A., Epro, G., Werth, J., Arampatzis, A., & **Karamanidis, K.** (2022). Differences in muscle synergies among recovery responses limit inter-task generalisation of stability performance. *Human Movement Science*, 82: 102937.
4. Werth, J., Epro, G., König, M., Santuz, A., Seeley, J., Arampatzis, A., **Karamanidis, K.** (2022). Differences in motor response to stability perturbations limit fall-resisting skill transfer. *Scientific Reports*, 12;1:21901.
5. Weber, A., Hartmann, U., Werth, J., Epro, G., Seeley, J., Nickel, P. and **Karamanidis, K.** (2022). Limited transfer and retention of locomotor adaptations from virtual reality obstacle avoidance to the physical world. *Scientific Reports*, 12;10: 19655.
6. **Karamanidis K.**, Epro G., McCrum C. & König M. (2020). Improving Trip-and Slip-Resisting Skills in Older People: Perturbation Dose Matters. *Exercise and Sport Sciences Reviews*, 48;1:40-47.
7. McCrum C., **Karamanidis K.**, Grevendonk L., Zijlstra W. & Meijer K. (2019). Older adults demonstrate interlimb transfer of reactive gait adaptations to repeated unpredictable gait perturbations. *GeroScience*, 1-11.
8. König M., Epro G., Seeley J., Potthast W. & **Karamanidis K.** (2019). Retention and generalizability of balance recovery response adaptations from trip perturbations across the adult life span. *Journal of Neurophysiology*, 122;5:1884-1893.
9. Epro G., Mierau A., McCrum C., Leyendecker M., Brüggemann G.-P. & **Karamanidis K.** (2018). Retention of gait stability improvements over 1.5 years in older adults: effects of perturbation exposure and triceps surae neuromuscular exercise. *Journal of Neurophysiology*, 119;6:2229-2240.
10. Epro G., McCrum C., Mierau A., Leyendecker M., Brüggemann G.-P. & **Karamanidis K.** (2018). Effects of triceps surae muscle strength and tendon stiffness on the reactive dynamic stability and adaptability of older female adults during perturbed walking. *Journal of Applied Physiology*, 124;6:1541-1549.