

Stanford



Nicos Haralabidis

Postdoctoral Scholar, Bioengineering

Bio

BIO

My research interests lie within both sports and clinical biomechanics applications. I rely upon merging conventional biomechanical in vivo measurements together with state-of-the-art musculoskeletal modeling and optimal control simulation approaches. The integrative approach I take enables me to understand how an individual may run faster, jump further, walk following surgery or intervention, and simultaneously estimate internal body dynamics noninvasively. As a Postdoctoral Research Scholar within the Wu Tsai Human Performance Alliance I aim to explore how stochastic optimal control and reinforcement learning methods can be applied to further our understanding of sporting performance.

INSTITUTE AFFILIATIONS

- Member, Wu Tsai Human Performance Alliance

HONORS AND AWARDS

- Estimating spinal loads from IMUs using direct collocation - Advanced OpenSim Workshop Travel Award, Stanford University (March 2020)
- Future Research Leaders - Internationalisation Funding Scheme, University of Bath and Polytechnic University of Catalonia (April 2019)

PROFESSIONAL EDUCATION

- Bachelor of Science, Manchester Metropolitan Univ (2014)
- Doctor of Philosophy, University of Bath (2021)
- Master of Science, Loughborough University (2015)
- Ph.D., University of Bath , Biomechanics (2021)
- M.S., Loughborough University , Biomechanics (2015)
- B.S., Manchester Metropolitan University , Exercise and Sport Science (2014)

STANFORD ADVISORS

- Scott Delp, Postdoctoral Faculty Sponsor

Publications

PUBLICATIONS

- **Three-dimensional data-tracking simulations of sprinting using a direct collocation optimal control approach** *PEERJ*
Haralabidis, N., Serranoli, G., Colyer, S., Bezodis, I., Salo, A., Cazzola, D.
2021; 9: e10975
- **Fusing Accelerometry with Videography to Monitor the Effect of Fatigue on Punching Performance in Elite Boxers** *SENSORS*

Haralabidis, N., Saxby, D., Pizzolato, C., Needham, L., Cazzola, D., Minahan, C.

2020; 20 (20)

● **Mechanical and morphological determinants of peak power output in elite cyclists** *SCANDINAVIAN JOURNAL OF MEDICINE & SCIENCE IN SPORTS*

Kordi, M., Folland, J., Goodall, S., Haralabidis, N., Maden-Wilkinson, T., Patel, T., Leeder, J., Barratt, P., Howatson, G.

2020; 30 (2): 227-237

● **Reliability and validity of depth camera 3D scanning to determine thigh volume** *JOURNAL OF SPORTS SCIENCES*

Kordi, M., Haralabidis, N., Huby, M., Barratt, P. R., Howatson, G., Wheat, J.

2019; 37 (1): 36-41