

Professor Samuele Maria Marcora

CONTACT INFORMATION

PERSONAL INFORMATION

UNIVERSITY EDUCATION

- 2005 PhD in Exercise Physiology, University of Wales, Bangor, UK
- 1997 Master of Science in Human Performance, University of Wisconsin-La Crosse, USA
- 1995 First Class Degree in Physical Education, Higher Institute of Physical Education of Lombardy, Milan, Italy

ACADEMIC POSITIONS

- 2018-present Professor of Sports Science
Department of Biomedical and NeuroMotor Sciences (DiBiNeM)
University of Bologna, Italy.
- 2010-2019 Professor of Exercise Physiology
School of Sport and Exercise Sciences (SSES)
University of Kent, UK
- 2007-2010 Senior Lecturer in Exercise Physiology
School of Sport, Health and Exercise Sciences (SSHES)
Bangor University, UK
- 2001-2007 Lecturer in Exercise Physiology
SSHES
Bangor University, UK

MANAGEMENT AND LEADERSHIP ROLES

- 2018-present Coordinator of the Sport Performance and Exercise Psychobiology Group,
DiBiNeM, University of Bologna, Italy
- 2010-2018 Director of Research, SSES, University of Kent, UK
- 2008-2010 Deputy Head of School for Research, SSHES, Bangor University, UK

2007-2008	Head of Year 2 Teaching, SSHES, Bangor University, UK
2004-2006	Head of Year 1 Teaching, SSHES, Bangor University, UK
2001-2004	Open Days and Welcome Week Coordinator, SSHES, Bangor University, UK

TEACHING

Over the years, I taught the following undergraduate modules:

- Introduction to the Human Body (basic anatomy and physiology);
- Sport and Exercise Physiology;
- Research Skills (research design and statistics);
- Kinanthropometry;
- Physiology Lab Techniques;
- Exercise Rehabilitation;
- Lifespan Active Health;
- Physiology of Elite Performance;
- Sport and Exercise Psychology;

At postgraduate level, I taught the following modules:

- Research Methods;
- Performance Physiology;
- Advanced Strength Training Methods;
- Clinical Exercise Physiology;
- Physiological Assessment;
- Disability and Rehabilitation;
- Sport and Exercise Psychology;
- Sport Physiology;
- Sports Training;
- Advanced Strength Training and Conditioning..
- Physiology Applied to Preventive and Adapted Physical Activity;
- Acute and Chronic Responses to Exercise.

I developed the following modules:

- Introduction to the Human Body;
- Sport, Physical Activity and Health: an Interdisciplinary Approach.

I was member of the task groups that developed the following courses:

- All undergraduate curricula introduced in Bangor in 2006 and 2007;
- Master of Science in Exercise Rehabilitation introduced in Bangor in 2006;
- Laurea Magistrale (Master) in Wellness, Sport and Health introduced in Bologna in 2021.

I supervised dozens of undergraduate research projects and Master Theses. Furthermore, I supervised to completion the following postgraduate research students:

1. Chiara Gattoni (PhD, University of Kent, 2019)
2. Hawkar Salar Ahmed (PhD, University of Kent, 2018)
3. Joel Chidley (PhD, University of Kent, 2018)
4. Paul Anstiss (PhD, University of Kent, 2018)
5. Hawbeer Salam (PhD, University of Kent, 2017)
6. André Filipe Santos Magalhães (PhD, University of Kent, 2017)

7. Alister McCormick (PhD, University of Kent, 2016)
8. Akram Mohamed Amin (PhD, University of Kent, 2015)
9. Benjamin Pageaux (PhD, University of Kent, 2014)
10. Anthony Blanchfield (PhD, Bangor University, 2014)
11. Walter Staiano (PhD, Bangor University, 2013)
12. Helma de Morree (PhD, Bangor University, 2011)
13. Sally Wilson (PhD, Bangor University, 2011)
14. Francesco Casanova (PhD, Bangor University, 2009)
15. Franco Impellizzeri (PhD, NTNU-Trondheim, 2009)
16. Andrea Bosio (PhD, Bangor University, 2009)
17. Jamie MacDonald (PhD, Bangor University, 2007)
18. Katherine Chester (MPhil, Bangor University, 2006)

I have externally examined the following doctoral students:

- Neil Paul Dallaway (PhD, University of Birmingham, 2020)
- Daryl South (PhD, Charles Sturt University, 2018)
- Ross Beaumont (PhD, Loughborough University, 2017)
- Joséphine Stanek (PhD, University of Geneva, 2016)
- José Luiz Dantas (PhD, University “G. D’Annunzio” of Chieti and Pescara, 2015)
- Sara Di Filippo (PhD, University “G. D’Annunzio” of Chieti and Pescara, 2015)
- Claudia Frangella (PhD, University of Rome “Foro Italico”, 2012)
- Cosme Buzzachera (PhD, University of Rome “Foro Italico”, 2012)
- Roberto Marcantonio (PhD, University of Rome “Foro Italico”, 2012)
- Erika Montuori (PhD, University of Rome “Foro Italico”, 2012)
- Aukje de Vrijer (PhD, University of Verona, 2011)
- Massimo Venturelli (PhD, University of Verona, 2011)
- Emma Hawke (PhD, University of Verona, 2011)
- Gabriela Fernanda De Roia (PhD, University of Verona, 2011)
- Patricia K Addamo (PhD, Monash University, Australia, 2011)

MANAGEMENT

As coordinator of the Sport Performance and Exercise Psychobiology Group at the University of Bologna, I provide leadership in research to doctoral students, postdocs and academic colleagues in the field of sport and exercise sciences.

As Director of Research at Bangor University and the University of Kent, I provided leadership in research and I was responsible for the management of various research-related activities within the department. These activities include:

- Advising the Head of School for all matters related to research, innovation and enterprise;
- Developing the department Research Strategy;
- Heading the department Research and Enterprise Working Group;
- Stimulating individual and collaborative research and grant applications;
- Internal peer-review of grant applications;
- Mentoring early career researchers and lecturers;
- Monitoring research performance of individual members of staff and the School overall;
- Preparing for the Research Excellence Framework (REF);
- Representing the School at Faculty and University level during strategic meetings and other activities related to research, including large collaborative grant applications.

RESEARCH

Research interests

During my PhD and the beginning of my academic career, my main research interest was the pathophysiology, assessment, and treatment of muscle wasting in chronic disease (cachexia). I also had a productive collaboration with the MAPEI Sport Service Centre in Italy where I supervised various studies in sports physiology applied to soccer and cycling.

Since my sabbatical at the School of Psychology at Bangor University in 2006, I have changed research direction and followed an interdisciplinary approach that integrates human physiology with motivation psychology and cognitive neuroscience. The aim of this programme of research is to better understand the psychobiology of fatigue in health and disease. Current projects include the psychobiology of endurance performance, the role of perceived effort in regulating physical activity behaviour in the general population, the neurophysiology of perceived effort, and innovative interventions to reduce fatigue in athletes, soldiers, motorbike riders, and patients affected by a variety of chronic disease like cancer and its therapy, chronic kidney disease, and rheumatoid arthritis.

Publications

My research has been published in the leading international journals in a variety of disciplines including **Sports Sciences** and **Physiology** (Journal of Applied Physiology; American Journal of Physiology-Integrative, Regulatory and Comparative Physiology; Medicine and Science in Sports and Exercise; Sports Medicine), **Biological Psychology** (Biological Psychology and Psychophysiology), **Rheumatology** (Arthritis and Rheumatism/Arthritis Care and Research; Rheumatology; Journal of Rheumatology), **Nephrology** (American Journal of Kidney Diseases; Nephrology, Dialysis and Transplantation), and **Nutrition and Dietetics** (American Journal of Clinical Nutrition). This publication record demonstrates factually my interdisciplinary and multidisciplinary research profile.

Since publishing my Master's Theses in 2000, I have accumulated an **H-index 55** with a total citations count of 14645 (source Google Scholar, 02/06/2021). For a full and up-to-date bibliometric profile follow this link:

<https://scholar.google.co.uk/citations?user=6xZXMqAAAAAJ&hl=en>

ORIGINAL RESEARCH ARTICLES AND REVIEWS BY RESEARCH AREA

Physiology, Psychobiology and Sports Science

1. Jeffries AC, Marcora SM, Coutts AJ, Wallace L, McCall A, Impellizzeri FM. Development of a Revised Conceptual Framework of Physical Training for Use in Research and Practice. **Sports Medicine**, (published online ahead of print).
2. Meijen C, McCormick A, Anstiss A, Marcora SM. Short and Sweet': A Randomized Controlled Initial Investigation of Brief Online Psychological Interventions with Endurance Athletes. **The Sport Psychologist**. 2021, (published online ahead of print).
3. Gattoni C, O'Neill BV, Tarperi C, Schena F, Marcora SM. The Effect of Mental Fatigue on Half-Marathon Performance: a Pragmatic. **Sport Sciences for Health**. 2021; 17: 807–816..
4. Ahmed HS, Marcora SM, Dixon D, Davison G. The Effect of a Competitive Futsal Match on Psychomotor Vigilance in Referees. **International Journal of Sports Physiology and Performance**. 2020; 15 (9): 1297-1302.
5. Merlini M, Whyte G, Marcora S, Loosemore M, Chester N, Dickinson J. Improved Sprint Performance With Inhaled Long-Acting β 2-Agonists Combined With Resistance Exercise.

- International Journal of Sports Physiology and Performance**. 2019, 14(10): 1344-1349.
6. Nicolò A, Marcora SM, Sacchetti M. Time to reconsider how ventilation is regulated above the respiratory compensation point during incremental exercise. **Journal of Applied Physiology**. 2020; 128(5): 1447-1449.
 7. Merlini M, Beato M, Marcora S, Dickinson J. The Effect of 1600 µg Inhaled Salbutamol Administration on 30 m Sprint Performance Pre and Post a Yo-Yo Intermittent Running Test in Football Players. **Journal of Sports Science and Medicine**. 2019; 18(4): 716–721.
 8. Angius L, Santarnecchi E, Pascual-Leone A, Marcora SM. Transcranial Direct Current Stimulation over the Left Dorsolateral Prefrontal Cortex Improves Inhibitory Control and Endurance Performance in Healthy Individuals. **Neuroscience**. 2019; 419: 34–45.
 9. Smith MR, Chai R, Nguyen HT, Marcora SM, Coutts AJ. Comparing the Effects of Three Cognitive Tasks on Indicators of Mental Fatigue. **Journal of Psychology**. 2019; 153(8): 759–783.
 10. Van Cutsem J, Roelands B, De Pauw K, Meeusen R, Marcora S. Subjective thermal strain impairs endurance performance in a temperate environment. **Physiology and Behavior**. 2019; 202: 36–44.
 11. Angius L, Marcora SM, Hopker JG, Mauger AR. The Effect of Anodal Transcranial Direct Current Stimulation Over Left and Right Temporal Cortex on the Cardiovascular Response: A Comparative Study. **Frontiers in Physiology**. 2018; 9: 1822.
 12. Impellizzeri FM, Marcora SM, Coutts AJ. Internal and External Training Load: 15 Years On. **International Journal of Sports Physiology and Performance**. 2019; 14(2): 270–273.
 13. Staiano W, Bosio A, de Morree HM, Rampinini E, Marcora S. The cardinal exercise stopper: Muscle fatigue, muscle pain or perception of effort? **Progress in Brain Research**. 2018; 240: 175–200.
 14. Nindl BC, Billing DC, Drain JR, Beckner ME, Greeves J, Groeller H, Teien HK, Marcora S, Moffitt A, Reilly T, Taylor NAS, Young AJ, Friedl KE. Perspectives on resilience for military readiness and preparedness: Report of an international military physiology roundtable. **Journal of Science and Medicine in Sport**. 2018; 21(11): 1116-1124.
 15. Smith MR, Thompson C, Marcora SM, Skorski S, Meyer T, Coutts AJ. Mental Fatigue and Soccer: Current Knowledge and Future Directions. **Sports Medicine**. 2018; 48(7): 1525-1532.
 16. Saville CWN, de Morree HM, Dundon NM, Marcora SM, Klein C. Effects of caffeine on reaction time are mediated by attentional rather than motor processes. **Psychopharmacology (Berl)**. 2018; 235(3): 749-759.
 17. Van Cutsem J, De Pauw K, Marcora S, Meeusen R, Roelands B. A caffeine-maltodextrin mouth rinse counters mental fatigue. **Psychopharmacology (Berl)**. 2018; 235(4): 947-958.

18. Salam H, Marcora SM, Hopker JG. The effect of mental fatigue on critical power during cycling exercise. **European Journal of Applied Physiology**. 2018; 118(1): 85-92.
19. Angius L, Mauger AR, Hopker J, Pascual-Leone A, Santarnecchi E, Marcora SM. Bilateral extracephalic transcranial direct current stimulation improves endurance performance in healthy individuals. **Brain Stimulation**. 2018; 11(1): 108-117.
20. Nicolò A, Marcora SM, Bazzucchi I, Sacchetti M. Differential control of respiratory frequency and tidal volume during high-intensity interval training. **Experimental Physiology**. 2017; 102(8): 934-949.
21. Van Cutsem J, De Pauw K, Buyse L, Marcora S, Meeusen R, Roelands B. Effects of Mental Fatigue on Endurance Performance in the Heat. **Medicine and Science in Sports and Exercise**. 2017; 49(8): 1677-1687.
22. Van Cutsem J, Marcora S, De Pauw K, Bailey S, Meeusen R, Roelands B. The Effects of Mental Fatigue on Physical Performance: A Systematic Review. **Sports Medicine**. 2017; 47(8): 1569-1588.
23. Smirmaul BP, de Moraes AC, Angius L, Marcora SM. Effects of caffeine on neuromuscular fatigue and performance during high-intensity cycling exercise in moderate hypoxia. **European Journal of Applied Physiology**. 2017; 117(1): 27-38.
24. Angius L, Pageaux B, Hopker J, Marcora SM, Mauger AR. Transcranial direct current stimulation improves isometric time to exhaustion of the knee extensors. **Neuroscience**. 2016; 339: 363-75.
25. Pageaux B, Lepers R, Marcora SM. Reliability of a novel high intensity one leg dynamic exercise protocol to measure muscle endurance. **PLoS One**. 2016; 11(10): e0163979.
26. Hopker JG, Caporaso G, Azzalin A, Carpenter R, Marcora SM. Locomotor Muscle Fatigue Does Not Alter Oxygen Uptake Kinetics during High-Intensity Exercise. **Frontiers in Physiology**. 2016; 7: 463.
27. Martin K, Staiano W, Menaspà P, Hennessey T, Marcora S, Keegan R, Thompson KG, Martin D, Halson S, Rattray B. Superior inhibitory control and resistance to mental fatigue in professional road cyclists. **PLoS One**. 2016; 11(7): e0159907.
28. Nicolò A, Marcora SM, Sacchetti M. Respiratory frequency is strongly associated with perceived exertion during time trials of different duration. **Journal of Sports Sciences**. 2016; 34(13): 1199-206.
29. Smith MR, Coutts AJ, Merlini M, Deprez D, Lenoir M, Marcora SM. Mental fatigue impairs soccer-specific physical and technical performance. **Medicine and Science in Sports and Exercise**. 2016; 48(2): 267-76.
30. Angius L, Hopker JG, Marcora SM, Mauger AR. The effect of transcranial direct current stimulation of the motor cortex on exercise-induced pain. **European Journal of Applied Physiology**. 2015; 115(11): 2311-9.
31. McCormick A, Meijen C, Marcora S. Psychological determinants of whole-body endurance performance. **Sports Medicine**. 2015; 45(7): 997-1015.
32. Pageaux B, Angius L, Hopker JG, Lepers R, Marcora SM. Central alterations of neuromuscular function and feedback from group III-IV muscle afferents following

- exhaustive high-intensity one-leg dynamic exercise. **American Journal of Physiology-Regulatory, Integrative and Comparative Physiology**. 2015; 308(12): R1008-20.
33. Smith MR, Marcora SM, Coutts AJ. Mental fatigue impairs intermittent running performance. **Medicine and Science in Sports and Exercise**. 2015; 47(8): 1682-90.
 34. Pageaux B, Marcora SM, Rozand V, Lepers R. Mental fatigue induced by prolonged self-regulation does not exacerbate central fatigue during subsequent whole-body endurance exercise. **Frontiers in Human Neuroscience**. 2015; 9: 67.
 35. de Morree HM, Klein C, Marcora SM. Cortical substrates of the effects of caffeine and time-on-task on perception of effort. **Journal of Applied Physiology**. 2014; 117(12): 1514-23.
 36. Li L, Witon A, Marcora S, Bowman H, Mandic DP. EEG-based brain connectivity analysis of states of unawareness. **Conference Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society**. 2014; 1002-5.
 37. Blanchfield AW, Hardy J, Marcora SM. Non-conscious visual cues related to affect and action alter perception of effort and endurance performance. **Frontiers in Human Neuroscience**. 2014; 8: 967.
 38. Rozand V, Pageaux B, Marcora SM, Papaxanthis C, Lepers R. Does mental exertion alter maximal muscle activation? **Frontiers in Human Neuroscience**. 2014; 8: 755.
 39. Blanchfield AW, Hardy J, De Morree HM, Staiano W, Marcora SM. Talking yourself out of exhaustion: the effects of self-talk on endurance performance. **Medicine and Science in Sports and Exercise**. 2014; 46(5): 998-1007.
 40. Pageaux B, Lepers R, Dietz KC, Marcora SM. Response inhibition impairs subsequent self-paced endurance performance. **European Journal of Applied Physiology**. 2014; 114(5): 1095-105.
 41. Pageaux B, Marcora SM, Lepers R. Prolonged Mental Exertion Does Not Alter Neuromuscular Function of the Knee Extensors. **Medicine and Science in Sports and Exercise**. 2013; 45(12): 2254-64.
 42. de Morree HM and Marcora SM. Effect of locomotor muscle fatigue on time trial performance. **European Journal of Applied Physiology**. 2013; 113(9): 2371-80.
 43. de Morree HM, Klein C, Marcora SM. Perception of effort reflects central motor command during movement execution. **Psychophysiology**. 2012; 49(9): 1242-53.
 44. de Morree HM, Marcora SM. Frowning muscle activity and perception of effort during constant-workload cycling. **European Journal of Applied Physiology**. 2012; 112(5): 1967-72.
 45. De Morree HM and Marcora SM. The Face of effort: frowning muscle activity reflects effort during a physical task. **Biological Psychology**. 2010; 85(3): 377-82.
 46. Marcora SM, Staiano W. The limits to exercise tolerance in humans: mind over muscle? **European Journal of Applied Physiology**. 2010; 109(4): 763-70.

47. Marcora SM. Counterpoint: Afferent feedback from fatigued locomotor muscles is not an important determinant of endurance exercise performance. **Journal of Applied Physiology**. 2010; 108(2): 454-7, discussion 456-7.
48. Impellizzeri FM, Marcora SM. Test validation in sport physiology: lessons learned from clinimetrics. **International Journal of Sports Physiology and Performance**. 2009; 4(2): 269-77.
49. Ferasin L, Marcora S. Reliability of an incremental exercise test to evaluate acute blood lactate, heart rate and body temperature responses in Labrador retrievers. **Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology**. 2009; 179(7): 839-45.
50. Coutts AJ, Rampinini E, Marcora SM, Castagna C, Impellizzeri FM. Heart rate and blood lactate correlates of perceived exertion during small-sided soccer games. **Journal of Science and Medicine in Sport**. 2009; 12(1): 79-84.
51. Marcora SM. Perception of effort during exercise is independent of afferent feedback from skeletal muscles, heart and lungs. **Journal of Applied Physiology**. 2009; 106(6):2060-2.
52. Marcora SM, Staiano W, Manning V. Mental fatigue impairs physical performance in humans. **Journal of Applied Physiology**. 2009; 106(3): 857-64.
53. Marcora SM, Bosio A, de Morree HM. Locomotor muscle fatigue increases cardiorespiratory responses and reduces performance during intense cycling exercise independently from metabolic stress. **American Journal of Physiology-Regulatory, Integrative and Comparative Physiology**. 2008; 294(3): R874-83.
54. Macdonald JH, Farina D, Marcora SM. Response of electromyographic variables during incremental and fatiguing cycling. **Medicine and Science in Sports and Exercise**. 2008; 40(2): 335-44.
55. Amann M, Hopkins WG, Marcora SM. Similar sensitivity of time to exhaustion and time trial time to changes in endurance. **Medicine and Science in Sports and Exercise**. 2008; 40(3): 574-8.
56. Marcora SM and Bosio A. Effect of exercise-induced muscle damage on endurance running performance. **Scandinavian Journal of Medicine and Science in Sports**. 2007; 17(6): 662-71.
57. Impellizzeri FM, Rampinini E, Maffiuletti N, Marcora SM. A vertical jump force test for assessing bilateral strength asymmetry in athletes. **Medicine and Science in Sports and Exercise**. 2007; 39(11): 2044–50.
58. Impellizzeri FM and Marcora SM. The physiology of mountain biking. **Sports Medicine**. 2007; 37(1): 59-71.
59. Rampinini E, Impellizzeri FM, Castagna C, Abt G, Chamari K, Sassi A, Marcora SM. Factors influencing physiological responses to small-sided soccer games. **Journal of Sports Sciences**. 2007; 25(6): 659-66.
60. Rampinini E, Bishop D, Marcora SM, Ferrari Bravo D, Sassi R, Impellizzeri FM. Validity of simple field tests as indicators of match-related physical performance in top-level professional soccer players. **International Journal of Sports Medicine**. 2007; 28(3): 228-35.

61. Sassi A, Marcora SM, Rampinini E, Mognoni P and Impellizzeri FM. Prediction of time to exhaustion from blood lactate response during submaximal exercise in competitive cyclists. **European Journal of Applied Physiology**. 2006; 97(2): 174-80.
62. Impellizzeri FM, Marcora SM, Castagna C, Reilly T, Sassi A, Iaia FM, Rampinini E. Physiological and Performance Effects of Generic versus Specific Aerobic Training in Soccer Players. **International Journal of Sports Medicine**. 2006; 27(6): 483-92.
63. Impellizzeri FM, Marcora SM, Rampinini E, Mognoni P, Sassi A. Correlations between physiological variables and performance in high level cross country off road cyclists. **British Journal of Sports Medicine**. 2005; 39(10): 747-51.
64. Impellizzeri FM, Rampinini E, Sassi A, Mognoni P, Marcora S. Physiological correlates to off-road cycling performance. **Journal of Sports Sciences**. 2005; 23(1): 41-7.
65. Impellizzeri FM, Rampinini E, Marcora SM. Physiological assessment of aerobic training in soccer. **Journal of Sports Sciences**. 2005; 23(6): 583-92.
66. La Torre A, Impellizzeri FM, Rampinini E, Casanova F, Alberti G, Marcora SM. Cardiovascular responses to aerobic step dance sessions with and without appendicular overload. **Journal of Sports Medicine and Physical Fitness**. 2005; 45(3): 264-9.
67. Impellizzeri FM, Rampinini E, Coutts AJ, Sassi A, Marcora SM. Use of RPE-based training load in soccer. **Medicine and Science in Sports and Exercise**. 2004; 36(6): 1042-7.
68. Impellizzeri F, Sassi A, Rodriguez-Alonso M, Mognoni P, Marcora S. Exercise intensity during off-road cycling competitions. **Medicine and Science in Sports and Exercise**. 2002; 34(11): 1808-13.
69. Marcora S, Miller MK. The effect of knee angle on the external validity of isometric measures of lower body neuromuscular function. **Journal of Sports Sciences**. 2000; 18(5): 313-9.

Clinical research

70. Dyer J, Davison G, Marcora SM, Mauger AR. Effect of a Mediterranean type diet on inflammatory and cartilage degradation biomarkers in patients with osteoarthritis. **The Journal of Nutrition, Health & Aging**. 2017; 21(5): 562-6.
71. Laviolette L, Laveneziana P; ERS Research Seminar Faculty. Dyspnoea: a multidimensional and multidisciplinary approach. **European Respiratory Journal**. 2014; 43(6): 1750-62.
72. Macdonald JH, Fearn L, Jibani M, Marcora SM. Exertional fatigue in patients with chronic kidney disease. **American Journal of Kidney Diseases**. 2012; 60(6): 930-9.
73. Lemmey AB, Williams SL, Marcora SM, Jones J, Maddison PJ. Are the benefits of a high-intensity progressive resistance training program sustained in rheumatoid arthritis patients? A 3 year follow-up study. **Arthritis Care and Research**. 2012; 64(1): 71-5.
74. Sartor F, de Morree HM, Matschke V, Marcora SM, Milousis A, Thom JM, Kubis HP. High-intensity exercise and carbohydrate-reduced energy-restricted diet in obese individuals. **European Journal of Applied Physiology**. 2010; 110(5): 893-903.

75. Lemmey AB, Marcora SM, Chester K, Wilson S, Casanova F, Maddison PJ. Effects of high intensity resistance training in rheumatoid arthritis patients – a randomised, controlled trial. **Arthritis and Rheumatism/Arthritis Care and Research** 2009; 61(12): 1726-34.
76. Marcora SM, Casanova F, Fortes M, Maddison P. Validity and reliability of the Siconolfi step test for assessment of physical fitness in patients with systemic lupus erythematosus. **Arthritis and Rheumatism/Arthritis Care and Research**. 2007; 57(6): 1007-11.
77. Macdonald JH, Marcora SM, Jibani MM, Kumwenda MJ, Ahmed W, Lemmey AB. Nandrolone decanoate as anabolic therapy in chronic kidney disease: a randomized phase II dose-finding study. **Nephron Clinical Practice** 2007; 106(3): c125-35.
78. Ferasin L, Marcora S. A pilot study to assess the feasibility of a submaximal exercise test to measure individual response to cardiac medication in dogs with acquired heart failure. **Veterinary Research Communications**. 2007; 31(6): 725-37.
79. Macdonald JH, Marcora SM, Kumwenda MJ, Jibani M, Roberts G, Glover R, Barron J, Lemmey AB. Cystatin-C prediction of glomerular filtration rate is not independent from body composition in patients with chronic kidney disease. **American Journal of Kidney Diseases**. 2006; 48(5): 712-9.
80. Macdonald JH, Marcora SM, Kumwenda MJ, Jibani M, Roberts G, Glover R, Barron J, Lemmey AB. Bioelectrical impedance can be used to predict muscle mass and hence improve estimation of glomerular filtration rate in patients with chronic kidney disease. **Nephrology Dialysis and Transplantation**. 2006; 21(12): 3481-7.
81. Macdonald JH, Marcora SM, Kumwenda MJ, Jibani M, Roberts G, Glover R, Barron J, Lemmey AB. The relationship between estimated glomerular filtration rate, demographic and anthropometric variables is mediated by muscle mass in non-diabetic patients with chronic kidney disease. **Nephrology Dialysis and Transplantation**. 2006; 21(12): 3488-94.
82. Marcora S, Casanova F, Williams E, Jones J, Elamanchi R, Lemmey A. Preliminary evidence for cachexia in patients with well-established ankylosing spondylitis. **Rheumatology**. 2006; 45(11): 1385-8.
83. Marcora SM, Chester K, Mittal G, Lemmey AB, Maddison PJ. A randomised controlled trial of anti-TNF therapy for cachexia in patients with early rheumatoid arthritis. **American Journal of Clinical Nutrition**. 2006; 84(6): 1463-72.
84. Marcora S, Lemmey A, Maddison P. Dietary treatment of rheumatoid cachexia with beta-hydroxy-beta-methylbutyrate, glutamine and arginine: a randomised controlled trial. **Clinical Nutrition**. 2005; 24(3): 442-54.
85. Marcora SM, Lemmey AB, Maddison PJ. Can progressive resistance training reverse cachexia in patients with rheumatoid arthritis? Results of a pilot study. **Journal of Rheumatology**. 2005; 32(6): 1031-9.
86. Macdonald JH, Marcora SM, Jibani M, Phanish MK, Holly J, Lemmey AB. Intradialytic exercise as anabolic therapy in haemodialysis patients - a pilot study. **Clinical Physiology and Functional Imaging**. 2005; 25(2): 113-8.

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BOOKS AND BOOK CHAPTERS

88. Van Cutsem J, Marcora S. The Effects of Mental Fatigue on Sport Performance: An Update. In Chris Englert, Ian Taylor (editors), **Motivation and Self-regulation in Sport and Exercise**, Routledge, 2021.
89. Meijen C and Marcora S. An introduction to Endurance Performance in Sport: Psychological Theory and Interventions. In Carla Meijen (Editor), **Endurance Performance in Sport: Psychological Theory and Interventions**, Routledge, 2019.
90. Marcora S. Psychobiology of Fatigue during Endurance Exercise. In Carla Meijen (Editor), **Endurance Performance in Sport: Psychological Theory and Interventions**, Routledge, 2019.
91. de Morree HM and Marcora SM. Psychobiology of Perceived Effort during Physical Tasks. In: Guido Gendolla, Mattie Tops, Sander Koole (Editors), **Biobehavioral Foundations of Self-regulation**, Springer, 2015.
92. Lemmey AB, Elamanchi SR, Marcora SM, Casanova F, Maddison PJ. Efficacy of Nandrolone Decanoate in Treating Rheumatoid Cachexia in Male Rheumatoid Arthritis Patients. In Hiroaki Matsuno (Editor), **Innovative Rheumatology**, InTech, 2013.
93. de Morree HM and Marcora SM. Facial Electromyography as a Measure of Effort during Physical and Mental Tasks. In: Hiroki Takada (Editor), **Electromyography: New Developments, Procedures and Applications**, NOVA Publishers, 2012.
94. Marcora S. Perception of effort. In: E. Bruce Goldstein (Editor), **Encyclopedia of Perception**, SAGE Publications, 2010.

EDITORIALS AND LETTERS

95. Van Cutsem J, Roelands B, De Pauw K, Meeusen R, Marcora S. Combined reply to comments on: Van Cutsem, J., Roelands, B., De Pauw, K., Meeusen, R., & Marcora, S. (2019). Subjective thermal strain impairs endurance performance in a temperate environment. *Physiology & Behavior*, 202, 36-44. **Physiology & Behavior**. 2020; 221: 112880.
96. Nicolò A, Marcora SM, Sacchetti M. Last Word on Viewpoint: Time to reconsider how ventilation is regulated above the respiratory compensation point during incremental exercise. **Journal of Applied Physiology**; 2020, 128(5): 1456.
97. Marcora S, Sarkar M. Preface. **Progress in Brain Research**. 2018; 240: xxi–xxii.
98. Torday JS, Zuo L, Chuang CC, Huszczuk A, Poon CS, Del Rio R, Andrade DC, Schultz HD, Nicolò A, Sacchetti M, Marcora SM, Ward SA. Commentaries on Viewpoint: Precedence and autocracy in breathing control. **Journal of Applied Physiology**; 2015, 118(12): 1557-9.
99. Inzlicht M, Marcora SM. The central governor model of exercise regulation teaches us precious little about the nature of mental fatigue and self-control failure. **Frontiers in Psychology**. 2016; 7.

100. Marcora SM. Can Doping be a Good Thing? Using Psychoactive Drugs to Facilitate Physical Activity Behaviour. **Sports Medicine**. 2016; 46(1): 1-5.
101. Morales-Alamo D, Martin-Rincon M, Perez-Valera M, Marcora S, Calbet JA. No functional reserve at exhaustion in endurance-trained men? **Journal of Applied Physiology**. 2016; 120(4): 476.
102. Marcora SM. Role of feedback from Group III and IV muscle afferents in perception of effort, muscle pain, and discomfort. **Journal of Applied Physiology**. 2011; 110(5): 1499.
103. Marcora SM, Staiano W. Reply to: The parabolic power-velocity relationship does apply to fatigued states. **European Journal of Applied Physiology**. 2011; 111(4): 731-2.
104. Marcora SM and Staiano W. Reply to: What limits exercise during high-intensity aerobic exercise? **European Journal of Applied Physiology**. 2010; 110(3): 663-4.
105. Marcora SM and Staiano W. The power-velocity relationship does not apply to fatigued states. **European Journal of Applied Physiology**. 2010; 109(4): 787-8.
106. Marcora SM. Last Word on Viewpoint: Perception of effort during exercise is independent of afferent feedback from skeletal muscles, heart, and lungs. **Journal of Applied Physiology**. 2009; 106: 2067.
107. Marcora S. Last Word on Point:Counterpoint Afferent feedback from fatigued locomotor muscles is/is not an important determinant of endurance exercise performance. **Journal of Applied Physiology**. 2010; 108: 470.
108. Marcora SM. The rate of heat storage is not a sensed variable that influences exercise performance. **Journal of Applied Physiology**. 2009; 107(2): 633.
109. Marcora SM. VO_{2max} and exercise performance. **Journal of Applied Physiology**. 2009; 106(1): 344.
110. Marcora SM. Commentaries on viewpoint: Evidence that reduced skeletal muscle recruitment explains the lactate paradox during exercise at high altitude. **Journal of Applied Physiology**. 2009; 106(2): 739.
111. Marcora SM. Viewpoint: Fatigue mechanisms determining exercise performance: integrative physiology is systems physiology. **Journal of Applied Physiology**. 2008; 104(5): 1543.
112. Marcora SM. Do we really need a central governor to explain brain regulation of exercise performance? **European Journal of Applied Physiology**. 2008; 104(5): 929-31.
113. Marcora S. Is peripheral locomotor muscle fatigue during endurance exercise a variable carefully regulated by a negative feedback system? **Journal of Physiology**. 2008; 586(7): 2027-8.
114. Marcora S. Entia non sunt multiplicanda praeter necessitatem. **Journal of Physiology**. 2007; 578(1): 371.
115. Lemmey AB, Macdonald JH, Marcora SM, Jibani M. Muscle IGF-I levels in hemodialysis patients. **Kidney International**. 2005; 68(6): 2912.

116. Marcora S, Oliver S, Callow N, Lemmey A, Stuart N. Re: luteinizing hormone-releasing hormone agonist effects on skeletal muscle: how hormonal therapy in prostate cancer affects muscular strength. **Journal of Urology**. 2005; 174(5): 2068-9.
117. Phanish MK, Marcora SM, Lemmey AB. Malnutrition, chronic inflammation and atherosclerosis in dialysis patients. **Nephrology, Dialysis and Transplantation**. 2003; 18(2): 446.
118. Marcora S, Lemmey A, Maddison P. Probable adverse effects of long term use of somatostatin analogues in patients with RA. **Annals of the Rheumatic Diseases**. 2002; 61(12): 1117.

CONFERENCE ABSTRACTS

An extensive list of published conference abstracts is available on request.

External research and innovation funding

ASICS: € 74.500,00 (2021). Racing shoe evaluation.

Defence Science and Technology Laboratory/Ministry of Defence: £150,000 (2019). Brain endurance training to improve soldier resistance to fatigue and multitasking performance (Stage 2 with Royal Army).

Defence Science and Technology Laboratory/Ministry of Defence: £150,000 (2019). Brain endurance training to improve soldier resistance to fatigue and multitasking performance (Stage 2 with Royal Air Force).

Edelman: £22,500 (2019). Consultancy with regards to their ETERNAL RUN project with ASICS.

Defence Science and Technology Laboratory/Ministry of Defence: £222,130 (2018). Brain endurance training to improve soldier resistance to fatigue and multitasking performance (Stage 1).

Edelman: £6,653 (2018). Consultancy with regards to their BLACKOUT TRACK project with ASICS.

Defence Science and Technology Laboratory/Ministry of Defence: £80,000 (2018). TIN 2.115-Improving Operator Performance during Exposure to Stressful Environments: Understanding the Impact of Multi-Tasking.

Glaxo Smith Kline: £8,000 (2017). Psychobiology of endurance performance.

Honda Racing Corporation: £2,000 (2016). Physiological and cognitive testing of motorbike rally racers.

Fnatic: £500 (2016). Consultancy with regards to recruitment of a sport psychologists.

University of Kent Beacon Projects: £70,000 (2014). Beacon Project for Endurance.

Glaxo Smith Kline: £32,000 (2014). Brain endurance training to enhance elite performance.

UEFA: €17,000 (2013). The effects of mental fatigue on repeated sprint ability and cognitive performance in football players.

Arthritic Association: £100,000 (2013). Phase II Study on Efficacy of Arthritic Association Programmes.

Centre for Defence Enterprise/Ministry of Defence: £204,044 (2013). IED Threat Awareness: Brain Endurance Training to increase soldiers' resistance to cognitive fatigue (Phase II).

Arthritic Association: £10,000 (2012). Phase I Study on Efficacy of Arthritic Association Programmes.

Centre for Defence Enterprise/Ministry of Defence: £42,735 (2012). IED Threat Awareness: Brain Endurance Training to increase soldiers' resistance to cognitive fatigue (Phase I).

Ideas Factory, University of Kent: £9,976 (2010). A novel biofeedback instrument for commercial applications in sport and exercise.

University of Verona (Italy): £45,000 (2010). PhD studentship on psychobiology of physical activity.

CAEES and Londrina State University (Brasil): £40,000 (2010). One-year exchange fellowship on psychobiological aspects of exercise tolerance.

Pfizer: £51,939 + supply of Sutent = approx. £522,000 (2008). Psychophysiological mediators of physical fatigue in patients with renal cell carcinoma treated with Sutent.

North West Wales NHS trust: £4,172 (2007). Blood flow and muscle oxygen consumption during forearm exercise in patients with systemic lupus erythematosus.

North West Wales NHS trust: £5,000 (2007). Low-carbohydrate diet combined with high intensity aerobic interval training in insulin resistant, overweight people.

North West Wales NHS trust: £27,929 (2006). Two-year part-time postdoctoral fellowship on fatigue in chronic kidney disease.

North Wales Research Committee: £5,125 (2006) Effects of leg muscle weakness on exercise capacity, symptom intensity, and the physiological response to dynamic exercise.

Rheumatology Department, Gwynedd Hospital: £5,000 (2006) Exercise intolerance and fatigue in patients with systemic lupus erythematosus.

North West Wales NHS Trust: £5,000 (2005) Effects of adjuvant chemotherapy on the physiological and perceptual responses to exercise in breast cancer patients: a randomised controlled trial.

North Wales Central R&D Committee: £2,157 (2004) Estimating glomerular filtration rate using measured muscle mass.

North Wales Central R&D Committee: £13,374 (2004) Nandrolone decanoate: a dose response curve in patients with renal failure.

North Wales Health and Social Care R&D Collaboration: £3,000 (2004) Nandrolone decanoate, a dose response curve in patients with chronic renal failure.

Arthritis Research Campaign (ARC): £57,948 (2004) Effects of resistance training in cachectic rheumatoid arthritis patients.

Organon: supply of nandrolone decanoate and placebo = £20,620 (2004) Nandrolone decanoate as adjunct therapy in patients with rheumatoid arthritis; Nandrolone decanoate: a dose response curve in patients with renal failure.

National Kidney Research Fund: £26,750 (2004) Estimating glomerular filtration rate using measured muscle mass.

North West Wales NHS Trust: £5,000 (2004) Investigation of growth hormone insensitivity in rheumatoid arthritis patients by IGF-I and IGFBP-3 generation tests.

University of Milan: £17,703 (2004) Two-year postgraduate bursary for Mr. Andrea Bosio.

Faculty of Exercise Sciences, University of Milan £820 (2004) Exercise-induced muscle damage impairs endurance running performance in humans.

Lupus UK: £45,384 (2004) Physiological causes of poor aerobic capacity and fatigue in systemic lupus erythematosus.

North West Wales NHS Trust: £2,000 (2003) Physiological and psychological effects of resistance training in prostate cancer patients undergoing androgen deprivation therapy.

Kidney Patient Association: £300 (2003) Effect of aerobic exercise training on muscle wasting and IGF and TNF-alpha status in haemodialysis patients.

Fresenius Medical Care: £4,100 (2002) Body composition and functional capacity in dialysis patients.

Wyeth Pharmaceuticals: supply of Etanercept (£56,000) + grant (£59,000) = £115,000 (2002) The role of anti-TNF therapy with etanercept in the prevention of rheumatoid cachexia.

North West Wales NHS Trust: Ross Research Fellowship: £58,000 (2002) Prevention of muscle loss in rheumatoid arthritis and other chronic disorders.

North West Wales NHS Trust: £6,450 (2002) Effect of aerobic exercise training on muscle wasting and IGF and TNF-alpha status in haemodialysis patients.

Kidney Patient Association: £1,500 (2002) Effect of aerobic exercise training on muscle wasting and IGF and TNF-alpha status in haemodialysis patients.

North Wales Health and Social Care R&D Collaboration: £5,000 (2002) Effects of exercise training on muscle wasting, functional capacity and IGF/TNF-alpha status in sarcopenic haemodialysis patients.

MTI BioTech: supply of Juven and placebo = £20,000 (2001) Anabolic effects of a nutritional mixture of β -hydroxy β -methylbutyrate (HMB), arginine and lysine in rheumatoid arthritis patients.

Wales Office of Research and Development for Health and Social Care (WORD): £3,000 (2001) Effects of resistance training in cachectic rheumatoid arthritis patients.

Medical Research Council (MRC): Joint Research Equipment Initiative £16,290 (2001) i) Humoral mediators of muscle wasting in rheumatoid arthritis (RA) ii) Effects of resistance training in cachectic RA patients iii) Effects of a nutritional mixture of HMB, glutamine and arginine in RA patients.

Invited talks

Fatigue and chronic disease, the most important symptom to overcome? “Living well with kidney disease” Event, Royal Society of Medicine, UK, 21 May 2021.

Psychobiology of Endurance Performance. XVIII Congresso Brasileiro de Psicologia do Esporte e Exercício (CONBIPE) e XI International Congress of Sport and Exercise Psychology (ICSEP), Brazil, 29 November 2020.

Perception of Effort and Endurance Performance. 2020 Endurance Coaching Summit (ECS), USA (online), 18 November 2020.

Psychobiology of Endurance Performance. The Sea of Galilee Tiberias Marathon Sports Medicine Workshop, Tiberias, Israel, 1 January 2020.

Psychobiology of Physical Activity Behaviour. Annual Meeting of the Israel Society of Sports Medicine, Tel Aviv, Israel, 31 December 2019.

The limits to endurance performance in humans: mind over muscle? Annual Meeting of the Israel Society of Sports Medicine, Tel Aviv, Israel, 31 December 2019.

Psychobiology of Endurance Performance. Czech Sport Psychology Association Conference, Prague, Czech Republic, 29 November 2019.

Psychobiological interventions to facilitate exercise in physically inactive adults. XI National Congress of the Italian Sport and Movement Sciences Society (SISMES), Bologna, Italy, 28 September 2019.

Keynote: The limits to endurance performance in humans: mind over muscle? 50th Congress of the European Federation of Sport Psychology Associations (FEPSAC), Munster, Germany, 19 July 2019.

Resisting the urge to stop during intense endurance exercise: Interdisciplinary directions in research + intervention development. 50th Congress of the European Federation of Sport Psychology Associations (FEPSAC), Munster, Germany, 19 July 2019.

Psychobiology of pace self-regulation (pacing) during endurance competitions. 50th Congress of the European Federation of Sport Psychology Associations (FEPSAC), Munster, Germany, 18 July 2019.

Resist the urge to stop in endurance activities: research-evaluated endurance strategies intending to support training. 50th Congress of the European Federation of Sport Psychology Associations (FEPSAC), Munster, Germany, 16 July 2019.

Psychobiology of Endurance Performance, University of Verona, Verona, Italy, 13 April 2019.

The limits to endurance performance in humans: Mind over muscle? Vrije Universiteit Brussels, Brussels, Belgium, 6 April 2019.

Physical exercise, motivational psychology and cognitive neurosciences: a new path for Sports Medicine. XXXVI Congress of the Italian Sports Medicine Federation (FMSI), Rome, Italy, 28 March 2019.

Psychobiology of Endurance Performance, Cardiff University, Cardiff, UK, 22 January 2019.

Psychobiology of Fatigue. University of Genova, Savona, Italy, 16 December 2018.

The Psychobiological Model of Endurance Sport. BPS-Division of Sport and Exercise Psychology Conference, Belfast, UK, 3 December 2018.

Mental fatigue and human performance. Institut de Recherche Biomédicale des Armées (IRBA), Brétigny sur Orge Cedex, France, 16 November 2018.

Psychobiology of Physical Activity Behaviour. University of Leicester, Leicester, UK, 25 September 2018.

Psychobiology of Endurance Performance. Istituto di Scienza dello Sport, CONI, Rome, Italy, 19 September 2018.

Psychobiology of perceived effort during physical tasks: implications for obesity. 19th World Congress of Psychophysiology, IMT Institute for Advanced Studies, Lucca, Italy, 5 September 2018.

Psychobiology of physical activity behaviour. 32nd Annual Conference of the European Health Psychology Society, Galway, Ireland, 23 August 2018.

Pharmacological facilitation of physical activity behaviour. Tom Reilly Memorial Lecture: Physical activity and human enhancement drugs: a health hazard or a useful behaviour change technique? 23rd Annual Congress of the European College of Sport Science, Dublin, Ireland, 7 July 2018.

Psychobiology of Endurance Performance. Human Performance Summit, Southwest Research Institute (SwRI), San Antonio, Texas, USA, 30 June-1 July 2018.

Psychobiology of Endurance Performance. Annual Conference of the German Society for Sport Psychology, Koln, Germany, 12 May 2018.

Psychobiology of Endurance Performance. BASES Sport Performance Division Day 2018, Newman University, Birmingham, UK, 25 April 2018.

Psychobiology of Endurance Performance. University of Cape Town, Cape Town, South Africa, 16 March 2018.

Psychobiology of Physical Activity Behaviour. Rhodes University, Grahamstown, South Africa, 8 March 2018.

Psychobiology of Endurance Performance. Rhodes University, Grahamstown, South Africa, 6 March 2018.

Psychobiology of Endurance Performance. Plymouth Marjon University, Plymouth, UK, 9 February 2018.

The limit to exercise tolerance in humans: mind over muscle? 4th International Congress on Soldiers' Physical Performance, Melbourne Australia, 28 November-1 December 2017

Psychobiology of perception of effort during physical tasks. Department of Experimental Psychology, University of Oxford, Oxford, UK, 22 November 2017.

Psychobiology of Endurance Performance. University of Stirling, Stirling, UK, 8 November 2017.

Psychobiology of Endurance Performance. 17th ACAPS International Congress, Dijon, France, 29-31 October 2017.

Psychobiology of Endurance Performance. Symposium “Psychological Determinants of Endurance Performance”, University of Konstanz, Konstanz, Germany, 18 October 2017.

Optimising Load for the Nervous System: Managing Neural Fatigue. 2nd World Conference on Sports Physical Therapy - Optimal Loading in Sport, Belfast, UK, 6-7 October 2017.

Psychobiology of perception of effort during physical tasks. Royal Society Theo Murphy Meeting “Understanding the neurobiology of fatigue”, Newport Pagnell, UK, 18-19 September 2017.

Psychobiology of Endurance Performance. 20th Maccabiah International Conference of Medicine and Sport Sciences, Wingate Institute, Tel Aviv, Israel, June 29-July 1, 2017.

Psychobiology of Endurance Performance. BPS/BASES Workshop, University College London, London, UK, 24 June 2017.

Brain Endurance Training. HFI Symposium “Optimising the Human Component of Capability”, BAE Systems, Abbey Wood, UK, 22 June 2017.

Psychobiology of perception of effort during physical tasks. Behavioural Science Institute (BSI), Radboud University, Nijmegen, the Netherlands, 17 May 2017.

Psychobiology of physical activity behaviour. Human Physiology Research Group, Vrije Universiteit Brussel, Belgium, 15 May 2017.

Mental fatigue and sport performance. Institute for Sport and Preventive Medicine, Saarland University, Saarbruecken, Germany, 11 May 2017.

Psychobiology of endurance performance. The 35th London Marathon Medical Conference, UK, 22 April 2017.

Psychobiology of endurance performance. School of Sport and Exercise Sciences, Loughborough University, UK, 5 April 2017.

Mental fatigue and football. 4° Corso di Formazione Tecnici Juventus, Torino, Italy, 1 March 2017.

Perception of effort during physical tasks: implications for obesity. 2017 Society for Personality and Social Psychology (SPSP) Annual Convention, San Antonio, Texas, USA, 20 January 2017.

Psychobiology of self-regulation during physical tasks. Pre-conference Self-Regulation Meeting at 2017 SPSP Annual Convention, San Antonio, Texas, USA, 19 January 2017.

The effects of mental fatigue on long-term endurance performance. 2016 Division of Sport and Exercise Psychology (DSEP) Conference, Cardiff, UK, 12 December 2016.

Running fatigue: and the brain? Sportfisio 2016, Bern, Switzerland, 18 November 2016.

Effort-based decision-making during physical tasks in humans. Computational Cognitive Neuroscience Lab, Harvard University, Cambridge, Massachusetts, USA, 28 October 2016.

A New Psychobiological Model of Physical Activity Behaviour. Sargent College, Boston University, Massachusetts, USA, 27 October 2016.

A New Psychobiological Model of Physical Activity Behaviour. School of Sport, Exercise and Rehabilitation Sciences, University of Birmingham, UK, 22 June 2016.

The psychobiological model of endurance performance: theory and practical applications. Conference on Sports Science and Olympic and Paralympic Legacy, Federal University of Minas Gerais, Belo Horizonte, Brazil, 9 June 2016.

Psychobiology of Sport Performance. Elevate Conference, London, UK, 5 May 2016.

Psychobiology of Endurance Performance. 9th Conference of Baltic Society of Sport Sciences, Lithuanian Sports University, Kaunas, Lithuania, 27 April 2016.

A New Psychobiological Model of Physical Activity Behaviour. British Association of Sport and Exercise Sciences (BASES) Physical Activity Divisional Day, University of Wolverhampton, UK, 14 April 2016.

The limits to endurance performance in humans: mind over muscle? 2015 DSEP Conference, Leeds, UK, 15 December 2015.

Train the brain: from theory to practice. ATLETICAMENTE Conference, Abano Terme, Italy, 8 November 2015.

Fatigue & endurance: mind over muscle? Extreme Medicine Conference, London, UK, 29 October 2015.

Mental fatigue and sport performance. GSK Human Performance Lab Symposium on Fatigue, London, UK, 27 August 2015.

The psychobiological model of endurance performance: theory and practical applications. Institute of Psychology, University of Zurich, Switzerland, 11 June 2015.

Mental fatigue and football performance. World Football Academy, Barcelona, 4 June 2015.

The psychobiological model of endurance performance: theory and practical applications. 5th Symposium of the MAPEI Sport Research Centre, Reggio Emilia, Italy, 16 May 2015.

The psychobiological model of endurance performance: theory and practical applications. Endurance Training Symposium, Italian Track and Field Federation, Roma, Italy, 25 March 2015.

Psychobiology of endurance performance. University of Rome "Foro Italico", Italy, 24 March 2015.

The psychobiology of perceived effort during physical tasks. International Convention of Psychological Science, Amsterdam, Holland, 14 March 2015.

The psychobiological model of endurance performance: theory and practical applications. School of Sport, Exercise and Rehabilitation Sciences, University of Birmingham, UK, 6 March 2015.

The psychobiological model of endurance performance and physical activity behaviour. GSK Human Performance, London, UK, 23 January 2015.

Psychobiological model of endurance performance. Department of Sport and Physical Activity, Edge Hill University, Ormskirk, UK, 10 December 2014.

Innovative strategies for the improvement of human endurance. ATLETICAMENTE Conference, Abano Terme, Italy, 8 November 2014.

Fatigue: new solutions to the oldest military foe. Haywood Club Meeting “Excellence in adversity: making the best better”, Medical Society of London, UK, 15 October 2014.

The psychobiological model of endurance performance. Department of Psychology, University of Geneva, Switzerland, 7 October 2014.

Manipulating cognition to improve endurance performance. The International Sports Science and Sports Medicine Conference 2014, Newcastle-Upon-Tyne, UK, 20 August 2014.

Mind over muscle: the psychophysiology of endurance sports. Medical Faculty, Vrije Universiteit Amsterdam, Holland, 4 July 2014.

The limits to exercise tolerance: mind or muscle? World Congress of Cycling Science 2014, Leeds 2 July 2014.

Mental fatigue and physical performance: experimental evidence and mechanisms. Second International Symposium of Training in Extreme Environments, European University of Madrid, Spain, 6 June 2014.

Acute and Chronic Effects of Mental Fatigue on Physical Performance. 26th Annual Convention of the Association for Psychological Science (APS), San Francisco, CA, USA, 2014.

Acute and Chronic Effects of Mental Fatigue on Physical Performance. 7th Annual Meeting of the Society for the Study of Motivation (SSM), San Francisco, CA, USA, 2014.

The effects of mental fatigue on repeated sprint ability and cognitive performance in football players. UEFA, Nyon, Switzerland, 19 May 2014.

The psychobiological model of endurance performance. Centre for Sport & Exercise Science, University of Essex, Colchester, UK, 6 May 2014.

The psychobiological model of endurance performance. Human Physiology Research Group, Vrije Universiteit Brussels, Belgium, 11 February 2014.

Perception of Effort and Movement-Related Cortical Potentials during Physical Tasks. ANT Burgundy Neuromeeting, Beaune, France, 29 January 2014.

The psychobiological model of endurance performance. University of East London, UK, 12 December 2013.

The psychobiological model of endurance performance. Murdoch University, Perth, Australia, 8 November 2013.

The psychobiological model of endurance performance. Australian Institute of Sport “Smart Talk” Series, Canberra, Australia, 31 October 2013.

The psychobiological model of endurance performance. 3rd International Symposium: The Future of Fatigue – A Broad Concept, Bathurst, Australia, 5 November 2013.

Psychophysiology of perceived effort during physical tasks. 53rd Annual Meeting of the Society for Psychophysiological Research. Firenze, Italy, 2013.

Psychobiological aspects of endurance performance, IV National Congress of SISMES (Italian Society of Human Movement Sciences), Palermo, Italy, 2012.

The role of afferent feedback from skeletal muscles, heart and lungs in the perception of effort in healthy adults. European Respiratory Society Research Seminar “Dyspnoea: multidimensional and multidisciplinary”, Paris, France, 2012.

Psychophysiology of perceived effort during physical tasks. 16th World Congress of Psychophysiology, Pisa, Italy, 2012.

15 years of debate: the Central Governor IS NOT a valid model of fatigue and endurance performance. XXXII FIMS World Congress of Sports Medicine, Rome, Italy, 2012.

Perception of effort and performance in adverse environments. 4th International Conference on Mountain, Sport and Health, Rovereto, Italy, 2011.

Psychobiology of perception of effort and endurance performance. 2nd International Symposium: The Future of Fatigue - Defining the Problem, Bathurst, Australia, 2011.

Psychobiology of perception of effort and endurance performance. Institute of Sport, Exercise & Active Living, Victoria University, Melbourne, Australia, 2011.

Fatigue. Friday Postgraduate Meeting, Maidstone Hospital, UK, 2011.

Psychobiology of perception of effort and endurance performance. Department of Sport and Exercise Sciences, University of Genoa, Italy, 2011.

Chronic Fatigue Syndrome: brain or muscle? Richard Edwards' Memorial Meeting, University of Liverpool, UK, 2010.

Psychobiological limits to exercise performance. Department of Sport and Exercise Sciences, University of Dijon, France, 2010.

Psychobiological limits to exercise performance. Italian Sport Psychology Conference, Verona, Italy, 2010.

Psychobiological limits to exercise performance. 3rd International Conference on Mountain, Sport and Health, Rovereto, Italy, 2009.

Psychobiology of effort, motivation and performance during physical tasks. Department of Sport and Exercise Sciences, University of Verona, Italy, 2009.

Psychobiology of effort, motivation and performance during physical tasks. Department of Sport and Exercise Sciences, University of Chieti, Italy, 2009.

Psychobiology of effort, motivation and performance during physical tasks. 21st Annual Convention of the Association for Psychological Science (APS), San Francisco, CA, USA, 2009.

Psychobiology of effort, motivation and performance during physical tasks. Department of Psychology, University of Geneva, Switzerland, 2008.

Physiology and pathophysiology of effort during physical tasks. Arthritis Research Campaign Research Strategy Meeting “Fatigue and its role in rheumatoid arthritis”, Manchester, UK, 2008.

Physical fitness, cardiovascular risk and fatigue in systemic lupus erythematosus. British Society for Rheumatology Annual Meeting, Birmingham, UK, 2007

Physiology of effort. Fatigue Meeting, North West Wales NHS Trust, Bangor, UK, 2007.

Limits of human performance: heart, muscles or brain? First MAPEI Sport Service Conference, Milan, Italy, 2006.

Effort: The forgotten sense. School of Psychology Colloquia, University of Wales-Bangor, UK, 2006

Perception of effort: psychophysical, physiological and clinical aspects. Department of Sport and Exercise Sciences, University of Verona, Italy, 2006.

Research Methods in Exercise and Sport Science. Department of Sport and Exercise Sciences, University of Tor Vergata, Rome, Italy, 2005.

Pathophysiology and treatment of cachexia: the example of rheumatoid arthritis. Department of Sport and Exercise Sciences, Manchester Metropolitan University, Cheshire, UK, 2005.

Can resistance training reverse the negative physiological and psychological side effects of androgen deprivation therapy in prostate cancer patients? A pilot study. Exercise and Cancer Rehabilitation in the UK Workshop, Cancer Research UK, University of Bristol, UK, 2004.

The role of exercise and other anabolic interventions (BSR Session Muscle: the neglected organ in rheumatoid arthritis). British Society for Rheumatology Annual Meeting, Edinburgh, UK, 2004.

Sarcopenia in Aging and Chronic Disease. Summer Meeting of the Welsh Association of Renal Physicians and Surgeons, Cheshire, UK, 2003.

A case study of rheumatoid cachexia. The Merseyside and North Wales Rheumatology Meeting, Bangor, UK, 2003.

A case study of myositis. The Merseyside and North Wales Rheumatology Meeting, Bangor, UK, 2002.

Editorial activities

Member of the Editorial Board of:

- Sports Medicine
- Journal of Sports Sciences
- Motivation Science
- Frontiers in Physiology
- Movement and Sport Sciences/Science & Motricite'

I have reviewed manuscripts or grant applications for:

1. American Journal of Psychology
2. American Journal of Physiology
3. Annals of the Rheumatic Diseases
4. Anthony Marchionne Foundation
5. Applied Physiology, Nutrition and Metabolism
6. Arthritis and Rheumatism
7. Arthritis Care and Research

8. Arthritis Research and Therapy
9. Biological Psychology
10. British Journal of Sports Medicine
11. Clinical Physiology and Functional Imaging
12. European Journal of Applied Physiology
13. European Journal of Physical and Rehabilitation Medicine
14. European Journal of Sport Science
15. European Respiratory Journal
16. Frontiers in Physiology
17. Frontiers in Human Neuroscience
18. Frontiers in Psychology
19. Human Movement Science
20. International Journal of Sport Nutrition & Exercise Metabolism
21. International Journal of Psychophysiology
22. International Review of Sport and Exercise Psychology
23. Italian Multiple Sclerosis Association
24. Italian Ministry of Education, University and Research (MIUR)
25. Journal of Applied Physiology
26. Journal of Applied Sport Psychology
27. Journal of Athletic Training
28. Journal of Science and Medicine in Sport
29. Journal of Sport and Exercise Psychology
30. Journal of Sports Sciences
31. Journal of Sports Medicine and Physical Fitness
32. Medicine and Science in Sports and Exercise
33. Motivation and Emotion
34. Motivation Science
35. National Agency for the Evaluation of Universities and Research Institutes (ANVUR) (Italy)
36. National Institute for Health Research (NIHR)
37. North Wales Research Committee

38. Physiotherapy
39. Physiology and Behaviour
40. Psychology of Sport and Exercise
41. Psychophysiology
42. Psychopharmacology
43. Research Quarterly in Exercise and Sport
44. Rheumatology
45. Routledge Books
46. Scandinavian Journal of Medicine and Science in Sports
47. Scandinavian Journal of Rheumatology
48. Swiss Federal Institute of Sport Magglingen (SFISM)
49. Swiss National Science Foundation
50. The Prostate Cancer Charity

Consulting and enterprise activities

Training course for coaches, **Italian Swimming Federation**, 2021.

Consultant to **ASICS** on the [BlackOut Track](#) (2018) and [Eternal Run](#) (2019) events

Training course for coaches, trainers, scientific support staff, medical doctors, **Juventus Football Club**, 2017.

Consultant to **Fnatic** (professional eSports team), 2017.

Training course for coaches, **Italian Track and Field Federation**, 2014.

Member of the Advisory Board on Fatigue in COPD for **Glaxo Smith Kline**, 2005.

Scientific Advisor of **MAPEI Sport Research Centre** between 2000 and 2007.

Conference organization

XI National Congress of the Italian Sport and Movement Sciences Society (SISMES), Bologna, Italy, 27-29 September 2019.

The Endurance Research Conference, University of Kent, Chatham, UK, 2-4 September 2015.

Current membership to scientific societies

- The Physiological Society
- BASES
- American College of Sports Medicine
- Society for Psychophysiological Research
- Association for Psychological Science

- Society for the Study of Motivation
- Society of Biology
- Italian Sport and Movement Sciences Society (SISMES)

PUBLIC ENGAGEMENT, INNOVATION AND ENTERPRISE

My research has attracted world-wide media attention. This coverage included major news agencies (e.g., Reuters), broadcasters (BBC, Channel 4, CBS, NPR, NHK), newspapers (e.g., New York Times, Daily Telegraph, The Sun, Los Angeles Times, Corriere della Sera), magazines (e.g., The New Yorker, Men's Health, Runners World, Women's Health, Triathlete Magazine, Forbes), websites (e.g., Fox News, Yahoo, MSN, Medscape, WebMD, Science Daily), and patient group newsletters (Arthritis Today). Links to some representative examples of this public engagement activity are provided here below.

New York Times article on my research on mental fatigue and endurance performance: <http://www.nytimes.com/2009/03/10/health/10beha.html> (this article appeared in print on March 10, 2009, page D6).

The New Yorker article on my research on non-conscious visual cues and endurance performance: <http://www.newyorker.com/tech/elements/what-is-fatigue>

The Times article on my research on the psychobiological bases of endurance training and performance: <http://www.thetimes.co.uk/tto/sport/article4352838.ece> (this article appeared in print on February 13, 2015, page 64).

The New Scientist article on my research on the psychobiology bases of endurance training and performance: <https://www.newscientist.com/article/2075041-marathon-mind-how-brain-training-could-smash-world-records/> (this article appeared in print on the 30 January 2016 issue).

Runner's World article on my research on the psychobiology of endurance performance: <http://www.runnersworld.com/race-training/how-to-build-mental-muscle?page=single> (this article appeared in print on the October 2013 issue).

BBC "All in the Mind" radio program including my research on brain endurance training: <http://www.bbc.co.uk/programmes/b03mfxym>

CNN "Vital Signs" television program including my research on brain endurance training.

Part 1:

<http://www.cnn.com/video/data/2.0/video/health/2017/04/19/vital-signs-breaking-the-2-hour-marathon-a.cnn.html>

Part 2

<http://www.cnn.com/video/data/2.0/video/health/2017/04/19/vital-signs-pushing-our-bodies-to-the-limit-b.cnn.html>

Part 3:

<http://www.cnn.com/video/data/2.0/video/health/2017/04/19/vital-signs-take-the-plunge-in-scotland-c.cnn.html>

Channel 4 (UK) "Speed with Guy Martin" television program on the effects of hypoxia on cognitive function in a professional motorbike rider:

<http://www.channel4.com/programmes/speed-with-guy-martin/on-demand/58642-002>

NHK (Japan) "Miracle Body: Breaking Limits with Hyper-Adaptability" documentary on Tatyana McFadden of the United States, a wheelchair athlete who was born paralyzed from the waist down

and a legendary figure in para track and field who has won major events at all distances:

<https://www3.nhk.or.jp/nhkworld/en/ondemand/video/4001386/>

I am also involved in the effort of engaging primary and secondary school pupils with physiology. For example, I mentored the winners of “The Science of Sport: How to Win Gold” competition run by the Physiological Society (more info here:

<http://www.understanding-life.org/science-sport-how-win-gold-winners>).

BMW Motorrad UK has sponsored my “London to Beijing” scientific expedition on the physiological and psychological demands of adventure motorcycling and the effect of caffeine supplementation on rider fatigue. This research expedition has attracted interested from one of the major motorcycling magazines in the UK (RIDE Magazine) which has published several articles describing the research project on fatigue in motorbike riders.

A handwritten signature in black ink, appearing to read 'Samuel Wang', written in a cursive style.

Bologna, 06 June 2021