

## PERSONAL INFORMATION

Gianluca Vernillo, PhD  
Department of Biomedical Sciences for Health  
**Università degli Studi di Milano**  
Building 2, Via Giuseppe Colombo 71, 20133 Milano  
gianluca.vernillo@unimi.it

## POSITION

Fixed-term Assistant Professor (Type B)

## WORK EXPERIENCE

09/2016 - 08/2017

**Post-Doctoral Research Fellow**

Faculty of Kinesiology - Human Performance Laboratory, The University of Calgary (Canada)

- Basic and Applied mechanisms of neuromuscular fatigue
  - Neurophysiological and biomechanical adaptations in (ultra)endurance
- Sector 06/N2; BIO/09; M-EDF/02

07/2013 - 06/2016

**Fixed-term Assistant Professor (Type A)**

Department of Biomedical Sciences for Health, Università degli Studi di Milano

- Basic and Applied mechanisms of neuromuscular fatigue
  - Neurophysiological and biomechanical adaptations in (ultra)endurance
- Sector 06/N2; BIO/09; M-EDF/02

05/2011 - 04/2014

**Head of Strength and Conditioning, Italian Snowboard and Freestyle Team**

Italian Winter Sports Federation, Milano

- Planning and supervising
- Sector 06/N2; M-EDF/02

05/2012 - 04/2013

**Post-Doctoral Research Fellow**

CeRiSM, Research Center 'Sport, Mountain and Health', Department of Neurological and Movement Sciences (now Department of Neurosciences, Biomedicine and Movement Sciences), University of Verona (Italy)

- Neurophysiological and biomechanical adaptations in (ultra)endurance
- Sector 06/N2; M-EDF/02

## EDUCATION AND TRAINING

01/2009 - 12/2011

**Doctor of Philosophy (PhD) in Exercise and Sport Sciences**

Department of Sport, Nutrition and Health Sciences, Faculty of Exercise Sciences (now School of Exercise Sciences). University of Milan (Italy)

- Physiological and performance profile of endurance disciplines

11/2004 - 10/2006

**Master of Arts in Sport Sciences**

Faculty of Exercise Sciences (now School of Exercise Sciences). University of Milan (Italy)

09/2001 - 10/2004

**Bachelor of Arts in Exercise and Sports Sciences**

Faculty of Exercise Sciences (now School of Exercise Sciences). University of Milan (Italy)

## ADDITIONAL INFORMATION

Publications on refereed journal articles

1. Maggioni MA, Bonato M, Stahn A, La Torre A, Agnello L, Vernillo G, Castagna C, Merati G. Effects of ball-drill versus repeated sprint ability training in basketball players. A cluster randomized controlled trial. *Int J Sport Physiol Perf* in press

2. Vernillo G, Temesi J, Martin M, Millet GY. Do aerobic characteristics explain isometric exercise-induced neuromuscular fatigue and recovery in upper and lower limbs? *J Sports Sci* DOI: 10.1080/02640414.2018.1504604
3. Vernillo G, Pisoni C, Thiébat G. The physiology of snowboarding. *Front Physiol*, 9: 770, 2018
4. Firminger C, Vernillo G, Savoldelli A, Stefanyshyn DJ, Millet GY, Edwards WB. Joint kinematics and ground reaction forces in overground versus treadmill graded running. *Gait Posture*, 26 (63): 109-113, 2018
5. Sansoni V, Perego S, Vernillo G, Barbuti A, Merati G, La Torre A, Banfi G, Lombardi G. Effects of repeated sprints training on fracture risk-associated miRNA. *Oncotarget*, 9 (26): 18029-18040, 2018
6. Bonato M, Meloni A, Merati G, La Torre A, Agnello L, Vernillo G. Reliability of parasympathetic reactivation indexes after repeated-sprints exercise. *PLoS ONE*, 13 (2): e0192231, 2018
7. Vernillo G, Millet GP, Malatesta D, Millet GY. Inference of skeletal muscle oxidative capacity in ultra-endurance performance: an open research question. Commentaries on Viewpoint: Principles, insights, and potential pitfalls of the noninvasive determination of muscle oxidative capacity by near-infrared spectroscopy. *J Appl Physiol*, 124 (1): 249-255, 2018
8. Savoldelli A, Fornasiero A, Trabucchi P, Limonta E, La Torre A, Degache F, Pellegrini B, Millet GP, Vernillo G, Schena F. The energetics during the World's most challenging Mountain Ultra-Marathon - a case study at the Tor des Geants®. *Front Physiol*, 8: 1003, 2017
9. Vernillo G, Temesi J, Martin M, Millet GY. Mechanisms of fatigue and recovery in upper vs. lower limbs in men. *Med Sci Sports Exerc*, 50 (2): 334-343, 2018
10. Vernillo G, Millet GP, Millet GY. Does the running economy really increase after ultra-marathons? *Front Physiol*, 8: 783, 2017
11. Sommariva E, D'Alessandra Y, Farina FM, Casella M, Cattaneo F, Catto V, Chiesa M, Stadiotti I, Brambilla S, Dello Russo A, Carbuicchio C, Vettor G. MD, Riggio D, Sandri MT, Barbuti A, Vernillo G, Muratori M, Dal Ferro M, Sinagra G, Moimas S, Giacca M, Colombo GI, Pompilio G, Tondo C. MiR-320a as a potential novel circulating biomarker of arrhythmogenic cardiomyopathy. *Sci Rep*, 7 (1): 4802, 2017
12. Vernillo G, Savoldelli A, Skafidas S, Zignoli A, La Torre A, Pellegrini B, Giardini G, Trabucchi P, Millet GP, Schena F. An extreme mountain ultra-marathon decreases the cost of uphill walking and running. *Front Physiol*, 7: 530, 2016
13. Vernillo G, Brighenti A, Limonta E, Trabucchi P, Malatesta D, Millet GP, Schena F. Effects of ultratrail running on skeletal muscle oxygenation dynamics. *Int J Sports Physiol Perf*, 12 (4): 496-504, 2017
14. Vernillo G, Giandolini M, Edwards WB, Morin JB, Samozino P, Horvais N, Millet GY. Biomechanics and physiology of uphill and downhill running. *Sports Med*, 47 (4): 615-629, 2017
15. Giandolini M, Vernillo G, Samozino P, Horvais N, Edwards WB, Morin JB, Millet GY. Fatigue associated with prolonged graded running. *Eur J Appl Physiol*, 116 (10): 1859-1873, 2016
16. Sansoni V, Vernillo G, Perego S, Barbuti A, Merati G, Schena F, La Torre A, Banfi G, Lombardi G. Bone turnover response is linked to both acute and established metabolic changes in ultra-marathon runners. *Endocrine*, 56 (1): 196-204, 2017
17. Boccia G, Dardanelli D, Zoppirolli C, Bortolan L, Cescon C, Schneebeli A, Vernillo G, Schena F, Rainoldi A, Pellegrini B. Central and peripheral fatigue in knee and elbow extensor muscles after a long distance cross-country ski race. *Scand J Med Sci Sports*, 27 (9): 945-955, 2017
18. Pizzuto F, Bonato M, Vernillo G, La Torre A, Piacentini MF. Are the World Junior Championship finalists for middle and long-distance events currently competing at international level? *Int J Sports Physiol Perf*, 12 (3): 316-321, 2017
19. Lombardi G, Vernillo G, Sansoni V, Perego S, Barbuti A, Merati G, Schena F, Banfi G, La Torre A. Plasminogen activator inhibitor-1 as a marker of cardiovascular response in professional mountain ultra-marathon runners. *Clin Chem Lab Med*, 55 (1): e7-e9, 2017
20. Vernillo G, Pisoni C, Sconfienza LM, Thiébat G, Longo S. Changes in muscle architecture of *Vastus Lateralis* muscle after an alpine snowboarding race. *J Strength Cond Res*, 31 (1): 254-259, 2017
21. Vernillo G, Savoldelli A, La Torre A, Skafidas S, Bortolan L, Schena F. Injury and illness rates during ultratrail running. *Int J Sports Med*, 37 (7): 565-569, 2016
22. Tam E, Bruseghini P, Calabria E, Dal Sacco L, Doria C, Grassi B, Pietrangelo T, Pogliaghi S, Reggiani C, Salvadeo D, Schena F, Toniolo L, Verratti V, Vernillo G, Capelli C. Gokyo Khumbu/Ama Dablam Trek 2012: effects of physical training and high-altitude exposure on oxidative metabolism, muscle composition, and metabolic cost of walking in women. *Eur J Appl Physiol*, 116 (1): 129-144, 2016
23. Vernillo G, Agnello L, Barbuti A, Di Meco S, Lombardi G, Merati G, La Torre A. Postexercise autonomic function after repeated-sprints training. *Eur J Appl Physiol*, 33 (19): 1998-2005,

2015

24. Vernillo G, Pisoni C, Thiébat G. Physiological characteristics of elite snowboarders. *J Sports Med Phys Fitness*, 56 (5): 527-533, 2016
25. Vernillo G, Savoldelli A, Zignoli A, Skafidas S, Fornasiero A, La Torre A, Bortolan L, Pellegrini B, Schena S. Energy cost and kinematics of level, uphill and downhill running: Fatigue-induced changes after a mountain ultramarathon. *J Sports Sci*, 33 (19): 1998-2005, 2015
26. Vernillo G, Pisoni C, Thiébat G. Strength asymmetry between front and rear leg in elite snowboard athletes. *Clin J Sport Med*, 26 (1): 83-85, 2016
27. Vernillo G, Rinaldo N, Giorgi A, Esposito F, Trabucchi P, Millet GP, Schena F. Changes in lung function during an extreme mountain ultramarathon. *Scand J Med Sci Sports*, 25 (4): e374-e380, 2015
28. Vernillo G, Savoldelli A, Pellegrini B, Schena F. Validity of the SenseWear Armband™ to assess energy expenditure in graded walking. *J Phys Act Health*, 12 (2): 178-183, 2015
29. Piacentini MF, Comotto S, Guerriero A, Bonato M, Vernillo G, La Torre A. Does the junior IAAF athletic world championship represent a springboard for the success in the throwing events? A retrospective study. *J Sports Med Phys Fitness*, 54 (4): 410-416, 2014
30. Vernillo G, Savoldelli A, Pellegrini B, Schena F. Evaluation of the SenseWear Mini Armband™ to assess energy expenditure during pole walking. *Int J Sport Nutr Exerc Metab*, 24 (5): 565-569, 2014
31. Vernillo G, Savoldelli A, Zignoli A, Trabucchi P, Pellegrini B, Millet GP, Schena F. Influence of the World's most challenging mountain ultra-marathon on energy cost and running mechanics. *Eur J Appl Physiol*, 114 (5): 929-939, 2014
32. Sartor F, Vernillo G, de Morree HM, Bonomi AG, La Torre A, Kubis AP, Veicsteinas A. Estimation of maximal oxygen uptake via submaximal exercise testing in sports, clinical, and home settings. *Sports Med*, 43 (9): 865-873, 2013
33. Piacentini MF, De Iannon G, Comotto S, Spedicato A, Vernillo G, La Torre A. Concurrent strength and endurance training effects on running economy in master endurance runners. *J Strength Cond Res*, 27 (8): 2295-2303, 2013
34. Vernillo G, Schena F, Berardelli C, Rosa G, Galvani C, Maggioni MA, Agnello L, La Torre A. Anthropometric characteristics of top-class Kenyan marathon runners. *J Sports Med Phys Fitness*, 53 (4): 403-408, 2013
35. Padulo J, Annino G, Tihanyi J, Calcagno G, Vando S, Smith L, Vernillo G, La Torre A, D'Ottavio S. Uphill race walking at iso-efficiency speed. *J Strength Cond Res*, 27 (7): 1964-1973, 2013
36. Padulo J, Annino G, D'Ottavio S, Vernillo G, Smith L, Migliaccio GM, Tihanyi J. Footstep analysis at different slopes and speeds in elite racewalking. *J Strength Cond Res*, 27 (1): 125-129, 2013
37. Vernillo G, Agnello L, Drake A, Fiorella P, Piacentini MF, La Torre A. Cardiovascular responses during an indoor race walking competition. *J Sports Med Phys Fitness*, 52 (6): 589-595, 2012
38. Vernillo G, Agnello L, Piacentini MF, Drake A, Padulo J, La Torre A. An observational study on the perceptive and physiological variables during a 10,000-m race walking competition. *J Strength Cond Res*, 26 (10): 2741-2747, 2012
39. Vernillo G, Silvestri A, La Torre A. The Yo-Yo intermittent recovery test in junior basketball players according to performance level and age group. *J Strength Cond Res*, 26 (9): 2490-2494, 2012
40. La Torre A., Vernillo G, Agnello L, Berardelli C, Rampinini E. Is it time to consider a new performance classification for high-level male marathon runners? *J Strength Cond Res*, 25 (12): 3242-3247, 2011
41. Vernillo G, Piacentini MF, Drake A, Agnello L, Fiorella P, La Torre A. Exercise intensity and pacing strategy of a 5-km indoor race walk during a world record attempt: a case study. *J Strength Cond Res*, 25(7): 2048-2052, 2011

#### Book chapters

1. Vernillo G. The basics of the training evaluation and monitoring. In: La Torre A (ed), *Train to win*, Edizioni SDS, Rome, 2017: 261-285. ISBN: 9788897337164
2. Vernillo G. The training adaptation. In: La Torre A (ed), *Train to win*, Edizioni SDS, Rome, 2017: 99-121. ISBN: 9788897337164
3. La Torre A, Vernillo G. The training for the 20-km. What has changed and what might change? In: Pupis M (ed), *World race walking research*, 2010: 80-94. ISBN: 978-80-557-0159-2
4. La Torre A, Vernillo G. The evolution of the Race Walking Performance. In: Personeni C and Ducceschi R (eds), *La marcia femminile (1980-2009) e Sesto San Giovanni*, Akropolis, 2009: 186-187

## Conference proceedings

1. Baggaley M, **Vernillo G**, Horvais N, Millet GY, Edwards WB. The effect of grade on lower extremity joint contact forces during running. Annual Congress of Biomechanics, 2018
2. Meloni A, Agnello L, Merati G, La Torre A, **Vernillo G**, Bonato M. Reliability and sensitivity of postexercise heart rate measures after repeated-sprints exercise. Annual Congress of the Italian Society of Exercise and Sport Sciences, 2017
3. Savoldelli A, Fornasiero A, Boccia G, Pedrinolla A, Venturelli M, Modena R, Mourot L, **Vernillo G**, Schena F, Pellegrini B. Do both submaximal exercise and exposure to progressive hypoxia impair endurance performance? Annual Congress of the Italian Society of Exercise and Sport Sciences, 2017
4. Baggaley M, **Vernillo G**, Horvais N, Millet GY, Edwards WB. Step length and energy absorption at the knee during running: effects of grade. Annual Alberta BME Conference, 2016.
5. Lombardi G, Sansoni V, Perego P, **Vernillo G**, Bonzanni M, Merati G, Barbuti A, La Torre A, Banfi G. Bone-specific circulating miRNA profile changes over an 8-week repeated sprint training protocol. Annual Congress of the European Society of Endocrinology, 2016
6. Lombardi G, Sansoni V, Perego P, **Vernillo G**, Schena F, Merati G, Barbuti A, La Torre A, Banfi G. Ultra-trail marathon induces bone response in association with acute and established metabolic changes. Annual Congress of the European Society of Endocrinology, 2016
7. Bonzanni M, Napoli A, Landi S, Bucchi A, **Vernillo G**, Baruscotti M, La Torre A, Difrancesco D, Barbuti A. Effects of miRNAs modulated by endurance training on cardiomyocyte excitability. Biennial Congress of the European Society of Cardiology, 2016
8. Bonzanni M, Napoli A, Landi S, Bucchi A, **Vernillo G**, Baruscotti M, La Torre A, Difrancesco D, Barbuti A. Effects of miRNAs modulated by endurance training on cardiomyocyte excitability. Annual Congress of the Italian Society of Physiology, 2015
9. **Vernillo G**, Savoldelli A, Zignoli A, Trabucchi P, Pellegrini B, Millet GP, Schena F. Alterations in the ventilatory responses after the world's most challenging mountain ultra-marathon. Annual Congress of the Italian Society of Exercise and Sport Sciences, 2013
10. **Vernillo G**, Leonardi A, Grainer A, Doria C, Savoldelli A, Reggiani C, Fanò-Illic G, Verratti V, Schena F. Accuracy of Sensewear armband® in estimating flat vs. inclined pole walking energy expenditure. Annual Congress of the Italian Society of Exercise and Sport Sciences, 2012
11. Maggioni MA, La Torre A, Merati G, **Vernillo G**, Veicstainas A, Castagna C. Effect of sprint versus ball-drill training on physical fitness in young basketball players. Annual Congress of the Italian Society of Exercise and Sport Sciences, 2011
12. **Vernillo G**, Berardelli C, Agnello L, Maggioni MA, La Torre A. Anthropometric characteristics of elite Kenyan marathon runners. Annual Congress of the European College of Sport Science, 2011
13. Padulo J, Annino G, Lebone P, **Vernillo G**, La Torre A, Tihanyi J, d'Ottavio S. Slopes and speed related effects on kinematic and EMG patterns in elite race walking. Annual Congress of the European College of Sport Science, 2011
14. **Vernillo G**, Impellizzeri FM, Parcesepe P, La Torre A. Variations of perceived exertion in relation to heart rate responses in an international level race walkers before a 50-km race. Annual Congress of the European College of Sport Science, 2011
15. **Vernillo G**, Agnello L, Piacentini MF, La Torre A. Quantifying the training load during a 10000-m race walk. Annual Congress of the Italian Society of Exercise and Sport Sciences, 2010
16. **Vernillo G**, Agnello L, Drake A, Piacentini MF, La Torre A. Pacing strategy during 50-km race walking events. Annual Congress of the European College of Sport Science, 2010
17. La Torre A, Agnello L, Fiorella P, **Vernillo G**. Training for the 20 km race walk. What has changed and what might change? Annual Congress of the British Association of Sport and Exercise Sciences, 2009
18. **Vernillo G**, Agnello L, Drake A, Fiorella P, La Torre A. Physical activity intensity, heart rate, blood lactate concentration and RPE during 5-km men's and 3-km women's indoor race walk. Annual Congress of the European College of Sport Science, 2009

## Invited talks

1. Neurophysiological and biomechanical changes during graded running exercise. Invited talk at the Interuniversity Laboratory of Biology and Exercise Science, Jean Monnet University, Saint-Etienne (France), 2018
2. Neuromuscular fatigue: mechanistic basis and methodological aspects. Invited talk at the Institute of Molecular Bioimaging and Physiology, National Research Council, Segrate (Italy), 2018
3. The role of the running economy in ultra-marathons. Invited talk at the 5<sup>th</sup> International Congress in Medicine and Science in Ultra Endurance Sports, Castellón de la Plana (Spain), 2018
4. Running-related injury prevention. Protective footwear vs. barefoot running. Debate at the Human Performance Laboratory, The University of Calgary (AB - Canada), 2018

5. Neuromuscular effects of acute muscle fatigue during running and their relationship with the running economy. Invited talk at the School of Sport and Exercise Sciences at the University of Verona (Italy), 2017
6. A call for standardized procedures in the study of running economy in ultra-marathon. Invited talk at the biennial international congress 'Mountain, Sport and Health', Rovereto (Italy), 2017.
7. The basics of the function evaluation in athletes. Invited talk at the Course of Sport and Exercise Sciences in the Department of Experimental Medicine, Section of Human Physiology, at the University of Genoa (Italy), 2017.
8. Energy cost and running performance in ultra-marathons. Invited symposium talk. Annual congress of the Canadian Society for Exercise Physiology (CSEP), Winnipeg (MB - Canada), 2017.
9. The running economy in ultra-marathon is still an open research question. Exercise physiology seminar series talks in the Faculty of Kinesiology at the University of Calgary (AB - Canada), 2017
10. The methodology of the physical and training assessment. Seminar series for Track-and-Field coaches - IV grade. Italian Olympic Committee and Italian Track-and-Field Federation, Rome (Italy), 2016
11. Fatigue in metabolic, cognitive, neuromuscular and coordinative parameters. Seminar series for Track-and-Field coaches - IV grade. Italian Olympic Committee and Italian Track-and-Field Federation, Rome (Italy), 2016
12. Strengths and weaknesses of different techniques for monitoring the physical activity. Invited talk at the School of Sport and Exercise Sciences at the University of Verona (Italy), 2016
13. Fatigue-induced changes on uphill locomotion after an extreme mountain ultra marathon. Invited talk at the biennial international congress 'Mountain, Sport and Health', Rovereto (Italy), 2015.
14. Evolution of the youth sport performance (energetic aspects). Invited talk at the annual congress 'Young, Sport and Mountain', Predazzo (Italy), 2014
15. Influence of the World's most challenging mountain ultra-marathon on energy cost and running mechanics. Biennial international congress 'Mountain, Sport and Health', Rovereto (Italy), 2013
16. The assessment of the neuromuscular characteristics in snowboarding. Invited talk at the annual congress 'Young, Sport and Mountain', Predazzo (Italy), 2013
17. The methodology of training. Seminar series for Snowboarding coaches. Italian Winter Sports Federation, Bergamo (Italy), 2012
18. Pacing strategy during 50-km race walking events. Seminar series talks of the Faculty of Sport and Exercise Sciences (now School of Sport and Exercise Sciences) at the University of Pavia (Italy), 2011

#### Departmental talks

1. Seeking new strategies to reduce the deleterious effect of downhill running. Postdoctoral seminar series talks of the Faculty of Kinesiology at the University of Calgary (AB - Canada), 2017
2. The physiological and performance profile of snowboarding. Exercise physiology seminar series talks of the Faculty of Kinesiology at the University of Calgary (AB - Canada), 2016
3. Ultra-marathon: an update. 50<sup>th</sup> anniversary of the College of Advanced Physical Education (now School of Exercise Sciences). University of Milan (Italy), 2012
4. Exercise intensity and pacing strategy in race walking. Seminar series talks of the Faculty of Exercise Sciences (now School of Exercise Sciences) at the University of Milan (Italy), 2012

#### Media highlights

1. The endurance of the ultra-sport athletes/L'endurance des athlètes d'ultra-sport. Science show 'Les Années-lumière'. Radio Canada - Montréal, 2018. <https://ici.radio-canada.ca/nouvelle/1117266/ultra-sport-athlete-ironman-triathlon-endurance-possibilites-medecine>
2. Downhill running and field studies of ultra runners. Podcasts series talks. Science of ultra, 2018. <https://www.scienceofultra.com/podcasts/72>
3. 3 outdoor hill workouts to help you hit any running goal. Shape magazine, 2017. <https://www.shape.com/fitness/cardio/outdoor-hill-workouts-runners>
4. The importance of downhill training for mountain ultramarathon trail running. Blog series. The passing of the summits, 2015. <http://summitrun.blogspot.com/2015/04/>
5. Tor des Géants effect on energy cost and running mechanics. Blog series. The passing of the summits, 2014. <http://summitrun.blogspot.com/2014/02/tor-des-geants-effect-on-energy-cost.html>

#### Editorial duties

- Associate Editor. PLoS ONE

- Guest Associate Editor for the Research Topic ‘Recent evolutions and perspectives in Olympic winter sports performance: to PyeongChang and beyond...’. *Frontiers in Physiology - Exercise Physiology*

**Peer review**

- Applied Physiology, Nutrition, and Metabolism
- Asian Journal of Sports Medicine
- Disability and Rehabilitation
- European Journal of Applied Physiology
- European Journal of Sport Science
- Extreme Physiology and Medicine
- Frontiers in Physiology - Exercise Physiology
- Gait & Posture
- International Journal of Sports Medicine
- International Journal of Sports Physiology and Performance
- Journal of Science and Medicine in Sport
- Journal of Sport and Health Science
- Journal of Sports Medicine and Physical Fitness
- Journal of Sports Sciences
- Medicine & Science in Sports & Exercise
- PLoS ONE
- Scientific Reports

**Professional memberships/affiliations**

- Membro del Comitato Scientifico e di Ricerca dell’Ultra Sports Science Foundation
- Canadian Society for Exercise Physiology (CSEP)
- European College of Sport Science (ECCS)
- Società Italiana delle Scienze Motorie e Sportive (SISMES)

**Personal information**

I authorize the handling of personal information in this curriculum, according to D.Lgs n. 196/03 and following modifications and Regulations EU 679/2016 (General Regulations concerning Data Protection or GRDP) and art. 7 of University Regulations concerning protection of personal information.

I authorize, according to D.lgs 14/03/2013 n. 33 concerning transparency, in case of conferment of the position and of the fellowship, the publication of this curriculum in the web site of Università degli Studi di Milano in the section “Amministrazione trasparente”, “Consulenti e collaboratori”.

Data, 9 Dicembre 2018

Firma

