

# PUBLICATIONS ET PRODUCTIONS SCIENTIFIQUES

## A. Articles publiés dans des revues internationales à comité de lecture

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49. NP Brøchner Nielsen, F Hug, A Guével, F Colloud, J Lardy, S Dorel. Changes in Motor Coordination Induced by Local Fatigue during a Sprint Cycling Task. *Med Sci Sports Exerc.* 2018 (in press).
48. Y Le Mansec, B Pageaux, A Nordez, S Dorel, M Jubeau. Mental fatigue alters the speed and the accuracy of the ball in table tennis. *J Sports Sci.* 2017 (In press).
47. N. Beaumatin, H Hauraix, A Nordez, R Hager, G Rabita, G Guilhem, S Dorel. Maximal shortening velocity during plantar flexion: Effects of pre-activity and initial stretching state. *Scand J Med Sci Sports.* (2017, in press).
46. C Granier, C Hausswirth, S Dorel, Y Le Meur. Validity And Reliability Of The Stages Cycling Power Meter. *Journal of Strength & Conditioning Research.* (2017, in press).
45. Y Le Mansec, S Dorel, F Hug, M Jubeau. Lower limb muscle activity during table tennis strokes. *Sports Biomechanics.* (2017) Sep 12:1-11.
44. Y Le Mansec, A Nordez, S Dorel, M Jubeau. Reaction time can be measured during voluntary contractions with electrode array. *Clinical Physiology and Functional Imaging.* (2017, in press).
43. H Hauraix, S Dorel, G Rabita, G Guilhem, A Nordez. Muscle fascicle shortening behaviour of vastus lateralis during a maximal force-velocity test. *European Journal of Applied Physiology.* (2017) Feb;117(2):289-299.
42. NP Brøchner Nielsen, F Hug, A Guével, V Fohanno, J Lardy, S Dorel. Motor adaptations to unilateral quadriceps fatigue during a bilateral pedaling task. *Scandinavian Journal of Medicine & Science in Sports.* (2017, in press).
41. NP Brøchner Nielsen, K Tucker, S Dorel, A Guével, F Hug. Motor adaptations to local muscle pain during a bilateral cyclic task. *Experimental Brain Research.* (2017) Feb;235(2):607-614.
40. J Slawinski, N Termoz, G Rabita, G Guilhem, S Dorel, JB Morin, P Samozino. How 100-m event analyses improve our understanding of world-class men's and women's sprint performance. *Scandinavian Journal of Medicine & Science in Sports.* (2017) Jan;27(1):45-54
39. V Doguet, M Jubeau, S Dorel, A Couturier, L Lacourpaille, A Guével, G Guilhem. Time-Course of Neuromuscular Changes during and after Maximal Eccentric Contractions. *Frontiers in Physiology.* (2016) Apr 18;7:137.
38. Y Le Mansec, S Dorel, A Nordez, M Jubeau. Sensitivity and Reliability of a Specific Test of Stroke Performance in Table Tennis. *Int J Sports Physiol Perform.* (2016) 11(7):678-84.
37. G Guilhem, V Doguet, H Hauraix, L Lacourpaille, M Jubeau, A Nordez, S Dorel. Muscle force loss and soreness subsequent to maximal eccentric contractions depend on the amount of fascicle strain in vivo. *Acta Physiol (Oxf).* (2016) Jun;217(2):152-63.

36. C Thomas, R Delfour-Peyrethon, DJ Bishop, S Perrey, PM Leprêtre, **S Dorel**, C Hanon. Effects of pre-exercise alkalosis on the decrease in [Formula: see text] at the end of all-out exercise. *European Journal of Applied Physiology*. (2016) Jan;116(1):85-95
35. P Samozino, G Rabita, **S Dorel**, J Slawinski, N Peyrot, E Saez de Villarreal, J.-B Morin. A simple method for measuring power, force, velocity properties, and mechanical effectiveness in sprint running. (2015) *Scandinavian Journal of Medicine & Science in Sports*. (2016) Jun;26(6):648-58
34. H Hauraix, A Nordez, G Guilhem, G Rabita, **S Dorel**. In vivo Maximal fascicle shortening velocity during plantar flexion in human. *Journal of Applied Physiology*. (2015) Dec 1;119(11):1262-71
33. JB Morin, J Slawinski, **S Dorel**, ES de Villareal, A Couturier, P Samozino, M Brughelli, G Rabita. Acceleration capability in elite sprinters and ground impulse: Push more, brake less? *Journal of Biomechanics*. (2015) 48(12):3149-54
32. H Hauraix, A Fouré, **S Dorel**, C Cornu, A Nordez. Muscle and tendon stiffness assessment using the alpha method and ultrafast ultrasound (in press) *European Journal of Applied Physiology*. (2015) 115(7):1393-400
31. G Rabita, **S Dorel**, J Slawinski, E Sàez-de-Villarreal, A Couturier, P Samozino, J-B Morin. Sprint mechanics in world-class athletes: A new insight into the limits of human locomotion. *Scandinavian Journal of Medicine & Science in Sports*. 2015 25(5):583-94
30. S Farcy, A Nordez, **S Dorel**, H Hauraix, P Portero, G Rabita. Interaction between gastrocnemius medialis fascicle and Achilles tendon compliance: a new insight on the quick-release method. *Journal of Applied Physiology*. (2014) 116(3):259-66
29. G Guilhem, F Hug, A Couturier, S Regnault, L Bournat, JR Filliard, **S Dorel**. Effects of air-pulsed cryotherapy on neuromuscular recovery subsequent to exercise-induced muscle damage. *American Journal of Sports Medicine*. (2013) 41(8):1942-51
28. H Hauraix, A Nordez, **S Dorel**. Shortening behavior of the different components of muscle-tendon unit during isokinetic plantar flexions. *Journal of Applied Physiology*. (2013) 115(7):1015-24
27. C Hanon, **S Dorel**, R Delfour-Peyrethon, P-M Leprêtre, D J Bishop, S Perrey, C Thomas. Prevalence of cardio-respiratory factors in the occurrence of the decrease in oxygen uptake during supra-maximal, constant-power exercise. *SpringerPlus*. (2013) 2:651
26. F Hug, F Boumier, **S Dorel**. Altered muscle coordination when pedaling with independent cranks. *Frontiers in Physiology*. (2013) Aug 28;4:232
25. G Rabita, A Couturier, **S Dorel**, C Hauswirth, Y Le Meur. Changes in spring-mass behavior and muscle activity during an exhaustive run at VO<sub>2</sub>max. *Journal of Biomechanics*. (2013) 46(12):2011-7
24. Y Le Meur, T Bernard, G Rabita, **S Dorel**, G Honnorat, J Brisswalter and C Hauswirth. Spring-Mass Behaviour during the Run of an International Triathlon Competition. *International Journal of Sport Medicine* (2013) 34(8):748-55
23. **S Dorel**, G Guilhem, A Couturier and F Hug. Adjustment of muscle coordination during an all-out sprint cycling task. *Medicine and Science in Sports and Exercise* (2012) 44(11): 2154-64

22. Y Le Meur, **S Dorel**, G Rabita, T Bernard, J Brisswalter and C Hausswirth. Spring-mass behavior and electromyographic activity evolution during a cycle-run test to exhaustion in triathletes. *Journal of electromyography and kinesiology* (2012) 22(6): 835-44
21. F Hug, NA Turpin, **S Dorel** and A Guevel. Smoothing of electromyographic signals can influence the number of extracted muscle synergies. *Clinical Neurophysiology* (2012) 123(9): 1895-6
20. Y Le Meur, **S Dorel**, Y Baup, JP Guyomarch, C Roudaut and C Hausswirth. Physiological demand and pacing strategy during the new combined event in elite pentathletes. *European Journal of Applied Physiology* (2012) 112(7) :2583-93
19. F Hug, NA Turpin, A Couturier and **S Dorel**. Consistency of muscle synergies during pedaling across different mechanical constraints. *Journal of Neurophysiology* (2011) 106(1): 91-103
18. Y Le Meur, T Bernard, **S Dorel**, CR Abbiss, G Honnorat, J Brisswalter and Christophe Hausswirth. Relationships between triathlon performance and pacing strategy during the run in an international competition. *International Journal of Sports Physiology and Performance* (2011) 6: 183-194
17. F Hug, NA Turpin, A Guevel and **S Dorel**. Is interindividual variability of EMG patterns in trained cyclists related to different muscle synergies? *Journal of Applied Physiology* (2010) 108(6): 1727-36
16. M Bourdin, O Rambaud, , **S Dorel**, J-R Lacour, B Moyen and A Rahmani. Throwing performance is associated with muscular power. *International Journal of Sport Medicine* (2010) 31(7):505-10
15. **S Dorel**, A Couturier, J-R Lacour, H Vandewalle, CA Hautier and F Hug. Force-Velocity Relationship in Cycling Revisited: Benefit of Two-Dimensional Pedal Forces Analysis. *Medicine and Science in Sports and Exercise* (2010) 42(6):1174-83
14. Y Le Meur, C Hausswirth, C Abbiss, Y Baup and **S Dorel**. Performance factors in the new combined event of modern pentathlon. *Journal of Sports Science* (2010) 28(10):1111-6
13. **S Dorel**, J-M Drouet, Y Champoux, A Couturier and F Hug. Changes of pedaling technique and muscle coordination during an exhaustive exercise. *Medicine and Science in Sports and Exercise* (2009) 41(6): 1277-86 (Cat A, 1e, IF= 4.431)
12. T Bernard, C Hausswirth, Y Lemeur, F Bignet, **S Dorel** and J Brisswalter. Distribution of power output during the cycling stage of a triathlon world cup. *Medicine and Science in Sports and Exercise* (2009) 41(6):1296-302
11. Y Le Meur, C Hausswirth, **S Dorel**, F Bignet, J Brisswalter and T Bernard. Influence of gender on pacing adopted by elite triathletes during a competition. *European Journal of Applied Physiology* (2009) 106(4):535-45
10. G Guilhem, **S Dorel** and F Hug. Effects of a prior short simulated training session on the subsequent ventilatory thresholds determination. *Journal of Science and Medicine in Sport* (2009) 12(2):273-9
9. F Hug and **S Dorel**. Electromyographic analysis of pedaling: A review. *Journal of electromyography and kinesiology* (2009) 19(2):182-98
8. J-M Drouet, Y Champoux and **S Dorel**. Development of multi-platform instrumented force pedals for track cycling. *The Engineering of Sport* 7 (2008) Ed. Springer, ISBN-13: 689-694

7. J Slawinski, **S Dorel**, F Hug, A Couturier, V Fournel, J-B Morin and C Hanon. Elite long sprint running: a comparison between incline and level training sessions. *Medicine and Science in Sports and Exercise* (2008) 40(6): 1155-62
6. **S Dorel**, A Couturier and F Hug. Intra-session repeatability of lower limb muscles activation pattern during pedaling. *Journal of electromyography and kinesiology* (2008) 18(5): 857-65
5. F Hug, J-M Drouet, Y Champoux, A Couturier and **S Dorel**. Inter-individual variability of EMG patterns and pedal forces profiles in trained cyclists. *European Journal of Applied Physiology* (2008) 104(4): 667-78
4. **S Dorel**, A Couturier and F Hug. Influence of different racing positions on mechanical and electromyographic patterns during pedalling *Scandinavian Journal of Medicine and Sciences in Sport* (2008) 19(1): 44-54
3. **S Dorel**, CA Hautier, O Rambaud, D Rouffet, E Van Praagh, J-R Lacour and M Bourdin. "Torque and Power-Velocity relationships in cycling: relevance to track sprint performance in world-class cyclists *International Journal of Sport Medicine* (2005) 26: 739-746
2. **S Dorel**, M Bourdin, E Van Praagh, J-R Lacour and CA Hautier. Influence of two pedalling rate conditions on mechanical output and physiological responses during all-out intermittent exercise. *European Journal of Applied Physiology* (2003) 89: 157-165
1. **S Dorel**, CA Hautier, E Van Praagh, M Bourdin et J-R Lacour. Dépense énergétique et rendement au cours de la répétition de sprints sur bicyclette ergométrique: effet de la vitesse de pédalage. *Revue STAPS* (2003) 60: 11-26

## **B. Chapitres d'ouvrage**

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8. **S Dorel**. Mechanical Effectiveness and Coordination: New Insights into Sprint Cycling Performance : Biomechanics of Training and Testing (Coordonnateurs : JB Morin, P Samozino) - Springer International Publishing - 2018
7. **S Dorel**. Maximal Force- and Power-Velocity Characteristics in Cycling: Assessment and Relevance. Titre de l'ouvrage : Biomechanics of Training and Testing (Coordonnateurs : JB Morin, P Samozino) - Springer International Publishing - 2018
6. S Duc et **S Dorel**. Mesure de l'activité musculaire par électromyographie. Titre de l'ouvrage : Métrologie en biomécanique (Coordonnateurs A Arfaoui, W Bertucci, Instrumentation Mesure Métrologie) - Edition Lavoisier - 2014
5. **S Dorel**, G Guilhem. Les applications thermiques locales en médecine sportive. Titre de l'ouvrage : Améliorer sa récupération en sport (Coordonateur: C. Hausswirth) - Edition INSEP – 2013
4. **S Dorel**, G Guilhem. Local Thermal Applications. Titre de l'ouvrage: Recovery for performance in sport. (Coordonnateurs: C Hausswirth, I Mujika) - Human kinetics – 2013
3. **S Dorel**, C Lucas et L Martinez Pacheco. Applications thermiques locales. Titre de l'ouvrage : Récupération et performance sportive (Coordonateur: C. Hausswirth) - Edition INSEP – 2010
2. C Hanon et **S Dorel**, F Hug. Analyse du mouvement et performance de haut niveau. In F. Hug (Ed), *Le mouvement*. Paris : Editions revue EPS. 2009.

1. S. Dorel. Approche biomécanique du mouvement. In F. Hug (Ed), Le mouvement. Paris : Editions revue EPS. 2009.

### **C. Rapports de recherche et articles de vulgarisation (uniquement en auteur principal)**

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4. R Hager, G Guilhem, S. Dorel, A Nordez. L'innovation technologique, clef de l'entraînement de la puissance et de la vitesse par Réflexions Sport n°14, Nov 2016.

3. S. Dorel. Étude des coordinations lors du geste de pédalage en sprint dans une population de cyclistes de niveau international. Rapport du Projet de Recherche n° 10-R-019- Septembre 2008 (Ministère des Sports).PROJET N° 10-R-019 - Avril 2014 (Ministère des Sports).

2. C Hausswirth, S.Dorel, Y. Le Meur. Etude des effets de la fatigue sur la performance lors d'une épreuve combinée de course et de tir au pistolet à 10 mètres: influence de la variabilité des allures de course. Rapport du Projet de Recherche 2009 (Ministère des Sports).

1. S. Dorel, F. Hug. Evolution des paramètres électromyographiques et mécaniques au cours d'une épreuve rectangulaire de pédalage menée jusqu'à épuisement. Rapport du Projet de Recherche n° 06-046 - Septembre 2008 (Ministère des Sports).