

## Wouter Hoogkamer, Ph.D.

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### **Research Statement**

I use a comprehensive approach to study human locomotion, integrating neurophysiology, biomechanics and energetics. My work covers the full health spectrum, from the neuromechanics of split-belt walking in individuals with neurological disease to the biomechanics and energetics of elite marathon runners. I focus specifically on how surface and footwear properties can be used and optimized to improve gait rehabilitation and sports performance.

### **Post-doctoral experience**

**Sports biomechanics**, Locomotion Laboratory, University of Colorado, USA, 01-2015 – 08-2019

### **Education**

**Ph.D.** Biomedical Sciences, KU Leuven, Belgium, 2014

**M.S.** Human Movement Sciences, VU University Amsterdam, Netherlands, 2010

**M.S.** Civil Engineering, Delft University of Technology, Netherlands, 2006

**B.S.** Civil Engineering, Delft University of Technology, Netherlands, 2003

### **Journal Articles**

37. Ortega J, Healey L, Swinnen W, **Hoogkamer W**. Energetics and biomechanics of running footwear with increased longitudinal bending stiffness: a narrative review. *Sports Med* accepted

36. Snyder KL, **Hoogkamer W**, Triska C, Taboga P, Arellano CJ, Kram R. Effects of course design (curves and elevation undulations) on marathon running performance: a comparison of Breaking 2 in Monza and the INEOS 1:59 Challenge in Vienna. *J Sports Sci*. <https://doi.org/10.1080/02640414.2020.1843820>. *Online ahead of print*.

35. Layec G, **Hoogkamer W**. Commentaries on Viewpoint: Physiology and fast marathons – Running economy under the microscope. *J Appl Physiol*, 128, 1084, 2020. <https://doi.org/10.1152/jappphysiol.00167.2020>

34. **Hoogkamer W**. More isn't always better. *Footwear Sci*, 12: 75-77, 2020. <https://doi.org/10.1080/19424280.2019.1710579>

33. Swinnen W, **Hoogkamer W**, De Groot F, Vanwanseele B. Habitual foot strike pattern does not affect simulated Triceps Surae muscle metabolic energy consumption during running. *J Exp Biol*, 222: jeb212449, 2019. <https://doi.org/10.1242/jeb.212449>

32. Kipp S, Kram R, **Hoogkamer W**. Extrapolating metabolic savings in running: implications for performance predictions. *Front Physiol*, 10: 79, 2019. <https://doi.org/10.3389/fphys.2019.00079>

31. **Hoogkamer W**, Snyder KL, Arellano C. Reflecting on Eliud Kipchoge's Marathon World Record: An update to our model of cooperative drafting and its potential for a sub-2-hour performance. *Sports Med*, 49: 167-170, 2019. <https://doi.org/10.1007/s40279-019-01056-2>

30. Swinnen W, **Hoogkamer W**, Delabastita T, Aeles J, De Groot F, Vanwanseele B. The effect of habitual foot strike pattern on the Gastrocnemius medialis muscle-tendon interaction and muscle force production during running. *J Appl Physiol*, 126: 708-716, 2019. <https://doi.org/10.1152/jappphysiol.00768.2018>

29. **Hoogkamer W**, Kipp S, Kram R. The biomechanics of competitive male runners in three marathon racing shoes: a randomized crossover study. *Sports Med*, 49: 133-143, 2019. <https://doi.org/10.1007/s40279-018-1024-z>

28. **Hoogkamer W**, Snyder KL, Arellano C. Modeling the benefits of cooperative drafting: Is there an optimal strategy to facilitate a sub-2-hour marathon performance? *Sports Med*, 48: 2859-2867, 2018. <https://doi.org/10.1007/s40279-018-0991-4>
27. da Silva ES, Fisher G, da Rosa RG, Schons P, Teixeira LBT, **Hoogkamer W**, Peyré-Tartaruga LA. Gait and functionality of individuals with visual impairment who participate in sports. *Gait Posture*, 62: 355-358, 2018.
26. Corporaal S, Bruijn SM, **Hoogkamer W**, Chalavi S, Boisgointier MP, Duysens J, Swinnen SP, Gooijers J. Different neural substrates for precision stepping and fast online step adjustments in youth. *Brain Struct Funct*, 223: 2039-2053, 2018.
25. **Hoogkamer W**, Kipp S, Frank JH, Farina EM, Luo G, Kram R. A comparison of the energetic cost of running in marathon racing shoes. *Sports Med*, 48: 1009-1019, 2018.
24. Maas E, de Bie J, Vanfleteren E, **Hoogkamer W**, Vanwanseele B. Novice runners show greater changes in kinematics with fatigue compared with competitive runners. *Sports Biomech*, 17: 350-360, 2018.
23. Bekkers EMJ, **Hoogkamer W**, Bengevoord A, Heremans A, Verschueren SMP, Nieuwboer A. Freezing-related perception deficits of asymmetrical walking in Parkinson's disease. *Neurosci*, 364: 122-129, 2017.
22. **Hoogkamer W**, Potocanac Z, Van Calenbergh F, Duysens J. Quick foot placement adjustments during gait are less accurate in individuals with focal cerebellar lesions. *Gait Posture*, 58: 390-393, 2017.
21. Straw AH, **Hoogkamer W**, Kram R. Changing relative crank angle increases the metabolic cost of leg cycling. *Eur J Appl Physiol*, 117: 2021-2027, 2017.
20. **Hoogkamer W**, Kram R, Arellano CJ. How biomechanical improvements in running economy can break the 2-hour marathon barrier. *Sports Med*, 47: 1739-1750, 2017.
19. **Hoogkamer W**. Perception of gait asymmetry during split-belt walking. *Exerc Sport Sci Rev*, 45:34-40, 2017.
18. **Hoogkamer W**, Kipp S, Spiering BA, Kram R. Altered running economy directly translates to altered distance-running performance. *Med Sci Sports Exerc*, 48: 2175-2180, 2016.
17. **Hoogkamer W**, O'Brien MK. Sensorimotor recalibration during split-belt walking: task-specific and multi-sensory? *J Neurophysiol*, 116: 1539-1541, 2016.
16. **Hoogkamer W**, Potocanac Z, Duysens J. Quick foot placement adjustments during gait: direction matters. *Exp Brain Res*, 233: 3349-3357, 2015.
15. Mazaheri M, **Hoogkamer W**, Potocanac Z, Verschueren SM, Roerdink M, Beek PJ, Peper CE, Duysens J. Effects of aging and dual tasking on step adjustments to perturbations in visually cued walking. *Exp Brain Res*, 233: 3467-3474, 2015.
14. Drijkoningen D, Leunissen I, Caeyenberghs K, **Hoogkamer W**, Sunaert S, Duysens J, Swinnen SP. Regional volumes in brain stem and cerebellum are associated with postural impairments in young brain-injured patients. *Hum Brain Mapp*, 36: 4897-909, 2015.
13. **Hoogkamer W**, Bruijn SM, Potocanac Z, Van Calenbergh F, Swinnen SP, Duysens J. Gait asymmetry during early split-belt walking is related to perception of belt speed difference. *J Neurophysiol*, 114: 1705-1712, 2015.
12. **Hoogkamer W**, Bruijn SM, Sunaert S, Swinnen SP, Van Calenbergh F, Duysens J. Adaptation and after-effects of split-belt walking in cerebellar lesion patients. *J Neurophysiol*, 114: 1693-1704, 2015.
11. **Hoogkamer W**, Bruijn SM, Sunaert S, Swinnen SP, Van Calenbergh F, Duysens J. Toward new sensitive measures to evaluate gait stability in focal cerebellar lesion patients. *Gait Posture*, 41: 592-596, 2015.
10. **Hoogkamer W**, Van Calenbergh F, Swinnen SP, Duysens J. Cutaneous reflex modulation and self-induced reflex attenuation in cerebellar patients. *J Neurophysiol*, 113: 915-924, 2015.
9. **Hoogkamer W**, Bruijn SM, Duysens J. Gait parameters affecting the perception threshold of locomotor symmetry: comment on Lauzière, et al. (2014). *Percept Mot Skills*, 119: 474-477, 2014.

8. **Hoogkamer W**, Meyns P. Is action-perception coupling improved with delay in patients with focal cerebellar lesions? *J Neurosci*, 34: 11175-11176, 2014.
7. **Hoogkamer W**, Taboga P, Kram R. Applying the cost of generating force hypothesis to uphill running. *PeerJ* 2: e482, 2014.
6. **Hoogkamer W**, Meyns P, Duysens J. Steps forward in understanding backward gait: from basic circuits to rehabilitation. *Exerc Sport Sci Rev*, 42: 23-29, 2014.
5. **Hoogkamer W**, Bruijn SM, Duysens J. Stride length asymmetry in split-belt locomotion. *Gait Posture*, 39: 652-654, 2014.
4. Meyns P, Van de Walle P, **Hoogkamer W**, Kiekens C, Desloovere K, Duysens J. Coordinating arms and legs on a hybrid rehabilitation tricycle; the metabolic benefit of asymmetrical compared to symmetrical arm movements. *Eur J Appl Physiol*, 114: 743-50, 2014.
3. Potocanac Z, **Hoogkamer W**, Carpes FP, Pijnappels M, Verschueren SM, Duysens J. Response inhibition during avoidance of virtual obstacles while walking. *Gait Posture*, 39: 641-644, 2014.
2. Duysens J, **Hoogkamer W**, Levin O. Is there "arthrogenic inhibition" of cutaneous reflexes in subjects with functional ankle instability? *Clin Neurophysiol*, 124: 1264-1266, 2013.
1. **Hoogkamer W**, Massaad F, Jansen K, Bruijn SM, Duysens J. Selective bilateral activation of leg muscles after cutaneous nerve stimulation during backward walking. *J Neurophysiol*, 108: 1933-1941, 2012.

### **Teaching**

**KIN 236 Neuromechanics**

Spring '21

**KIN 460 Movement Neuroscience**

Spring '20, Fall '20

**KIN 697R Biomechanics & Movement Neuroscience Journal Club**

Fall '19 – Fall '20

### **Teaching assistantships:**

- Biomechanics & Kinesiology, Rehabilitation Sciences, KU Leuven, Belgium
- Biomechanics, Kinesiology, KU Leuven, Belgium
- Anatomy & Physiology, Health Sciences, VU University, Amsterdam, Netherlands
- Linear System Dynamics, Human Movement Sciences, VU University, Amsterdam

Fall '12, '13 & '14  
Spring '11, '12 & '13  
Spring '09  
Fall '08

### **Graduate student supervision**

**Gerard Aristizabal Pla**, M.S. student, 2020 – 2022

**Damion Perry**, M.S. student, 2020 – 2022

**Jonaz Moreno Jaramillo**, Ph.D. student, 2020 – 2024

**Justin A. Ortega**, M.S. student, Effects of footwear on foot mechanics and metabolic rate during uphill running, 2019 – 2021

**Wannes Swinnen**, Ph.D. student, Establishing the contribution of the muscle-tendon interaction to the metabolic cost of running using a blended experimental and computational approach, KU Leuven, 2018 – 2022

**Edson Soares da Silva**, M.S. student, How do small resistive horizontal forces affect the energy cost of running? Federal University of Rio Grande do Sul, Brazil, 2018-2020

**Petra Hyncicova**, B.A./M.S. student, The effect of added pole mass on the metabolic cost of cross-country skiing. University of Colorado, 2016-2018

**Asher Straw**, M.S. student, The effects of suspension on the energetics and mechanics of riding bicycles on smooth uphill surfaces, University of Colorado, 2016 – 2017

**Wannes Swinnen**, M.S. student, The effects of foot strike pattern on muscle fascicle and tendon behavior during running, KU Leuven, 2016 – 2017

**Shalaya Kipp**, M.S. student, The curvilinear increase in the metabolic cost of running at higher velocities is related to reductions in effective mechanical advantage, University of Colorado, 2015 – 2017

**Bryant Pham**, M.S. student, The biomechanics and energetics of skate boarding, University of Colorado, 2014 – 2016

**Masood Mazaheri**, Ph.D. student, Effects of aging and dual tasking on step adjustments to perturbations in visually cued walking, KU Leuven, visiting from VU University of Amsterdam, 2013 – 2014

**Ines Michiels & Jolien Noyens**, M.S. students, The role of the cerebellum in on-line corrections during precision stepping, KU Leuven, 2012 – 2014

**Iris Degrande & Katrien Bastenie**, M.S. students, Perception Threshold of Gait Asymmetry in Cerebellar Patients, KU Leuven, 2012 – 2014

**Mohammad Abtahi & Stefan Gota**, M.S. students, Does learned behavior change with practice or rest? KU Leuven, 2012 – 2014

**Jeroen Aeles**, M.S. student, Influence of different surfaces on impact, shock absorption and leg stiffness in female elite runners and untrained individuals, KU Leuven, 2012 – 2013

**Martina Jagnesakova & Xavièra Libbrecht**, M.S. students, Is adaptation of split-belt running similar to adaptation of split-belt walking? KU Leuven, 2011 – 2013

**Marike Odeyn & Christophe Delvaux**, M.S. students, Stepping accuracy during online gait corrections in healthy subjects, KU Leuven, 2011 – 2013

**Steve Dierckxsens & Daria Uniszkiwicz**, M.S. students, Somatosensory perception is related to split-belt adaptation, KU Leuven, 2011 – 2013

**Karim Abayazid & Suman Dangol**, M.S. students, Why do we avoid limping? KU Leuven, 2011 – 2013

**Nele Meert & Jens Raes**, M.S. students, Stepping over virtual obstacles: insights from healthy young individuals, KU Leuven, 2011 – 2012

**Veronika Vlckova**, M.S. student, Cutaneous reflex responses in cerebellar patients, KU Leuven, 2010 – 2012

### Undergraduate student supervision

**Clarissa Whiting**, A novel mountain bicycle dual suspension system does not save metabolic energy while riding over bumps, University of Colorado, 2017-2018

**Christian Carmack**, Aerodynamic effects on Olympic marathon runners, University of Colorado, 2017-2018

**Andrew Burns**, Effect of cycling shoe and pedal-interface on maximal mechanical power output, 2017-2018

**Edson Soares da Silva**, Gait in individuals with visual impairments – literature overview and new insights, Federal University of Rio Grande do Sul, Brazil, 2017

**Lucy Newman**, The effect of pole mass and poling frequency on the metabolic cost of cross-country skiing, University of Colorado, 2016-2017

**Asher Straw**, Could a kangaroo win the Tour de France? The effect of relative crank angle on the metabolic cost of bicycling, University of Colorado, 2015-2016

**Marcel Davidse**, Correlating the biomechanics and economy of running, University of Colorado, 2015

**Lauren Wilder**, Effects of shoe heel to toe drop on the metabolic cost of running, University of Colorado, 2015

**Seppe Torfs & Yannis Van de Velde**, Running with the legs at different speeds, KU Leuven, 2013 – 2014

### Grants and Contracts

Puma North America	Hoogkamer (PI)	9-2019 – 9-2021
<b>Energetics and biomechanics of running footwear</b>		
Role: PI	contract	
Nike Inc.	Kram (PI)	10-2018 – 3-2019
<b>The efficiency and biomechanics of a novel running shoe</b>		
Role: Co-PI	contract	
American College of Sports Medicine Foundation	Hoogkamer (PI)	7-2018 – 6-2019
<b>Adjustable surface stiffness treadmill to study the energetics and neuromechanics of running</b>		
Post-doctoral Research Endowment	\$10k	
Specialized Bicycle Components Inc.	Kram (PI)	8-2018 – 7-2019
<b>Biomechanics and efficiency of cycling shoes</b>		
Role: Co-PI	contract	
Research Foundation – Flanders: PhD Fellowship	Swinnen (PI)	10-2018 – 9-2022
<b>Establishing the contribution of the muscle-tendon interaction to the metabolic cost of running using a blended experimental and computational approach</b>		
Role: Co-promoter	€120k	

Specialized Bicycle Components Inc. <b>Biomechanics and efficiency of mountain bicycle suspension systems</b> Role: Co-PI	Kram (PI) contract	8-2017 – 7-2018
Specialized Bicycle Components Inc. <b>Biomechanics and efficiency of road bicycle suspension systems</b> Role: Co-PI	Kram (PI) contract	8-2016 – 7-2017
Nike Inc. <b>The efficiency and biomechanics of running shoes</b> Role: Co-PI	Kram (PI) contract	4-2016 – 1-2017
Nike Inc. <b>The 3% project</b> Role: Co-PI	Kram (PI) contract	4-2015 – 1-2016
Research Foundation – Flanders <b>Conference Travel Grant</b> , International Society of Posture & Gait Research, Vancouver, Canada	\$1k	6-2014
Research Foundation – Flanders <b>First Contact Initiatives Funding</b> , 3wk visit Centre for Integrative Neuroscience, Tuebingen, Germany	\$3k	5-2014
International Society of Biomechanics <b>ISB Student Congress Travel Grant</b> , Natal, Brazil	\$1k	7-2013

### Awards

**ASB Young Scientist Award - Post Doctoral**, American Society of Biomechanics, 2019

**VvBN PhD Dissertation Award 2014**, finalist, Vereniging voor Bewegingswetenschappen Nederland (Dutch Association of Movement Sciences), 2015

**ESB Student Award**, finalist, European Society of Biomechanics, 2014

**G.J. van Ingen Schenau Promising Young Scientists Award**, VU University Amsterdam, Netherlands, 2008

### Invited Presentations & Guest Lectures

**Hoogkamer W.** The era of bouncy shoes. *New England chapter of the American College of Sports Medicine*, October 2020, virtual

**Hoogkamer W.** Panelist: Postdoc to Professorship workshop. *American Society of Biomechanics*, August 2020, virtual

**Hoogkamer W.** Guest Lecture: Running footwear and the 2 hour marathon. *Sports Biomechanics Lectures Series, International Society of Biomechanics in Sports*, April 2020, <https://www.youtube.com/watch?v=rwjPQo23uME>

**Hoogkamer W.** Guest Lecture: The biomechanics and energetics of running. *Clinical Biomechanics in Locomotion, School of Kinesiology, Auburn University*, virtual

**Hoogkamer W.** Guest Lecture: The biomechanics and energetics of a sub-2-hour marathon. *Engineering Biomechanics, Department of Biomedical Engineering, University of Central Florida*, November 2019, virtual

**Hoogkamer W.** Running footwear compliance: mechanics, energetics and performance [organizer invited symposium]. *International Society of Biomechanics*, July 2019, Calgary, Alberta, Canada

**Hoogkamer W**, Kipp S. Keynote: Reducing the energetic cost of walking and running by technological advances in footwear. *Pedorthic Association Canada Symposium*, April 2019, Vancouver, British Columbia, Canada

**Hoogkamer W.** The biomechanics and energetics of a sub-2-hour marathon. *California State University, Sacramento, Department of Kinesiology and Health Science*, March 2019, Sacramento, California, USA

**Hoogkamer W**, Kipp S, Kram R. Highly compliant and resilient running shoes: biomechanics, energetics and predicted performance gains. *International Research Forum on Biomechanics of Running-Specific Prostheses*, February 2019, Tokyo, Japan

**Hoogkamer W.** Perception of gait asymmetry during split-belt walking. *Colorado State University, Department of Health and Exercise Science*, August 2017, Fort Collins, Colorado, USA

**Hoogkamer W.** "It's gotta be the shoes." *Kram Retirement Conference*, August 2017, Mountain Research Station, Nederland, Colorado, USA

**Hoogkamer W.** Guest Lecture: The biomechanics of a sub-2-hour marathon. *Sports Biomechanics, Rehabilitation Sciences, Hasselt University*, June 2017, virtual

**Hoogkamer W.** Guest Lecture: The energetics of a sub-2-hour marathon. *Exercise Physiology, Integrative Physiology, University of Colorado*, May 2017, Boulder, Colorado, USA

**Hoogkamer W, Kram R, Arellano CJ.** How biomechanical improvements in running economy could help break the 2-hour marathon barrier. *VII Symposium on Applied Neuromechanics*, June 2016, Curitiba, Brazil

**Hoogkamer W, Kipp S, Spiering BA, Kram R.** Does altered running economy translate to distance-running performance? *University of Nebraska, Biomechanics Research Building*, May 2016, Omaha, Nebraska, USA

**Hoogkamer W, Potocanac Z, Duysens J.** Basic research applications of the C-mill. *C-Mill Symposium 2014*, September 2014, Amstelveen, Netherlands

### **Professional Service**

**American Society of Biomechanics:** Post-Doctoral Award Committee 2017, Annual Meeting Abstract Reviewer, Annual Meeting Session Moderator

**International Society of Biomechanics:** Weekly Biomech-L Literature Update 6-2015 – 9-2016

#### **Ad hoc reviewer:**

*Applied Physiology, Nutrition, and Metabolism*  
*Biology Open*

*Clinical Biomechanics*

*European Journal of Sport Science*

*European Journal of Applied Physiology*

*Exercise & Sport Sciences Reviews*

*Footwear Science*

*Frontiers in Physiology – Exercise Physiology*

*Gait & Posture*

*Human Movement Science*

*IEEE Transactions on Neural Systems and*  
*Rehabilitation Engineering*

*International Journal of Sports Physiology &*  
*Performance*

*International Journal of Sports Medicine*

*Journal of Aging and Physical Activity*

*Journal of Applied Biomechanics*

*Journal of Applied Physiology*

*Journal of Biomechanics*

*Journal of Experimental Biology*

*Journal of Medical and Biological Engineering*

*Journal of Neurophysiology*

*Journal of Science and Medicine in Sport*

*Journal of Sport and Health Science*

*Medicine & Science in Sports & Exercise*

*North American Journal of Medical Sciences*

*Perceptual and Motor Skills*

*PLoS One*

*Scandinavian Journal of Medicine and Science in*  
*Sports*

*Scientific Reports*

*Sports Medicine*

*Sports Medicine – Open*

### **Conference abstracts**

46. Healey L, Ortega JA, Haavind-Berman D, **Hoogkamer W.** Metabolic power during running in Vaporfly shoes with intact vs. cut carbon-fiber plates. *American Society of Biomechanics*, August 2020, virtual

45. Ortega JA, Healey L, Haavind-Berman D, **Hoogkamer W.** Biomechanics during running in Vaporfly shoes with intact vs. cut carbon-fiber plates. *American Society of Biomechanics*, August 2020, virtual

44. Sato S, Schlechter M, Lee A, **Hoogkamer W.** Effects of asymmetrical footwear height on gait kinetics and kinematics. *American Society of Biomechanics*, August 2020, virtual

43. **Hoogkamer W\***, Carmack C, da Silva ES, Kipp S. An integrative approach to the aerodynamics of elite marathon running performance. *International & American Society of Biomechanics*, August 2019, Calgary, AB, Canada. *\*ASB Young Scientist Award – Post Doctoral*

42. Swinnen W, **Hoogkamer W**, De Groot F, Vanwanseele B. Triceps Surae metabolic energy consumption in rearfoot and mid-/forefoot strikers. *International & American Society of Biomechanics*, August 2019, Calgary, AB, Canada.
41. Snyder KL, Whiting CS, **Hoogkamer W**, Arellano CJ. Atalantas Assemble: can the women's marathon world record be broken under an optimal cooperative drafting strategy? *International & American Society of Biomechanics*, August 2019, Calgary, AB, Canada.
40. Boppana A\*, **Hoogkamer W**, Kram R, Anderson AP. Using dynamic foot morphology data to design spacesuit footwear. *Footwear Biomechanics Symposium*, July 2019, Kananaskis, AB, Canada. \**Martyn Shorten Award for Innovation*
39. **Hoogkamer W**, Kipp S, Kram R. A comparison of the biomechanics of running in different marathon racing shoes. *Nike Global Research Symposium*, September 2018, Beaverton, OR, USA.
38. **Hoogkamer W**, Kipp S, Kram R. Running biomechanics in 4% more economical marathon shoes. *American Society of Biomechanics*, August 2018, Rochester, MN, USA.
37. Swinnen W, **Hoogkamer W**, Delabastita T, Aeles J, De Groot F, Vanwanseele B. The effect of habitual rearfoot and mid-/forefoot striking on muscle fascicle and tendon behavior during running. *8th World Congress of Biomechanics*, July 2018, Dublin, Ireland.
36. Whiting CS, Lawson G, Straw AH, **Hoogkamer W**. A novel mountain bicycle dual suspension system does not save metabolic energy while riding over bumps. *Rocky Mountain American Society of Biomechanics*, April 2018, Estes Park, CO, USA.
35. Carmack C\*, **Hoogkamer W**, Kram R. Aerodynamic effects on Olympic marathon runners. *Rocky Mountain American Society of Biomechanics*, April 2018, Estes Park, CO, USA. \**Award for best undergraduate podium presentation*
34. Arellano CJ, **Hoogkamer W**. Coasting to a sub-2-hour marathon using an optimal drafting approach. *American Society of Biomechanics*, August 2017, Boulder, CO, USA.
33. Straw AH, Frank JH, **Hoogkamer W**, Kram R. Using a treadmill to accurately measure power output in bicycling. *American Society of Biomechanics*, August 2017, Boulder, CO, USA.
32. Bekkers EMJ, **Hoogkamer W**, Bengevoerd A, Heremans E, Verschueren SMP, Nieuwboer A. Impaired perception of gait asymmetry during split-belt walking in patients with Parkinson's disease with and without freezing of gait. *International Society of Posture and Gait Research Congress 2017*, June 2017, Fort Lauderdale, FL, USA.
31. **Hoogkamer W**, Kipp S, Frank JH, Farina E, Luo G, Kram R. New running shoe reduces the energetic cost of running. *American College of Sports Medicine*, June 2017, Denver, CO, USA.
30. Straw AH, Frank JH, Pham BT, Carver TM, **Hoogkamer W**. Measuring mechanical and metabolic power during uphill treadmill cycling. *American College of Sports Medicine*, June 2017, Denver, CO, USA.
29. Carver TM, Straw AH, Frank JH, Kraus TS, **Hoogkamer W**. Front suspension does not increase mechanical or metabolic power requirements during uphill bicycling. *American College of Sports Medicine*, June 2017, Denver, CO, USA.
28. Straw AH, Frank JH, **Hoogkamer W**, Kram R. Using a treadmill to accurately measure power output in bicycling. *Rocky Mountain American Society of Biomechanics*, April 2017, Estes Park, CO, USA.
27. Bekkers EMJ, **Hoogkamer W**, Bengevoerd A, Heremans E, Verschueren SMP, Nieuwboer A. Perceptual deficits of gait asymmetry during split-belt walking in patients with Parkinson's disease with and without Freezing of Gait. *4th World Parkinson Congress*, September 2016, Portland, OR, USA.
26. **Hoogkamer W**, Kipp S, Spiering BA, Kram R. Altered running economy directly translates to distance running performance. *American Society of Biomechanics*, August 2016, Raleigh, NC, USA.
25. Straw AH, **Hoogkamer W**, Kram R. Could a kangaroo win the Tour de France? The effect of relative crank angle on metabolic efficiency in cycling. *American Society of Biomechanics*, August 2016, Raleigh, NC, USA.
24. Arellano CJ, **Hoogkamer W**, Kram R. How biomechanical improvements in running economy could help break the 2-hour marathon barrier. *International Society of Biomechanics in Sports*, July 2016, Tsukuba, Japan.

23. Kipp S, **Hoogkamer W**, Spiering BA, Kram R. Altered running economy directly translates to distance running performance. *Rocky Mountain American Society of Biomechanics*, April 2016, Estes Park, CO, USA.
22. Straw AH\*, **Hoogkamer W**, Kram R. Could a kangaroo win the Tour de France? The effect of relative crank angle on metabolic efficiency in cycling. *Rocky Mountain American Society of Biomechanics*, April 2016, Estes Park, CO, USA. \*Award for best undergraduate podium presentation
21. Maas E, de Bie J, Vanfleteren R, **Hoogkamer W**, Vanwaseele B. Fatigue leads to more changes in trunk and hip kinematics in novice versus competitive runners. *XXV Congress of the International Society of Biomechanics*, July 2015, Glasgow, Scotland.
20. Mazaheri M, **Hoogkamer W**, Potocanac Z, Verschueren SM, Roerdink M, Beek PJ, Peper CE, Duysens J. Effects of aging and dual tasking on step adjustments to perturbations in visually cued walking. *International Society of Posture and Gait Research Congress 2015*, June 2015, Seville, Spain.
19. **Hoogkamer W**, Potocanac Z, Van Calenbergh F, Duysens J. Online gait adjustments in cerebellar patients. *Rocky Mountain American Society of Biomechanics*, April 2015, Estes Park, CO, USA.
18. Leunissen I, Drijkoningen D, **Hoogkamer W**, Caeyenberghs K, Swinnen SP. The role of the cerebellum in challenging postural control conditions. *12th International Conference on Cognitive Neuroscience*, July 2014, Brisbane, Belgium.
17. **Hoogkamer W**, Bruijn SM, Duysens J. Relations between split-belt adaptation, after effects and perception of gait asymmetry. *7th World Congress of Biomechanics*, July 2014, Boston, MA, USA.
16. Meyns P, **Hoogkamer W**, Bruijn SM, Desloovere K, Duysens J. The effect of restricting arm movements on walking speed in children with Cerebral Palsy and Typically Developing children. *International Society of Posture and Gait Research Congress 2014*, June 2014, Vancouver, BC, Canada.
15. **Hoogkamer W**, Bruijn SM, Swinnen SP, Van Calenbergh F, Duysens J. Split-belt adaptation in cerebellar patients with focal lesions. *International Society of Posture and Gait Research Congress 2014*, June 2014, Vancouver, BC, Canada.
14. **Hoogkamer W**, Potocanac Z, Uniszkiewicz D, Dierckxsens S, Swinnen SP, Duysens J. Functional split-belt test: relation between perception and adaptation. *18de VK-symposium*, December 2013, Leuven, Belgium.
13. Aeles J, **Hoogkamer W**, Vanwaseele B. Influence of outdoor surfaces on impact and shock absorption in novice and well-trained runners. *18de VK-symposium*, December 2013, Leuven, Belgium.
12. Potocanac Z, Smulders E, **Hoogkamer W**, Pijnappels MAGM, Verschueren SM, Duysens J. Response inhibition during avoidance of virtual obstacles. *18de VK-symposium*, December 2013, Leuven, Belgium.
11. Potocanac Z, Smulders E, **Hoogkamer W**, Pijnappels MAGM, Verschueren SM, Duysens J. Is response inhibition during obstacle avoidance while walking the same as response inhibition measured manually or with a dual task? *11th Motor Control and Human Skill Conference*, November 2013, Melbourne, Australia.
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#### **Past positions (non-academic)**

**Jr. Engineer**, Heerema Marine Contractors, Netherlands, 03-2007 – 08-2007

**Jr. Engineer**, IDCS, Netherlands, 12-2006 – 02-2007

**Jr. Engineer**, Intec Engineering, Netherlands, 02-2006 – 11-2006