

# 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

## **Peer Reviewed Publications**

34. **Hoogkamer W.** More isn't always better. *Footwear Sci*, 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**

### **Motor Control Kin 460**

#### **Teaching assistantships:**

- Biomechanics & Kinesiology, Rehabilitation Sciences, KU Leuven, Belgium, Fall semesters 2012-2014
- Biomechanics, Kinesiology, KU Leuven, Belgium, Spring semesters 2011-2013
- Anatomy & Physiology of Movement, Health Sciences, VU University of Amsterdam, Netherlands, Spring semester 2009
- Linear System Dynamics, Human Movement Sciences, VU University of Amsterdam, Netherlands, Fall semester 2008

#### **Invited guest lectures:**

- Exercise Physiology, Integrative Physiology, University of Colorado, USA, May 2017
- Sports Biomechanics, Rehabilitation Sciences, Hasselt University, Belgium, June 2017

#### **Graduate student supervision**

**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

**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

**Edson Soares da Silva**, M.S. student, How do small resistive horizontal forces affect the energy cost of running? University of Colorado, visiting from Federal University of Rio Grande do Sul, Brazil, 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  
**Marika 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  
**Seppie Torfs & Yannis Van de Velde**, Running with the legs at different speeds, KU Leuven, 2013 – 2014

### **Grants and Contracts**

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.	Kram (PI)	8-2017 – 7-2018
<b>Biomechanics and efficiency of mountain bicycle suspension systems</b>		
Role: Co-PI	contract	
Specialized Bicycle Components Inc.	Kram (PI)	8-2016 – 7-2017
<b>Biomechanics and efficiency of road bicycle suspension systems</b>		
Role: Co-PI	contract	
Nike Inc.	Kram (PI)	4-2016 – 1-2017
<b>The efficiency and biomechanics of running shoes</b>		
Role: Co-PI	contract	
Nike Inc.	Kram (PI)	4-2015 – 1-2016
<b>The 3% project</b>		
Role: Co-PI	contract	

Research Foundation – Flanders	\$1k	6-2014
<b>Conference Travel Grant</b> , International Society of Posture & Gait Research, Vancouver, Canada		
Research Foundation – Flanders	\$3k	5-2014
<b>First Contact Initiatives Funding</b> , 3wk visit Centre for Integrative Neuroscience, Tuebingen, Germany		
International Society of Biomechanics	\$1k	7-2013
<b>ISB Student Congress Travel Grant</b> , Natal, Brazil		

### 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

### Professional Service

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

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

Reviewer, Annual Meeting Session Moderator

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

*Applied Physiology, Nutrition, and Metabolism*

*Biology Open*

*Clinical Biomechanics*

*European Journal of Sport Science*

*European Journal of Applied Physiology*

*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*

*Journal of Aging and Physical Activity*

*Journal of Applied Biomechanics*

*Journal of Biomechanics*

*Journal of Experimental Biology*

*Journal of Medical and Biological Engineering*

*Journal of Neurophysiology*

*Journal of Science and Medicine in Sport*

*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*

### Invited Seminar Presentations & Other Invited Presentations

**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. 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**, 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.

### **Conference abstracts**

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**, Bengevoord 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**, Bengevoord 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**, Vanwanseele 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**, Vanwanseele 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.
10. Meyns P, Massaad F, Bruijn SM, **Hoogkamer W**, MacLellan MJ, Ivanenko YP, Desloovere K, Duysens J. Arm swing adaptation differs from leg adaptation during split-belt treadmill walking. *22nd Annual Meeting of the European Society for Movement Analysis in Adults and Children*, September 2013, Glasgow, Scotland.
9. **Hoogkamer W**, Bruijn SM, Van Calenbergh F, Duysens J. Dynamic gait stability in cerebellar patients. *XXIV Congress of the International Society of Biomechanics*, August 2013, Natal, Brazil.

8. Bruijn SM, Millard M, **Hoogkamer W\***, Meyns P, Jonkers I. Gait stability in children with cerebral palsy. *XXIV Congress of the International Society of Biomechanics*, August 2013, Natal, Brazil. *\*Stand-in, oral presentation*
7. Potocanac Z, Smulders E, Carpes FP, **Hoogkamer W\***, Pijnappels MAGM, Verschueren SM, Duysens J. Avoiding virtual obstacles during walking: testing response inhibition. *XXIV Congress of the International Society of Biomechanics*, August 2013, Natal, Brazil. *\*Stand-in, poster presentation*
6. **Hoogkamer W**, Potocanac Z, Uniszkiewicz D, Dierckxsens S, Swinnen SP, Duysens J. Early rate of split-belt adaptation is correlated to somatosensory perception. *2nd Joint World Congress of ISPGR and Gait & Mental Function*, June 2013, Akita, Japan.
5. **Hoogkamer W**, Van Calenbergh F, Swinnen SP, Duysens J. Cutaneous reflex modulation and self-induced reflex attenuation in cerebellar patients. *2nd Joint World Congress of ISPGR and Gait & Mental Function*, June 2013, Akita, Japan.
4. **Hoogkamer W**, Van Calenbergh F, Swinnen SP, Duysens J. The role of the cerebellum in cutaneous reflex modulation and self-induced reflex attenuation. *10th Belgian Society for Neuroscience meeting*, May 2013, Brussels, Belgium.
3. **Hoogkamer W**, Bruijn SM, Massaad F, Duysens J. Backward walking; wider steps as stabilizing strategy. *1st Joint World Congress of ISPGR and Gait & Mental Function*, June 2012, Trondheim, Norway.
2. **Hoogkamer W**, Massaad F, Duysens J. Selective activation of contralateral muscles after cutaneous nerve stimulation during backward walking. *Neuroscience 2011*, November 2011, Washington, DC, USA.
1. **Hoogkamer W**, Kram R. A new approach to the energetics of uphill running. *XXIII Congress of the International Society of Biomechanics*, July 2011, Brussels, Belgium.

#### **Media coverage** (selection)

Speedy shoe, **Science World**, March 26, 2018. <https://scienceworld.scholastic.com/issues/2017-18/032618/speedy-shoe.html>

Specialized jumps into power meters, **bicycling.com**, March 14, 2018. <https://www.bicycling.com/bikes-gear/specialized-power-cranks>

Can this new running shoe make novice runners faster? **Popular Science magazine**, September 27, 2017. <https://www.popsci.com/brooks-running-shoe-energy-return-levitate>

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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