David C Kingston

Curriculum Vitae
8 September 2020

Department of Biomechanics
College of Education, Health, and Human Sciences
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EDUCATION

PhD	Department of Kinesiology, University of Waterloo	2019
MSc	Kinesiology and Health Studies, Queen's University	2013
BSc	Kinesiology and Health Studies, Queen's University	2011

PROFESSIONAL APPOINTMENTS

Assistant Professor	College of Education, Health, and Human Sciences University of Nebraska Omaha	2020-present
PDF	College of Medicine University of Saskatchewan	2019-2020
Manager	Ergonomics Laboratory University of Saskatchewan	2019-2020

PUBLICATIONS

Peer Reviewed Journal Publications (18)

Published or Accepted (15)

1. **Kingston DC**, Linassi AG, Zucker-Levin AR. (2020). Changes to stance limb peak, cumulative, and regional plantar foot forces among normal walking and three mobility aids in healthy older adults. *Gait & Posture*, 81: 96-101.
2. **Kingston DC**, Acker SM. (2020). Development of a full flexion 3D musculoskeletal model of the knee considering intersegmental contact during high knee flexion movements. *Journal of Applied Biomechanics*. In Press.
3. **Kingston DC**, Bashiri B, Omoniyi A, Trask CM. (2020). Body orientation and points of contact during laboratory based machinery egress: Investigating adherence to safety guidelines. *Journal of Agriculture Safety and Health*, 26(3): 95-104.
4. Zehr JD, Fewster KM, **Kingston DC**, Gooyers CE, Parkinson RJ, Callaghan JP. (2020). Quantifying parameters of the seat-occupant interface during laboratory simulated low speed rear impact collisions. *International Journal of Vehicle Design*. In Press.
5. **Kingston DC** & Acker SM. (2019). Prediction of thigh-calf contact parameters from anthropometric regression. *Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine*, 4(233): 414-423.

6. Gibbons TD, Zuj KA, Prince CN, **Kingston DC**, Peterson SD, Hughson RL. (2019). Hemodynamic effects of intermittent compression as countermeasure to orthostatic stress. *Experimental Physiology*, 104(12): 1790-1800.

7. **Kingston DC** & Acker SM. (2018). Representing fine-wire EMG with surface EMG in three thigh muscles during high knee flexion movements. *Journal of Electromyography and Kinesiology*, 43(6): 55-61.

8. **Kingston DC** & Acker SM. (2018). Thigh-calf contact parameters for six high knee flexion postures: Onset, maximum angle, total force, contact area, and center of force. *Journal of Biomechanics*, 67(23): 46-54.

9. **Kingston DC**, Chong HC, Tennant LM, Acker SM. (2017). Lower limb muscular activation during transitions to symmetric high knee flexion postures in young females. *IISE Transactions on Occupational Ergonomics and Human Factors*, 5(2): 82-91.

10. Chong HC, Tennant LM, **Kingston DC**, Acker SM. (2017). Knee joint moment during high flexion movements: Timing of peak moments and the effect of safety footwear. *The Knee*, 24(2): 271-279.

11. **Kingston DC**, Tennant LM, Chong HC, Acker SM. (2016). Peak activation of lower limb musculature during high flexion kneeling and transitional movements. *Ergonomics*, 59(9): 1215-1223.

12. **Kingston DC,** Riddell MF, McKinnon CD, Gallagher KM, Callaghan JP. (2015). Influence of Input Hardware and Work Surface Angle on Upper Limb Kinematics in a Hybrid Workstation. *Human Factors*, 58(1): 107-119.

13. Tennant LM, **Kingston DC,** Chong HC, Acker SM. (2015). The effect of work boots on the center of pressure location at the knee during static kneeling. *Journal of Applied Biomechanics*, 31(5): 363-369.

14. Howarth SJ, **Kingston DC**, Brown SHM, Graham RB. (2013). Viscoelastic creep induced by repetitive spine flexion and its relationship to dynamic spine stability. *Journal of Electromyography and Kinesiology*, 23(4): 791-800.

15. Almosnino S, **Kingston D**, Graham RB. (2013). Three-dimensional knee joint moments during bodyweight squat performance: Effects of stance width and foot rotation. *Journal of Applied Biomechanics*, 29(1): 33-43.

Submitted (3)

1. Buchman-Pearle J, **Kingston DC**, Acker SM. (2020). Ankle mobility in kneeling and its effect at the knee and hip. *Human Movement Science*. Ref: HMS_2020_69.

2. Tennant L, Fok D, **Kingston DC**, Winberg TB, Parkinson R, Laing A, Callaghan JP. (2020). Dynamics during Controlled Slips from Standing in Alternative Footwear. *Applied Ergonomics*. Ref: JERG-D-20-00060.

3. Ivanochko NK, **Kingston DC**, Acker SM. (2019). Reduction in quadriceps activity in response to thigh-calf contact onset and correlation between quadriceps activity reduction and thigh-calf contact force magnitude. *Human Movement Science*. Ref: HMS_2019_469.

Non-Peer Reviewed Publications (1)

1. Almosnino S, **Kingston DC**, Graham RB, Stevenson JM. (2014). The effects of prolonged load carriage treadmill walking on lower extremity and trunk kinematics, heart rate, and perceived exertion. PWGSC #7711-0607896 on behalf of the *Department of National Defense*.

AWARDS & HONORS

Name	Total Value (CAD)	Year
University of Waterloo Doctoral Thesis Completion Award	$ 5 000	2018
Ontario Graduate Scholarship	$ 15 000	2017-18
University of Waterloo President's Graduate Award	$ 10 000	2017-18
University of Waterloo Staff Association Award	$ 500	2014/18
Queen's Graduate Award	$ 18 000	2011-13
Sport Information Research Centre Award	$ 2 000	2011
Queen's Academic Excellence Award	$ 2 000	2007
Queen's Athletic Recruitment Award	$ 3 500	2007
Travel Awards		
University of Saskatchewan – College of Medicine	$ 1 500	2019
AMTI Force & Motion Foundation	$ 500 (USD)	2018
Canadian Society for Biomechanics (CSB)	$ 300	2018
Centre of Research Expertise for the Prevention of Musculoskeletal Disorders (CRE-MSD)	$ 250	2011/13

CONFERENCE ACTIVITY

Peer Reviewed Conference Papers (15)

1. **Kingston DC**, Acker SM. Influence of intersegmental contact on tibial contact forces during high knee flexion movements. 27th Congress of the International Society of Biomechanics, July 31-August 4th, 2019, Calgary, AB, Canada.

2. Buchman-Pearle J, **Kingston DC**, Acker SM. Effect of Ankle Range of Motion on High Knee Flexion Posture Kinematics. 27th Congress of the International Society of Biomechanics, July 31-August 4th, 2019, Calgary, AB, Canada.

3. Tennant L, Fok D, **Kingston DC**, Parkinson R, Laing A, Callaghan JP. Dynamics during Controlled Slips from Standing in Alternative Footwear. 27th Congress of the International Society of Biomechanics, July 31-August 4th, 2019, Calgary, AB, Canada.

4. **Kingston DC**, Acker SM. The effect of 3D thigh-calf contact on external knee forces and moment in six high knee flexion movements. 20th Biennial Meeting of the Canadian Society for Biomechanics, August 14-17, 2018, Halifax, NS, Canada.
5. **Kingston DC**, Acker SM. Modelling of three lower-limb deep muscle activation profiles with surface EMG during kneeling and squatting movements. 20th Biennial Meeting of the Canadian Society for Biomechanics, August 14-17, 2018, Halifax, NS, Canada.

6. Ivanochko NK, **Kingston DC**, Acker SM. Changes in knee extensor muscle activation due to thigh-calf contact. 20th Biennial Meeting of the Canadian Society for Biomechanics, August 14-17, 2018, Halifax, NS, Canada.

7. Zehr JD, Fewster KM, **Kingston DC**, Gooyers CE, Callaghan JP. Quantifying the seat-occupant interface during a low speed rear-impact collision. 20th Biennial Meeting of the Canadian Society for Biomechanics, August 14-17, 2018, Halifax, NS, Canada.

8. **Kingston DC**, Acker SM. Thigh-calf contact during six high knee flexion movements: onset, range of motion, magnitude, and contact area. 41st Annual Meeting of the American Society of Biomechanics, August 8-11, 2017, Boulder, CO, USA.

9. **Kingston DC**, Berry JB, Barrett JM, Acker SM. Identification of muscle synergies during high knee flexion squatting. 19th Biennial Meeting of the Canadian Society for Biomechanics, July 19-22, 2016, Hamilton, ON, Canada.

10. Park J, **Kingston DC**, Callaghan JP. Use of dowel-assisted training methods to reduce peak lumbar flexion angles during lifting low-lying objects. 19th Biennial Meeting of the Canadian Society for Biomechanics, July 19-22, 2016, Hamilton, ON, Canada.

11. **Kingston DC**, Chong HC, Tennant LM, Acker SM. High knee flexion and lower limb muscle activation: Does movement pattern matter? 39th Annual Meeting of the American Society of Biomechanics, August 5-8, 2015, Columbus, OH, USA.

12. **Kingston DC**, Riddell MF, McKinnon CD, Gallagher KM, Callaghan JP. Influence of Input Hardware and Work Surface Angle on Upper Limb Kinematics. 7th World Congress of Biomechanics, July 6-11, 2014, Boston, MA, USA.

13. Howarth SJ, **Kingston DC**, Brown SHM, Graham RB. Merging in vivo estimates of passive tissue changes with local dynamic stability of spine movement during repetitive spine flexion. 7th World Congress of Biomechanics, July 6-11, 2014, Boston, MA, USA.

14. **Kingston DC**, Stevenson JM, Graham RB, Smallman CL, Abdoli-EM. An Overview of Research Involving the Personal Lift-Assist Device (PLAD). Association of Canadian Ergonomists, August 14-16, 2012, Halifax, NS, Canada.

15. **Kingston DC**, Almosnino S, Yang S, Graham RB, Stevenson JM, Costigan PA. Frontal plane knee loading during bodyweight squat performance: Effect of stance width and foot rotation. American College of Sports Medicine Conference May 31-June 4, 2011, Denver, Colorado, USA.

Non-Peer Reviewed Conference Papers (17)

1. Buchman-Pearle J, **Kingston DC**, Acker SM. Ankle mobility in kneeling and its effect at the knee and hip. 16th Annual Ontario Biomechanics Conference, March 9-11, 2019, Alliston, ON, Canada.

2. **Kingston DC**, Acker SM. Modelling of three lower-limb deep muscle activation profiles with surface EMG during kneeling and squatting movements. 15th Annual Ontario Biomechanics Conference, March 9-11, 2018, Alliston, ON, Canada.

3. Ivanochko NK, **Kingston DC**, Acker, SM. Influence of thigh-calf contact on quadriceps muscle activity in high knee flexion activities. 15th Annual Ontario Biomechanics Conference, March 9-11, 2018, Alliston, ON, Canada.

4. Zehr JD, Fewster KM, **Kingston DC**, Callaghan JP. The influence of lumbar support on the seat-occupant interface during a moderate velocity rear-impact collision. 15th Annual Ontario Biomechanics Conference, March 9-11, 2018, Alliston, ON, Canada.

5. Fok D, Tennant L, **Kingston DC**, Parkinson R, Laing A, Callaghan JP. Slipping differences in flip-flops and running shoes on dry and wet surfaces during standing. 15th Annual Ontario Biomechanics Conference, March 9-11, 2018, Alliston, ON, Canada.

6. Park J, **Kingston DC**, and Callaghan JP. Transfer of Hip Hinge Movement Pattern Training into Lifting Task Performance of Novice Lifters. Toronto International Strength and Conditioning Summit, May 14-15, 2017 Toronto, ON, Canada.

7. **Kingston DC**, Acker SM. Thigh-calf contact during six high knee flexion movements: onset, range of motion, magnitude, and contact area. 14th Annual Ontario Biomechanics Conference, March 10-12, 2017, Alliston, ON, Canada.

8. Ivanochko NK, **Kingston DC**, Acker SM. Preliminary feasibility of in-shoe pressure sensors for measuring thigh-calf contact. 14th Annual Ontario Biomechanics Conference, March 10-12, 2017, Alliston, ON, Canada.

9. **Kingston DC**, Acker SM. Prediction of thigh-shank contact force and location from movement and anthropometrics. 13th Annual Ontario Biomechanics Conference, March 11-13, 2016, Alliston, ON, Canada.

10. Park J, **Kingston DC**, Callaghan JP. Use of dowel-assisted training methods to facilitate hip-dominant lifting performance. 13th Annual Ontario Biomechanics Conference, March 11-13, 2016, Alliston, ON, Canada.

11. **Kingston DC**, Tennant LM, Chong HC, Acker SM. High Knee Flexion and Lower Limb Muscle Activation: Does Movement Pattern Matter? 12th Annual Ontario Biomechanics Conference, March 13-15, 2015, Alliston, ON, Canada.

12. **Kingston DC**, Almosnino S, Graham RB. Biomechanics of Military Load Carriage 1: The Effects of Prolonged Walking on Movement Kinematics. CIMVHR Forum 2014, November 24-26, 2014, Toronto, ON, Canada.

13. **Kingston DC**, Riddell MF, McKinnon CD, Gallagher KM, Callaghan JP. Influence of Input Hardware and Work Surface Angle on Upper Limb Kinematics. 11th Annual Ontario Biomechanics Conference, March 15-17, 2014, Barrie, ON, Canada.

14. Graham RB, **Kingston DC**, Almosnino S. Biomechanics of Military Load Carriage 2: The Effects of Walking Speed on Dynamic Gait Stability. CIMVHR Forum 2014, November 24-26, 2014, Toronto, ON, Canada.

15. **Kingston D**, Almosnino S, Bardana D, Stevenson J, Graham R. Effects of prolonged load carriage walking on lower extremity and trunk kinematics, heart rate, and subjective responses. 10th Annual Ontario Biomechanics Conference, March 15-17, 2013, Barrie, ON, Canada.

16. **Kingston DC**, Costigan PA. The effect of acute injury on knee stability control during the leg extension exercise. 9th Annual Ontario Biomechanics Conference, March 16-18, 2012, Barrie, ON, Canada.

17. **Kingston DC**, Almosnino S, Yang S, Graham RB, Stevenson JM, Costigan PA. Knee loading during bodyweight squat performance: Effect of stance width and foot rotation. 13th Rehabilitation Research Colloquium Conference, May 20, 2011, Kingston, Ontario, Canada.

INVITED TALKS

1. Movement control and knee loading in full range of knee motion. Department of Biomechanics, **University of Nebraska Omaha**, 2020.

TEACHING EXPERIENCE

Instructor

Department of Biomechanics – University of Nebraska Omaha

Ethics in Scientific Research	Student Assessment TBD	Forthcoming

Teaching Assistant

Applied Health Sciences – University of Waterloo

Human Anatomy	Laboratory Instructor	2016
Sociology of Activity, Health, and Well-Being	Marking	2015
Biophysical Evaluation Lab	Laboratory Instructor	2015
Biomechanics of Human Activity	Laboratory Instructor	2014/13
Sociology of Physical Activity	Marking	2014

School of Kinesiology and Health Studies – Queen's University

Advanced Biomechanics	Laboratory Instructor	2013
Motor Learning	Marking	2013/2012
Introductory Biomechanics	Marking	2012

RESEARCH EXPERIENCE

Research Assistant — Biomechanics of Human Mobility Laboratory — 2013-2017
Applied Health Sciences, University of Waterloo
Supervisor: Stacey M Acker

Research Assistant — Biomechanics and Ergonomics Laboratory — 2010-2013
School of Kinesiology and Health Studies, Queen's University
Supervisor: Joan M Stevenson

TRAINEES

Graduate Level

Jose Anguiano-Hernandez	MSc (Student) Biomechanics (UNO)	2020-present
Joseph Harrington	MSc (Student) Biomechanics (UNO)	2020-present

Undergraduate Level

Jordan Berry	BSc Kinesiology Honours Thesis (Waterloo)	2015
Johnathan Park	BSc Kinesiology Honours Thesis (Waterloo)	2014

SERVICE TO PROFESSION

Manuscript Review	Journal of Applied Biomechanics	2020-present
Manuscript Review	IEEE Translational Engineering in Health & Medicine	2020-present
Manuscript Review	BMJ Open Sport & Exercise Medicine	2019-present
Review Committee	WorkSafe BC Research Training Awards	2019-present
Technical Committee	Association of Canadian Ergonomists Conference	2019

DEPARTMENTAL/UNIVERSITY SERVICE

University of Saskatchewan

College of Medicine Graduate Studies Committee	PDF Representative	2019-2020

University of Waterloo

Senate Graduate & Research Council	AHS Graduate Representative	2016-2017
Faculty Graduate Studies Committee	Kinesiology Student Representative	2016-2017
Kinesiology Graduate Student Association		
Past-President		2017-2018
President		2016-2017
Vice President		2015-2016
Department Council Representative		2014-2015

Queen's University

Graduate Student Counsel	Biomechanics Department Representative	2012-2013

PROFESSIONAL AFFILIATIONS

Canadian Association for Research on Work and Health	(CARWH)	2019-2020
Association of Canadian Ergonomists	(ACE)	2019-present
American Society of Biomechanics	(ASB)	2017-present
International Society of Biomechanics	(ISB)	2014-present
Canadian Society for Biomechanics	(CSB)	2014-present

REFERENCES

Catherine M Trask – Professor
Ergonomics Division, Department of Biomedical Engineering and Health Systems
KTH Royal Institute of Technology, Stockholm, Sweden, SE-100 44
ctrask@kth.se
46-76-704-86-35

Audrey R Zucker-Levin – Professor
3412 Health Sciences E Wing
School of Rehabilitation Science, College of Medicine
University of Saskatchewan, Saskatoon, SK, S7N 5E5
audrey.zuckerlevin@usask.ca
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Stacey M Acker – Associate Professor
1038 BC Matthews Hall
Department of Kinesiology, Faculty of Applied Health Sciences
University of Waterloo, Waterloo, ON, N2L 3G1
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