



**Courtney Kersten-Kwan, M.Sc.**

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**EXPERT SUMMARY**

Ms. Courtney Kersten-Kwan is a Senior Associate in 30 Forensic Engineering’s Human Factors group. Courtney graduated from McMaster University with an Honours Bachelor of Kinesiology (minor in Psychology) and Master of Science in Human Biodynamics (Psychomotor Behaviour). In 2008, she additionally obtained a Master of Science in Ergonomics (Human Factors) with distinction from Loughborough University, England. Prior to joining 30, Courtney has worked as a Human Factors specialist providing human factors design and experimental support across a variety of contexts and important sectors including emergency services, healthcare, nuclear, public transit, and armed forces. Additionally, Courtney developed a fatigue management program to proactively mitigate risks associated with fatigue, particularly of importance were those impacting human performance and safety. Courtney has also worked within Canadian regulated safety management systems where she developed and refined her investigative and auditing skill sets.

**SPECIALIZED PROFESSIONAL COMPETENCIES**

- Human system integration analysis and design
- Operator machine interface evaluations
- Safety investigations
- Transportation safety audits: appropriate root cause identification, correct action conformance and effectiveness verification
- Application of Human Factors standards/guides and Transport Canada Regulations
- Fatigue management program development within the transportation sector
- Safety risk assessments
- Large scale usability acceptance testing
- Transportation regulatory compliance audits
- Mission, function, and task analyses
- Ergonomic office workstation assessments
- Job demand analyses



## ACADEMIC BACKGROUND

M.Sc. Ergonomics (Human Factors) with Distinction, Loughborough University, Loughborough, England, 2008

M.Sc. Human Biodynamics (Psychomotor Behaviour), McMaster University, Hamilton, Ontario, 2006

Honours Bachelor of Kinesiology (minor in Psychology), McMaster University, Hamilton, Ontario, 2004

## ADDITIONAL COURSES

Foundations of Project Management, University of Toronto, December 2022

Fatigue Risk Management for Managers & Safety Stakeholders, Clinton Marquardt, November 2022

Physical and Cognitive Demand Analysis, Taylor'd Ergonomics, May 2022

System Safety, HRCQ, February 2022

Ergo Design Workshop, Taylor'd Ergonomics, November 2021

Accident/ Investigation Safety Investigator Training Program and the Critical Incident Investigation Process, Clinton Marquardt, November 2017

ISO 9001:2015 2 Day Internal Auditor Course, CSA, October 2016

ISO 9001:2015 Essential, CSA, September 2016

Basic Quality Assurance, Corrective Action Plans, and Basic Auditing Principles, DTI Training Consortium, June 2016

## PROFESSIONAL EXPERIENCE

### **30 Forensic Engineering**

Senior Associate, Human Factors  
2023 – Present, Toronto, ON

- Investigating human perception and cognitive capabilities/limitations within personal injury incidents and motor vehicle collisions.
- Investigating root cause of human failure (error) within personal injury and motor vehicle collisions.
- Analyzing driver, pedestrian, and cyclist behavior and perception-reaction times within dynamic and complex environments.
- Mentoring technical scientific staff on the application of human factors and investigation strategies.



CURRICULUM VITAE

**Courtney Kersten-Kwan, M.Sc.**

### **Metrolinx**

Human Factors Specialist, Occupational Health, Safety, and Environment, Safety Division  
2021 – 2023, Toronto, ON

Human Factors Specialist, Passenger and Public Safety (Bus), Safety Division  
2020 – 2021, Toronto, Ontario

Senior Advisor, Regulatory Affairs Safety Department  
2017 – 2020, Toronto, Ontario

### **Porter Airlines**

Auditor, Safety Department  
2016 – 2017, Toronto, ON

### **ERGO Inc.**

Ergonomist and /Human Factors Consultant  
2015 – 2016, Innisfil, ON

### **Humansystems Inc.**

Human Factors Consultant  
2012 – 2015, Guelph, ON

### **CAE Professional Services (Canada) Inc.**

Human Factors Consultant  
2009 – 2012, Ottawa, ON

### **PROFESSIONAL SOCIETIES AND ASSOCIATIONS**

- Chartered Institute of Ergonomics & Human Factors, Graduate Member
- Interaction Design Foundation, Member
- Human Factors and Ergonomics Society, Full Member
- HFES Technical Group Memberships:
  - Cognitive Engineering and Decision Making
  - Perception and Performance
  - Forensics Professional Technical Group
  - Environmental Design
  - Safety Technical Group
  - Usability and Systems Evaluation Technical Group



## AWARDS AND ACHIEVEMENTS

- International Postgraduate Scholarship (Loughborough University), 2007
- Kinesiology Graduate Body Scholarship (McMaster University), 2005
- McMaster Graduate Scholarship (McMaster University), 2004 and 2005
- Deans Honour List (McMaster University), 2003 and 2004

## PUBLICATIONS AND ACADEMIC SPEAKING ENGAGEMENTS

### Publications

- Lochlan E. Magee, Ph.D., Aidan A. Thompson, Ph.D., Bradley Cain, DRDC Toronto; Courtney Kersten-Kwan CAE Inc. From a Submarine to a Virtual Environment and Vice Versa. *Proceedings of the Frontiers in Education Conference 2012(1)*: 1509-1516
- Magee, L.E., Thompson, A.A., Cain, B., & Kersten, C. 2012. *Training Effectiveness of a Victoria Class Virtual Submarine: A behavioral assessment of learning a complex task within a virtual environment*. Defence R&D Canada, DRDC Toronto.
- Kersten, C.G., Klimstra, M., & Lyons, J. Quantifying the Magnitude of the Ebbinghaus Illusion: Empirical and Theoretical Implications. *Journal of Sport and Exercise Psychology*, 27, (Supplement) 2005.

### Presentations

- Lyons, J., Gonzalez, C., & Kersten, C.G. (November 2005). *It Just Feels Right: Motor Processes Mediate Population Stereotypes to Tone Pitch Frequency in the Horizontal Plane* [Poster presentation]. Societe Canadienne D'Apprentissage Psychomotor et de Psychologie du Sport Conference, Niagara Falls, Ontario.
- Kersten, C.G., Klimstra, M., & Lyons, J. (June 2005). *Quantifying the Magnitude of the Ebbinghaus Illusion: Empirical and Theoretical Implications* [Poster presentation]. North American Society for Psychology of Sport and Physical Activity Conference, St. Pete's Beach, Florida.
- Kersten, C.G. (May 2004). *Investigating the Influence of Direct Superimposed Visual Feedback on the Acquisition, Retention, and Performance of Laparoscopic Surgical Skills*. [Verbal Presentation] Seminar at McMaster University.
- Lyons, J., Kersten, C.G., Glazebrook, C.M., Dhillon, V.P. & Elliott, D. (October 2003). *Does Index of Difficulty influence Inhibition of Return?* [Paper presentation]. Societe Canadienne D'Apprentissage Psychomotor et de Psychologie du Sport Conference, Hamilton, Ontario.

## ACADEMIC THESES

### Academic Theses

- Primary and Secondary Task Performance Under Whole-Body Vibration. In fulfillment of M.Sc. Ergonomics (Human Factors) at Loughborough University, in the United Kingdom.
- Seeing is Deceiving: Investigating the Effects of Stimulus Adaptation on Perceptual Error in the Ebbinghaus Illusion. In fulfillment of M.Sc. Human Biodynamics at McMaster University.
- Investigating the Influence of Direct Superimposed Visual Feedback on the Acquisition, Retention, and Performance of Laparoscopic Surgical Skills. In fulfillment of Honours Bachelor of Kinesiology Degree at McMaster University.