SLIPS, TRIPS, & FALLS

Slips, Trips, and Falls International Conference 2023

JUNE 1 & 2, 2023 | TORONTO, CANADA

Auditorium (2nd floor), 550 University Ave., Toronto, Ontario, M5G 2A2

Hosted by:

The KITE Research Institute University Health Network

kite UHN

Conference Endorsed by the IEA International Ergonomics Association

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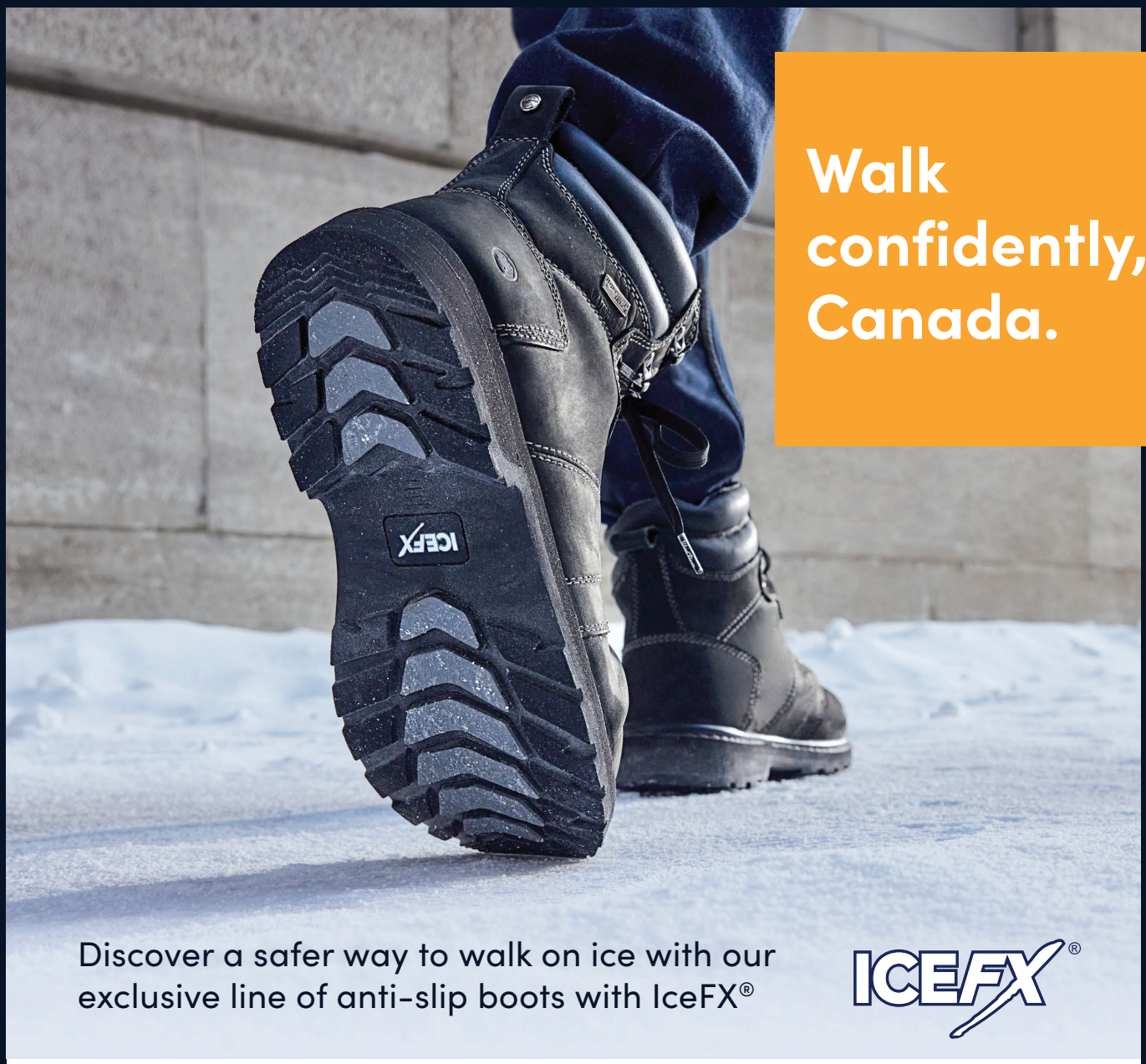

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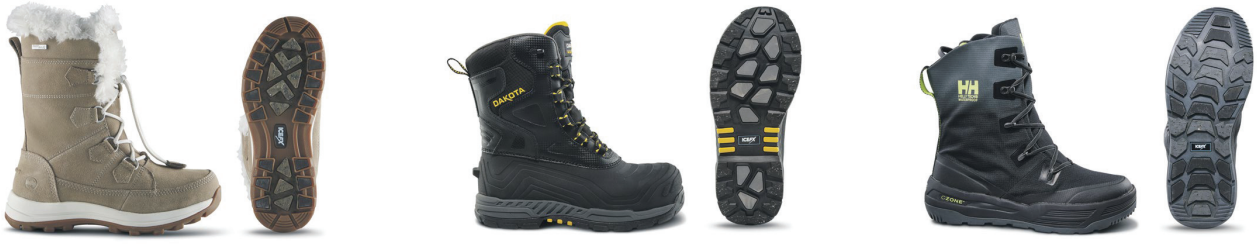

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For Ontario school boards that wish to improve efficiencies, decrease their costs, and mitigate the negative impacts of absenteeism, SBCI – a member-owned not-for-profit co-operative – provides expert actuarial, attendance, health and safety, and workers' compensation consulting services. Through our industry-leading knowledge and collaborative approach, we work to make schools safer, healthier, and more productive.

CONFERENCE EXHIBITORS:

The Assistep is a unique product that represents a new category for stair safety travel, a Stair Walker. Unlike other devices designed for safe ascending and descending of the stairs, the Assistep considers the benefit of exercise and activity of the user while providing a safe means to support the user as they climb or descend their stairs. The product was developed after exhaustive engineering research and prototypes starting in 2012 within the Norwegian University of Science & Technology and is distributed in Canada by the Bay Area Health Trust and globally through Topro.

Hillsound Equipment is a leading manufacturer of outdoor equipment, specializing in high-quality traction devices, gaiters, and camping gear. Their products are designed to provide reliable traction and stability in slippery and icy conditions, reducing the risk of slips, trips, and falls. Hillsound's traction devices feature durable stainless steel spikes and chains, ensuring optimal grip on all types of terrain. Their gaiters are made with waterproof and breathable materials, keeping feet dry and comfortable during wet and muddy hikes. With a commitment to safety and innovation, Hillsound Equipment is a trusted choice for outdoor enthusiasts and professionals alike.

Parachute is Canada's national charity dedicated to injury prevention. Our mission is to create a safer Canada by preventing serious and fatal injuries through evidence-based solutions that advocate and educate. Parachute's Fall Prevention Program supports expert and peer-to-peer knowledge exchange and implementation of best practices to reduce fall-related injuries. One of the Program's key initiatives is the national Fall Prevention Community of Practice, Loop. Loop's 2,300+ members share information, network, problem-solve together and discuss how to implement evidence-informed practices. The Indigenous Fall Prevention Network is a dedicated group of Loop members focused on issues relevant to fall prevention among Indigenous populations.

Welcome to Slips, Trips, and Falls International Conference 2023!

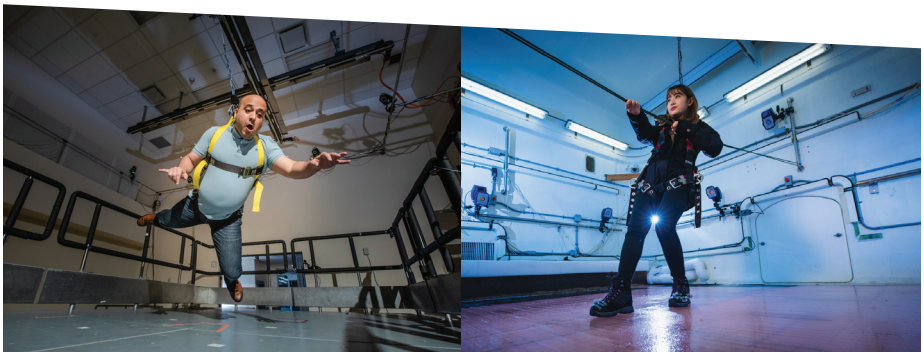
SLIPS, TRIPS, & FALLS

Welcome to Toronto – we are very pleased that you have joined us.

This 2-day conference will highlight the latest in slips, trips, and falls research and products.

Conference Host: KITE UHN

This conference is hosted by The KITE Research Institute-University Health Network (KITE-UHN). KITE-UHN is home to some of the world's most technologically advanced rehabilitation research facilities. The KITE Research Institute brings together the brightest research minds and state-of-the-art technology. It is a unique space where ideas can be cultivated and tested in a real-life setting. New assistive technologies and treatments are developed here to enhance the lives of older people and those with disabling injuries or illnesses.
Until now, researchers have lacked facilities where they can safely study how adults with disabilities interact with their environment. By creating real-life conditions, the CEAL (Challenging Environment Assessment Laboratory) enables researchers to deliver practical new therapies and well-designed products. Located in the heart of Canada's Discovery District in downtown Toronto, the CEAL is a $36-million initiative consisting of 4 cutting-edge labs, workshops and other research spaces. In collaboration with the University of Toronto, KITE has more than 56,000 square feet of newly created or renovated research space at Toronto Rehab's University Centre, Toronto Rehab's Lyndhurst Centre and the Rehabilitation Sciences building of the University of Toronto.



Conference Endorsed by the IEA
International Ergonomics Association

DAY ONE PROGRAM Thursday, June 1, 2023

8:15am – 8:45am	**Registration, Auditorium (2nd floor), 550 University Ave**
8:45am – 8:55am	**Opening welcome: Dr. Milos Popovic,** Institute Director of Research, **The KITE Research Institute-UHN**
8:55am – 10:15am	**SESSION ONE:** **Technological approaches to risk and hazard assessment** • **Dharmendra Gurve, Toronto Metropolitan University** Real-time multiclass fall detection for wearables • **Hamed Ghomashchi, KITE Research Institute, UHN** Measuring the risk of tripping: design and validation of a system for measuring foot clearance over obstacles found on outdoor walkways • **Davood Dadkhah, University of Toronto** Feasibility of detecting slips on icy surfaces using acoustic signals: can we hear slips? • **Ehsan Rashedi, Rochester Institute of Technology** Developing A risk assessment tool for patients' in-hospital falls using machine learning methods • **Jakson Paterson, University of Toronto** Automated safety and usability assessment methods for outdoor street crossings • **Samuel Dallain, University of Sherbrooke** In situ footwear slip resistance evaluation with sole-embedded IMUs
10:15am – 10:35am	**Morning Coffee & Networking Break**
10:35am – 11:40am	**SESSION TWO:** **Current issues in tribometer use and validity** • **Stephen C. Thorpe, Olver & Rawden** The Pendulum Slip Resistance Test - Slider 55 - further work • **Russell J. Kenzior, The National Floor Safety Institute** Assessment of perceived and measured tribometer readings in evaluating wet barefoot slip resistance: A gait-based approach • **John P. Leffler, Reality Forensics** British Pendulum Slider 55 lifespan considerations versus EN 16165 preparation requirements • **Grant Davidson, Tile Council of North America** Assessment of various ceramic tile floor coverings using different friction test methods • **Richard Bowman, Intertile Research** Logical improvements to the EN 16165 Pendulum Test Method

DAY ONE PROGRAM Thursday, June 1, 2023
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11:40am – 12:40pm	**Lunch and Tours**
12:40pm – 1:40pm	**SESSION THREE:** **Designing, identifying and promoting safer footwear** ***Opening remarks by headline sponsor, Mark's Work Wearhouse*** • **Kurt E. Beschorner, University of Pittsburgh** The use of frustrated total internal reflection in understanding shoe friction mechanics and wear related to slipping • **Wanning Yu, University of Toronto** The outcome of the RateMyTreads program: Performance of slip-resistance winter footwear and associated innovative outsole technologies on the market • **Claire Howard, University of Toronto** Understanding consumer reluctance to adopt RateMyTreads program: Factors affecting the widespread use of health and safety technologies • **Takeshi Yamaguchi, Tohoku University** High-friction design of shoe soles and its underlying mechanisms
1:40pm – 1:45pm	**Stretch Break**
1:45pm – 2:40pm	**SESSION FOUR:** **Safer winter walking** • **Marguerite Oberle Thomas, Parachute** Safer winter walking resource for longtime and new Canadians • **Shreya Anand, University of Toronto** Evaluating the long-term slip resistance performance of ICEFX boots over a winter season • **Kaylie Lau, University of Toronto** Identification of slip-resistant quality of winter footwear using Artificial Intelligence • **Chantal Gauvin, Institut de recherche Robert-Sauvé en santé et en sécurité du travail** Comparison of mechanical and human-centred test methods to evaluate footwear slip resistance on icy surfaces

DAY ONE PROGRAM Thursday, June 1, 2023

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2:40pm – 3:00pm	**Afternoon Coffee & Networking Break**
3:00pm – 3:45pm	**SESSION FIVE:** **Characterizing gait, balance, and fall recovery 1** • **Stephen N. Robinovitch, Simon Fraser University** Role of "internal" versus "external" perturbations to balance as the cause of falls in older adults • **Jonguk Lee, University of Toronto** The orthotic effect of functional electrical stimulation to increase the margin of stability during reactive balance in individuals with incomplete spinal cord injury • **Alireza Naderi Akhormeh, Instituto Italiano di Tecnologia** Conceptual design of a Cold Gas Thruster unit to mitigate the falling velocity in low height falls
3:45pm – 3:55pm	**Stretch Break**
3:55pm – 4:45pm	**PANEL ONE:** **Designing and retrofitting for people movement safety in facilities for public assembly seating** • **Jake Pauls, Jake Pauls Consulting Services (Panel Organizer)** • **William Conner, Bill Conner Associates, LLC** • **Daniel A. Johnson, Daniel A Johnson, Inc.** • **Sara A. Harper, Utah State University**
6:00pm	**Optional guided walk to dinner location (approximately 15 minutes)** **Meet at KITE Innovations Gallery**
6:30pm	**Luma Restaurant**

DAY TWO PROGRAM Friday, June 2, 2023

8:30am – 9:20am	**PANEL TWO:** **Using citizen science and m-health technologies to improve stair fall surveillance** • **Sarah Fraser, University of Ottawa (Panel Organizer)** • **Alison Novak, The KITE Research Institute – UHN** • **Nancy Edwards, University of Ottawa**
9:20am – 9:40am	**Morning Coffee & Networking Break**
9:40am – 11:00am	**SESSION SIX:** **Preventing falls in the workplace** • **Rosa Greenberg, The Center for Construction Research & Training** Preventing falls in construction in the United States: the fall experience survey and the national campaign to prevent falls in construction • **Nicholas Cartocci, Italian Institute of Technology** Artificial Intelligence-based wearable solution to prevent fall from heights injuries for the next generation of workers • **Kei Shibata, National Institute of Occupational Safety & Health** Research of behaviors immediately before occupational fall accidents in Japan • **Akihiro Ohnishi, National Institute of Occupational Safety & Health** Problems on occupational truck bed falls in the land transportation industry in Japan • **Mark Liddle, The UK Health and Safety Executive** Work-related slips, trips and fall injuries reported by National Health Service staff in Great Britain: How many are due to slipping? • **Caleb Williamson, Health and Safety Executive** Using text mining to develop a deeper understanding of slips, trips, and falls data
11:00am – 11:10am	**Stretch Break**
11:10am – 12:05pm	**SESSION SEVEN:** **Characterizing gait, balance, and fall recovery 2** • **Dongyun Gu, Shanghai Jiao Tong University** Dynamic corticospinal motor control in visual cues intervention for gait and balance impairment in Parkinson's disease • **Hidetaka Senzaki, The Japanese Society for Fall Prevention** Proposal for a stumble-free gait that raises the knees 2 inches • **Andres F. Hidalgo, Instituto Italiano di Tecnologia** Predictive simulations of human balancing against falling using wearable gyroscopic systems • **Ehsan Rashedi, Rochester Institute of Technology** Recovery efforts from unexpected slips and trips induce substantial low back loads

DAY TWO PROGRAM Friday, June 2, 2023

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12:05pm – 1:00pm	**Lunch and Tours**
1:00pm – 1:50pm	**PANEL THREE:** **Targeted slip, trip, & fall prevention - winter weather safety plans** • **Gary Gibson, School Board Co-operative Incorporated** (Panel Organizer) • **Kerri Stewart, Durham District School Board** • **Julie Welsh, Ontario School Boards' Insurance Exchange** • **Brian Chan, The KITE Research Institute, UHN**
1:50pm – 2:10pm	**Afternoon Coffee & Networking Break**
2:10pm – 3:15pm	**SESSION EIGHT:** **Fall risk and the built environment** • **Benjamin S. Elkin, MEA Forensic Engineers & Scientists** A top-of-flight defect affects foot placement on subsequent stair treads during descent • **Catalina Mantilla, ARCCA** The importance of foot posture strategies at initial contact during stair descent • **Rodney A. Hunter, Hunarch Consulting** Stairway ascent effort and protruding nosings • **Thurmon E. Lockhart, Arizona State University** Effects of aging and bathing surface characteristics on fall risk: Factors influencing slip/fall risk while entering and exiting bathing surfaces • **Lessby Gómez-Salazar, Universidad del Valle** Risk of falls in young and older adults in a Colombian population associated with environmental factors
3:15pm – 3:25pm	**Stretch Break**

DAY TWO PROGRAM Friday, June 2, 2023

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3:25pm – 4:20pm	**SESSION NINE:** **Broadening our understanding and strategies to address falls** • **Rob Shaw, Rob Shaw (TFG) Associates, LTD.** Slips, trips, and falls – dispelling common myths • **Donna Lee, Workplace Health and Safety Queensland** How to prevent slips, trips and falls: Planning, design, maintenance and beyond • **Yashoda Sharma, University of Toronto** A physiotherapists' understanding and assessment of gait stability in older adults • **Katrina Mae Tapang, University of Toronto** A review of cultural differences and practical barriers lead to differences in fall incidents and seeking healthcare for fall-related injuries among immigrants
4:20pm – 4:30pm	**Closing remarks: Co-Chairs and core members, International Ergonomics Association Technical Committee on Slips, Trips, and Falls**

SOCIAL PROGRAM

Tour of Challenging Environment Assessment Laboratory, The KITE Research Institute-University Health Network

Date/Time: Thursday, June 1st, 12:10am-12:40pm
Friday, June 2nd, 12:30pm-1:00pm

Cost: Included in registration

Location: 550 University Ave., Basement
Meet in the Innovation Gallery at
12:10pm on June 1st and 12:30pm on June 2nd

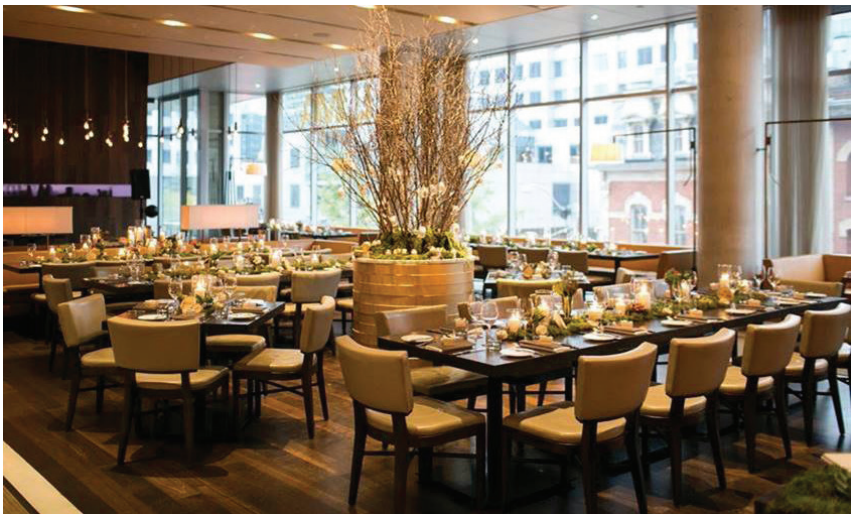
GALA DINNER

Luma Restaurant

Date/Time: Thursday, June 1st, 2023 - 6:30pm

Cost: $120/person
Tickets for conference attendees are included in registration, additional guest dinner ticket(s) must have been purchased in advance

Location: 2ND FLOOR, 350 KING ST. WEST, TORONTO, ON M5V 3X5
(15 minutes walk from the conference venue)



CONTACT US

For more information about the conference, or the KITE research facilities, please contact:

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or - Dr. Sophia (Yue) Li - Yue.li@uhn.ca