2015 Individual Oral Presentations

Monday, June 29

Theme: Brain Imaging

The role of the frontal lobe in complex walking tasks in healthy older adults and patients with Parkinson’s disease: An fNIRS study
Inbal Maidan, Sourasky Medical Center

Anisotropy of human vertical and horizontal navigation in real space: behavioral and PET correlates
Andreas Zwergal, University of Munich

A cerebral dissociation between motor imagery of gait and dynamic balance in Parkinson's disease
Murielle Ferraye, Radboud University

Cortical control of human gait function: Similarities and differences in corticomuscular coherence during treadmill walking and overground walking
Luisa Roeder, Queensland University of Technology

Increased functional connectivity of the central executive network in patients with Parkinson’s disease with a history of falls
Keren Rosenberg-Katz, Tel Aviv Sourasky Medical Center

The integrative role of the pedunculopontine nucleus in human gait
Marie Laure Welter, Groupe Hospitalier Pitié-Salpêtrière, ICM

Increase in frontal brain activation during dual task walking after training using a Smartphone-based biofeedback system in patients with Parkinson’s disease: a fNIRS study
Jeffrey Hausdorff, Tel Aviv Sourasky Medical Center

Brain activity related to stabilizing gait in young and older adults.
Sjoerd Bruijn, VU University Amsterdam

Theme: Sensorimotor control

Both standing and postural threat decrease Achilles tendon reflex inhibition from tendon electrical stimulation.
Brian Horslen, The University of British Columbia
The role of hip abductor proprioception in mediolateral balance control of gait in older adults
Mina Arvin, VU University Amsterdam

Full Body Kinematic Analysis of Altered Vestibular Reflexes Caused by Postural Threat
Jonathan de Melker Worms, Manchester Metropolitan University

STANDING SLOWS THE PRODUCTION OF GAZE SHIFTS TO DOUBLE-STEP PERTURBATIONS IN THE ELDERLY
Paul STAPLEY, University of Wollongong

Noisy galvanic vestibular stimulation improves dynamic walking stability in healthy subjects
Klaus Jahn, University of Munich

Precise coding of ankle rotation by lower-limb muscle spindle afferents
Ryan Peters, University of British Columbia

Contribution of plantar-surface mechanoreception in recovery from a slip
Stephen Perry, Wilfrid Laurier University

DETECTING THE HEIGHT OF THE GROUND UNDERFOOT
Marie-Laure Mille, Toulon University

Theme: Learning, relearning, and adapting

The Development of Trunk Control and its Relation to Reaching: A Longitudinal Study
Jaya Rachwani, University of Oregon

The effects of practice and disuse on quadrupedal gait in infants, children, and adults
Beatrix Vereijken, Norwegian University of Science and Technology

Adults with Autism Spectrum Disorders do not use vision for postural control.
Susan Morris, Curtin University

Gymnastics skill level affects sensory reweighting processes during quiet stand in children.
Albert Busquets, Institut Nacional d'Educació Física de Catalunya – Barcelona

Gender affects the development of motor learning ability
Kristin Musselman, Toronto Rehabilitation Institute/University of Toronto

Estimating metabolic cost during non-steady state walking
Jessica Selinger, Simon Fraser University

Body lateropulsion and visual vertical tilts in unilateral midbrain infarctions: a lesion-behavior mapping and FDG-PET study
Marianne Dieterich, Ludwig-Maximilians University of Munich

Effects of Levodopa on Adaptation of Reactive Stepping in People with Parkinson's Disease
Daniel Peterson, Oregon Health & Science University
Tuesday, June 30

Theme: Neurological diseases

Does a startling acoustic stimulus accelerate postural responses to balance perturbations in stroke survivors?
Milou Coppens, Radboud University Medical Center

ARE DELAYED POSTURAL RESPONSES TO PERTURBATIONS ASSOCIATED WITH POORER BALANCE CAPACITY IN PEOPLE AFTER STROKE?
Digna de Kam, Radboud University Medical Center

Altered functional connectivity correlates with motor and cognitive control measures within clinical subtypes of Parkinson's disease
Griet Vervoort, KU Leuven

Perturbation-based balance training improves step quality in people with chronic stroke
Jolanda Roelofs, Radboud University Medical Centre

Effects of training with a new Smartphone-based biofeedback system (CuPiD) on mobility in people with Parkinson's disease: Clinical outcomes
Pieter Ginis, KU Leuven

Postural Control Alterations in Healthy LRRK2 G2019S Mutation Carriers
Yoav Beck, Tel Aviv Sourasky Medical Center

Gait is a sensitive marker of motor progression in early Parkinson's disease: A longitudinal correlational analysis
Brook Galna, Newcastle University

Measuring and minimizing walking-induced fatigue in people with Multiple Sclerosis.
James McLoughlin, Flinders University

Theme: Cognitive, attentional and emotional influences

Prioritization during dual tasking on a circular path is different from prioritization on a straight walking path in older people with poor cognitive flexibility
Markus Hobert, University of Tuebingen

A virtual reality avatar interaction (VRai) platform for context specific return to function assessment: an example of complex locomotor navigation for the military
Bradford McFadyen, Laval University

Anxiety affects stance and locomotion in acrophobia and phobic postural vertigo
Thomas Brandt, German Center for Vertigo and Balance Disorders

Balance impairment and its relation to cognition in a diverse population of elderly fallers and non-fallers
Kim Dockx, KU Leuven
Are attentional demands of walking affected by variations in lateral balance? A comparison of young and older adults
Masood Mazaheri, MOVE Research Institute Amsterdam / VU University Amsterdam

Gait rather than cognition dominates the association with physical activity in incident Parkinson’s disease
Sue Lord, Newcastle University

Stay focused! The effects of attentional focus on motor and motor-cognitive dual-task performance after acquired brain injury
Elmar Kal, Heliomare Rehabilitation

Association between Smartphone-based long-term Monitoring Outcomes and Traditional Clinical Assessment Tools in Community-Dwelling Older People
Sabato Mellone, University of Bologna

Theme: Coordination of posture and gait

Adjustment of the step prior to foot-off in a visuomotor task
Matthew Bancroft, University College London

Foot placement adjustment is not always required for recovery in perturbed walking
Mark Vlutters, University of Twente

Motor cortex excitability, attention networks and muscle synergies during single & dual task walking in elderly
Eling de Bruin, IBWS ETH

Multi-limb coordination for lateral stabilization of one-legged balance
Amy Wu, University of Michigan

The effect of restricting arm movements on gait stability in children with Cerebral Palsy and Typically Developing children
Pieter Meyns, UGent

Rhythm perception and production abilities relate to motor impairment and temporal gait variability after stroke.
Kara Patterson, University of Toronto

Do muscle strength and force development differ according to functional abilities in healthy elderly men?
Charlotte Pion, Université du Québec à Montréal

Vertical ground reaction force during walking: Are they related to bone mineral density left right asymmetries?
Marina Brozgol, Sourasky Medical Center
Wednesday, July 1

**Theme: Methods and Models**

*Kinematic validation of the Interactive Walkway against a gold-standard reference system*
Daphne Geerse, MOVE Research Institute Amsterdam

*Where are the parameters? A sensitivity analysis of an inverted pendulum balance control model*
Tjitske Boonstra, Delft University of Technology

*Mechanisms of interpersonal sway synchrony and stability*
Raymond Reynolds, University of Birmingham

*The human subthalamic nucleus recruits single neurons for kinematic control using different strategies for movements of upper vs. lower extremities*
Ariel Tankus, Tel Aviv Sourasky Medical Center and Tel Aviv University

*Ankle trajectories for the quality and variability of semi-free-living gait in older adults, using a single ankle-worn inertial sensor*
Kejia Wang, UNSW Australia

*Muscle activity during walking measured using FDG-PET and 3D MRI segmentations*
Vivian Weerdesteyn, Radboud University Medical Centre

*Effect of Lab Environment and Segment Angular Velocity on the Accuracy of Orientation Data Issued from Inertial Measurement of Motion in a Clinical Biomechanical Evaluation Context*
Karina Lebel, Université de Sherbrooke

*Muscle force prediction of the lower limb compared to surface EMG at different walking speeds in individual healthy subjects*
Ursula Trinler, University of Salford

**Theme: Sensorimotor dysfunction**

*The effect of recurrent low back on trunk neuromuscular performance during complex motion tracking tasks*
Seyed Javad Mousavi, University of Sydney

*Further Study on Otolith Function and Head Stability During Gait*
Kazuo Ishikawa, Akita Graduate School of Medicine

*Neuromodulation of the sense of upright to improve dynamic balance after stroke*
Dominic Pérennou, Academic Hospital Grenoble

*Wearable sensor-based balance training in older cancer patients with chemotherapy-induced peripheral neuropathy: a randomized controlled trial*
Michael Schwenk, Robert-Bosch Hospital
Effects of implantable peroneal nerve stimulation on energy expenditure, gait quality, participation and user satisfaction in patients with post-stroke drop foot using an ankle-foot orthosis
Frank Berenpas, Radboudumc Nijmegen

Cervical stretch reflexes in normal subjects and bilateral vestibular patients
Sofia Nousi, Imperial College

Recovery rates of balance control during stance and gait tests after an acute unilateral peripheral vestibular deficit.
John Allum, University Hospital Basel

Relationship between postural sway and motion sickness in young and older adults during a simulated driving task
Alison Novak, Toronto Rehabilitation Institute

**Theme: Falls and fall prevention**

What you see is what you step: The horizontal-vertical illusion increases toe clearance in older adults during stair ascent
Richard Foster, Nottingham Trent University

Gazing into thin air: dual-task costs of movement planning and execution during adaptive gait
Toby Ellmers, Brunel University

Reduced functional limits of stability during lateral balance perturbations in older adult non-fallers and fallers
Masahiro Fujimoto, Ritsumeikan University

Reduction in older people’s fall risk through home-based exergames targeting balance
Kim Delbaere, University of New South Wales

Very fast muscle activations during adjustment of tripping responses
Zrinka Potocanac, KU Leuven

Fall risk reduction in chronic stroke survivors: Acquisition and retention of reactive adaptation to large-scale slip perturbations
Tanvi Bhatt, University of Illinois at Chicago

A comparison of accuracy of fall detection algorithms (threshold-based vs. machine-learning) using waist mounted tri-axial accelerometer data
Omar Aziz, Simon Fraser University

Daily-life walking patterns from 1085 days of monitoring in older people with and without a history of falling
Matthew Brodie, Neuroscience Research Australia