

Session	Date	Time	Format	Chair	Topic	Guest Lecturer	Panelist	Panelist
Walking	Thursday, Aug. 9	09:30-11:00	Rapid Podium	Anita Bagley & Robin Pomeroy	Predicting Measures of Physical Performance from Gait Mechanics in Patients with Ankle Osteoarthritis	Queen	Queen	364
					Does local dynamic stability during unpermeated walking predict the response to balance perturbations?	Frank	Chao	264
					Resolving Propulsive Forces in Elderly Gait: Does Not Impair Dynamic Stability	Bouman	Bouman	292
					Young adults are surprisingly bad at walking: sex differences in the circumstances associated with falls	Cho	Cho	340
					Does Foot Position Affect Muscle Function During Gait in Cerebral Palsy?	Hagarty	Hagarty	333
Sex Differences	Thursday, Aug. 9	09:30-11:00	Thematic	Allison Gruber & Shelby Patel	Sexual Effects of Toe and Foot Length on Barefoot Walking	Wagert	Wagert	445
					Correlation Between Gait Asymmetry and Motor Variability	Hughes-Oliver	Hughes-Oliver	168
					Changes in Force-Development Indices of the Foot with Walking Speed	Hocher	Hocher	278
					A New Kinematic-Based Gait Event Detection Algorithm During Treadmill Locomotion	Morgan	Morgan	304
					The Effects of Subtalar Axis Orientation on Kinematics and Kinetics During Dynamic Motion	Ringberg	Ringberg	109
Stroke	Thursday, Aug. 9	09:30-11:00	Thematic	Elizabeth Hoed & Sabrina Lee	Successes in Modular Control of Gait Derived From Experimental and Simulated Activation Patterns	Waller	Waller	660
					Auditory and Visual external cues have different effects on spatial but similar effects on temporal gait variability	Vas	Vas	613
					Sex Differences in Human Ankle Stiffness	Lee	Tranping	60
					Leg Stiffness, Joint Stiffness, and Running Injury Rate: A Prospective Cohort Study	Davis IV	Davis IV	593
					The Influence of Body Mass Index and Sex on Frontal and Sagittal Plane Joint Moments During Walking	Garcia	Garcia	471
Doctoral Competition Track A	Thursday, Aug. 9	11:30-13:00	Rapid Podium	Cecile Smeesters & Evelyn Carboneau	Sex Differences in Running, Cutting and Stops Landing Biomechanics Pre- & Post-ACL Reconstruction	Hennigan	Hennigan	660
					Sex differences in motor unit behaviour during force development	Ingils	Ingils	557
					Post and mechanism of injury (MOI) influence knee mechanics after anterior cruciate ligament reconstruction (ACL)	Ng	Ng	189
					The Effects of Fall-Recovery Training on Single- and Multiple-Stepping Thresholds in Individuals With Chronic Stroke	Paganan	Paganan	106
					Characterizing Multiscale In Vivo Muscle Architecture Changes Following Stroke	Adkins	Adkins	643
Doctoral Competition Track B	Thursday, Aug. 9	11:30-13:00	Rapid Podium	Melissa Goss & Joshua Leonardis	Motor Module Generalization Across Walking and Balance is Associated with Better Walking Performance Post-stroke	Allen	Allen	132
					Marginal Plantarflexor Moment Predicts Poor Walking Performance in Post-Stroke Hemiparetic Subjects	Brough	Brough	187
					Post-Stroke Self-Reported Gait is Linked to Motor-Related Walking Factors	Dein	Dein	203
					Methodology to Estimate Voluntary Activation of the Patellar Tendon and Vastus Muscles in Chronic Hemiparetic Stroke Using Twitch Interpolation	Garrimian	Garrimian	479
					Monitoring and Predicting of an In Vivo Motor Unit Recruitment Rate and Balance Asymmetry	Chen	Chen	100
Doctoral Competition Track C	Thursday, Aug. 9	11:30-13:00	Rapid Podium	Alma Graziopla & Ryan Alcántara	Exploring Movement Variability and EEG Correlates During Motor Learning	Shuttsack	Shuttsack	100
					A Novel Approach for Evaluating Compensatory Gait Strategies Using Mechanical Energetics	Drachmann	Drachmann	171
					Gait Variability to Predict Motor Learning of a Novel Motor Task	Uman	Uman	173
					Real-time music-based biofeedback to reduce impact loading during over-ground running	Van den Bergh	Van den Bergh	219
					Effects of a New Adaptive Ankle Prosthesis on Lower and Upper Limb	Larson	Larson	184
COB & JOB Award Session	Friday, Aug. 10	09:30-11:00	Podium	Robin Queen & Brooke Ode	Estimating Gait Events and Locomotion State with a Beta Process Auto Regression Hidden Markov Model	Donohue	Donohue	408
					Lower Limb Joint Angle Variance As a Function of Distal Limb Segment Hidden Markov	Cal	Cal	469
					Load Effects on Performance for Example Obstacles in an Outdoor Course	Wahl	Wahl	391
					INCONSISTENCIES IN STAIRCASE DIMENSIONS IMPACT UPON STAIR CLIMBING SAFETY	Franken	Franken	454
					Postural Balance May be Preserved in Patients with a Functional Walk	Wahl	Wahl	454
Teaching Symposium	Friday, Aug. 10	09:30-11:00	Podium	Kim Bigelow	A Parallel Computer for the Single-Event Prediction Model Derived from a Functional Walk	Wahl	Wahl	454
					The Effect of Scaenoplastic Upright Rotation on Subacromial Pressures	Lawrence	Lawrence	191
					Control Space Biomechanics: Automated Shape-Matching Algorithms Validated	Rege	Rege	192
					ULIS: Joint Load Estimation during Lifting Using a Deep Learning Based Method	Mehner	Mehner	339
					ON-SET REACTIVE BALANCE TRAINING AMONG ELDERLY: OF PREVENTION COMMUNITIES	Rege	Rege	192
Standing	Friday, Aug. 10	09:30-11:00	Thematic	Jessica Allen & Amy Hegarty	Estimates of Achilles Tendon Moment Arm with Axis of Rotation Determined from Ankle Motion versus Anatomical Landmarks	Piazza	Piazza	394
					Longitudinal Changes in Carriage Compensation are Associated with Abnormal In Vivo Knee Mechanics Following ACL Reconstruction	Vignos	Vignos	432
					Running Specific Prosthetic Models Affect Top Spinning Speeds in Amputees with Unilateral Transfemoral Amputations	Rege	Rege	192
					Changes in Hip Mechanics During Gait Modification to Reduce Knee Abduction Moment	Carles	Carles	444
					Joint Asymmetry & Monthly Post-ACLJ Associate with Knee Limb Ratio 12 Months Post-ACLJ	Carlier	Carlier	539
The Triceps Surae Complex	Friday, Aug. 10	09:30-11:00	Thematic	Dennis Aukawa & Carolyn Eng	Patients with Medial Knee OA Vary in the Kinetic Response to Plantar Pressure-Based Feedback	Wimmer	Wimmer	589
					Comparison of Joint Kinetics Using Common Models for Baseline Posture	McCarthy	McCarthy	549
					Changes in Dynamic Motor Control Following Neurorehabilitation for Traumatic Brain Injury: Treadmill vs Overground Walking	Ellings	Ellings	374
					Effect of Load Muscle Fatigue on Low-Frequency Common Input to Bilateral and Unilateral Plantar Flexors during Quiet Standing	Watanabe	Watanabe	549
					Triceps Surae Muscle Activation Interaction Effects Between Young and Older Adults	Rege	Rege	192
Pediatrics & Pregnancy	Friday, Aug. 10	11:30-13:00	Podium	Kate Saul	Older Adults Receive Their Distal-to-Proximal Redistribution Using Biofeedback	Brown	Brown	392
					Post-Operative Function and Muscle Modulus during Gait at 24 Months Following Total Knee Arthroplasty	Koehn	Koehn	368
					Post-Stroke Walking Mechanics Using a Speed-Adaptive Myoelectric Stimulation Controller	McLean	McLean	377
					Pathological Knee Joint Condition in Children with Cerebral Palsy is Associated with the Active State Muscular Mechanics rather than Passive	Kay	Kay	379
					Modeling the Neural Energetics of Gait in Children with Cerebral Palsy: Kinematic Motion Analysis and Electromyography	Geddy	Geddy	496
Pitching and Swinging	Friday, Aug. 10	11:30-13:00	Podium	Wendy Murray	In vivo Relationships Between Joint Stiffness, Joint-based Estimates of Muscle Stiffness, and Shear Wave Velocity	Vogelky	Vogelky	496
					Does Fatigue Affect Muscle Function During a Repetitive Kick and Place Task?	DeBenedictis	DeBenedictis	646
					CHRONIC PAIN: MODEL OF MUSCLE INJURY VALIDATED WITH IN VIVO EXPERIMENTS	Westman	Westman	446
					Upper Limb Joint Stiffness with Botulinum Toxin Demonstrated Increased Passive Stiffness and Decreased Passive Range of Joint Motion in Individuals with Chronic Hemiparetic Stroke	Binder-Markley	Binder-Markley	646
					Does Inter-limb Tendon Tension Influence Strain and Energy Expenditure	Rege	Rege	192
Jumping & Landing	Friday, Aug. 10	11:30-13:00	Thematic	Jill McNeil Gray & Ole And	Sex-Dependent Effects of Hip and Knee Coupling During Step-Downs: A Randomized Controlled Trial	Holman	Holman	374
					Learning Locomotor Stability in Novel Environments	Bucklin	Bucklin	142
					CONTACT STRESS OVER EXPOSURE CORRELATES WITH OA DEVELOPMENT IN ACETABULAR FRACTURES	Chabern	Chabern	589
					Knee Abduction Moment is Greater with Time Since Injury in Individuals with Low Back Pain	Frugrensch	Frugrensch	523
					Effect of Load Muscle Fatigue on Low-Frequency Common Input to Bilateral and Unilateral Plantar Flexors during Quiet Standing	Watanabe	Watanabe	549
Prosthetics	Friday, Aug. 10	11:30-13:00	Thematic	Tammie Buh & Josh Roth	Triceps Surae Muscle Activation Interaction Effects Between Young and Older Adults	Rege	Rege	192
					Older Adults Receive Their Distal-to-Proximal Redistribution Using Biofeedback	Brown	Brown	392
					Post-Operative Function and Muscle Modulus during Gait at 24 Months Following Total Knee Arthroplasty	Koehn	Koehn	368
					Post-Stroke Walking Mechanics Using a Speed-Adaptive Myoelectric Stimulation Controller	McLean	McLean	377
					Pathological Knee Joint Condition in Children with Cerebral Palsy is Associated with the Active State Muscular Mechanics rather than Passive	Kay	Kay	379
Joint Replacements	Saturday, Aug. 11	09:30-11:00	Podium	Mariana Keri	Modeling the Neural Energetics of Gait in Children with Cerebral Palsy: Kinematic Motion Analysis and Electromyography	Geddy	Geddy	496
					In vivo Relationships Between Joint Stiffness, Joint-based Estimates of Muscle Stiffness, and Shear Wave Velocity	Vogelky	Vogelky	496
					Does Fatigue Affect Muscle Function During a Repetitive Kick and Place Task?	DeBenedictis	DeBenedictis	646
					CHRONIC PAIN: MODEL OF MUSCLE INJURY VALIDATED WITH IN VIVO EXPERIMENTS	Westman	Westman	446
					Upper Limb Joint Stiffness with Botulinum Toxin Demonstrated Increased Passive Stiffness and Decreased Passive Range of Joint Motion in Individuals with Chronic Hemiparetic Stroke	Binder-Markley	Binder-Markley	646
Arm 1	Saturday, Aug. 11	09:30-11:00	Thematic	Misty Morrow & Stephen Carr	Does Inter-limb Tendon Tension Influence Strain and Energy Expenditure	Rege	Rege	192
					Sex-Dependent Effects of Hip and Knee Coupling During Step-Downs: A Randomized Controlled Trial	Holman	Holman	374
					Learning Locomotor Stability in Novel Environments	Bucklin	Bucklin	142
					CONTACT STRESS OVER EXPOSURE CORRELATES WITH OA DEVELOPMENT IN ACETABULAR FRACTURES	Chabern	Chabern	589
					Knee Abduction Moment is Greater with Time Since Injury in Individuals with Low Back Pain	Frugrensch	Frugrensch	523
Leg 1	Saturday, Aug. 11	09:30-11:00	Thematic	Allison Shverts, Amy Sider, & Adam Ward	Effect of Load Muscle Fatigue on Low-Frequency Common Input to Bilateral and Unilateral Plantar Flexors during Quiet Standing	Watanabe	Watanabe	549
					Triceps Surae Muscle Activation Interaction Effects Between Young and Older Adults	Rege	Rege	192
					Older Adults Receive Their Distal-to-Proximal Redistribution Using Biofeedback	Brown	Brown	392
					Post-Operative Function and Muscle Modulus during Gait at 24 Months Following Total Knee Arthroplasty	Koehn	Koehn	368
					Post-Stroke Walking Mechanics Using a Speed-Adaptive Myoelectric Stimulation Controller	McLean	McLean	377
Rehab	Saturday, Aug. 11	11:30-13:00	Podium	Lisa Worthen-Chaubert, Jessica Allen, & James Schneider	Pathological Knee Joint Condition in Children with Cerebral Palsy is Associated with the Active State Muscular Mechanics rather than Passive	Kay	Kay	379
					Modeling the Neural Energetics of Gait in Children with Cerebral Palsy: Kinematic Motion Analysis and Electromyography	Geddy	Geddy	496
					In vivo Relationships Between Joint Stiffness, Joint-based Estimates of Muscle Stiffness, and Shear Wave Velocity	Vogelky	Vogelky	496
					Does Fatigue Affect Muscle Function During a Repetitive Kick and Place Task?	DeBenedictis	DeBenedictis	646
					CHRONIC PAIN: MODEL OF MUSCLE INJURY VALIDATED WITH IN VIVO EXPERIMENTS	Westman	Westman	446
Spine & Trunk	Saturday, Aug. 11	11:30-13:00	Podium	Kristin Zhao & Beth Cloud	Upper Limb Joint Stiffness with Botulinum Toxin Demonstrated Increased Passive Stiffness and Decreased Passive Range of Joint Motion in Individuals with Chronic Hemiparetic Stroke	Binder-Markley	Binder-Markley	646
					Does Inter-limb Tendon Tension Influence Strain and Energy Expenditure	Rege	Rege	192
					Sex-Dependent Effects of Hip and Knee Coupling During Step-Downs: A Randomized Controlled Trial	Holman	Holman	374
					Learning Locomotor Stability in Novel Environments	Bucklin	Bucklin	142
					CONTACT STRESS OVER EXPOSURE CORRELATES WITH OA DEVELOPMENT IN ACETABULAR FRACTURES	Chabern	Chabern	589
Arm 2	Saturday, Aug. 11	11:30-13:00	Thematic	Brooke Sider & David Johanson	Knee Abduction Moment is Greater with Time Since Injury in Individuals with Low Back Pain	Frugrensch	Frugrensch	523
					Effect of Load Muscle Fatigue on Low-Frequency Common Input to Bilateral and Unilateral Plantar Flexors during Quiet Standing	Watanabe	Watanabe	549
					Triceps Surae Muscle Activation Interaction Effects Between Young and Older Adults	Rege	Rege	192
					Older Adults Receive Their Distal-to-Proximal Redistribution Using Biofeedback	Brown	Brown	392
					Post-Operative Function and Muscle Modulus during Gait at 24 Months Following Total Knee Arthroplasty	Koehn	Koehn	368
Leg 2	Saturday, Aug. 11	11:30-13:00	Thematic	Stacie Ringberg & Erica Bell	Post-Stroke Walking Mechanics Using a Speed-Adaptive Myoelectric Stimulation Controller	McLean	McLean	377
					Pathological Knee Joint Condition in Children with Cerebral Palsy is Associated with the Active State Muscular Mechanics rather than Passive	Kay	Kay	379
					Modeling the Neural Energetics of Gait in Children with Cerebral Palsy: Kinematic Motion Analysis and Electromyography	Geddy	Geddy	496
					In vivo Relationships Between Joint Stiffness, Joint-based Estimates of Muscle Stiffness, and Shear Wave Velocity	Vogelky	Vogelky	496
					Does Fatigue Affect Muscle Function During a Repetitive Kick and Place Task?	DeBenedictis	DeBenedictis	646
Pre-doc and Post-doc	Saturday, Aug. 11	14:00-14:30	Podium	Michelle Sabo	CHRONIC PAIN: MODEL OF MUSCLE INJURY VALIDATED WITH IN VIVO EXPERIMENTS	Westman	Westman	446
					Upper Limb Joint Stiffness with Botulinum Toxin Demonstrated Increased Passive Stiffness and Decreased Passive Range of Joint Motion in Individuals with Chronic Hemiparetic Stroke	Binder-Markley	Binder-Markley	646
					Does Inter-limb Tendon Tension Influence Strain and Energy Expenditure	Rege	Rege	192
					Sex-Dependent Effects of Hip and Knee Coupling During Step-Downs: A Randomized Controlled Trial	Holman	Holman	374
					Learning Locomotor Stability in Novel Environments	Bucklin	Bucklin	142
Bone	Saturday, Aug. 11	16:00-17:30	Podium	Karen Troy	CONTACT STRESS OVER EXPOSURE CORRELATES WITH OA DEVELOPMENT IN ACETABULAR FRACTURES	Chabern	Chabern	589
					Knee Abduction Moment is Greater with Time Since Injury in Individuals with Low Back Pain	Frugrensch	Frugrensch	523
					Effect of Load Muscle Fatigue on Low-Frequency Common Input to Bilateral and Unilateral Plantar Flexors during Quiet Standing	Watanabe	Watanabe	549
					Triceps Surae Muscle Activation Interaction Effects Between Young and Older Adults	Rege	Rege	192
					Older Adults Receive Their Distal-to-Proximal Redistribution Using Biofeedback	Brown	Brown	392
Running	Saturday, Aug. 11	16:00-17:30	Rapid Podium	Irene Davis	Running Specific Prosthetic Models Affect Top Spinning Speeds in Amputees with Unilateral Transfemoral Amputations	Rege	Rege	192
					Changes in Hip Mechanics During Gait Modification to Reduce Knee Abduction Moment	Carles	Carles	444
					Joint Asymmetry & Monthly Post-ACLJ Associate with Knee Limb Ratio 12 Months Post-ACLJ	Carlier	Carlier	539
					Upper Limb Joint Stiffness with Botulinum Toxin Demonstrated Increased Passive Stiffness and Decreased Passive Range of Joint Motion in Individuals with Chronic Hemiparetic Stroke	Binder-Markley	Binder-Markley	646
					Does Inter-limb Tendon Tension Influence Strain and Energy Expenditure	Rege	Rege	192
Sensors	Saturday, Aug. 11	16:00-17:30	Thematic	Maria Pogg & Marya Pogg	Sex-Dependent Effects of Hip and Knee Coupling During Step-Downs: A Randomized Controlled Trial	Holman	Holman	374
					Learning Locomotor Stability in Novel Environments	Bucklin	Bucklin	142
					CONTACT STRESS OVER EXPOSURE CORRELATES WITH OA DEVELOPMENT IN ACETABULAR FRACTURES	Chabern	Chabern	589
					Knee Abduction Moment is Greater with Time Since Injury in Individuals with Low Back Pain	Frugrensch	Frugrensch	523
					Effect of Load Muscle Fatigue on Low-Frequency Common Input to Bilateral and Unilateral Plantar Flexors during Quiet Standing	Watanabe	Watanabe	549
The ACL	Saturday, Aug. 11	16:00-17:30	Thematic	Michelle Sabo & Anthony Vicini	Triceps Surae Muscle Activation Interaction Effects Between Young and Older Adults	Rege	Rege	192
					Older Adults Receive Their Distal-to-Proximal Redistribution Using Biofeedback	Brown	Brown	392
					Post-Operative Function and Muscle Modulus during Gait at 24 Months Following Total Knee Arthroplasty	Koehn	Koehn	368
					Post-Stroke Walking Mechanics Using a Speed-Adaptive Myoelectric Stimulation Controller	McLean	McLean	377
					Pathological Knee Joint Condition in Children with Cerebral Palsy is Associated with the Active State Muscular Mechanics rather than Passive	Kay	Kay	379