

GCMAS 2013 Schedule for Poster Sessions

Poster Session 1: Wednesday, May 15 from 9:30-11:00A

Posters 1-153

ELECTROPHYSIOLOGY	Presenting Author	Poster #
Bandwidth determination of the fatigue index during dynamic contractions	Jungyoon Kim	101
FOOT AND ANKLE	Presenting Author	Poster #
Structure and function based discriminant analysis to distinguish planus, rectus, and cavus foot types	Howard Hillstrom	102
Realignment of the lamina pedis by the tibiotalar column during the stance phase of normal gait	Mahesh Vidula	103
The effects of weight loss on foot structure and function in obese adults: a pilot study	Reagan Kane	104
Assessment of tarsal coalition excision using segmental foot and ankle kinematics: A case study	Adam Graf	105
GAIT ANALYSIS	Presenting Author	Poster #
Adaptive step count validation for a wide range of gait velocities	Emma Fortune	106
Principal component analysis correctly identifies true knee flexion axis despite marker misplacement	Elisabeth Jensen	107
A new method for computing the Gait Deviation Index and Motion Analysis Profile	Michael Schwartz	108
Estimating the range of outcome probabilities for intramuscular psoas lengthening derived from the random forest algorithm	Michael Schwartz	109
Asymmetry and modification of foot progression angle and their impact on plantar loading	Ericka Merriwether	110
Peak hip and knee force during gait after ACL reconstruction	Brooke Sanford	111
Biomechanical evaluation of an optical system for outreach clinic application in underserved areas	Jeffrey Kertis	112
Mathematical representation of lower limb kinematics of Plug-in Gait model in 3D perspective	Alaa Abdulrahman	113
Effect of determination of hip joint center on sit-to-stand kinematics based on comparison between Plug-In Gait and auto regression methods	Alaa Abdulrahman	114
Comparison of dosage of intense gait-oriented exercise on gait speed and distance in people with chronic stroke: A pilot study	J.J. Mowder-Tinney	115
Center of mass trajectory in gait of stroke patients	Aline Carmo	116
The use of gait analysis to document correction of physiological genu varum in young child	Kelly Pogemiller	117
The use of gait analysis in evaluation of rotational gait abnormality	Kelly Pogemiller	118
Applications of the gait deviation index in dysplastic hip patients correlated with activity and pain	Deraan Collins	119
Age at menarche predicts base of support during walking and knee injury risk in adolescent girls	Andrew Froehle	120
The abnormal gait parameters due to increased femoral anteversion: does it cause stiff knee gait?	N.Ekin Akalan	121
Telescoping action improves the fidelity of an inverted pendulum model in hemiplegic cerebral palsy gait	Frank Buczek	122
Performance of a simulated inverted pendulum applied to hemiplegic cerebral palsy gait	Frank Buczek	123
Relationships between frontal plane trunk and pelvis motion and knee adductor moments in transtibial amputees	Susan Dandrea	125
Gait analysis during body weight supported treadmill training using inertial measurement units	Douglas Wajda	126
The functional impact of peripheral neuropathy in children and youth treated for acute lymphoblastic leukemia: A feasibility study	Marilyn Wright	127
Effectiveness of a fall-prevention training program for persons with transtibial amputation: Preliminary results	Marilynn Wyatt	128
Gait characteristics in women five years after bariatric surgery relate to post-surgical weight loss	Dana Duren	129
A smart shoe for simultaneous shear and pressure measurement during walking	Haiying Huang	130

GCMAS 2013 Schedule for Poster Sessions

Poster Session 1: Wednesday, May 15 from 9:30-11:00A

Posters 1-153

GAIT ANALYSIS (CONTINUED)	Presenting Author	Poster #
Long-term outcomes after selective dorsal rhizotomy	Nanette Aldahondo	131
Reliability of a novel thoracolumbar marker set to assess running kinematics	Leslie Barnes	132
Quantifying gait variability in chronic kidney disease patients undergoing hemodialysis	Jong Hun Sung	133
Kinematic and kinetic data facilitate treatment recommendations for juvenile rheumatoid arthritis: A case study	Lisa Jameson	134
Estimating stress across the knee in genu valgum using coronal kinetics: A case study	Rachel Vance	135
Evaluation of gait parameters and mechanical work on patients with lower extremity amputations	Grant Myers	136
Are static and dynamic squatting activities comparable?	Julien Clément	137
Footwear and cadence effect on spatiotemporal and sagittal plane gait kinematics	Braden Romer	138
A new look at an old problem: Defining weight acceptance in human walking	Julie Bing	139
Leg dominance influences minimum toe clearance during stair ascension	Srikant Vallabhajosula	140
Withdrawn		141
Differences in frontal plane running kinematics by age and gender	Bryan Conrad	142
Comparison of running shod and barefoot in mid-forefoot runners	Bryan Conrad	143

DATA METHODS	Presenting Author	Poster #
Does awareness of being observed affect gait?	Bryan Conrad	144
A simple tracing task to assess visuomotor performance	Leia Stirling	145
Comparison of traditional and nonlinear gait analysis measures in individuals with multiple sclerosis	Daniel Petit	146
Identification of start and end times for aperiodic kinematic data - a new approach	Marcus Besser	147
Minimal detectable change in foot-pressure measurements in typically developing children	Timothy Niiler	148
Withdrawn		149
Variability of inter-joint coordination during walking in elderly non-fallers and fallers	Li-Shan Chou	150
TheraWii©: a portable instrumented postural stability system to assess dynamic postural stability	Cristine Agresta	151
Low-energy wireless streaming of kinematic data to a consumer mobile device	Jay Coggin	152
The excursion ratio method to quantify joint coupling patterns: Effect of bin size and orientation on coupling categorization	Kirsten Tulchin-Francis	153



GCMAS 2013 Schedule for Poster Sessions

Poster Session 2: Thursday, May 16 from 9:30-11:00A

201-248

MODELING	Presenting Author	Poster #
Functional workspace and range of motion of the thumb in normal adults	Patrick Curran	201
Development and validation of a three-dimensional model for kinematic analysis of the thumb	Patrick Curran	202
The effect of transverse plane pelvic motion on the center of gravity in the sagittal plane during gait	Kathleen Kelley	203
Glenohumeral joint dynamics during pediatric wheelchair mobility	Alyssa Paul	204
Pennation angles of major ankle muscles depending on the muscle contraction intensity and ankle angle	Seunghyeon Kim	205
A novel objective function to adjust model parameters in a subject-specific model	Jongsang Son	206

NEUROLOGY	Presenting Author	Poster #
Dalfampridine for the treatment of gait dysfunction in Parkinson's disease	Gloria Ann Nadayil	207
Neonatal neural correlates of gait development in very low birth weight preterm children: a diffusion imaging study	Katelyn Cahill-Rowley	208
Comparison of the TheraWii© balance system as an assessment tool of postural stability to the Balance Error Scoring System (BESS)	Kristina Ottens	209

NORMAL MOTION	Presenting Author	Poster #
Kinematics of rising from supine to sitting on the side of the bed using five different strategies	Marcus Besser	210
Biomechanical analysis of a deep and hold squat technique in healthy adults	Wilshaw Stevens	211
The effect of step width on gluteus medius activity	Samantha Kubinski	212
Exercise intensity induced fatigue effect on spatiotemporal characteristics of treadmill walking	Vassilios Vardaxis	213
Unstable surface balance performance with restricted hand movement and cognitive task execution	Peter M. Quesada	214

TRUNK AND UPPER EXTREMITY	Presenting Author	Poster #
Reduction in shock absorption capacity of the spine during gait after spinal reconstruction surgery	Pranitha Gottipati	215
Consequences of concomitant subscapularis repair with reverse total shoulder arthroplasty	James Otis	216
Glenohumeral joint kinematics following single tendon rotator cuff repair	Ryan Inawat	217
Coordinate system reliability for measurement of global wrist kinematics	Andrew Kraszewski	218
Impact of spinal fusion for scoliosis correction on gait	James Carollo	219
A marker based methodology for the evaluation of spine mobility in ankylosing spondylitis	Alice Mantoan	220
Evaluating the acromion marker cluster as a method for measuring scapular orientation in children with brachial plexus birth palsy	Kristen Thomas	221
Modeling the functional capacity of the hand for intuitive clinical evaluation	Sam Leitkam	222
A new protocol for the investigation of the female underhand softball pitch	Andreas Kontaxis	223

ORTHOPAEDICS	Presenting Author	Poster #
Glenohumeral loading during activities of daily living in a reverse total shoulder arthroplasty	Andreas Kontaxis	224
Relationship between gait and bone development in a patient with asymmetric lipomyelomeningocele	Susan Rethlefsen	225
Functional outcome scores, strength, and mobility after rotator cuff tear: do effects of aging confound detection?	Meghan Vidt	226
Do children with cerebral palsy get weaker as they age?	Anita Bagley	227
Outcomes of rectus femoris transfers in children with cerebral palsy: Effect of transfer site	Mark McMulkin	228

GCMAS 2013 Schedule for Poster Sessions

Poster Session 2: Thursday, May 16 from 9:30-11:00A

201-248

PATHOLOGIC MOTION	Presenting Author	Poster #
Transverse plane outcomes and the role of femoral derotational osteotomies	Michael Schwartz	229
Motion analysis of the upper extremity in children with unilateral cerebral palsy during activities of daily living	Matthias Klotz	124
Are contractures, spasticity or weakness the cause for pelvic anterior tilt during gait in cerebral palsy?	Matthais Klotz	230
Motion analysis of children with idiopathic toe walking and healthy controls on three terrains with vibration intervention	Hsinchen Fanchiang	231
Effects of a non-rigid AFO on foot placement accuracy during post-stroke locomotion	Rebecca Stine	232
The use of gait analysis in the treatment of a child with myelomeningocele: A case study	Adam Graf	233

PROSTHETICS/ORTHOTICS/ASSISTIVE DEVICES	Presenting Author	Poster #
A comparison of functional level assessed by experienced prosthetists versus a calculated estimate based on actual locomotor activity	Michael Orendurff	234
Two year follow up of ankle and foot joint motion inside orthotics for children with spastic cerebral palsy	Carlos Marquez-Barrientos	235
Activity classification in users of ankle foot orthoses	Cameron Archer	236
Effect of prosthetic stiffness on impact forces during walking and sudden limb loading	Erin Boutwell	237
Effects of functional electrical stimulation on function and oxygen cost in children with hemiplegia	Amy Bailes	238

REHABILITATION	Presenting Author	Poster #
Posture assessment and training in children with brain damage with a new robotic device (RotoBIT ^{3D})	Maurizio Petrarca	239
What we can learn comparing spatial rotational orientation ability and gait inter segmental rotation in children with cerebral palsy ?	Maurizio Petrarca	240
Selective dorsal rhizotomy based on clinical observations: Effect on gait in children with cerebral palsy	Audrey Parent	241
A validation study on using Kinect for motion analysis	Debbie Espy	242
Gait adaptation in unilateral cerebral palsy	Christopher Stanley	243

SPORTS	Presenting Author	Poster #
Alterations to lower extremity kinematics during downhill running	Robert Catena	244
Muscle fatigue effect a change in landing motion during vertical jump in the lower limbs	Keita Honda	245
A preliminary evaluation of glenohumeral joint power	Sylvia Ounpuu	246
Can differences in wrist and forearm kinematics distinguish between different types of pitches?	Matthew Solomito	247
Using motion analysis to understand the development of adolescent pitching technique: A longitudinal case study	Erin Garibay	248
Validation of a novel clinical tool to measure pelvic tilt	Ajit Chaudhari	249

