UMass Kinesiology Presentations at the World Congress of Biomechanics, July 2014

**July 7**

Podium

5-6:30pm Katherine Boyer - “Changes in Knee Joint Mechanics in Response to OA Pain and its Treatment”

5-6:30pm Ross Miller, Joseph Hamill- “Optimal Footfall Patterns for Cost Minimization in Running”

Poster

Julia Choi -50 “Adapting Gait Symmetry With Visually Guided Locomotor Training: Virtual Split-Belt Walking Adaptation”

Sangsoo Park, C.J. Hasson, Graham Caldwell – 3668 “Adaptation of Muscle Synergies While Learning to Direct Pedal Forces”

Jennifer Baird, Brian Umberger, Joseph Hamill, Richard van Emmerik- 2751 “Arm Swing, Thorax-Pelvis Coordination and Angular Momentum Regulation During Walking”

**July 8**

Podium

8-9:30am Katherine Boyer, Julia Freedman Silvernail, Scott Strycharz, Joseph Hamill - “Age and Gender Effects on Movement Coordination Variability in Running”

2:30-4pm Allison Gruber, Joseph Hamill, Katherine Boyer- “The Motor System Response to Change in Foot-Ground Interface with Forefoot Running”

8-9:30am Brittney Muir (Richard van Emmerik co-author)- “Age-Related Changes in Foot Placement Variability when Approaching and Stepping Over an Obstacle”

Poster

Sandra Aliberti, Julia Freedman Silvernail, B. Mezencio, A.C. Amadio, J.C. Serrao, Joseph Hamill, L Mochizuki- 1373 “Differences in Leg-Rearfoot Coupling Variability during Stair Descent in Patellofemoral Pain Subgroups”

Carl Jewell, Katherine Boyer, Joseph Hamill- 1853 “Does Footfall Pattern in Forefoot Runners Change over a Prolonged Run?”

Scott Ducharme- 5094 “Asymmetrically Loaded Warfighters Exhibit Reduced Segmental Coordinative Adaptability in a Dynamic Marksmanship Task”
Graham Caldwell, Devon Frayne, Brittney Muir, Brian Umberger- 1641 “Biomechanical Characteristics of Exercise Machine Training”

July 9

Keynote


Podium

5-6:30pm  Joseph Hamill, Ross Miller, Julia Freedman Silvernail, Allison Gruber- “Does Changing Footfall Patterns Reduce Running Related Injuries?”

8-9:30am  Graham Caldwell, C.J. Hasson, Ross Miller - “Age Related Changes in Muscle Mechanical Properties”

July 10

Posters

Julia Freedman Silvernail, Katherine Boyer, Richard van Emmerik, Joseph Hamill- 3684 “Quantification of Coordination Pattern Comparisons Using a Vector Coding Technique”

Alexis Gidley, Brian Umberger, A.P. Marsh- 1379 “Performance-based Cost Functions for Simulating Submaximal Pedaling”

July 11

Podium

5-6:30pm  Allison Gruber, Katherine Boyer, Tim Derrick, Brian Umberger, Joseph Hamill- “Foot Posture in Human Running: Energetics, Muscle Actions, and Ground Reaction Forces”

Poster

Jocelyn Hafer, Julia Freedman Silvernail, Howard Hillstrom, Katherine Boyer- 2046 “The Effect of Increased Running Cadence on Segment Coordination”