



3DAHM 2024 Montevideo URUGUAY 3-6 December 2024

3DAHM 2024 Poster Session A – Tuesday Dec. 3, 16:00

18th International Symposium on 3D Analysis of Human Movement

in Uruguay, Latin America, December 2024

Program chair: Natalia Garay Badenian

CLINICAL BIOMECHANICS, LOCOMOTION GENERAL & CLINICAL GAITS, BIOMEDICAL ENGINEERING, WIRELESS SENSORS

7	Natalia Fuentes Concha, Nayli Rodríguez Santos & Leonardo Lagos Hausheer	Influencia de Factores Demográficos en la Eficacia de la Rehabilitación en la Marcha con instrumentos de bajo costo.
16	Alejandra Rial & Franco Simini	Gait Monitor for Parkinson Disease Persons using PARKIBIP
28	Renata Bona, Angelina Racedo, Artur Bonezi & Carlo M. Biancardi	Mechanics work of the pregnancy walk
34	Federico Caramia, Eleonora Bellucci, Emanuele D'Angelantonio, Leandro Lucangeli & Valentina Camomilla	Detection of compensatory movements using prototypical inertial sensor during physical therapy exercises
38	Angelina Racedo, Paula Radesca, Christian Schneider, Mateo Rodrigues, Carlo M. Biancardi and Renata Bona	Kinematics variability at different velocities of walk during pregnancy
42	Paula Radesca Vener, Christian Schneider, Artur Bonezi, Carlo M. Biancardi & Renata Bona	Cambios en el centro de masa de embarazadas en dos modelos antropométricos diferentes
45	Colin Roberts	Navigating Trochlear Osteochondritis Dissecans: A Case Study on Diagnosis, Surgical Intervention, and Gait Rehabilitation
73	Sibele de Andrade Melo Knaut, Luiz Alfredo Braun Ferreira & Luiz Felipe Munhoz Gois	Interference Of Ankle Joint Mobilization In Free Squat Movement: A Clinical Study
60	Gabriel Galhardo Alves, Guilherme de Conto Kuhn, Júlio Augusto Franzen, Ana Paula Campagnaro, Lauana Maria Miola & Alberito Rodrigo Carvalho	Reproducibility and responsiveness of isometric torque measurements of the knee extensor mechanism using the Dinabang dynamometer
29	Amanda Jakovac, Fernanda Serighelli, Lauana Maria Miola, Guilherme de Conto Kuhn, Danilo De Oliveira Silva & Alberito Rodrigo Carvalho	Relationship between knee crepitus with thickness and isometric torque of quadriceps in individuals with patellofemoral pain: a cross-sectional study
30	Lana Brandl, Jaline Rossato, Renata Adam Baioco & Alberito Rodrigo Carvalho	Incidence of sports-related knee injuries in volleyball players: relationship to objective assessment of knee flexor-extensor muscle function
24	Zuliany Y. Urquina, Anny E. Correa, Joaquín M. Díaz, Cristhian F. Ricalde, Isabel C. Soto Cardona & Victoria E. Abarca	Comparative Occupational Biomechanical Analysis in Manicurists: Study of the Colombian and Peruvian Populations
36	Ana de David, Leandra Leal, Andrea Moraes, Aline Gava, Gabriela Guenka & Kate Barcelos	Three-dimensional Kinematics During Overground Walking Versus Horseback Riding – A Case Study
37	Leandra Leal, Andréa Moraes, Gabriela Guenka, Aline Gava, Kate Barcelos & Ana de David	Horse Walk Amplitudes and Trunk and Pelvis 3-D Kinematics
39	Vanessa Yelós, Germán Pequera & Carlo M. Biancardi	Energy recovery calculation using pose estimation
61	Dario Santos, Andres Rey, Bernardo Articardi, Andrea Mattiozzi & Franco Simini	Tibial Axial Rotation and Knee Flexion Extension in Open Chain with IMU Compared to Infrared Marker-Based 3D Motion Capture
74	Deivid Smarzarzo, Victor Ramos, Ana Paula Pagani, Raffael de Andrade, Douglas Almonfrey & Mariana Rampinelli	Human Gait Analysis: A Comparative Study of Intelligent Space and Inertial Wearable Sensors in Prosthetic Users
76	Josiel Ribeiro, Heron Baptista de Oliveira Medeiros, Felipe Neumann, Vitor Guarda Munari & Heiliane de Brito Fontana	Influence of sagittal plane changes in posture on hip abductor strength and motor unit activity
77	Mateo Rodrigues Zabala, Germán Pequera, Valentina Silva-Pereyra, Christian Schneider, Renata Bona & Artur Bonezi	Kinematics of kettlebell swing exercises and aging
86	Andrea Catherine Alarcón-Aldana, Mauro Callejas-Cuervo & Antonio Padilha Lanari Bo	Motor Rehabilitation Platform Based on a Motion Capture System and Video Games for Upper Limb Functional Recovery





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95	Maria Rene Ledezma, Dario Santos & Franco Simini	Gait and Step-up Knee Kinetics Using Magneto Inertial Measurement Units towards the CHAKAMO Instrument
96	Lenin Anderson Macas Gusqui & Ana Cecilia Villa Parra	Design and Implementation of a Wireless System for the Acquisition and Analysis of Human Gait Parameters
99	Nestor Duque, Eder Peña-Quimbaya, Luis García, Aldemir Vargas-Eudor & Juan Graell	Cost-effective integrated system for gait analysis at high altitudes
100	Edith Elgueta Cancino, Ririka Fujiwara, Angela Bassi & Eduardo Cofré Lizama	Non-linear measures of postural control in the low back, mobile phone technology versus gold standard. BackMeUp project
101	Carlos De la Fuente, Rony Silvestre, Roberto Yañez, Eduardo Martínez-Valdes, Gustavo André de Andrade & Felipe P Carpes	Quadriceps thickness changes over six months post-anterior cruciate ligament reconstruction: unveiling critical impairments in vastii muscles.
102	Carlos De la Fuente, Alejandro Neira, Gustavo André de Andrade & Felipe P Carpes	Laboratory Activities in a BS Physical Therapy Course: Integrating sEMG and Kinematics Real-time Data with Active Learning across Six Cohorts
103	Carlos de la Fuente, Rony Silvestre, Roberto Yañez, Matias Roby, Samuel Madera & Alejandro Ortiz-Bernardin	Stress concentration description for Anteromedial portal, Transtibial, and Hybrid Transtibial femoral drillings in anterior cruciate ligament graft: A finite element model.
104	Carlos de la Fuente Cancino, Rony Silvestre, Roberto Yañez, Alejandro Neira, Samuel Madera & Alejandro Ortiz-Bernardin	Stress concentration description during knee Rotation with and without Iliotibial band-intermuscular septum lateral extra-articular tenodesis for Transtibial and Anteromedial Tunnels: A finite element model.
105	Carlos de la Fuente, Rony Silvestre, Roberto Yañez, Matias Roby & Francisca Jesam-Sarquis	Dynamic valgus classification during landing from 2D videos based on Random Forest.
111	Carlos de la Fuente Cancino, Rony Silvestre, Roberto Yañez & Felipe P Carpes	Anesthesia and intra-operative pivot are suggested to evaluate the rotatory laxity of the knee in Anterior cruciate ruptures.
113	Carlos De la Fuente, Carlos Cruz-Montecinos & Felipe P Carpes	Biomechanical properties between four surgical techniques used in vitro for suturing complete Achilles tendon ruptures.
114	Carlos de la Fuente Cancino	In-vitro clinical failure after cyclical tractions of Human Achilles tendon through Laplacian edge detector.
121	Paulina Carcamo, Joaquin Robledo-Medalla, Carlos Cruz Montecinos, Nicolas Yañez, Rodrigo Dominguez, Franco Barraza, Oscar Muñoz, Constanza Besser, Rodrigo Venegas, Alex Vaisman Burucker & Macarena Lopez	Asymmetry in Knee Extensor Power and Single-leg Jump Tests One Year After Anterior Cruciate Ligament Reconstruction
122	Mathias Ferreira, Nicole Imbert, Matias Míguez & Pablo Iturralde	DEVELOPMENT OF A PORTABLE DEVICE SYSTEM FOR RELATIVE POSITIONING AND MOVEMENT ESTIMATION IN GAIT ANALYSIS
124	Carlos Cruz & Claudio Tapia	Causal Effect of Lower Limb Acceleration on Electromyographic Activity in Individuals with Arthropathy During Gait
125	Isabel Morales-Ledezma & Franco Simini	Simultaneous Vertical Force and 3D Shank Orientation during Standing and Stair Climbing
90	Leonardo A. Peyré-Tartaruga, Alessandro Madama, Luca Correale, Flávia G. Martinez, Edoardo Gatti & André Ivaniski-Mello	MECHANICAL WORK AND PENDULUM-LIKE MECHANISM OF WALKING: A COMPARISON BETWEEN CHILDREN AND ADULTS AT SELF SELECTED SPEED

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www.3dahm2024.com

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3dahm2024@gmail.com

