

XXI Congresso della Società Italiana di Analisi del Movimento in Clinica



PROGRAMMA PRELIMINARE

OnLine
30 settembre – 01 ottobre
2021





Comitato organizzatore

Consiglio direttivo SIAMOC:

- Irene Aprile
- Elena Bergamini
- Maria Cristina Bisi
- Maurizio Ferrarin
- Annamaria Guiotto
- Antonio Nardone
- Guido Pasquini
- Pietro Picerno
- Mariano Serrao
- Rita Stagni
- Peppino Tropea

con Giovanni D'Addio, Responsabile del Servizio di Bioingegneria, ICS Maugeri Spa SB - IRCCS di Telese (Telese Terme - BN)



Comitato scientifico

Irene Aprile	IRCCS Fondazione Don Carlo Gnocchi ONLUS Roma
Marianna Capecci	Dipartimento di medicina Sperimentale e Clinica - Università Politecnica delle Marche Clinica di Neuroriabilitazione - Azienda Osp-Univ Ospedali Riuniti di Ancona, Ancona
Matteo Cioni	Laboratorio di Neuro-Biomeccanica, Dipartimento di Scienze Biomediche e Biotecnologiche, Università di Catania
Giuseppina M. Farella	S.C. Medicina Fisica e Riabilitazione, Istituto Ortopedico Rizzoli, Bologna
Maurizio Ferrarin	Polo Tecnologico, IRCCS Fondazione Don Carlo Gnocchi Milano
Maria Vittoria Filippi	UO Medicina Riabilitativa, Ospedale "Morgagni - Pierantoni", Forlì, AUSL della Romagna
Carlo A. Frigo	Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano
Marco Gazzoni	Laboratory for Engineering of the Neuromuscular System (LISIN), Department of Electronics and Telecommunications, Politecnico di Torino, Torino
Annamaria Guiotto	BiomovLab, Dipartimento di Ingegneria dell'Informazione, Università degli Studi di Padova
Antonio Nardone	Department of Clinical-Surgical, Diagnostic and Pediatric Sciences, University of Pavia, Pavia Centro Studi Attività Motorie, ICS Maugeri SPA SB, Institute of Pavia, IRCCS, Pavia Neurorehabilitation and Spinal Unit, ICS Maugeri SPA SB, Institute of Pavia, IRCCS, Pavia
Guido Pasquini	IRCCS Fondazione Don Carlo Gnocchi ONLUS Firenze
Maurizio Petrarca	Movement Analysis and Robotics Laboratory (MARLab), "Bambino Gesù" Children's Hospital, IRCCS, Roma
Pietro Picerno	SMART Engineering Solutions & Technologies (SMARTEST), Università Telematica "e-Campus", Novedrate (CO)
Rita Stagni	Department of Electric, Electronic and Information Engineering "Guglielmo Marconi" - DEI, Università degli Studi di Bologna
Peppino Tropea	Department of Neurorehabilitation Sciences, Casa di Cura del Policlinico, Milano

Segreteria organizzativa

congresso2021@siamoc.it



Patrocinato da



SISMES
SOCIETÀ ITALIANA DELLE SCIENZE MOTORIE E SPORTIVE
SOCIETÀ ACCREDITATA PRESSO L'ANVUR (SOCIETÀ 45, FEBBRAIO 2015)

Soci sostenitori



BTS Bioengineering



GPPEM
Misura Conosci Migliora



QUALISYS
Motion Capture Systems



cometa



Topics

- Teleriabilitazione e telemonitoraggio
- Analisi del movimento: strumenti e metodi
- Applicazioni cliniche dell'analisi del movimento
- Riabilitazione robot-assistita
- Modelli computazionali per l'analisi del movimento
- Analisi del movimento nello sport
- Neurofisiologia del movimento
- Realtà virtuale come strumento diagnostico e terapeutico
- Interfacce uomo-macchina ed ergonomia
- Analisi del movimento in chirurgia ortopedica



PROGRAMMA

Giovedì 30/09	
Ora	Attività
9:00	Saluti istituzionali Apertura dei lavori
9:15	
9:30	Lezione di apertura
9:45	
10:00	BREAK
10:15	SESSIONE 1A Analisi del movimento nello sport
10:30	
10:45	
11:00	
11:15	BREAK
11:30	SESSIONE 1B Analisi del movimento in chirurgia ortopedica
11:45	
12:00	
12:15	POSTER SESSION Analisi del movimento: applicazioni cliniche
12:30	
12:45	
13:00	
13:15	LUNCH BREAK
13:30	
13:45	
14:00	SESSIONE 2 Analisi del movimento: strumenti e metodi
14:15	
14:30	
14:45	
15:00	
15:15	
15:30	BREAK
15:45	ASSEMBLEA
16:00	
16:15	
16:30	
16:45	ELEZIONI CD
17:00	
17:15	

Venerdì 01/10	
Ora	Attività
9:00	Apertura dei lavori
9:15	SESSIONE 3A Neurofisiologia del movimento
9:30	
9:45	
10:00	
10:15	BREAK
10:30	SESSIONE 3B Telereabilitazione e Telemonitoraggio
10:45	
11:00	
11:15	BREAK
11:30	AGGIORNAMENTI DAI SOCI SOSTENITORI
11:45	
12:00	
12:15	POSTER SESSION Analisi del movimento: strumenti e metodi
12:30	
12:45	
13:00	
13:15	LUNCH BREAK
13:30	
13:45	
14:00	SESSIONE 4 Analisi del movimento: applicazioni cliniche
14:15	
14:30	
14:45	
15:00	
15:15	
15:30	BREAK
15:45	Dibattito Sì/No
16:00	
16:15	Chiusura Lavori
16:30	
16:45	
17:00	
17:15	



Giovedì 30 Settembre 2021

08:30 Saluti istituzionali

Antonio Nardone, Presidente SIAMOC

09:30 Lezione di apertura

Introduce: Antonio Nardone

Telemedicina e Teleriabilitazione: tecnologia e cambiamento culturale degli operatori sanitari

dott.ssa Simonetta Scalvini

ICS Maugeri SPA SB, Institute of Lumezzane, IRCCS, Brescia

10.00 BREAK

10:15 Sessione 1A – Analisi del movimento nello sport

Moderatori:

Validation of an inertial body sensor network for upper limb kinematic assessment in archery

Luigi Truppa, Eleonora Vendrame, Lorenzo Rum, Valeria Belluscio, Giuseppe Vannozzi, Aldo Lazich, Elena Bergamini and Andrea Mannini

Scuola Superiore Sant'Anna - The BioRobotics Institute

Biomechanical analysis of field hockey for injury prevention purposes

Alex Scaldaferrò, Alfredo Ciniglio, Giacomo Maistrello, Fabiola Spolaor, Annamaria Guiotto, Federica Cibirin and Zimi Sawacha

BioMov Lab, Dept. Engineering Information, University of Padova, Padova, Italy

Influence of a maximal running incremental test on jumping performances

Laura Simoni, Luigi Truppa, Pietro Garofalo, Guido Pasquini and Andrea Mannini

Scuola Superiore Sant'Anna - The BioRobotics Institute

Joint kinematics and EMG characterization of para-archery shooting technique: an explorative study



Valeria Belluscio, Eleonora Vendrame, Lorenzo Rum, Luigi Truppa, Aldo Lazich, Andrea Mannini and Elena Bergamini
University of Rome "Foro Italico"

The effects of different midsole bending stiffness of sport shoes on lower limb biomechanics

Alfredo Ciniglio, Alex Scaldaferrò, Fabiola Spolaor and Zimi Sawacha
University of Padova

3D lower limb joint kinematics of Snowboard Giant Slalom: preliminary analysis using wearable inertial sensors

Silvia Fantozzi, Anna Lisa Mangia, Matteo Forni, Marta Simsig and Simone Ciacci
DEI, University of Bologna

11.15 BREAK

11:30 Sessione 1B – Analisi del movimento in chirurgia ortopedica

Moderatori:

Typical Risk Pattern for Anterior Cruciate Ligament Injury is Largely Present in Competitive Athletes: Biomechanical Screening through Wearable Sensors

Stefano Di Paolo, Laura Bragonzoni, Alberto Grassi and Stefano Zaffagnini
Department for Life Quality Studies, University of Bologna

Superimposition of ground reaction force on tibial-plateau morphology supporting diagnostics and post-operative evaluations in high-tibial osteotomy. A novel methodology.

Claudio Belvedere, Miriana Ruggeri, Richie Gill, Stefano Zaffagnini, Alisdair MacLeod, Maurizio Ortolani, Gilda Durastanti, Federica Faccia, Alberto Grassi, Giacomo Dal Fabbro and Alberto Leardini
Movement Analysis Laboratory, IRCCS Istituto Ortopedico Rizzoli, Bologna, Italy

Effect of functional surgery on the recovery of foot rockers in patients with Charcot-Marie-Tooth disease. Observational study.

Chiara Rambelli, Davide Mazzo, Martina Galletti, Giacomo Basini, Paolo Zerbinati, Paolo Prati, Francesca Mascioli, Stefano Masiero and Andrea Merlo
Sol et Salus Hospital, Rimini



TUG test may be an outcome indicator before and after hip and knee arthroplasty
Sarah Adamo, Gaetano Pagano, Carlo Ricciardi, Leandro Donisi, Vito Marsico and Giovanni D'Addio

Bioengineering Unit, Institute of Care and Scientific Research Maugeri Spa – SB, Pavia, Italy

Kinematical patterns through Dynamic RSA reflected clinical outcomes improvement during at two-years follow up

Raffaele Zinno, Stefano Di Paolo, Marco Bontempi, Domenico Alesi, Nicola Pizza, Stefano Zaffagnini and Laura Bragonzoni

Department for Life Quality studies, University of Bologna

12:15 Sessione Poster Clinici

(Lista dei poster a pag. 18)

13:15 LUNCH BREAK

14:00 Sessione 2 – Analisi del movimento: strumenti e metodi

Moderatori:

Accuracy of a multi-sensor system in stride parameters estimation: comparison of straight and curvilinear portions

Francesca Salis, Stefano Bertuletti, Kirsty Scott, Marco Caruso, Tecla Bonci, Ellen Buckley, Ugo Della Croce, Claudia Mazzà and Andrea Cereatti

University of Sassari

A wireless and miniaturized EEG-EMG acquisition system for the assessment of sensorimotor integration during overground gait

Giacinto Luigi Cerone, Alessandra Giangrande, Marco Gazzoni, Harri Piitulainen and Alberto Botter

Politecnico di Torino

A biomechanical index of trunk displacement during gait: application to Parkinson's disease

Emahnel Troisi Lopez, Roberta Minino, Pierpaolo Sorrentino, Rosaria Rucco, Anna Carotenuto, Valeria Agosti, Domenico Tafuri, Valentino Manzo, Marianna Liparoti and Giuseppe Sorrentino



*Department of Motor Sciences and Wellness, University of Naples "Parthenope",
Naples, Italy*

Point-based inertial sensors anatomical calibration for talo-crural joint modelling

Paolo Brasiliano, Claudia Giacomozzi and Valentina Camomilla

University of Rome "Foro Italico"

14:40 BREAK

14:55 Responsiveness to rehabilitation of a set of gait stability indexes in persons with Parkinson's disease.

Stefano Filippo Castiglia, Dante Trabassi, Antonella Tatarelli, Tiwana Varrecchia, Lorenzo Fiori, Alberto Ranavolo and Mariano Serrao

*Department of Medical and Surgical Sciences and Biotechnologies, "Sapienza"
Università di Roma-Polo Pontino*

Characterization of ankle musculotendon dynamics and muscle forces in Parkinson's disease patients: data-driven approach and statistical parametric mapping analysis

Marco Romanato, Daniele Volpe and Zimi Sawacha

Università degli Studi di Padova

The inter-session reliability of instrumented insoles to compute gait parameters in Parkinson's disease

Monica Parati, Matteo Gallotta, Beatrice De Maria, Milad Malavolti, Gabriele Mora and Simona Ferrante

Politecnico di Milano

Is it possible to discriminate risk classes according to the revised NIOSH lifting equation using machine learning algorithms fed with features extracted from acceleration signals?

Leandro Donisi, Giuseppe Cesarelli, Edda Capodaglio, Monica Panigazzi, Armando Coccia and Giovanni D'Addio

University of Naples Federico II

Tonic Stretch-Reflex Threshold (TSRT) estimation through a novel mechatronic system for the evaluation of movement dysfunctions at the elbow level

Giuseppe Averta, Massimiliano Abbinante, Federica Barontini, Paolo Lippi, Piero Orsini, Antonio Bicchi, Manuel G. Catalano and Matteo Bianchi

University of Pisa



15:30 BREAK

15:45 ASSEMBLEA SOCI SIAMOC

17:00 Elezione del Future President e del nuovo Consiglio Direttivo



Venerdì 01 Ottobre 2021

09:00 **Apertura dei lavori**

09:15 **Sessione 3A – Neurofisiologia del movimento**

Moderatori:

The analysis of gait initiation using a wearable sensor detects specific-disease feature in subjects with Parkinson's Disease

Tiziana Lencioni, Mario Meloni, Thomas Bowman, Alberto Marzegan, Giorgia Fusaroli, Antonio Caronni, Ilaria Carpinella, Maurizio Ferrarin and Elisa Pelosini

IRCCS Fondazione Don Carlo Gnocchi

FIT-SAT neuro-rehabilitation treatment for acquired peripheral facial paralysis after smile reanimation: a pilot study

Elisa De Stefani, Anna Barbot, Belluardo Mauro, Zannoni Cecilia, Chiara Bertolini, Rita Cosoli, Michela Bergonzani, Bernardo Bianchi, Andrea Ferri and Pier Francesco Ferrari

Department of Medicine and Surgery, University of Parma

Influence of age, sex, and anthropometry in the i-move study: a sensor-based ambulatory assessment of gross-motor development in school-children

Rita Stagni, Alice Masini, Stefania Toselli, Sofia Marini, Laura Bragonzoni, Andrea Ceciliani, Marcello Lanari, Alessandra Sansavini, Alessia Tessari, Davide Gori, Laura Dallolio and Maria Cristina Bisi

DEI, Università di Bologna

Global lower limb muscle coactivation from slow walking to running

Lorenzo Fiori, Antonella Tatarelli, Tiwana Varrecchia, Giorgia Chini, Francesco Draicchio, Mariano Serrao and Alberto Ranavolo

INAIL

A deep-learning approach to decode executed and imagined upper limb movements from EEG and interpretation of the learned features

Davide Borra, Silvia Fantozzi, Sara Genestreti, Alessia Saliola and Elisa Magosso

University of Bologna



Higuchi's fractal dimension of lumbar acceleration during static tasks in Parkinson's Disease

Roberto Di Marco, Maria Rubega, Angelo Antonini, Alessandra Del Felice, Stefano Masiero and Emanuela Formaggio

Department of Neuroscience, University of Padova

10.15 BREAK

10:30 Sessione 3B – Teleriabilitazione e Telemonitoraggio

Moderatori:

Virtual coaching platform for stroke rehabilitation: preliminary usability results from vCare project experience

Agnese Seregni, Riccardo Re, Alice Mannino, Verena Biscaro, Massimo Caprino, Peppino Tropea and Massimo Corbo

Department of Neurorehabilitation Sciences, Casa di Cura del Policlinico, Milan, Italy

Real-time kinematics estimation with a scalable IMU body-sensor network in tele-rehabilitation

Marco Caruso, Stefano Bertuletti, Diletta Balta, Andrea Zedda, Elisa Gusai, Salvatore Spanu, Andrea Pibiri, Marco Monticone, Danilo Pani and Andrea Cereatti

Politecnico di Torino

Post-COVID19 telerehabilitation with AI-based platform enabling tailored motor and respiratory home rehabilitation (ARC-Intellicare): preliminary results.

Rossella Cima, Francesca Sernissi, Alice Mantoan, Stefano Lai, Luca Ascari, Maria Gabriella Ceravolo and Marianna Capecci

Department of Experimental and Clinical Medicine - University Politecnica delle Marche

The DoMoMEA telerehabilitation system for post-stroke patients: first usability assessment

Elisa Gusai, Andrea Zedda, Giulia Baldazzi, Salvatore Sapnu, Marco Caruso, Stefano Bertuletti, Andrea Pibiri, Daniele Riboni, Marco Monticone, Andrea Cereatti and Danilo Pani

University of Cagliari

7-days actigraphy in persons with Parkinson disease: variations detected at 4-year follow-up



Ennio De Giovannini, Claudia Tomasi, Nicola Locallo, Chiara Lain, Deborah Perin, Giulia Broccardo, Giuseppe Filippi, Nicola Pozzer, Marco Binotto, Eugenio Prebianca, Michele Pistacchi and Marco Rabuffetti

Centro Medico Riabilita Cooperativa Sociale Mano Amica Onlus – Schio (VI) Italy

11.15 BREAK

11:30 AGGIORNAMENTI DAI SOCI SOSTENITORI

Moderatori:



BTS Bioengineering



12:15 Sessione Poster Metodologici

(Lista dei poster a pag. 21)



13:15 LUNCH BREAK

14:00 Sessione 4 – Analisi del movimento: applicazioni cliniche

Moderatori:

A multiple biomarkers approach for the early monitoring of gait development in preterm children

Maria Cristina Bisi, Manuela Fabbri, Duccio Maria Cordelli and Rita Stagni
DEI - University of Bologna

The Distal Shank method in clinical practice: ankle power evaluation in patients with diabetes and peripheral neuropathy.

Veronica Farinelli, Beatrice Beccia, Andrea Bonardini, Annamaria Guiotto, Zimi Sawacha and Carlo Frigo
University of Milan

Kinematic analysis of healthcare workers during patient-handling

Francesca Cordella, Christian Tamantini, Francesco Scotto di Luzio, Beatrice Albanesi, Benedetta Campagnola, Marco Bravi, Michela Piredda, Federica Bressi, Maria Grazia De Marinis and Loredana Zollo
Unit of Advanced Robotics and Human-centred Technologies, Università Campus Bio-Medico di Roma

Energy content in slow and fast twitch muscle fibers in diabetics with and without neuropathy.

Weronika Piatkowska, Fabiola Spolaor, Francesco Di Nardo, Gabriella Guarneri, Angelo Avogaro and Zimi Sawacha
University of Padua

14:40 BREAK

14:55 Use of the Gait Profile Score to evaluate long-term gait modification in Parkinson's disease.

Marco Binotto, Nicola Pozzer, Nicola Valè, Ennio De Giovannini, Eugenio Prebianca, Francesca Rossetto, Nicola Locallo, Deborah Perin and Giulia Broccardo
AULSS 7 Pedemontana Veneta



Wearables and machine learning for the modified Dynamic Gait Index score estimation in Multiple Sclerosis patients from 6-minutes walk test data

Piergiuseppe Liuzzi, Ilaria Carpinella, Denise Anastasi, Elisa Gervasoni, Tiziana Lencioni, Rita Bertoni, Maria Chiara Carrozza, Andrea Mannini, Davide Cattaneo and Maurizio Ferrarin

IRCCS Fondazione Don Carlo Gnocchi, Firenze; Istituto di BioRobotica, (SSSA)

Angular velocity of turning is a better fall predictor than the traditional Timed Up and Go test in stroke patients.

Michela Picardi, Paola Antoniotti, Valentina Redaelli, Evdoxia Aristidou, Giuseppe Pintavalle, Giulia Gilardone, Peppino Tropea, Massimo Corbo and Antonio Caronni
Department of Neurorehabilitation Sciences, Casa di Cura del Policlinico, Milan, Italy

Validation of a 2D RGB-depth method for gait analysis in children with cerebral palsy.

Diletta Balta, Evelina Pantzar-Castilla, Jacques Riad, Massimo Salvi, Filippo Molinari, Gabriele Paolini, Ugo Della Croce and Andrea Cereatti

Politecnico di Torino

Does muscle activity change with personalized plantar orthoses?

Fabiola Spolaor, Alfredo Ciniglio, Eleonora Meggiato, Elisa Bertoncello and Zimi Sawacha

University of Padova

15:30 BREAK

15:45 Dibattito Sì/No

Introduce: Maurizio Ferrarin

Teleriabilitazione e telemonitoraggio: sì o no?

Marco Iosa e Raffaele Benaglio

“Sapienza” University of Rome e IRCCS Fondazione Don Carlo Gnocchi Milano

16:30 Chiusura dei Lavori



POSTER SESSION

Analisi del movimento: applicazioni cliniche

12:15 **Giovedì – 30 settembre 2021**

A face tracking algorithm to quantitatively evaluate hypomimia in Parkinson's Disease

Elena Pegolo, Lucia Ricciardi, Daniele Volpe and Zimi Sawacha

Ability of a set of trunk inertial indexes of gait to identify gait unbalance and fallers in subjects with cerebellar ataxia.

Stefano Filippo Castiglia, Dante Trabassi, Antonella Tatarelli, Giorgia Chini, Lorenzo Fiori, Tiwana Varrecchia, Alberto Ranavolo, Carlo Casali and Mariano Serrao

Actigraphic Measurement of the Upper Limbs for the Prediction of Ischemic Stroke Prognosis: An Observational Study

Chiara Iacovelli, Giuseppe Reale, Silvia Giovannini, Stefano Filippo Castiglia, Pietro Picerno, Aurelia Zauli, Marco Rabuffetti, Maurizio Ferrarin, Giulio Maccauro and Pietro Caliandro

Balance deficits before walking impairments: a cross-sectional study on people with early Multiple Sclerosis

Ilaria Carpinella, Elisa Gervasoni, Denise Anastasi, Rachele Di Giovanni, Andrea Tacchino, Giampaolo Bricchetto, Paolo Confalonieri, Claudio Solaro, Marco Rovaris, Maurizio Ferrarin and Davide Cattaneo

Classification of children with Fragile X Syndrome and controls driven by gait analysis: a supervised clustering approach

Weronika Piatkowska, Marco Romanato, Fabiola Spolaor, Alessandra Huang, Roberta Polli, Alessandra Murgia and Zimi Sawacha

Dual task balance performance in patients with severe COVID-19. A retrospective cohort study with healthy subjects.



Marica Giardini, Ilaria Arcolin, Simone Guglielmetti, Marco Godi, Armando Capelli and Stefano Corna

Effect of lycra garments, ankle-foot-orthoses and shoes on the gait of three children with ataxia

Corrado Borghi, Daniela Pandarese, Rita Neviani and Silvia Faccioli

Electromyography-based validation of treatment with botulinum toxin of anterocollis in Parkinson's disease

Massimo Bacchini, Giangiacomo Chiari, Michele Rossi, Costanza Bacchini and Claudio Rovacchi

Evaluation of postural control and proprioception in women with osteoporosis, before and after an exercise training

Giuseppe Barone, Erika Pinelli, Maria Grazia Benedetti, Raffaele Zinno, Giuseppe Audino and Laura Bragonzoni

Extracorporeal shockwave therapy: changes on the gait parameters of a subject with Hereditary Spastic Paraplegia

Mariangela Pisasale, Peppino Tropea, Agnese Seregni, Giovanni Pintabona, Emilio Brunati and Massimo Corbo

Frequency content of EMG signal acquired in ankle flexor muscles during Parkinson walking

Marco Romanato, Teresa Basili, Fabiola Spolaor, Zimi Sawacha, Sandro Fioretti and Francesco Di Nardo

Gait analysis as a potential indicator of the rehabilitation outcome for obese patients

Giuseppe Cesarelli, Leandro Donisi, Michelina Scioli, Giovanni Di Caprio, Federica Amitrano and Giovanni D'Addio

Gait and balance impairment affect exercise tolerance in patients with heart failure

Diana Boote, Marta Mirando, Stefania Sozzi and Antonio Nardone

Gillespie rare Ataxic syndrome comparison of three different modalities of walking in a single case.

Alessandra Colazza, Jacopo Iovalè, Riccardo Carbonetti, Giampietro Cordone, Maurizio Petrarca and Enrcio Castelli



High-Density surface electromyography during fatiguing frequency-dependent lifting activities at different risk levels in people with and without low back pain

Tiwana Varrecchia, Silvia Conforto, Mariano Serrao, Alessandro Marco De Nunzio, Deborah Falla, Francesco Draicchio, Giorgia Chini, Antonella Tatarelli, Lorenzo Fiori and Alberto Ranavolo

Long-term effects of asymmetrical posture in boxing assessed by baropodometry.

Paolo De Blasiis, Allegra Fullin and Paolo Caravaggi

Preoperative gait analysis of a transfemoral amputee patient scheduled for osseointegration surgery

Laura Bragonzoni, Stefano Di Paolo, Agostino Igor Mirulla, Domenico Alesi and Stefano Zaffagnini

Quantification of face mobility in spinal muscular atrophy

Elena Pegolo, Elena Carraro, Federica Cibir, Francesca Salmin, Maria Chiara Frisoni, Stefano Becchiati, Valeria Sansone and Zimi Sawacha

Reliability and validity of balance variables evaluated by a robotic platform in patients with subacute stroke

Carmela Conte, Chiara Iacovelli, Marco Germanotta, Sabina Insalaco, Gallotti Marco, Francesca Falchini and Irene Aprile

Shoulder kinematics and electromyography of patients with trapezius muscle palsy.

Maria Vittoria Filippi, Alice Gordini, Renata Maria Rossi, Stefano Sanniti, Paolo Paladini and Ilaria Parel

The effects of different frequencies of rhythmic acoustic stimulation on gait kinematics and trunk sway in healthy elderly population

Roberta Minino, Emahnel Troisi Lopez, Pierpaolo Sorrentino, Rosaria Rucco, Anna Lardone, Matteo Pesoli, Domenico Tafuri, Laura Mandolesi, Giuseppe Sorrentino and Marianna Liparoti

Trunk muscles co-activation in single vs team lifting at different risk levels.

Giorgia Chini, Alberto Ranavolo, Tiwana Varrecchia, Antonella Tatarelli, Lorenzo Fiori, Mariano Serrao and Francesco Draicchio

Usage of Ankle-Foot Orthosis in knee hyperextension in patient affected by neurofibromatosis 1 (NF1): a gait analysis case report



Noemi Tessitore, Alessandra Leo, Michele Zarbo, Lorenza Maria Flaviani, Chiara Gambirasio and Giorgio Meloni



POSTER SESSION

Analisi del movimento: strumenti e metodi

12:15 Venerdì – 01 ottobre 2021

A Novel Framework for Motion A.I. Consumer Products by means of Wearable Devices

Pietro Garofalo, Michele Raggi, Paola Di Florio, Carmelo Fiorentino, Marta Costantini and Lorenzo Marchesini

Base of support estimation during gait using wearable sensors: validation on healthy subjects

Rachele Rossanigo, Stefano Bertuletti, Marco Caruso, Ugo Della Croce, Marco Knaflitz and Andrea Cereatti

Benchmarking of Novel Wearable Smart Socks with Optoelectronic Gait Analysis System in Assessing Walking Cadence

Federica Amitrano, Armando Coccia, Leandro Donisi, Giuseppe Cesarelli, Gaetano Pagano and Giovanni D'Addio

Comparison of three different approaches for calculating the CoM acceleration directly on field

Alex Scaldaferro, Alfredo Ciniglio, Giacomo Maistrello, Fabiola Spolaor, Annamaria Guiotto, Federica Cibir and Zimi Sawacha

Design of augmented reality environments: a step toward a personalized motor rehabilitation

Veronica Ragazzo, Stefania Santucci, Giacinto Luigi Cerone, Stefano Bertuletti, Sergio Mauro Gavino Solinas, Aldo Lazich, Andrea Cereatti and Ugo Della Croce

Development of a prototype for the recognition of the gait phases using the laser flight time

Anna Balzarotti and Veronica Cimolin

EDAM: A Diagnosis Recommender System based on Explainable Artificial Intelligence and the Combination of Motion Analysis and Others Clinical Biomarkers

Nicoletta Balletti and Rocco Oliveto



Effect of auditory frequencies on balance tasks: a joined fNIRS-IMUs study

Paolo Di Feo, Valeria Belluscio, Tommaso Terbojevich, Giulia Cartocci, Fabio Babiloni, Marco Ferrari and Giuseppe Vannozzi

Finite element assessment of pressure reducing insoles for diabetic patients

Alfredo Ciniglio, Mattia Palladino, Annamaria Guiotto, Fabiola Spolaor, Alessandra Ianniello, Eleonora Meggiato and Zimi Sawacha

Forearm muscle excitation analysis for different professional piano players: preliminary results.

Alba Thio i Pera, Matteo di Carlo, Andrea Manzoni, Fabrizio D'elia, Giacinto Luigi Cerone, Giovanni Putame, Mara Terzini, Marco Gazzoni, Cristina Bignardi and Taian Vieira

Grading visual stimuli in personalized action observation therapy: a kinematic-based approach

Stefano Elio Lenzi, Emilia Scalona, Pietro Avanzini and Nicola Francesco Lopomo

Identification of social proximity by wearable BT beacons: design and reliability of a methodology supporting social actigraphy

Marco Rabuffetti and Maurizio Ferrarin

In vivo biomechanics assessment of a cr total knee prosthesis during sit to stand: coupling dynamic rsa and fe analysis

Agostino Igor Mirulla, Laura Bragonzoni, Raffaele Zinno, Stefano Zaffagnini and Bernardo Innocenti

Integrating microsoft hololens 2 and inertial sensors in an augmented reality environment for personalized motor rehabilitation

Stefania Santucci, Veronica Ragazzo, Giacinto Luigi Cerone, Stefano Bertuletti, Sergio Solinas, Aldo Lazich, Andrea Cereatti and Ugo Della Croce

Qualitative and quantitative differences in plantar pressure distribution during quiet stance and gait in healthy individuals

Rachele Penati, Sozzi Stefani, Marta Mirando and Antonio Nardone

Quantitative evaluation of upright posture by x-Ray and 3D stereophotogrammetry with a new marker set protocol in Late Onset Pompe Disease.



Paolo De Blasiis, Allegra Fullin and Mario Sansone

Quantitative Outcome Assessment of Ankle Foot Orthosis Using Biomechanical Modelling and Simulation of Gait: a Case Study

Armando Coccia, Federica Amitrano, Gaetano Pagano, Vittoriana Bosco, Ernesto Losavio and Gianni D'Addio

Recording infants' motion with a single 3D camera and a markerless tracking algorithm: evaluation of an occlusion recovery method.

Diletta Balta, Hsinhung Kuo, Duc Tran, Manon Schladen, Peter Lum and Ugo Della Croce

Rediscovery and rethinking about a forgotten parameter: EMG/Force Ratio.

Gabriele Grassadonia

Simulation of knee clinical-functional tests through a musculoskeletal model: quantification of knee joint stiffness and ligaments tension

Lucia Donno and Carlo Albino Frigo

Smart motion capture based on deep learning: a proof-of-concept

Silvia Zampato, Azza Bouleimen, Francesco Piemontese, Silvia Fantozzi, Giorgio Gatta, Matteo Cortesi, Michele Rossi and Zimi Sawacha

Stabilization of stance by vision and touch. Distinctive characteristics.

Stefania Sozzi, Antonio Nardone and Marco Schieppati

VisionTool: a Semantic Features Extraction Toolbox

Vito Paolo Pastore, Matteo Moro and Francesca Odone

Wavelet-based detection of muscular activity in EMG signals affected by low SNR

Francesco Di Nardo, Teresa Basili, Sara Meletani and Sandro Fioretti