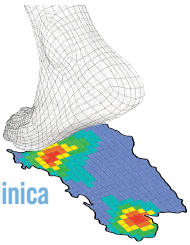
XXV Congresso Nazionale SIAMOC

Società Italiana di Analisi del Movimento in Clinica



Bridging research to clinical, industrial and sport applications

1-4 OTTOBRE 2025

HOTEL REGINA MARGHERITA
CAGLIARI

Patrocini

Con il patrocinio di

UNICA UNIVERSITÀ DEGLI STUDI DI CAGLIARI

Con il patrocinio di

UNISS UNIVERSITÀ DEGLI STUDI DI SASSARI

SISMES Società Italiana delle Scienze Motorie e Sportive

Associazione Italiana di Fisioterapia

SIMFER Società Italiana di Medicina Fisica e Riabilitativa The Iyalian Society of Physical and Rehabilitative Meducine

S.I.R.N. Società Italiana di Riabilitazione Neurologica

IEEE Sensors Council ITALY CHAPTER

Sclerosi Multipla associazione italiana un mondo libero dalla SM

Per la sessione congiunta intersocietaria

SINC

GNB

Società Italiana Parkinson e Disordini del Movimento Limpe-Dismov ETS

Sponsor

Fondazione di Sardegna

TOTUMOTUM Everything in Motion

CAPTIKS

ReC Bioengineering Laboratories

REAL-MOVE

GPEM Misura Conosci Migliora

BTS Bioengineering

cometa

Sponsor del Premio Poster

frontiers | Frontiers in Sports and Active Living

Comitati

Presidenza:

Chair: Pietro Picerno, Università di Sassari
Co-Chair: Danilo Pani, Università di Cagliari
Co-Chair: Laura Lutzoni, Azienda Ospedaliero-Universitaria Cagliari

Comitato organizzatore:

Maria Elena Lai, Università di Cagliari
Calotta Occhipinti, Università di Sassari
Andrada Pica, Università di Sassari
Ilaria Giuseppina Porco, Università di Sassari
Giulia Sedda, Università di Cagliari
Sergio Mauro Gavino Solinas, Università di Sassari
Jessica Vacca, Università di Cagliari

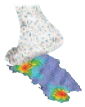
Comitato Scientifico:

Pietro Picerno (presidente, Università di Sassari)
Valeria Belluscio (Università di Roma "Foro Italico")
Marco Caruso (Politecnico di Torino)
Maura Casadio (Università di Genova)
Andrea Cereatti (Politecnico di Torino)
Matteo Cioni (Università di Catania)
Michela Cosma (Azienda Ospedaliero-Universitaria di Ferrara)
Paolo De Blasiis (Università della Basilicata)
Francesco Di Nardo (Università Politecnica delle Marche)
Marco Godi (ICS Maugeri, Veruno)
Andrea Manca (Università di Sassari)
Andrea Merlo (Ospedale "Sol et Salus", Rimini)
Mariano Serrao (Università di Roma "La Sapienza")
Rita Stagni (Università di Bologna)
Peppino Tropea (CantoniLab, Milano)

Saluto della Presidenza

Il congresso annuale della Società Italiana di Analisi del Movimento in Clinica (SIAMOC) giunge alla sua XXV edizione, e lo fa tornando in Sardegna dopo l'ormai lontana (ma ancora viva nella memoria) edizione di Alghero del 2009.
La Sardegna è una terra ricca di storia, cultura e tradizione, legata in modo quasi primordiale al concetto di movimento, come testimoniano le sue espressioni artistiche e il suo patrimonio culturale. Basti pensare ai pugilatori tra i Giganti di Mont'e Prama o alla leggenda che la vuole nata dall'impronta (ichnusa, dal greco "ichnos") lasciata dal Creatore, schiacciando col piede i sassi avanzati dalla creazione. Un legame affascinante, vero? Proprio l'impronta di un piede che cammina, tema centrale e oggetto di studio emblematico nelle ricerche SIAMOC sull'analisi del passo.
Ospitare il congresso SIAMOC per la Sardegna è una straordinaria opportunità di crescita scientifica e professionale per tutti coloro che operano nell'ambito dell'analisi del movimento umano, ma anche un punto di partenza per chi si avvicina a questo mondo per la prima volta e che nella SIAMOC troverà una comunità accogliente, fatta di ricercatori che da anni guidano la ricerca internazionale del settore e da professionisti di eccellenza aperti all'innovazione e al confronto.
Per questo siamo grati e ansiosi di ricevere questa comunità di colleghi e amici che attendono il congresso come il momento dell'anno in cui ritrovarsi in un clima stimolante, disteso e inclusivo con la voglia di crescere scientificamente e professionalmente. Vi aspettiamo numerosi per condividere questa esperienza!

La Presidenza del XXV Congresso SIAMOC



Giorno 1 | Mercoledì 1 Ottobre

10:00-11:00 Registrazione corsi pre-congressuali

11:00-13:00 **Corsi pre-congressuali (parte 1)**

Corso #1: Dal quesito clinico alla misura del segno nelle atassie della marcia e nei disturbi dell'equilibrio

Corso #2: Esercizio fisico nella malattia di Parkinson: un approccio integrato tra il medico, il fisioterapista e il chinesiologo

13:00-14:00 Pausa libera

14:00-16:00 Corsi pre-congressuali (parte 2)

16:00-17:00 Registrazione al congresso

17:00-17:30 Cerimonia di apertura

17:30-18:30 **Opening lecture**:

Verso una salute personalizzata e proattiva: passato, presente e futuro della tecnologia indossabile e il suo impatto sulla sanità (Shyamal Patel), modera: Massimiliano Pau

Discussione

18:30 Cocktail di benvenuto

Giorno 2 | Giovedì 2 Ottobre

08:00-08:30 Registrazione al congresso

08:30-08:45 Apertura del congresso

08:45-10:00 **Sessione podium #1 (plenaria): "Supporto alla valutazione clinica"**
(moderano: Isabella Campanini e Maurizio Ferrarin)

ID 46: "From Prodromes to Gait-Based Screening: Explainable AI Unveils Preclinical Risk Signatures of Parkinson's Disease" (Dante Trabassi, Stefano Filippo Castiglia, Luca Martinis, Ilaria Campese, Marina Gjini, Roberto De Icco and Mariano Serrao)

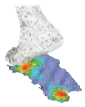
ID 11: "Older workers spend less time than young workers in extreme trunk posture during order-picking tasks: lack of capacity or cautious strategy?" (Micaela Porta, Giulia Casu, Maury Albert Nussbaum and Massimiliano Pau)

ID 122: "Differences in shoulder neuromuscular activity and functional outcomes among breast cancer survivors and healthy controls" (Valentina Natalucci, Alessandro Pagano, Elisa Andrenelli, Sascia Grafeo, Federica Cenci, Michela Tamburini, Maria Gabriella Ceravolo and Marianna Capecci)

ID 73: "Uncovering Terrain-Induced Instabilities in Parkinson's Disease with Wearable Sensors" (Adriana Torres-Pardo, Carlota Trigo, Marina Algaba-Vidoy, Irem Akgün, J.A. Gómez-García, Víctor Navarro-López, Diego Fernández-Vázquez, Paula Molero-Mateo, María Carratalá-Tejada, Francisco Molina-Rueda and Diego Torricelli)

ID 147: "Preliminary insights into trunk kinematics in chronic non-specific low back pain: a sensor-based cross-sectional study integrating clinical and biomechanical assessment" (Fulvio Dal Farra, Serena Cerfoglio, Nicola Francesco Lopomo and Veronica Cimolin)

ID 106: "A step toward early prevention in diabetic foot: clustering of gait analysis data from a 15 years follow up study" (Fabiola Spolaor, Federica Beghetti, Maria Dalle Vacche, Annamaria Guiotto, Gabriella Guarneri and Zimi Sawacha)



10:00-11:00 **Lezione magistrale**
"La sclerosi multipla nelle persone anziane: sfide diagnostiche e terapeutiche" (Matilde Inglese), modera: Matteo Cioni

Discussione

11:00-11:30 Coffee break (con giochi SIAMOC)

11:30-12:45 **Sessioni podium #2 (parallele)**
(2.a) Approcci markerless per l'analisi del movimento umano"
(moderano: Monica Sicari e Cristiano De Marchis

ID 84: "Evaluating AI-driven markerless motion capture reliability for remote quantitative assessment of Parkinson's disease" (Giulio Rigoni, Oier Zazpe, Maria Dalle Vacche, Fabiola Spolaor, Antonio Rizzetto, Daniele Volpe and Zimi Sawacha)

ID 55: "Gait analysis via markerless OpenCap: comparison with state-of-the-art skin-marker based kinematics" (Francesca Zangaro, Roberto Ramaglia Amadasi, Giulia Rogati, Giulia Grenno, Giordano Valente, Zimi Sawacha, Alberto Leardini and Paolo Caravaggi)

ID 154: "Assessment of upper limb kinematics using 3D markerless and marker-based motion capture: a preliminary comparative study" (Andrada Pica, Eva Zimei, Ilaria Giuseppina Porco, Lorenzo Rum, Pietro Picerno and Ugo Della Croce)

ID 100: "Instrumental-based biomechanical risk assessment by using markerless and wearable approaches: a biomechanical comparison" (Irene Gennarelli, Giorgia Chini, Tiwana Varrecchia, Gianluca Giuseppe Maria De Nardi, Niki Martinel, Christian Micheloni and Alberto Ranavolo)

ID 108: "A preliminary evaluation of the performance of a hand-held tablet-mounted RGB-D camera in assessing infant movements" (Diletta Balta, Ilaria Giuseppina Porco, Trevor Kanter, Manon Maitland Schladen, Andrea Lagorio, Pietro Ruiu, Andrea Cereatti, Peter Stanley Lum and Ugo Della Croce)

ID 99: "SkelMamba: a markerless motion capture approach for automated diagnosis of neurological disorders based on RGB videos during walking" (Irene Gennarelli, Mariano Serrao, Alberto Ranavolo, Christian Micheloni and Niki Martinel)

(2.b) "Applicazioni di elettromiografia di superficie in contesti clinici"
(moderano: Valentina Agostini e Leandro Donisi)

ID 47: "From EMG to Insight: Explainable Deep Learning Identifies Muscle Drivers of Stiff-Knee Gait in Hereditary Spastic Paraparesis." (Dante Trabassi, Stefano Filippo Castiglia, Irene Gennarelli, Giovanni Martino, Tiwana Varrecchia, Alberto Ranavolo and Mariano Serrao)

ID 168: "sEMG as a window into anticipatory, predictive, and reactive strategies during walking with expected and unexpected perturbations" (Maria Chiara Bò, Maurizio Petrarca, Martina Favetta, Azzurra Speroni, Gessica Della Bella, Isabella Campanini and Andrea Merlo)

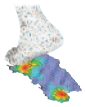
ID 138: "A novel approach for motor unit number estimation: integrating artificial intelligence and high-density electromyography" (Marco Gagliardi, Andres Ortiz, Gina Ferrazzano and Taian Martins)

ID 93: "Surface EMG analysis of cervical muscle activation in chronic whiplash-associated disorder" (Giuseppe Prisco, Leandro Donisi, Juan Ignacio Elizagaray García, María Gómez Jimenez, Valerio Arcobelli and Sergio Lerma Lara)

I**D 136:** "Identifying neuromuscular indicators of return to sport readiness: a clustering analysis of EMG parameters in athletes with and without ACL reconstruction" (Pietro Belotti, Lorenzo Lecchi, Daniele Pala, Beatrice De Lazzari, Marco Rota and Elena Bergamini)

ID 143: "EMG-based visual biofeedback applied to upper limb motor tasks in virtual environment" (Giulia Sedda, Enrico Ariu, Raffaele Melis, Jessica Vacca, Maria Elena Lai, Giulia Pili, Marco Caruso, Diletta Balta, Mara Coduri, Camilla Pierella, Laura Lutzoni, Maura Casadio, Andrea Cereatti and Danilo Pani)

12:45-13:45 Light lunch



13:45-14:45 **Lezione magistrale**:
Endpoint digitali per accelerare lo sviluppo di farmaci nelle malattie neurologiche (Claudia Mazzà), modera: Giuseppe Vannozzi

Discussione

14:45-15:30 **Pitch aziendali**

15:30-17:00 **Sessione poster #1**

17:00-17:30 Coffee break (con giochi SIAMOC)

17:30-18:45 **Sessioni podium #3 (parallele)**
(3.a) "Test clinici strumentati"
(moderano: Valeria Belluscio e Marco Caruso)

ID 9: "Prolonged walking in persons with multiple sclerosis: fatigue effects and compensatory strategies to control foot clearance during the mid-swing gait phase" (Marco Rabuffetti, Denise Anastasi, Rita Bertoni, Alessandro Crippa, Rebecca Cardini and Davide Cattaneo)

ID 169: "Instrumented Timed Up and Go (iTUG) highlights gait variability across Parkinson's disease genetic subtypes: insights from a mixed model analysis" (Isabella Campanini, Lorenzo Cavazzuti, Francesco Cavallieri, Benedetta Damiano, Sara Scaltriti, Sara Grisanti, Valentina Fioravanti, Giacomo Portaro, Giulia di Rauso, Edoardo Monfrini, Giulia Toschi, Rossella Sabadini, Giacomo Argenziano, Gaetano Salomone, Ruggero Bacchin, Valeria Ferrari, Valeria Ferrari, Andrea Melpignano, Maria Chiara Bò, Fabio Pacillo, Maria Scarano, Anna Groppi, Paola Stirpe, Anna Magherini, Maria Chiara Malaguti, Augusto Scaglioni, Alessio Di Fonzo, Franco Valzania and Andrea Merlo)

ID 133: "The impact of increased perceived fatigue on spatiotemporal and postural gait features in Parkinson's Disease: a preliminary analysis" (Thomas Bowman, Denise Anastasi, Cristina Agliardi, Margherita Alberoni, Pietro Arcuri, Francesca Baglio, Rita Bertoni, Anna Castagna, Elena Calabrese, Mario Clerici, Alessandro Crippa, Elisabetta Farina, Franca Rosa Guerini, Silvia Gobbo, Francesca La Rosa, Alberto Marzegan, Mario Meloni, Federico Merlo,

Jorge Navarro, Chiara Pagliari, Francesca Lea Saibene, Marina Saresella and Davide Cattaneo)

ID 163: "IMU-based standing balance and 6-min walking test with follow-up in subjects with late-onset Pompe disease" (Tommaso Ercoli, Pietro Picerno, Elisa Ruiu, Stefania Leoni, Stefano Filippo Castiglia, Carlotta Occhipinti, Ugo Della Croce and Paolo Solla)

ID 66: Improving Orthopedic Patient Stratification Using Instrumented Timed Up and Go and Machine Learning Techniques" (Valerio Antonio Arcobelli, Marica Giardini, Ilaria Arcolin, Sabato Mellone and Marco Godi)

ID 140: "Clinical use of instrumented six-minute-walking test: assessing the effects of drugs and supplements on walking performance in Parkinson's Disease patients" (Domenico Campagna, Giuseppe Vannozzi and Antonella Peppe)

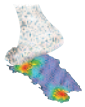
(3.b) "Valutazione dell'outcome e monitoraggio durante il percorso riabilitativo"
(moderano: Valentina Boetto e Marco Germanotta)

ID 148: "Towards ecologically valid functional gait assessments: integrating motor complexity in Parkinson's disease and stroke rehabilitation" (Amaranta Soledad Orejel Bustos, Patrizio Manzari, Andree Rossi, Alice Manzo, Maria Gabriella Buzzi, Giuseppe Vannozzi and Valeria Belluscio)

ID 37: "Quantitative assessment of the impact of physical therapy on lower limb muscles activity and coactivation in individuals with ankle injuries" (Giorgia Chini, Tiwana Varrecchia, Cristina Chieffo, Antonella Tatarelli, Vesna Mandic, Ida Poni, Silvia Rosi, Barbara Alivernini, Massimo Amitrano, Andrea Mariotti, Simonetta Pirocchi, Stefania Salvati, Roberto Scialanca, Gianluca Zampetti, Aldo Toscano and Alberto Ranavolo)

ID 22: "Video-based kinematic assessment of lower limbs in paediatric patients with severe neuromotor disorders during hydrokinesitherapy." (Giorgia Palotti, Filippo Motta, Silvia Longoni, Bianca Cittone, Luca Frigerio and Manuela Galli)

ID 61: "Investigation of an IMU-based metric for monitoring motion symmetry during telerehabilitation with ARC intellicare" (Riccardo Fava, Alessandro Arnold, Frederick Symons,



Alice Mantoan, Luca Ascari, Marianna Capecci, Maria Gabriella Ceravolo, Ilaria D'Ascanio, Lorenzo Chiari and Luca Palmerini)

ID 97: "Assessing the efficacy of home-based telerehabilitation in chronic low back pain patients." (Federico Caramia, Luis Perez Espallargas, Emanuele D'Angelantonio, Leandro Lucangeli, Pablo Herrero and Valentina Camomilla)

ID 79: "Preserving functional autonomy in multiple sclerosis through adapted physical activity: preliminary data" (Linda Peli, Eleonora Finazzi, Marta Cogliati, Joel Pollet, Ludovico Pedullà, Elisa Inselvini, Marco Benedini, Giovanni Rosario Giacalone, Giampaolo Bricchetto and Massimiliano Gobbo)

18:45 Social activities

Giorno 3 | Venerdì 3 Ottobre

08:00-08:15 Registrazione al congresso

08:15-08:30 Apertura del congresso

08:30-09:45 **Sessione podium #4 (plenaria): "Metodi per l'analisi del movimento umano 1"**
(moderano: Rita Stagni e Marco Godi)

ID 54: "A benchmark analysis of fall detection algorithms with chest- and wrist-worn IMUs on public datasets" (Alessandra Audisio, Giorgio Barzon, Luigi Mattiello, Roberto Bortoletto, Marco Signorelli and Andrea Cereatti)

ID 158: "In-field analysis of running temporal parameters: comparing 36 IMU algorithms across speeds and sensor placements" (Myriam Lubrano, Rachele Rossanigo, Andrea Cereatti, Cristiano Cuppini and Silvia Fantozzi)

ID 44: "The influence of training data quantity on CNN-LSTM generalization in gait laterality detection"(Paolo Tasca, Francesca Salis and Andrea Cereatti)

ID 28: "Atypical gait cycles from pressure insoles in real-life scenarios in people with gait disorders" (Nicolas Leo, Marco Ghislieri, Marco Caruso, Andrea Cereatti and Valentina Agostini)

ID 118: "Evaluation of the optimal number of steps to obtain reliable running gait variability in outdoor" (Johnny Padulo, Simone Baldo, Raffaele Scurati, Fabio Esposito and Leonardo Alexandre Peyré-Tartaruga)

ID 135: "Minimum stiffness of dynamic AFOs for people with foot drop: a gait analysis study" (Roberto Ramaglia Amadasi, Federica Beghetti, Giulia Rogati, Maurizio Ortolani, Zimi Sawacha, Alberto Leardini and Paolo Caravaggi)

09:45-10:45 **Lezione magistrale**

Dai passi dei neonati al cammino indipendente: comprendere lo sviluppo locomotorio tipico e atipico nei primi anni di vita (Nadia Dominici)

Discussione

10:45-11:45 Coffee break (con giochi SIAMOC)

11:15-12:30 **Sessioni podium #5 (parallele)**

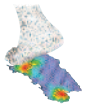
(5.a) "Analisi del movimento e monitoraggio dello sviluppo motorio in età evolutiva"

(moderano: Giulia Sedda e Maurizio Petrarca)

ID 157: "Automatic detection of motor stereotypies in Rett Syndrome using wearable sensors" (Maria Elena Lai, Filippo Pes, Jessica Vacca, Martina Semino, Michela Perina, Emanuela Riccio, Lia Zocca, Giulia Sedda and Danilo Pani)

ID 31: "Instrument-based digital twins for monitoring preterm neuromotor developmental trajectory" (Sara Montagna, Rita Stagni, Giada Pierucci, Arianna Aceti, Duccio Maria Cordelli and Maria Cristina Bisi)

ID 171: "Early longitudinal monitoring of motor development in preterm infants: is gait initiation enough?" (Rita Stagni, Arianna Aceti, Ettore Benvenuti, Elena Zardi, Matilde Chisena, Davide Biserna, Andrea Pasotti and Maria Cristina Bisi)



ID 32: "Sensor-based gait analysis for clinical monitoring and assessing treatment response in Juvenile Myasthenia Gravis" (Maria Cristina Bisi, Anna Fetta, Chiara Corsini, Anna Utili, Davide Biserna, Andrea Pasotti, Duccio Maria Cordelli and Rita Stagni)

ID 104: "Unsupervised identification of children with Fragile X syndrome among typically developing peers" (Federica Beghetti, Fabiola Spolaor, Valentina Liani, Roberta Polli, Elisa Bettella, Damiano Varagnolo and Zimi Sawacha)

ID 114: "Formative research on video documentation in perinatal brachial plexus injury assessment: A clinical practice improvement study" (Manon Schladen, Diletta Balta, Ilaria Giuseppina Porco, Meredith Taylor, Trevor Kanter, Ugo Della Croce and Peter Lum)

(5.b) "Analisi del movimento nello sport"
(moderano: Valentina Camomilla e Lorenzo Rum)

ID 21: "From gesture to pathology: biomechanical and ultrasound analysis of the shoulder in elite waterpolo player" (Andrea Cervia, Valentina Guzzone, Laura Mori, Filippo Cotellessa, Camilla Pierella, Maura Casadio and Danilo Canepa)

ID 14: "Testing ACL-reconstructed football players on the field: an algorithm to assess cutting biomechanics injury risk through wearable sensors" (Stefano Di Paolo, Marianna Viotto, Margherita Mendicino, Alberto Grassi and Stefano Zaffagnini)

ID 30: "Kinematical analysis of 135° change-of-direction techniques in basketball" (Raffaele Zinno, Salvatore Pinelli, Anna Jòdar-Portas, Anna Prats-Puig, Raquel Font-Lladó and Laura Bragonzoni)

ID 161: "Reproducibility of joint kinematics in alpine skiing using on-snow wearable IMUs system" (Valeria Vella, Giorgia Cuniberti, Isacco Costa, Michele Botteon, Lorenzo Bortolan and Peppino Tropea)

ID 38: "Cutting technique of ACL-Reconstructed professional handball players: on-field kinematic assessment using IMUs" (Margherita Mendicino, Raffaele Zinno, Carlo Simonelli, Stefano Zaffagnini, Laura Bragonzoni and Stefano Di Paolo)

ID 25: "Delayed muscle onset in athletes after anterior cruciate ligament reconstruction during unplanned change-of-directions" (Federica Russo, Marco Ghislieri, Andrea Baldazzi, Riccardo Borzuola, Lorenzo Rum, Elena Bergamini and Valentina Agostini)

12:30-13:30 Light lunch

13:30-14:30 **Lezione magistrale:**
Biomarcatori multimodali verso una riabilitazione personalizzata della persona con ictus cerebrale (Sofia Straudi), modera: Antonio Nardone

Discussione

14:30-16:00 **Sessione poster # 2**

16:00-16:30 Coffee break (con giochi SIAMOC)

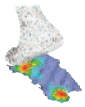
16:30-17:45 **Sessioni podium #6 (parallele)**
(6.a) "Neurofisiologia del movimento"
(moderano: Silvia Fantozzi e Mariano Serrao)

ID 111: "Muscle activity during walking in water and overground: pilot test in multiple sclerosis" (Danilo Canepa, Mattia Fois, Ludovico Pedullà, Camilla Pierella, Jessica Podda, Maura Casadio and Andrea Tacchino)

ID 69: "Predicting functional recovery after stroke through eeg connectivity analysis and machine learning approaches." (Alessia Cacciotti, Chiara Pappalettera, Lorenzo Nucci, Anna Fabbrocino, Federico Frasca, Selene Rossi, Francesca Miraglia, Paolo Maria Rossini and Fabrizio Vecchio)

ID 123: "Decoding time-frequency properties of muscle synergies" (Daniele Borzelli, Andrea D'Avella, Sandro Fioretti, David Scaradozzi and Francesco Di Nardo)

ID 16: "Intermuscular Coherence during Upright Reaching Tasks" (Imma Ceriello, Riccardo Borzuola, Valentina Camomilla, Andrea Macaluso and Madeleine Lowery)



ID 77: "Exploring correlates between EEG brain network connectivity and postural sway during an eyes-closed balance task" (Leandro Donisi, Marianna Chianese, Simone Papallo, Giuseppe Prisco, Rosa De Micco, Alessandro Tessitore and Fabrizio Esposito)

ID 151: "New deep brain stimulation settings to improve gait in patients with parkinson's disease: preliminary results." (Chiara Iacovelli, Vittorio Rispoli, Giovanni Ferraresi, M. Morelli, Andrea Gozzi, F. Colucci, Michela Cosma, Carla Piano, Alessia Tomaino, Francesco Bove, Pasquale Sanginario, Mariachiara Sensi and Pietro Caliandro)

(6.b) "Metodi per l'analisi del movimento umano 2"
(moderano: Andrada Pica e Stefano Filippo Castiglia)

ID 72: "Stride width in laboratory versus real-world walking: preliminary evidence in people with multiple sclerosis and healthy controls" (Rachele Rossanigo, Giulia Cicalò, Nicolas Leo, Alessandra Audisio, Paolo Tasca, Giulia Masi, Valentina Agostini, Gabriella Olmo, Marco Ghislieri, Roberta Chirico, Ilaria Bertoni, Ilaria De Marco, Matilde Vicario, Eleonora Favano, Domizia Vecchio, Alberto Dal Molin, Marco Caruso and Andrea Cereatti)

ID 34: "Activity detection of paralympic athletes with lower limb running-specific prosthesis during extended periods of time: software development and preliminary validation" (Mirco Tioli, Isotta Bernardoni, Maria Grazia Santi, Giuseppe Marcolin, Nicola Petrone and Andrea Giovanni Cutti)

ID 58: "Preliminary results on the relative mechanical stability of the TWIN exoskeleton-user interaction during functional use" (Simona Squartecchia, Marco Rabuffetti, Tiziana Lencioni, Johanna Jonsdottir, Alberto Marzegan, Marianna Semprini, Pietro Di Bello, Indya Ceroni and Maurizio Ferrarin)

ID 126: "3D Gait Analysis combined with wireless EEG for executive functions assessment during cognitive-motor task" (Allegra Fullin, Ciro Ivan De Girolamo, Ludovica Gargiulo, Angela Lucariello, Nicola Moccaldi, Pasquale Arpaia and Paolo De Blasiis)

ID 124: "From markers to joint angles: a deep learning model for estimating gait kinematics" (Beatrice Lagomarsino, Giorgia Marchesi, Valeria Falzarano, Maura Casadio, Ronald Poppe and Matteo Moro)

ID 125: "A single wrist-mounted MIMU sensor for the automatic recognition of pill intake and drinking tasks among a set of ADL complex gestures" (Alessandro Mengarelli, Mara Scattolini, Andrea Tigrini, Rami Mobarak, Laura Burattini, Sandro Fioretti and Federica Verdini)

17:45-19:45 **Assemblea societaria** (con rinnovo del consiglio direttivo SIAMOC)

20:00 **Cena sociale**

Giorno 4 | Sabato 4 Ottobre

08:00-08:15 Registrazione al congresso

08:15-08:30 Apertura del congresso

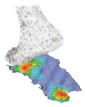
08:30-09:45 **Sessione podium #7 (plenaria): "Digital mobility outcomes in contesti di vita reali"** (moderano: Marica Giardini e Ugo Della Croce)

ID 142: "Age-Related Changes in Real-World Turning and Postural Transfer Digital Mobility Outcomes" (Jose Albites-Sanabria, Pierpaolo Palumbo, Stefania Bandinelli, Luca Palmerini and Lorenzo Chiari)

ID 130: "Trunk acceleration-derived gait indexes and symmetry metrics describe the gait abnormalities of subjects with trunk lateral postural abnormalities in subjects with Parkinson's disease" (Marina Gjini, Stefano Filippo Castiglia, Luca Martinis, Ilaria Campese, Valentina Grillo, Dante Trabassi, Mariano Serrao, Cristina Tassorelli and Roberto De Icco)

ID 76: "Automatic recognition of smartphone location with machine learning for real-world gait analysis" (Giorgio Trentadue, Paolo Tasca, Ellen Buckley, Shaoxiong Sun, Mike Long, Neil Ireson, Vita Lanfranchi and Andrea Cereatti)

ID 145: "Influence of preoperative physical activity levels on postoperative recovery in patients with musculoskeletal tumors using wearable sensor-based functional assessment" (Cecilia Lo Zoppo, Valeria Belluscio, Jasmine D'Alessandro, Cristiano Parisi, Elisa Checcucci, Giuseppe Francesco Papalia, Roberto Biagini and Giuseppe Vannozzi)



ID 150: "Unmasking Subtle Posture and Gait Deficits: The Role of Ecological Assessments and Complex Tasks in Neurological Rehabilitation." (Patrizio Manzari, Andree Rossi, Amaranta Soledad Orejel Bustos, Alice Manzo, Maria Gabriella Buzzi, Giuseppe Vannozzi and Valeria Belluscio)

ID 110: "Beyond the lab: walking and head-trunk motion parameters during real-world activities" (Davide Ronco, Paolo Tasca, Stefano Filippo Castiglia, Alessandra Audisio, Rachele Rossanigo and Andrea Cereatti)

09:45-11:45 **Tavola rotonda inter-societaria** (con i presidenti di AIFI, SIF, SIMFER, SIN, SINC, SIOT, SIRN, SISMES – moderazione: presidente SIAMOC)

11:45-12:15 Coffee break (con giochi SIAMOC)

12:15-13:30 **Sessione podium #8 (plenaria): "Nuove tecnologie per l'analisi del movimento"** (moderano: Fabiola Spolaor e Peppino Tropea)

ID 153: "Minimizing wearables, maximizing insight: fusing complementary strength of IMUs and RGB-D for upper body kinematics in home rehabilitation" (Marco Caruso, Diletta Balta, Federico Bauducco, Mara Coduri, Giulia Corniani, Camilla Pierella, Giulia Sedda, Jessica Vacca, Maura Casadio, Paolo Bonato, Danilo Pani and Andrea Cereatti)

ID 23: "An innovative AI software for the biomechanical analysis of lower limb running prostheses from slow-motion videos" (Chiara Martelli, Maria Grazia Santi, Roberto Di Marco, Gianluca Migliore, Nicola Petrone and Andrea Giovanni Cutti)

ID 119: "Radar-based center of mass velocity estimation in typical and simulated pathological gait" (Paolo Brasiliano, Fabrizio Lorenzo Carcione, Gaspare Pavei, Emanuele Cardillo and Elena Bergamini)

ID 165: "Effects of a wrist-articulated prosthetic hand for trans-radial amputees on upper limb compensatory movements during the approach phase preceding a power grasp" (Eleonora Braccili, Lorenzo Rum, Eva Zimei, Marco Notarantonio, Denise Anastasi, Aldo Lazich and Ugo Della Croce)

ID 105: "Step length and step width estimation using an IMU-based wearable device with embedded dual wide-field-of-view cameras: a preliminary study" (Carlotta Occhipinti, Islem Bejaoui, Pietro Picerno, Cristiano De Marchis and Ugo Della Croce)

ID 139: "Adaptive mixed reality squat training based on real-time physiological feedback" (Islem Bejaoui, Carlotta Occhipinti, Pietro Picerno, Ugo Della Croce and Cristiano De Marchis)

13:30-14:00 **Cerimonia di chiusura e consegna premi**

Sessione poster # 1 (2 ottobre, 15:30-17:00)

ID 94: "Sensor-based gait analysis reveals superior functional performance after femoral neck fractures compared to intertrochanteric fractures in post-acute rehabilitation" (Gianluca Libiani, Marica Giardini, Ilaria Arcolin, Stefano Corna and Marco Godi)

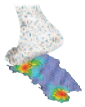
ID 128: "Kinematic analysis of trunk static posture and dynamic mobility in patients with Parkinson's Disease with and without Pisa syndrome" (Ilaria Campese, Luca Martinis, Marina Gjini, Valentina Grillo, Stefano Filippo Castiglia, Dante Trabassi, Mariano Serrao, Cristina Tassorelli and Roberto De Icco)

ID 155: "Investigating visual cue effects on gait and posture in healthy populations" (Eleonora Scarpetta, Gianpiero Buttacchio, Marzia Calabrese, Sarah Langer, Michelangelo Bartolo and Elena Bergamini)

ID 40: "Assessing the correlation between pain, fatigue, and load during the 10-meter walk test using sensorized crutches after total hip arthroplasty" (Valerio Antonio Arcobelli, Salvatore Pinelli, Erika Pinelli, Ludovica Matrone, Serena Moscato, Dante Dallari, Laura Bragonzoni, Lorenzo Chiari and Sabato Mellone)

ID 65: "Gait analysis methods in patients with spinal cord injury: a systematic review" (Antonio Nardone, Marta Mirando, Alice Cleo Panara, Giacomo Rossi, Valeria Pingue and Chiara Pavese)

ID 109: "Association between motor behavior and driving performance in adolescents" (Grazia Cravero, Serena Ricci, Camilla Pierella, Francesca Odone, Sara Uccella, Deborah Preiti, Lino Nobili, Maura Casadio and Matteo Moro)



ID 159: "Lumbar spinal laminectomy with and without fixation: an IMU-based ambulatory follow-up assessment" (Rita Stagni, Andrea Pasotti, Luigi Emanuele Noli, Cristiana Griffoni, Maria Cristina Bisi, Elena Serchi, Giovanni Barbanti Brodano, Alfredo Conti and Luca Cristofolini)

ID 82: "Dual-task challenge in COPD patients: how cognitive load amplifies hidden postural deficits" (Giuseppe De Simone, Carmine Solmonese, Federica Amitrano, Gaetano Pagano and Giovanni D'Addio)

ID 56: "Pre-operative gait analysis and clinical evaluation of a population affected by hallux valgus" (Giulia Turci, Giulia Rogati, Paolo Caravaggi, Michele Zucchini, Giulio Sacchetti, Luca Mesin, Alberto Leardini and Lisa Berti)

ID 43: "Safety and functional benefits of a 6-Month adapted exercise program in adults with haemophilia" (Erika Pinelli, Giulio Senesi, Raffaele Zinno, Giuseppina Maria Grazia Farella, Lelia Valdrè, Lydia Piscitelli, Maria Scoppolini Massini, Salvatore Pinelli and Laura Bragonzoni)

ID 50: "Automatic identification of postural transfers within an IMU signal by dynamic time warping: a study on healthy and subjects with Parkinson's disease" (Riccardo Buraschi, Joel Pollet, Rosa Pullara, Roberto Bussola, Massimiliano Gobbo and Cinzia Amici)

ID 107: "Correlations between EEG connectivity and motor performance: a comprehensive strategy for early detection of Alzheimer's disease" (Anna Fabbrocino, Chiara Pappalettera, Lorenzo Nucci, Alessia Cacciotti, Federico Frasca, Selene Rossi, Nicola Loi, Lucia Ventura, Antonella Cano, Damiano Sottana, Mohamed Zeroual, Anna Boi, Marco Morrone, Francesca Miraglia, Paolo Maria Rossini, Franca Deriu and Fabrizio Vecchio)

ID 141: "Digital Mobility Biomarkers for Fall Risk Prediction: From Meta-Analysis to Clinical Implementation" (Jose Luis Albites-Sanabria, Pierpaolo Palumbo, Paola Di Florio, Valerio Arcobelli, Lisa Alcock, Fani Deligianni, Jeffrey M. Hausordff, Jochen Klenk, Killian McManus, Inês Sousa, Ana Talbot, Kimberley van Schooten, Alessandro Silvani, Lorenzo Chiari and Luca Palmerini)
ID 85: "Dual task cost reveals hidden gait instability in patients with severe mental illness: a pilot study" (Carmine Vitale, Vittorio Schiavone, Federica Amitrano, Gaetano Pagano and Giovanni D'Addio)

ID 149: "Evaluation of botulinum neurotoxin treatment for dystonic head tremor: role of the gyroscope." (Pierpaolo Santurelli, Matteo Colecchia, Alberto Marzegan, Alessandro Crippa, Luca De Iaco, Miryam Carecchio and Anna Castagna)

ID 51: "Analysis of muscle synergies to evaluate the impact of robotic rehabilitation on trunk control in individuals with SCI" (Lucia Ricci, Francesca Serafino, Laura Simoncini and Ilaria Baroncini)

ID 164: "Out-of-the-lab assessment of VR-guided reaching movements in Rett patients" (Matteo Martini, Giulia Pili, Michela Perina, Emanuela Riccio, Giulia Sedda, Martina Semino, Rosa Angela Fabio, Danilo Pani and Manuela Chessa)

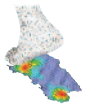
ID 120: "Muscle co-contraction activity in altered visual perception of the hand: a case report on a stroke patient in virtual rehabilitation-guided reaching and grasping tasks" (Alessandro Pagano, Andrea Tigrini, Viviana Bonci, Alessandro Mengarelli, Alessandro Capriotti, Rami Mobarak, Mara Scattolini, Federica Verdini, Maria Gabriella Ceravolo, Laura Burrattini and Marianna Capecci)

ID 101: "A novel instrumented approach for multi-signal assessment of spasticity in multiple sclerosis: a pilot, single-session intervention study" (Anna Boi, Lucia Ventura, Marco Doneddu, Marco Morrone, Gianluca Martinez, Stefano Bertuletti, Rachele Rossanigo, Marco Caruso, Andrea Manca, Andrea Cereatti and Franca Deriu)

ID 117: "Dystonia: usefulness of 3D gait analysis and dynamic surface electromyography in discriminating dystonic actions from compensatory mechanism" (Viviana Libera, Emanuele Zibetti, Patrizia Belotti and Bruno Conti)

ID 131: "First rocker excursion and functional gait recovery in post-stroke patients: a 3D gait analysis retrospective study" (Nicola Pozzer, Marco Binotto and Francesca Rossetto)"

ID 86: "Sensor-based assessment of gait and balance in aging and neurological disorders: exploring biomarkers through progressively complex tasks" (Andree Rossi, Amaranta Soledad Orejel Bustos, Patrizio Manzari, Alice Manzo, Maria Gabriella Buzzi, Giuseppe Vannozzi and Valeria Belluscio)



ID 162: "Sagittal posture in parkinson's disease and role of back active corset evaluated by 3d motion analysis."(Paolo De Blasiis, Allegra Fullin, Ciro Ivan De Girolamo, Edoardo Bianchini, Giuseppina Miele, Nunzio Setola, Marina Anna Beatrice Melone and Antonio De Luca)

ID 87: "An exploratory study of factors influencing non-immersive virtual reality telerehabilitation in individuals with Parkinson's disease" (Giovanni Lonia, Mirjam Bonanno, Rocco Salvatore Calabrò, Daniele Ravì, Maria Fazio, Massimo Villari and Antonio Celesti)

ID 49: "Telemedicine to provide an adapted physical activity program to pediatric oncology patients undergoing active oncological care: a preliminary feasibility study." (Linda Peli, Joel Pollet, Elisa Inselvini, Marta Cogliati, Eleonora Finazzi, Chiara Gorio, Alessio Angeloni, R F Shumacher, Fulvio Porta, Filippo Bertoni and Massimiliano Gobbo)

ID 8: "Biomechanical categorization of camptocormia in Parkinson's disease for botulinum toxin treatment" (Massimo Bacchini, Giangiacomo Chiari, Michele Rossi, Costanza Bacchini and Valerio Brambilla)

ID 36: "Usability and acceptability study of a Functional Electrical Stimulator controlled by electromyographic signal for people post-stroke" (Gaia Bailo, Anna Di Meo, Alberto Romano, Rita Bertoni, Johanna Jonsdottir, Viola Camerini, Pietro Di Bello, Marianna Semprini, Mirco Di Salvo, Claudio Grazioso, Davide Dellepiane, Marco Crepaldi, Tiziana Lencioni and Maurizio Ferrarin)

ID 134: "Gait analysis in individuals with multiple sclerosis: a pilot observational study" (Anna Righetti, Alessia Carletto, Valentina Varalta, Alessia Iero, Francesco Donà, Fabiola Spolaor, Giulio Rigoni, Maria Dalle Vacche, Massimiliano Calabrese, Stefano Ziccardi, Nicola Smania, Zimi Sawacha and Alessandro Picelli)

ID 71: "Gait alterations in post-stroke patients: the impact of type of stroke, lesion location, cognitive and language impairments" (Anna De Rosa, Luigi Falco, Roberto Di Palma, Giovanni Iaselli, Armando Coccia, Fabio Baselice and Giovanni D'Addio)

ID 170: "Gait abnormalities in tuberous sclerosis complex: a clinical and neurophysiologic study." (Azzurra Speroni, Alessandro Borrelli, Maurizio Petrarca, Gessica Della Bella, Moira Finizio and Romina Moavero)

ID 152: "Preliminary biomechanical assessment of stair negotiation in a post-stroke patient and a healthy control using wearable sensors and EMG" (Francesco Negrini, Francesca Martignoni, Simona Razza, Dario Laurelli, Yahia Al Mimi and Giorgio Ferriero)

ID 112: "Evaluating patient experience with 3D-printed personalized orthoses: comfort and satisfaction survey" (Giuseppe Tombolini, Armando Coccia, Antonio Tombolini, Federico Colelli Riano, Gaetano Pagano, Federica Amitrano and Giovanni D'Addio)

ID 41: "Assessment of plantar pressure patterns during early postoperative walking after total hip arthroplasty" (Salvatore Pinelli, Valerio Arcobelli, Erika Pinelli, Raffaele Zinno, Maria Scoppolini Massini, Giulio Senesi, Sabato Mellone, Lorenzo Chiari, Dante Dallari and Laura Bragonzoni)

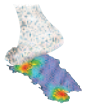
ID 67: "Communicative accessibility and inclusive sports: the use of augmentative and alternative communication in baskin to promote participation and self-regulation in children and adolescents with complex communication needs (CCN)" (Giada D'Erasmo, Federica Pauciulo, Giulia Stella, Claudia Bigas, Cecilia Cerretani and Gessica Della Bella)

ID 52: "Walking through frailty: a prospective observational study on the rehabilitation path of subjects after total knee arthroplasty with and without frailty." (Rosa Pullara, Joel Pollet, Giada Vezzoli, Simone Cerea, Massimiliano Gobbo and Riccardo Buraschi)

ID 62: "Baropodometrical and kinematic assesment in type 1 diabetic patients" (Matteo Compagnoni and Luigi Uccioli)

ID 98: "Directional Motor Control Improvements Following Sport-Based Rehabilitation in Spinal Cord Injury Individuals During Reaching Tasks" (Irene Gennarelli, Giorgia Chini, Tiwana Varrecchia, Cristina Chieffo, Alessio Silvetti, Vincenzo Molinaro, Ida Poni, Andrea Mariotti, Simone Tiberti, Annamaria Tamburro, Ilaria Calabrese, Sara Felici, Marco Bartoli, Loredana Gigli, Roberto Minella, Barbara Lucia, Aldo Toscano, Claudio Pilati and Alberto Ranavolo)

ID 129: "Instrumented test for the assessment of proprioception in post-stroke patients: preliminary validation data" (Marco Germanotta, Arianna Pavan, Francesca Falchini, Stefania Lattanzi, Silvia Scala, Maria Cristina Mauro, Alessio Fasano and Irene Giovanna Aprile)



ID 45: "The role of Adapted Physical Activity in the Rehabilitation Project for Children and Adolescents with intellectual and Motor Disabilities. "OPBG Sport per tutti" Project: preliminary results." (Giulia Stella, Federica Pauciulo, Clàudia Bigas Vila, Cecilia Cerretani, Giada D'Erasmo and Gessica Della Bella)

ID 113: "Effects of a Physical Therapy Program on Surface Electromyographic Activity of Erector Spinal Muscles in Sports Patient with Non-Specific Low Back Pain :Case Report" (Antonio Marsocci, Francesca Curti and Fabrizio Magnifica)

ID 80: "Analysis and comparison of kinematic and dynamic changes in subjects with hemiparesis and spastic hypertonia after transition from solid AFO to AFO-Botter" (Nicole Lonoce, Nicholas Merla, Guido Pasquini and Giovanna Cristella)

ID 75: "Non-invasive follow up of AIS using AI and 3D surface analysis with INBODY 3D scanner" (Filippo D'Agostino, Alessia Megna, Emilia Bellina, Stanislao Grazioso, Teodorico Caporaso and Damiano Tarda)

ID 89: "Predicting fall risk using clinical and kinematic features from the Timed-Up-and-Go Test" (Sabrina Grieco, Attilio Caruso, Lucia Palazzo, Stefania De Trane, Pietro Fiore, D'Addio Giovanni and Gaetano Pagano)

ID 13: "Algorithms to detect foot contact in high-dynamic movements using inertial measurement units: a systematic review" (Margherita Mendicino, Stefano Di Paolo, José Miguel Palha de Araújo dos Santos and Stefano Zaffagnini)

ID 90: "Machine Learning-Based Prediction of Clinical Improvement in Cardiac Rehabilitation: The Role of the Multidimensional Prognostic Index" (Attilio Caruso, Lucia Palazzo, Davide Lobascio, Francesca Camicia, Gaetano Pagano, Giovanni D'Addio and Andrea Passantino)

Sessione poster # 2 (3 ottobre, 15:00-16:15)

ID 70: "An automatic approach for estimating stride length at different running speeds using foot-mounted inertial sensors" (Rachele Rossanigo, Alessia Machetti, Marco Caruso, Lucia

Ventura, Gianluca Martinez, Cristine Agresta, Valentina Camomilla, Andrea Manca, Franca Deriu and Andrea Cereatti)

ID 29: "Characterizing hybrid kinematic-muscular synergies in multi-directional reaching" (Myriam Lubrano, Maria Cristina Bisi, Silvia Fantozzi and Rita Stagni)

ID 68: "Comparison of algorithms for stride width estimation using wearable-based methods in straight and curvilinear walking: validation on healthy controls" (Giulia Cicalò, Rachele Rossanigo, Alessandra Audisio, Nicolas Leo, Paolo Tasca, Davide Ronco, Valentina Agostini, Andrea Cereatti and Marco Caruso)

ID 17: "Bilateral Muscle Synergies During the 30-Second Sit-to-Stand Test" (Imma Ceriello, Simone Ranaldi, Riccardo Borzuola, Valentina Camomilla and Andrea Macaluso)

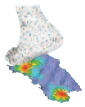
ID 26: "Inverse dynamics comparison of able-bodied and Paralympic elite sprinters using OpenSim" (Samira Giuliana Breban, Paola Righetto, Giulia Gentilini, Roberto Di Marco, Andrea Giovanni Cutti and Nicola Petrone)

ID 81: "Visual clustering for video inclusion in automated General Movement Assessment: evaluation of dataset robustness" (Arianna Tomadin, Maria Cristina Bisi, Arianna Aceti, Ettore Benvenuti, Luigi Tommaso Corvaglia and Rita Stagni)

ID 59: "Event related spectral perturbations analysis of sensory-motor activity during visuomotor and imagery tasks performed with a prosthesis by an amputee" (Lorenzo Nucci, Francesca Miraglia, Chiara Pappalettera, Alessia Cacciotti, Anna Fabbrocino, Selene Rossi, Federico Frasca, Paolo Maria Rossini and Fabrizio Vecchio)

ID 160: "Comparative analysis of wearable IMUs and optical motion capture systems for ballet jump kinematics: a case report" (Valeria Vella, Omar De Bartolomeo and Peppino Tropea)

ID 19: "Wearable sensor-based analysis of trunk and upper limb movements in bakery: a pilot study" (Federico Arippa, Micaela Porta, Giulia Casu, Alessandro Fanti, Bruno Leban and Massimiliano Pau)



ID 144: "Identifying and assessing error contributions in inertial-based mediolateral foot motion tracking" (Ilaria Giuseppina Porco, Marco Caruso, Pietro Picerno, Andrea Cereatti and Ugo Della Croce)

ID 12: "Development and validation of an algorithm for foot contact detection in high-dynamic movements using inertial measurement units" (Margherita Mendicino, Stefano Di Paolo, José Miguel Palha de Araújo dos Santos, Eline Nijmeijer, Pieter Heuvelmans, Francesco Della Villa, Alli Gokeler, Anne Benjaminse and Stefano Zaffagnini)

ID 64: "U-Turn detection from angular velocity: effects of device location" (Francesco la Pietra, Alejandro Ena, Adrien Juraver, Paolo Tasca, Alessandra Audisio, Rachele Rossanigo, Andrea Cereatti, Shibeshish Belachew, Óscar Reyes and Claudia Mazzà)

ID 91: "Towards automated facial mimicry assessment using RGB-D data and a commercial tracking software: preliminary results on healthy and parkinsonian subjects" (Giacomo Saracino, Diletta Balta, Nicola Loi, Francesca Ginatempo, Franca Deriu and Andrea Cereatti)

ID 96: "A low-cost IMU for remote respiratory assessment: normative metrics and user usability" (Federico Caramia, Emanuele D'Angelantonio, Leandro Lucangeli and Valentina Camomilla)

ID 167: "Inertial sensor-based analysis of motor synchronization strategies in collaborative tasks" (Jessica Vacca, Pietro Ferraro, Maria Elena Lai, Giulia Sedda and Danilo Pani)

ID 74: "Towards MobGap 1.0, a computational pipeline for real-world digital mobility assessment: Technical Validation across different patient cohorts" (Paolo Tasca, Arne Küderle, Metin Bicer, Dimitrios Megaritis, Cameron Kirk, Brian Caulfield, Lynn Rochester, Andrea Cereatti and Silvia Del Din)

ID 103: "A pilot implementation of the Sensory Organization Test using the CAREN system" (Paolo De Pasquale, Augusto Ielo, Cristiano De Marchis, Daniele Borzelli, Antonio Casile, Antonio Caronni, Stefano Scarano, Rocco Salvatore Calabrò, Luigi Tesio, Angelo Quartarone and Andrea D'Avella)

ID 92: "Does sports experience influence motor-cognitive interference in everyday locomotion? An integrated fNIRS-IMUs approach" (Margherita D'Ulisse, Valeria Belluscio, Giuseppe Vannozzi, Lorenzo Avilia, Stefano Panzieri, Valeria Bonagura and Valentina Quaresima)

ID 27: "The midstance instant definition in sprinting: comparison of different approaches applied to Paralympic athletes with unilateral lower limb amputation" (Paola Righetto, Roberto Di Marco, Andrea Giovanni Cutti and Nicola Petrone)

ID 42: "Exploring upper-limb cortico-muscular coherence based on muscle synergies during prehension movements" (Giulia Lomele, Tiziana Lencioni, Sasha D'Ambrosio, Angela Comanducci, Monia Cabinio, Alberto Marzegan, Chiara Camilla Derchi, Tiziana Atzori, Marco Rabuffetti, Paolo Castiglioni, Maurizio Ferrarin and Luca Fornia)

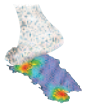
ID 15: "Cutting technique of ACLR football players: on the field matched control study" (Stefano Di Paolo, Margherita Mendicino, Marianna Viotto, Alberto Grassi and Stefano Zaffagnini)

ID 10: "Passive exoskeleton torque optimization for overhead work: insights from muscle activity and perceived exertion analysis" (Giulia Casu, Massimiliano Pau and Carisa Harris-Adamson)

ID 33: "RE-WALK-EASY: Two Case Studies on Functional Electrical Stimulation for Critical Illness-Acquired Muscle Weakness" (Tiziana Lencioni, Nuccia Morici, Johanna Jonsdottir, Rita Bertoni, Anna Di Meo, Alberto Romano, Gaia Bailo, Tiziana Atzori, Simone Bassanini, Elena Compalati, Matteo Gonella, Francesca Lucchetti, Simona Squartecchia, Annalisa Toccafondi, Agata Lax, Pietro Arcuri and Angela Comanducci)

ID 53: "Can we discriminate between indoor and outdoor environments during daily life activities using barometric signal alone?" (Alessandra Audisio, Daniele Fortunato, Paolo Tasca, Rachele Rossanigo, Marco Caruso and Andrea Cereatti)

ID 146: "TELENEURART: AI-Driven Monitoring and Rehabilitation of Congenital and Acquired Brain Injuries Using Digital Biomarkers" (Martina Favetta, Benedetta Del Lucchese, Maurizio Petrarca, Gessica Della Bella, Moira Finizio, Giovanni Cioni and Giuseppina Sgandurra)



ID 156: "Toward a patient digital twin for personalized robot-assisted stroke rehabilitation" (Ludovica Viola, Viola Biancheri, Cecilia De Vicariis and Vittorio Sanguineti)

ID 116: "Towards clinical translation of EMG-informed models via synergy-based input reduction" (Maria Dalle Vacche, Marco Romanato, Fabiola Spolaor, Giulio Rigoni and Zimi Sawacha)

ID 20: "Functional Subtypes in Knee Osteoarthritis Using IMU-Based Gait and Balance Analysis with Unsupervised Machine Learning" (Federico Roggio, Martina Sortino, Bruno Trovato, Gianluca Testa, Vito Pavone, Michele Vecchio, Debora Di Mauro, Fabio Trimarchi, Alberto Canzone, Antonino Bianco and Giuseppe Musumeci)

ID 95: "Evaluation of a prototypical telerehabilitation system using wearable sensors: the REHACT case study" (Federico Caramia, Emanuele D'Angelantonio, Leandro Lucangeli and Valentina Camomilla)

ID 48: "Estimating lower limb kinematics in walking with minimal input approach: preliminary validation on four surfaces and two slopes" (Christian Tucci, Diego Torricelli, Andrea Cereatti and Marco Caruso)

ID 127: "Reducing calibration burden for sensor-to-segment alignment in IMU-based motion analysis" (Mara Scattolini, Alessandro Mengarelli, Andrea Tigrini, Federica Verdini, Laura Burattini and Sandro Fioretti)

ID 83: "Predicting ground reaction forces from kinematics data: evaluating the impact of marker-based vs markerless data prediction" (Giulio Rigoni, Oier Zazpe, Maria Dalle Vacche, Fabiola Spolaor and Zimi Sawacha)

ID 63: "Organizing Degrees of Freedom through Kinematic Synergies in Functional Reaching" (Ilaria Bufacchi, Imma Ceriello, Riccardo Borzuola and Valentina Camomilla)

ID 166: "The impact of Euler sequence choice on shoulder angles interpretation" (Eva Zimei, Lorenzo Rum, Eleonora Braccili, Marco Notarantonio, Aldo Lazich and Ugo Della Croce)

ID 115: "Exploring neuromuscular control through EMG-informed modeling: a comparison of estimation methods for a 6DOF knee model" (Maria Dalle Vacche, Giulio Rigoni, Davide Pavan, Fabiola Spolaor and Zimi Sawacha)

ID 24: "Comparing wearable sensors and optoelectronic systems for estimating lumbo-sacral flexion moment during lifting" (Filippo Motta, Mohamed Irfan Refai, Manuela Galli, Tiwana Varrecchia, Giorgia Chini, Alberto Ranavolo and Massimo Sartori)

ID 39: "Foot plantar distribution and kinematic analysis of low dive in soccer goalkeepers: a case study" (Salvatore Pinelli, Raffaele Zinno, Maria Scoppolini Massini, Giulio Senesi, Erika Pinelli and Laura Bragonzoni)

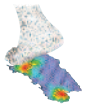
ID 132: "Posture and virtual reality: effects of head mounted display and virtual environment on postural stability parameters in healthy subjects" (Ciro Ivan De Girolamo, Allegra Fullin, Ersilia Vallefuoco, Annunziata Attena, Angela Lucariello, Nicola Moccaldi, Pasquale Arpaia and Paolo De Blasiis)

ID 102: "Using artificial intelligence for classifying healthy and pathological subjects based on postural parameters: preliminary results" (Federico Colelli Riano, Alberto Malovini, Armando Coccia, Giovanni D'Addio and Riccardo Bellazzi)

ID 137: "Mapping the neuromuscular effect of Botulinum Toxin in spastic patients using High-Density surface EMG" (Marco Gagliardi, Leonardo Malimpensa, Matias Fröhlich, Chiara Esposito, Giorgio Leodori, Daniele Belvisi, Alberto Botter, Giacinto Luigi Cerone, Giovanni Fabbrini, Antonella Conte, Gina Ferrazzano and Taian Vieira)

ID 60: "Assessing a beacon-based UWB system for home-based patient movement tracking" (Giovanni Iaselli, Mario Caiazzo, Anna De Rosa, Domenico Lombardo, Gaetano Pagano, Francesco Amato and Giovanni D'Addio)

ID 88: "Exploring Complex Network Analysis for Human Activity Recognition from Inertial Data" (Lucia Palazzo, Sabrina Grieco, Vladimiro Suglia, Domenico Buongiorno, Gaetano Pagano, D'Addio Giovanni and Vitoantonio Bevilacqua)



ID 121: "Modelling real-world gait scenarios in knee OA with IMU-guided optimal control simulations" (Paolo Riccioni, Massimiliano Baleani, Lisa Berti and Giorgio Davico)

ID 57: "Hybrid robotic-assisted rehabilitation for post-stroke gait recovery: development of a combined exoskeleton and wearable FES system" (Viola Camerini, Pietro Di Bello, Simona Squartecchia, Mirco Di Salvo, Marco Crepaldi, Lorenzo Cavallaro, Johanna Jonsdottir, Tiziana Lencioni, Matteo Laffranchi, Maurizio Ferrarin and Marianna Semprini)

ID 35: "Human-Machine interaction in clinical practice: the take home messages from a multidisciplinary round-table in La Salle Campus Madrid." (Valerio Antonio Arcobelli, Miguel Gomez Martinez, José María Galindo Pérez and Sergio Lerma Lara)