GENOVA 2026

XXVI CONGRESSO NAZIONALE SIAMOC

SOCIETÀ ITALIANA DI ANALISI DEL MOVIMENTO IN CLINICA

GENOVA, 4-7 NOVEMBRE 2026

From Research to Practice: Assessment and Rehabilitation of Movement Disorders in Adult and Pediatric Populations



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KEYNOTE SPEAKERS

Paolo Bonato
Professore Associato di Medicina Fisica e Riabilitazione
Harvard Medical School

Elisa Gervasoni
Ricercatrice e fisioterapista esperta presso il laboratorio LARICE dell'IRCCS "S. Maria Nascente"
Fondazione Don Gnocchi di Milano

Andrea Guzzetta
Professore Ordinario di Neuropsichiatria Infantile
Dipartimento di Medicina Clinica e Sperimentale
Università di Pisa

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Valeria Belluscio
Elena Bergamini
Laura Bonzano
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Susanna Summa
Andrea Tacchino
Andrea Turolla

TOPICS

1. Neurosviluppo: dai movimenti spontanei nei neonati ai biomarcatori per la diagnosi precoce e il monitoraggio dello sviluppo neuromotorio

2. Analisi del movimento nelle malattie neurologiche e neurodegenerative: dalla valutazione funzionale al monitoraggio di progressione e terapia, spasticità

3. Analisi del movimento per la decisione clinica in ambito ortopedico e chirurgico: tecnologie per valutazione funzionale e monitoraggio, definizione del trattamento e stratificazione clinica

4. Riabilitazione guidata dal movimento: tecnologie, percorsi, monitoraggio e recupero funzionale

5. Dal laboratorio alla vita reale: strumenti, metodi, validazione e applicazioni per la continuità di cura

6. AI e modelli computazionali: biomarcatori digitali e supporto alle decisioni cliniche

7. Sport e attività fisica adattata: performance, prevenzione infortuni e return-to-play

8. Ergonomia e rischio biomeccanico: Lavoro, prevenzione e ritorno alle attività

9. Interazione human-human e human-robot: robotica, VR e sistemi assistivi, analisi del movimento in ambito chirurgico (pianificazione, indicazioni e outcome post-operatori), interfacce corpo macchina, assessment in manipolazione, percezione

10. Analisi del movimento nel sonno e nell'epilessia: pattern motori, significato clinico e monitoraggio: strumenti e metodi di analisi

MERCOLEDÌ 4 NOVEMBRE

13.00 **MINI-SIMPOSIO SPASTICITÀ**

14.00 Registrazione congresso

14.30 **Cerimonia di apertura**

15:00 - 16:30
S90-1

PRESENTAZIONI ORALI

Riabilitazione guidata del movimento e interazione human–robot

Chair: Giulia Ballardini, Andrea Canessa, Giulio Gasperini

ID 27: "Exoskeleton-assisted gait rehabilitation with and without FES in post-stroke individuals: preliminary findings" (Simona Squartecchia, Cinzia Marinaro, Viola Camerini, Rita Bertoni, Sofia Bonugli, Andrea Corsonello, Johanna Jonsdottir, Tiziana Lencioni, Nicolò Passi, Marianna Semprini and Maurizio Ferrarin)

ID 119: "Changes in Robotic Assistance Torque Across 12 Sessions of Exoskeleton-Based Gait Training in Post-Stroke Individuals" (Viola Camerini, Simona Squartecchia, Rita Bertoni, Sofia Bonugli, Nicolò Passi, Jonsdottir Johanna, Cinzia Marinaro, Andrea Corsonello, Gianluca Capitta, Mattia Modenese, Matteo Laffranchi, Tiziana Lencioni, Maurizio Ferrarin and Marianna Semprini)

ID 97: "Visual perturbation via EMG-based error augmentation during upper limb motor training" (Giulia Sedda, Demetra Cimmino, Raffaele Melis, Jessica Vacca, Marco Caruso, Diletta Balta, Mara Coduri, Camilla Pierella, Laura Lutzoni, Maura Casadio, Andrea Cereatti, Stefano Ramat and Danilo Pani)

ID 175: "Adaptive robot-assisted rehabilitation through real-time detection of compensatory strategies" (Vittorio Sanguineti, Giada Parodi, Georgii Kurshakov, Arianna Li Noce, Laura Bandini, Giancarlo Mascetti and Ludovica Viola)

ID 73: "Preliminary results of a post-stroke upper limb rehabilitation based on EMG-controlled functional electrical stimulation" (Gaia Bailo, Jonsdottir Johanna, Pietro Balbi, Rita Bertoni, Viola Camerini, Vittoria Cigognini, Laura Giorgi, Francesca Lucchetti, Jorges Navarro, Matteo Pittaluga, Marianna Semprini, Simona Squartecchia, Carlo Trompetto, Tiziana Lencioni and Maurizio Ferrarin)

ID 162: "Real-time sEMG-based force estimation for the Hannes upper limb prosthesis" (Lorenzo Fiori, Camilla Arnaud, Sofia Dalmiani, Roberto Di Marco, Emilia Scalona, Simone Perini and Emanuele Gruppioni)

ID 149: "Robotic assessment of wrist sensorimotor function under different fatigue conditions: a pilot study in unimpaired subjects" (Aurora Freccero, Michael Ortiz Sanchez, Giulia Aurora Albanese, Maura Casadio, Michael Holmes and Jacopo Zenzeri)

ID 141: "Myoelectric control training across multiple sessions promotes physiological reorganization of muscle synergies and improves clinical motor function in chronic stroke survivors" (Matteo Nocilli, Andrea D'Avella and Denise J. Berger)

ID 75: "Kinematics and energetics of aquatic walking: implications for fitness and rehabilitation" (Myriam Lubrano, Pietro Bosetto, Vittorio Coloretti, Sara Discepoli, Aurora Conditi, Matteo Cortesi and Silvia Fantozzi)

16:30 - 18:00
S90-2

PRESENTAZIONI ORALI

Analisi del movimento nelle malattie neurologiche e neurodegenerative

Chair: Valeria Belluscio, Cristiano De Marchis, Ludovico Pedullà

ID 11: "A wearable-clinical residual gait gap identifies unexpected ON-state locomotor impairment in Parkinson's disease" (Dante Trabassi, Stefano Filippo Castiglia, Roberto De Icco, Cristina Tassorelli, Alberto Ranavolo and Mariano Serrao)

ID 134: "Functional correlates of gait impairment in early Parkinson's Disease" (Ilaria Arcolin, Marica Giardini, Silvia Daniela Morbelli, Dario Arnaldi, Paolo Calza, Beatrice Orso and Marco Godi)

ID 121: "Ankle muscle co-contraction during gait as a predictor of falls in individuals with Parkinson's disease: a cohort study" (Diego Tosatto, Daniele Bonacina, Cristiano Alessandro, Cecilia Perin and Daniele Piscitelli)

ID 139: "Average angular velocity outperforms conventional joint-angle descriptors in discriminating post-stroke gait patients" (Isabella Campanini, Benedetta Damiano, Sara Scaltriti, Lorenzo Cavazzuti and Andrea Merlo)

ID 103: "Neuromechanical characterization of upper limb function after stroke" (Marianna Semprini, Eleonora Guanziroli, Indya Ceroni, Elena Fenoglio, Giulia Bodo, Mirea Bacigalupo, Giulio Gasperini and Franco Molteni)

ID 187: "Gait asymmetries during walking are associated with neural and force control mechanisms in people with Multiple Sclerosis." (Franco Pio Siciliano, Riccardo Borzuola, Martina Parrella, Martina Scalia, Giovanna Borriello, Andrea Macaluso and Giuseppe Vannozzi)

ID 13: "Consensus on key evaluation tools for stroke and Multiple Sclerosis: a Delphi study protocol for the assessment of balance and gait" (Marco Germanotta, Elisa Gervasoni, Rebecca Cardini, Joel Pollet, Chiara Castagnoli, Rosa Pullara, Guido Pasquini, Filippo Gerli, Chiara Pedrini, Marco Baccini, Diego Longo, Maria Pia Amato, Irene Giovanna Aprile, Massimiliano Gobbo, Francesca Cecchi and Davide Cattaneo)

18.00 OPENING LECTURE
Implantable and wearable modular neuroprostheses to understand and restore neural functions

Speaker: Prof. Silvestro Micera

Chair: Camilla Pierella, Maria Fossati

18.45 Cocktail di benvenuto

19.45 Conclusione della giornata

GIOVEDÌ 5 NOVEMBRE

08.00 Registrazione corso inter-congressuale e registrazione congresso

08.30 Apertura del congresso

08:45 - 09:45
S60-1

PRESENTAZIONI ORALI

Sport e attività fisica adattata

Chair: Silvia Fantozzi, Antonino Massone

ID 140: "Mixed reality adaptive system for personalized squat training based on real-time physiological and biomechanical feedback" (Cristiano De Marchis, Islem Bejaoui, Carlotta Occhipinti, Pietro Picerno and Ugo Della Croce)

ID 195: "Comparing muscle synergies between standard road bike and time-trial cycling positions" (Andrea Mecenero, Paolo Brasiliano, Alessia Zaccheroni, Chiara Masala, Nicol Moscatelli, Valentina Lanzani, Alessandro Scano and Elena Bergamini)

ID 47: "Sport-specific change of direction in basketball: kinematic analysis of side-step and split-step techniques during dribbling V-cut test" (Raffaele Zinno, Salvatore Pinelli, Anna Jodar-Portas, Anna Prats-Puig, Raquel Font-Lladó and Laura Bragonzoni)

ID 34: "On-field assessment of joint coordination in ACL-Reconstructed football players" (Margherita Mendicino, Stefano Di Paolo, Pietro Margheriti, Marianna Viotto, Chiara Valastro, Alberto Grassi and Stefano Zaffagnini)

ID 33: "Preliminary estimation of stiffness and damping components in running prosthetic feet via segmented multibody model and motion capture data" (Marco Palombi, Chiara Usai, Francesco Lorè, Roberto Di Marco, Francesca Garimboldi, Samira Giuliana Breban, Nicola Petrone, Andrea Giovanni Cutti and Nicola Francesco Lopomo)

ID 64: "Effect of a sport-program on trunk muscle coactivation in Spinal Cord Injury subjects" (Giorgia Chini, Tiwana Varrecchia, Cristina Chieffo, Irene Gennarelli, Giorgia Palotti, Manuela Galli, Simone Tiberti, Ida Poni, Aldo Toscano and Alberto Ranavolo)

09:45 - 10:30

S45-1

PRESENTAZIONI ORALI

Movimento, attività fisica ed ergonomia

Chair: Marco Godi, Serena Ricci

ID 63: "The influence of proprioceptive-augmented virtual reality on movement imitation kinematics"
(Ambra Bisio, Monica Biggio, Elisa Soldi, Alice Massa, Costanza Iester, Laura Bonzano and Marco Bove)

ID 125: "PREPAR3 – PRE-oPerAtive suRgery with 3D solution: how Virtual Reality interactions alters spatial perception and planning accuracy in scoliosis surgery"
(Anna Caleffi, Andrea Zanirato, Emanuele Quarto, Mara Coduri, Matteo Formica and Serena Ricci)

ID 44: "Quantitative ergonomic assessment of minimally invasive urological surgery using a wearable inertial sensors system: a pilot study"
(Valeria Vella, Serena Maruccia, Davide Perri and Peppino Tropea)

ID 155: "Comparison of markerless and IMU-based systems for instrumental ergonomic assessment of upper-limb kinematics during reaching and grasping task"
(Armando Coccia, Giulio Maria Bianco, Giorgia Chini, Tiwana Varrecchia, Irene Gennarelli, Mattia Leonori, Pietro Balatti, Luca Fortini, Clara Mouawad, Lorenzo Levantesi, Niki Martinel, Christian Micheloni, Arash Ajoudani and Alberto Ranavolo)

10.30 Coffee break

11:00 - 12:30

S90-3

PRESENTAZIONI ORALI

Dalla valutazione clinica alla vita reale

Chair: Andrea Cereatti, Erica Grange, Antonio Nardone

ID 41: "Smartphone-based digital biomarkers for real-world passive monitoring in multiple sclerosis" (Annunziata Attena, Marisa Pesola, Allegra Fullin, Ciro Ivan De Girolamo, Nicola Moccaldi, Francesco Isgrò, Pasquale Arpaia and Paolo De Blasiis)

ID 99: "Which parameter for which task? Identification of biomechanical features able to assess motor function according to three functional tests" (Beatrice De Lazzari, Amaranta Soledad Orejel Bustos, Andree Rossi, Giuseppe Vannozzi and Valeria Belluscio)

ID 55: "Gait-derived digital biomarkers of health status in a geriatric living lab: a pilot study" (Giulia Bodo, Ekaterini Zigoura, Andrea Piccardo, Lorenzo Marucchi and Matteo Laffranchi)

ID 40: "Single-subject amyloid-PET connectomes as potential network-based biomarkers for Alzheimer's disease progression" (Simona Malago, Leonard Pieperhoff, Prithvi Arunachalam, Federico Masserini, Alessio Cirone, Mario Tranfa, Henk-Jan Mutsaerts, Emma Luckett, Frederik Barkhof, Lyduine Collij, Matteo Pardini, Alle Meije Wink, Sara Garbarino and Luigi Lorenzini)

ID 147: "Instrumental analysis of functional tests in older adults: associations with cognitive functions" (Chiara Masala, Paolo Brasiliano, Inaihá Laureano Benincá, Eleonora Spinosa, Francesca Morganti and Elena Bergamini)

ID 143: "A mixed reality and wearable sensors platform for personalized exercise training in people with multiple sclerosis: the OPTIMOVE project" (Ilaria Giuseppina Porco, Carlotta Occhipinti, Anais Morgane Le Masson, Dimitri Pinna, Valentina Floris, Laura Nieddu, Andrada Pica, Anna Laura Arca, Pietro Picerno, Antonella Pantaleo, Paolo Solla and Ugo Della Croce)

ID 37: "The effect of the curvature of rocker bottom shoes on lower limb kinematics, plantar pressure distribution and perceived comfort: a pilot study" (Paolo Caravaggi, Giulia Rogati, Hadi Sarlak, Kamran Shakir, Anne Sturkenboom, Roberto Ramaglia Amadasi, Jaap Van Netten, Alberto Leardini and Lisa Berti)

ID 101: "Wearable sensor-based characterization of gait in pre-frail older adults: preliminary results" (Vittoria Cigognini, Antonio Caronni, Matteo Fascia, Francesca Lucchetti, Francesco Rizzo, Letizia Rolla, Simona Squartecchia, Riccardo Villa, Tiziana Lencioni, Maurizio Ferrarin and Ilaria Carpinella)

ID 85: "A wrist-worn fall detection algorithm for continuous real-world monitoring" (Alessandra Audisio, Giorgio Barzon, Luigi Mattiello, Matteo Lovato, Roberto Bortoletto, Marco Signorelli and Andrea Cereatti)

12:30-13:30
P1-A

POSTER PRESENTATION & LIGHT LUNCH

GRUPPO P1-A

ID 10: "Quantification of gait instability in antecollis and camptocormia in Parkinson's disease for botulinum toxin treatment" (Massimo Bacchini, Giangiacomo Chiari, Michele Rossi, Costanza Bacchini and Valerio Brambilla)

ID 102: "Preliminary feasibility evaluation of PizzaVR, an immersive virtual reality system designed for paediatric bilateral upper-limb rehabilitation"
(Federica Serra, Giovanni Giuliodori, Daniele Leonardis and Cristian Camardella)

ID 105: "Immersive VR as a tool for triggering freezing of gait in Parkinon's desease" (Irene Capasso, Martina Putzolu, Laura Avanzino, Elisa Pelosin, Eleonora Annamaria Borsani Villa, Davide Palmieri, Silvio Paolo Sabatini and Andrea Canessa)

ID 113: "Quantifying active interlimb coordination during different walking conditions post-Stroke: implications for clinical assessment" (Mohsen Fallahi, Andree Rossi, Maria Gabriella Buzzi, Amaranta Soledad Orejel Bustos, Valeria Belluscio and Giuseppe Vannozzi)

ID 12: "Development and validation of an algorithm for automatic detection of functional motor primitives in healthy and clinical populations" (Chiara Zanquoghi, Matteo Terreran, Margherita Bertuccelli, Mariasole Pasinato, Maria Chiara Pioli, Alfonc Baba, Giovanni Sparacino, Emanuele Menegatti and Alessandra Del Felice)

ID 126: "Validation of a Novel Experimental Setup for Assessing the Effects of Haptic Feedback on Cognitive Load, Visual Attention, and Motor Performance: A Pilot Study"
(Virna Marliani, Marco Anselmi, Tommaso Mori, Enzo Mastinu and Christian Cipriani)

ID 130: "sEMG-Derived Parameters Associated With Tuck Jump Score" (Federico Caramia, Beatrice De Lazzari, Federica Mancinelli, Camilla Dooms, Imma Ceriello, Valentina Camomilla)

ID 146: "Development of a virtual reality wheelchair-fencing simulator for home-based rehabilitation" (Danilo Canepa, Carlos Calderon, Camilla Pierella, Vanessa Tirado, Javier Albusac, David Vallejo and Maura Casadio)

ID 154: "Interpreting IMU-based postural assessment: is the inverted pendulum model enough?"
(Maria Cristina Bisi and Rita Stagni)

ID 109: "Inertial calibration refinement and filter tuning jointly affect IMU-based orientation accuracy during controlled movements" (Daniele Fortunato, Alessandra Audisio, Rachele Rossanigo, Marco Caruso and Andrea Cereatti)

ID 160: "Feasibility and effectiveness of synchronous cognitive telerehabilitation in People with Multiple Sclerosis: preliminary findings from the REMOTE-MS study" (Giulia Piovani, Andrea Tacchino, Maura Casadio)

ID 17: "An automated reporting system for ambulatory biomechanical assessment of knee injury patients through wearable sensors" (Margherita Mendicino, Stefano Di Paolo, Marianna Viotto, N. Pizza, Chiara Valastro, Alberto Grassi, Stefano Zaffagnini)

ID 173: "Verticality Perception in Young Adults: Design and Development of a VR-Based, Robot-Assisted Assessment" (Giorgia Marchesi, Giuseppina Mureddu, Valeria Falzarano, Tommaso Falchi Delitala ANDMaura Casadio)

ID 178: "A simulation framework for subject-specific calibration of visuo-inertial trackers in upper-limb rehabilitation" (Francesco Porro, Davide Palmieri, Giulia Ballardini, Maura Casadio and Andrea Canessa)

ID 18: "Does frailty affect gait recovery in subjects undergoing rehabilitation after receiving total knee arthroplasty? A prospective case-control study" (Joel Pollet, Rosa Pullara, Angelica Rizzi, Tania Guerini, Maurizio Vincenzo Falso, Massimiliano Gobbo and Riccardo Buraschi)

ID 181: "FM_RRehab: A multimodal framework for robot-assisted functional upper-limb rehabilitation" (Marco Caimmi, Adriano Scibilia, Tito Dinon, Nicola Pedrocchi, Arianna Foresti, Cecilia Gatti, Ivan Belotti, Stefano Marcandelli, Alessandro Carminati, Marco Germanotta, Irene Aprile, Eleonora Guanziroli and Franco Molteni)

ID 182: "Toward simulation-informed neurorehabilitation using musculoskeletal modeling and predictive control" (Arianna Li Noce, Giada Parodi, Ludovica Viola, Vittorio Sanguineti and Laura Bandini)

ID 186: "Multi-joint coordination deficits in Parkinson's Disease gait: a continuous Statistical Parametric Mapping analysis of fall risk" (Daniele Bonacina, Diego Tosatto, Cristiano Alessandro, Cecilia Perin and Daniele Piscitelli)

ID 188: "Development and validation of a CAREN-based markerless procedure for spatiotemporal gait assessment" (Paolo De Pasquale, Gabriele Trovato, Angelo Quartarone, Rocco Salvatore Calabrò and Cristiano De Marchis)

ID 190: "How well does single-camera markerless motion capture handle assistive-device occlusions? A preliminary study of hip and knee sagittal kinematics during Frame Runner locomotion" (Eva Zimei, Paolo Bonato and Ugo Della Croce)

ID 191: "Quantitative analysis of hand postural synergies in dystonic patients" (Veronica D'Aleo, Paolo De Pasquale, Angelo Quartarone, Rocco Salvatore Calabrò and Antonino Casile)

ID 194: "Real-time anatomical reconstruction of upper-limb kinematics from wearable 6-DoF visuo-inertial tracking" (Davide Palmieri, Francesco Porro, Giulia Ballardini, Silvio Paolo Sabatini, Maura Casadio and Andrea Canessa)

ID 196: "Impact of individualized telerehabilitation exercise training on gait performance in people with multiple sclerosis" (Samin Barzegar, Andrea Tacchino, Ludovico Pedulla, Maura Casadio, Giampaolo Brichetto, Sofia Gatto, Valentina Guiditti and Alessandra Briasco)

ID 20: "Exploratory Complex Network Analysis of Inertial Data for Motion Intent Recognition" (Lucia Palazzo, Vladimiro Suglia, Sabrina Grieco, Domenico Buongiorno, Gaetano Pagano, Giovanni D'Addio and Vitoantonio Bevilacqua)

ID 205: "Biomechanical Effects of Thoracolumbosacral Orthoses in Adolescents with Idiopathic Scoliosis: A Gait Analysis Study with Normative Comparison and Two-Brace Evaluation" (Anna Righetti, Alessia Carletto, Alessia Iero, Gabriele Pecchini, Giulio Rigoni, Maria Dalle Vacche, Fabiola Spolaor, Nicola Smania, Zimi Sawacha, Alessandro Picelli and Mirko Filippetti)

ID 206: "Motor and Cognitive Treatment versus Combined Cognitive-Motor Treatment in Subjects with Multiple Sclerosis: a Randomized Controlled Pilot Study with Gait Analysis" (Alessia Carletto, Anna Righetti, Valentina Varalta, Fabiola Spolaor, Giulio Rigoni, Maria Dalle Vacche, Massimiliano Calabrese, Nicola Smania, Zimi Sawacha and Alessandro Picelli)

13:30-14:30
P1-B

POSTER PRESENTATION & LIGHT LUNCH

GRUPPO P1-B

ID 208: "Quantitative neuromuscular assessment of post-stroke gait rehabilitation with the Atalante exoskeleton: an EMG approach"
(Fiorenzo Artoni, Giorgia De Lorenzo, Eleonora Guanziroli and Franco Molteni)

ID 21: "Robotic hand assessment of spasticity: clinical and kinematic correlations"
(Sabrina Grieco, Attilio Caruso, Lucia Palazzo, Giulia Barraco, Gaetano Pagano, Pietro Fiore and Giovanni D'Addio)

ID 26: "An integrated eye-tracking and kinematic approach to characterize eye-hand decoupling during functional reaching in stroke survivors" (Francesca Lucchetti, Vittoria Cigognini, Monia Cabinio, Arturo Nuara, Federica Rossetto, Simona Squartecchia, Maurizio Ferrarin, Ilaria Carpinella and Tiziana Lencioni)

ID 31: "Baropodometry and postural assessment: an integrated approach in individuals with Parkinson's disease" (Sara Fiordigigli, Francesco Farina, Stefano Marinelli, Stefano La Greca, Patrizia Sucapane, Francesca Pistoia and Riccardo Di Giminiani)

ID 4: "Freezing of gait detection in Parkinson's disease with functional near-infrared spectroscopy, surface electromyography, and inertial measurement units"
(Tommaso Cusolito, Silvia Basaia, Elisabetta Sarasso, Luca Zanchi, Alice Corini, Francesco Vurchio, Andrea Gardoni, Marco Forghieri, Alejandro Brivio, Andrea Grassi, Roberta Balestrino, Massimo Salvi, Filippo Molinari, Massimo Filippi and Federica Agosta)

ID 42: "Reactive strength index (RSI) better differentiates competitive categories than jump height in elite female volleyball players" (Valeria Vella, Andrea Stuto, Gabriele Thiebat and Peppino Tropea)

ID 45: "Effects of anodal tDCS on jump performance in athletes: preliminary results" (Peppino Tropea, Silvia Gobbo, Chiara Recalcati and Laura Veronelli)

ID 46: "Integrating inertial and video data for full upper body kinematics based on minimal input model"
(Diletta Balta, Marco Caruso, Giulia Sedda, Jessica Vacca, Mara Coduri, Marta Pisoni, Maura Casadio, Paolo Bonato, Danilo Pani and Andrea Cereatti)

ID 48: "Sagittal evaluation of spinal and whole-body kinematics assessed during Sit-to-Stand movement in healthy young subjects using DB-Total protocol"
(Allegra Fullin, Ciro Ivan De Girolamo, Annunziata Attena, Silvia Scarpetta, Pasquale Arpaia, Antonio De Luca and Paolo De Blasiis)

ID 51: "Long-term effects of deep brain stimulation on motor-cognitive dual-task walking in Parkinson's disease"
(Valentina Agostini, Lorenzo Locoratolo, Fabrizio Sciscenti, Marco Ghislieri, Laura Rizzi and Michele Lanotte)

ID 53: "Detecting subtle postural dysfunction in high-functioning Parkinson's disease patients: a comparison between force platforms and IMU sensors"
(Ranzani Marco, Mariangela Pisasale, Peppino Tropea, Marco Feligioni, Elda Judica and Leonardo Pantoni)

ID 57: "Technology-assisted nudging to increase physical activity among hospitalized older medical patients: feasibility, implementation, and clinical experience of the european multicentric Sens4ME study in Genoa"
(Letizia De Marchi, Mirko Zitti, Silvia Buonopane, Giovanni Pratesi, Anja Loeve Berger, Christian Have Dall and Fiammetta Monacelli)

ID 59: "Precision Grip in Virtual Reality: How Close to Real-World Behavior?"
(Manuela Chessa, Mario Barrani, Matilde Torre and Fabio Solari)

ID 6: "Lumbar inertial sensing reveals a latent gait-instability transition zone for falls in Parkinson's disease" (Dante Trabassi, Stefano Filippo Castiglia, Roberto De Icco, Cristina Tassorelli, Alberto Ranavolo and Mariano Serrao)

ID 65: "Ecological protocol for assessing motor, cognitive, and attentional function in post-stroke patients"
(Marco Caimmi, Giorgia Gatto, Adriano Scibilia and Matteo Lancini)

ID 66: "Outdoor human motion capture combining wearable GNSS receivers and inertial sensors"
(Georgii Kurshakov, Giorgio Delzanno, Andrea Maffia, Monica Parodi, Ludovica Viola, Tiziano Cosso and Vittorio Sanguineti)

ID 71: "Case report: efficacy of rehabilitation treatment combining Focal Mechanical Vibrations and Therapeutic Exercise in Osteogenesis imperfecta (type I) and hip pain"
(Giulia Patacchia, Chiara Sebastiani, Francesco Cervone, Massimiliano Mangone, Marco Paoloni, Filippo Camerota, Claudia Celletti)

ID 86: "Reconstructing the position of the Posterior Superior Iliac Spines in case of pelvis occlusion using CAST+, an enhancement of the CAST approach to human movement analysis" (Giulio Mazzoni, Imma Ceriello, Marco Notarantonio, Eva Zimei, Lorenzo Rum and Ugo Della Croce)

ID 89: "Using an artificial intelligence platform for rehabilitation in ambient assisted living" (Alberto Malovini, Anna De Rosa, Giovanni Iaselli, Luigi Falco, Roberto Di Palma, Gaetano Pagano, Giovanni D'Addio and Riccardo Bellazzi)

ID 94: "Making reading measurable: wearable eye-tracking glasses for word-level assessment of reading performance in adults with dyslexia" (Diletta Balta, Paolo Tasca, Rachele Rossanigo, Giancarlo Pecorari, Claudia Cassandro, Alessandra Massassero, Marco Caruso, Marco Boldreghini and Andrea Cereatti)

ID 95: "Feasibility of using captiks imu quaternion data within a musculo-skeletal modeling workflow" (Andree Rossi, Paolo Brasiliano, Valeria Belluscio, Giuseppe Vannozzi, Elena Bergamini and Elena Seminati)

ID 98: "Iterative learning control with PID feedback for functional electrical stimulation-driven hip extension in elderly gait: an offline simulation study" (Zhihao Ren, Pierpaolo Palumbo and Lorenzo Chiari)

ID 210: "Modeling partner representation in dyadic motor competition for clinical movement analysis" (Laura Bandini, Cecilia De Vicariis, Vittorio Sanguineti)

14.30 LEZIONE MAGISTRALE
From movement to brain: Technology-driven insights in neurorehabilitation

Speaker: Prof.ssa Elisa Gervasoni

Chair: Andrea Turolla

15:15 - 16:15

S60-2

PRESENTAZIONI ORALI

Analisi del movimento nelle malattie neurologiche e neurodegenerative

Chair: Laura Bonzano, Isabella Campanini

ID 68: "A sensorized Nine-Hole Peg Test for automated assessment of manual dexterity: validation in healthy subjects and pilot application in multiple sclerosis"
(Laura Bonzano, Monica Biggio, Erica Grange, Jessica Podda, Federica Di Antonio, Ludovico Pedullà, Giampaolo Brichetto and Marco Bove)

ID 69: "Proprioceptive accuracy across different heights and joint configurations during bimanual matching task"
(Erica Grange, Beatrice Lagomarsino, Beatrice Ghiglione, Andrea Tacchino and Maura Casadio)

ID 116: "Enhanced quantification of manual dexterity: new metrics for the Box and Block Test in neurological populations" (Amaranta Soledad Orejel Bustos, Andree Rossi, Monica Cinelli, Daniele Bianchi, Marco Mannisi, Maria Gabriella Buzzi, Giuseppe Vannozzi and Valeria Belluscio)

ID 142: "Tablet-Based Quantitative Handwriting Analysis for Ataxia Severity Assessment" (Virna Marliani, Cristina Polito, Sara Della Bella, Christian Cipriani, Camilla Ferrari and Andrea Mannini)

ID 203: "A novel haptic glove–based method for objective assessment of somatosensory impairment and recovery after stroke" (Flaminia Piretta, Sara Ballanti, Mariangela Filosa, Arianna Pavan, Olga Diyakonova, Tommaso Ciapetti, Julieta Giacani, Maria Luigia Del Vicario, Mirjam Bonanno, Desiree Latella, Rosaria De Luca, Francesca Cecchi, Rocco Salvatore Calabrò, Irene Giovanna Aprile, Marco Germanotta and Calogero Maria Oddo)

ID 67: "Botulinum neurotoxin treatment effects on sensorimotor function and body perception in patients with Idiopathic Isolated Cervical Dystonia"
(Michela Bassolino, Isabella Martinelli, L. De Iaco, M. Ramella, M. Di Maira, Ketty Miani, S. Konik, G. Bottini, G. Giannini and A. Castagna)

16.15 Coffee break

17.00 CORSO INTER-CONGRESSUALE

19.00 Conclusione della giornata

VENERDÌ 6 NOVEMBRE

08.00 Registrazione congresso

08.30 Apertura del congresso

08:45 - 09:45
S60-3

PRESENTAZIONI ORALI

Dal laboratorio alla vita reale: tecnologie markerless per la valutazione del movimento

Chair: Carmelo Lentino, Francesca Odone

ID 184: "Validation of a markerless pose estimation system (MMPose) for upper limb kinematic assessment: implications for evaluation in persons with upper limb amputation" (Alessio Fricano, Irene Gennarelli, Mattia Giuseppe Viva, Francesco Agostini, Mario Vetrano, Marco Paoloni and Massimiliano Mangone)

ID 157: "Confidence threshold transferability for markerless upper-limb tracking during ecological tasks" (Beatrice Lagomarsino, Aine Grady, Matteo Moro, Robert Scheidt and Maura Casadio)

ID 145: "How the number of cameras influences the accuracy of the 3D markerless upper-limb kinematics" (Andrada Pica, Ilaria Giuseppina Porco, Diletta Balta, Eva Zimei, Andrea Cereatti and Ugo Della Croce)

ID 92: "Can marker augmentation improve monocular and binocular markerless gait analysis?" (Alessio Fusca, Diletta Balta, Jacques Riad, Ugo Della Croce and Andrea Cereatti)

ID 9: "Markerless in-place step classifier for motor assessment and rehabilitation in exergaming" (Marco Loddo, Erik Berglund, Aseel Berglund and Nicola Francesco Lopomo)

ID 192: "Can Step Width be estimated using IMUs only? An energy-based assessment approach" (Rita Stagni, Davide Biserna, Andrea Pasotti and Maria Cristina Bisi)

09.45 **LEZIONE MAGISTRALE**
Leveraging Machine Learning and Digital Health for Precision Rehabilitation

Speaker: Prof. Paolo Bonato

Chair: Giampaolo Brichetto

10.30 Coffee break

11:00 - 12:30
S90-4

PRESENTAZIONI ORALI

Analisi del movimento in ambito neurologico e ortopedico

Chair: Laura Mori, Rita Stagni, Andrea Tacchino

ID 168: "EMG-driven 8-DOF foot model for personalized exercise planning and diabetic ulcer prevention"
(Maria Dalle Vacche, Giulio Rigoni, Alaitz Aramendi and Carlo Mattiello)

ID 78: "Mathematical redundancy and clinical sensitivity of gait asymmetry metrics in Parkinson's Disease"
(Marco Godi, Marica Giardini, Ilaria Arcolin, Gianluca Libiani, Stefano Corna and Dante Trabassi)

ID 7: "Development of a Machine Learning Model to Detect High Risk Near Falls in People with Multiple Sclerosis During Volitional Stepping Training" (Gabriele Perachiotti, Rosanna Manzo, Matteo Manfroni, Mauro Crestani, Andrea Pasini, Marialuisa Gandolfi, Nicola Moccaldi, Sofia Straudi)

ID 23: "A self-supervised correction framework towards anomaly-aware gait modelling" (Elisa Motta, Marta Lorenzini and Arash Ajoudani)

ID 5: "Robot-mediated motor inhibition: multimodal liquid state machine classification" (Laura Fiorini, Gioele Gavazzi, Filippo Cavallo and Marco Vincenzo Maselli)

ID 124: "A graph attention network integrating EEG connectivity and upper-limb actigraphy for automated NIHSS estimation in acute ischemic stroke"
(Maria Stella De Grandis, Enrico Luigi Cacciatore, Chiara Iacovelli, Giuseppe Reale, Maurizio Ferrarin, Marco Rabuffetti, Marco Moci, Aurelia Zauli, Alessia Tomaino, Marta Garbuglia, Paolo Manganotti, Lucio Marinelli, Simona Sacco, Giulia Baldazzi, Danilo Pani, Giovanni Furlanis and Pietro Caliandro)

ID 3: "Auditory cueing modulates motor performance and brain activity in early Parkinson's disease - a kinematic and fMRI study" (Andrea Gardoni, Elisabetta Sarasso, Marco Forghieri, Andrea Grassi, Roberta Balestrino, Silvia Basaia, Chiara Tripodi, Elisa Canu, Maria Antonietta Volontè, Davide Corbetta, Massimo Filippi and Federica Agosta)

ID 166: "Executive function assessment through wireless EEG and gait monitoring during cognitive-motor dual tasks" (Matteo De Luca, Ludovica Gargiulo, Allegra Fullin, Pasquale Arpaia, Ciro Ivan De Girolamo, Nicola Moccaldi, Marco Congedo and Paolo De Blasiis)

ID 60: "Band-specific EEG spectral power is associated with muscle activation strategies during eyes-closed quite standing" (Giuseppe Prisco, Simone Papallo, Marianna Chianese, Noemi Pisani, Francesco Amato, Fabrizio Esposito and Leandro Donisi)

12:30-13:30
P2-A

POSTER PRESENTATION & LIGHT LUNCH

GRUPPO P2-A

ID 108: "Real-world estimation of vertical center-of-mass displacement in young and older adults using inertial–barometric sensor fusion" (Alessandra Audisio, Daniele Fortunato, Marco Caruso and Andrea Cereatti)

ID 111: "Effects of a Multicomponent Adapted Physical Activity Program on Gait and Lower-Limb Function in People with Multiple Sclerosis: an observational cohort study" (Linda Peli, Eleonora Finazzi, Paola Caretta, Martina Musati, Giorgia Alberti, Gaia Guerrato, Ludovico Pedullà and Massimiliano Gobbo)

ID 112: "Gait analysis evaluation of focal mechanical vibration and therapeutic exercise in a patient with SPG4 hereditary spastic paraplegia" (Silvia Pippo, Marco Narciso, Massimiliano Mangone, Claudia Celletti and Filippo Camerota)

ID 115: "A direct-ink printed graphene-based smart insole for continuous gait monitoring" (Negin Faramarzi, Andrada Pica, Dro Boodaghian, Hossein Cheraghi Bidsorkhi, Pietro Picerno, Alessandro Giuseppe D'Aloia, Ugo Della Croce and Maria Sabrina Sarto)

ID 118: "Context-aware analysis of head movements reveals age-related differences in real-world pedestrian crossing: an explorative investigation" (Mattia Cappello, Diletta Balta, Rachele Rossanigo, Paolo Tasca, Daniele Fortunato, Matteo Zicchieri, Thea Salamone, Milena Gattino, Marco Boldreghini, Marco Caruso and Andrea Cereatti)

ID 122: "Movement analysis for decision making and outcome in upper extremities surgery of brain damaged patients: A literature review" (Michela Cosma, Gabriella Vallies and Giuseppe Caserta)

ID 127: "Towards real-world cognitive load monitoring: a feasibility study of ecological pupillometry using smart glasses and synchronized ambient light sensing"
(Matteo Zicchieri, Diletta Balta, Rachele Rossanigo, Paolo Tasca, Mattia Cappello, Daniele Fortunato, Marco Boldreghini, Marco Caruso and Andrea Cereatti)

ID 131: "Effects of visual and haptic feedback on motor performance during laparoscopic training" (Andrea Cusinato, Sara Biondi, Alice Maria Catalano, Anna Caleffi, Mara Coduri and Serena Ricci)

ID 132: "Hamstring Flexibility Relates to sEMG-Derived Parameters During the Hip Hinge Task"
(Federico Caramia, Beatrice De Lazzari, Imma Ceriello, Valentina Camomilla)

ID 137: "Automated multimodal motion analysis and explainable AI-based digital twin to support neurorehabilitation: the MOVI-REACT project"
(Simone Bolla, Ilaria Martorana, Simone Napoleone, Enrico Ferrari, Federica Viti, Matteo Cambiaso, Fabrizio Sciarra, Lorenzo Repetto and Valentina Rossi)

ID 138: "Ankle deficits after peroneus longus tendon harvest for cruciate ligament reconstruction" (Marco Rota, Alessandro Mazzocchi, Paolo Brasiliano, Davide Locatelli, Simone Rota Biasetti, Michelangelo Delmedico, Giorgio Zappalà and Elena Bergamini)

ID 14: "Assessing the effect of fear of falling on knee joint loading using IMU-informed simulations" (Paolo Riccioni, Chiara Baldassarri, Roberta Fognani, Giuseppina Mariagrazia Farella, Alberto Leardini, Massimiliano Baleani and Giorgio Davico)

ID 144: "Motor training in people with mild multiple sclerosis using Mixed Reality: a study design from the OPTIMOVE project" (Anais Morgane Le Masson, Dimitri Pinna, Valentina Floris, Valentina Micheluzzi, Carlotta Occhipinti, Ilaria Giuseppina Porco, Gaia Pinna, Laura Nieddu, Andrada Pica, Anna Laura Arca, Antonella Pantaleo, Paolo Solla, Pietro Picerno and Ugo Della Croce)

ID 150: "Integrated biomechanical and neuromuscular assessment of saddle adjustments in cycling" (Elisa Manzoni, Paolo Brasiliano, Andrea Zanfrini and Elena Bergamini)

ID 156: "The effect of progressive darkness on FoG in Parkinson's disease: a VR case study"
(Eleonora Annamaria Borsani Villa, Martina Putzolu, Margherita Cecchella, Irene Capasso, Davide Palmieri, Gaia Bonassi, Alessandro Botta, Sara Terranova, Andrea Canessa, Silvio Paolo Sabatini, Laura Avanzino and Elisa Pelosin)

ID 158: "A virtual reality system with trunk-based visual feedback to reduce compensatory movements during reaching: a pilot study" (Marta Pisoni, Mara Coduri, Giulia Sedda, Jessica Vacca, Marco Caruso, Diletta Balta, Andrea Cereatti, Danilo Pani, Camilla Pierella and Maura Casadio)

ID 159: "Neural correlates of Robot-Assisted Laparoscopic training: A preliminary EEG study" (Andrea Cusinato, Alice Maria Catalano, Camilla Minghetti, Matteo Pescio, Mara Coduri, Luigi Muratore, Alberto Arezzo, Giulio Dagnino and Serena Ricci)

ID 161: "Nonlinear center-of-pressure metrics for posturographic assessment in neurological patients" (Alessio Fasano, Benedetta Apolito, Maria Cristina Mauro, Francesco Scotto Di Luzio, Eugenio Guglielmelli, Irene Giovanna Aprile and Marco Germanotta)

ID 163: "Muscle synergies during walking in individuals with SCI: a systematic review and meta-analysis" (Lucia Ricci, Alex Lando, Giorgia Pregnolato, Giacomo Severini, Marco Tramontano, Andrea Turolla, Ilaria Baroncini and Laura Simoncini)

ID 167: "EMG-driven 6-DOF knee model with tunable ligament mechanics for ACL injury prevention" (Maria Dalle Vacche, Giulio Rigoni, Sara Chiocca, Fabiola Spolaor and Zimi Sawacha)

ID 171: "Spatio-Temporal Neural Graph Networks for Kinematics-Based Biomechanical Outcome Estimation in Parkinson's Disease: A Comparative Study" (Giulio Rigoni, Maria Dalle Vacche, Lucilla Vianello, Fabiola Spolaor, Federica Beghetti, Damiano Varagnolo and Zimi Sawacha)

ID 176: "Effect of foot stance width on countermovement jump performance assessed by an inertial sensor" (Ciro Ivan De Girolamo, Allegra Fullin, Annunziata Attena, Angela Lucariello, Antonio De Luca, Pasquale Arpaia and Paolo De Blasiis)

ID 177: "A robotic upper-limb protocol for assessing cognitive-sensorimotor integration: a feasibility study" (Valentina Massone, Marco Guazzotti, Aurora Freccero, Giulia Aurora Albanese, Maura Casadio, Michael Holmes and Jacopo Zenzeri)

ID 19: "Upper-limb inertial profiles during reach-to-grasp trajectories in mild neurocognitive disorders: grip-dependent differences revealed by Statistical Parametric Mapping" (Pietro Benvenuti, Erika Rovini, Gianmaria Mancioppi, Auriane Gros, Valeria Manera and Filippo Cavallo)

ID 193: "The role of robotic rehabilitation in cognitive and motor recovery in S.A.B.I. patients" (Benedetta Gnetti, Pietro Balbi, Paola Gemignani and Martina del Monte)

ID 197: "Ambulatory estimation of push-off during gait: an IMU-based only energetic approach"
(Rita Stagni, Andrea Pasotti, Davide Biserna and Maria Cristina Bisi)

ID 199: "Oxygen metabolism during painful procedures in preterm infants: a prospective multimodal monitoring study and future implications for neuroprotection" (Andrea Calandrino, Alessia Pepe, Daniele Caratozzolo, Irene Bonato, Alessio Conte, Francesco Vinci, Paolo Massirio, Giorgia Brigati and Luca Antonio Ramenghi)

13:30-14:30
P2-B

POSTER PRESENTATION & LIGHT LUNCH

GRUPPO P2-B

ID 200: "Towards clinical intraoperative support using AI and physics-based computational models for autonomous surgical robots" (Matteo Pescio, Francesco Marzola, Federica Barontini, Pietro Leoncini, Francesca Paola Maenza, Luigi Muratore, Giovanni Distefano, Carlo Alberto Ammirati, Alberto Arezzo and Giulio Dagnino)

ID 202: "Art-Aided Interventions for Movement Rehabilitation in Older Adults" (Nicola Corbellini, Antonio Camurri, Gualtiero Volpe, Nicola Ferrari, Gabriele Romano, Cora Gasparotti and Simone Ghisio)

ID 204: "Microanalytical video assessment of selected ADOS-2 tasks: a quantitative approach to early autism characterization" (Alessia Frulli, Deborah Preiti, Elisa De Grandis, Lino Nobili and Sara Uccella)

ID 207: "Bedside virtual and augmented reality for high-risk pediatric care: a feasibility study" (Francesco Di Nardo, Andrea Reinini, Martina Morano, Paola Coccia, Benedetta Castagna, Giacomo Fiara and David Scaradozzi)

ID 22: "Kinematic Analysis of Overground Robotic-Assisted Gait Training with Wearable Inertial Sensors: A Longitudinal Case Study" (Attilio Caruso, Sabrina Grieco, Lucia Palazzo, Emanuele Capobianco, Leonardo Soleto, Gaetano Pagano, Rosanna Lerario, Ernesto Losavio and Giovanni D'Addio)

ID 24: "Movement standardization of the 5 time sit-to stand in people with Parkinson's disease"
(Mirko Job, Marco Trucco and Marco Testa)

ID 25: "Sensor-based longitudinal data collection for monitoring chronic low back pain rehabilitation"
(Adriana Di Biase, Camilla Gallina, Ludovica Danovaro, Elisa Motta, Marta Lagomarsino, Sara Zeynalpour, Olivia Nocentini, Marco Forleo, Marta Lorenzini, Gianluca Milani, Alice Laudisio, Fabrizio Russo, Daniele Pucci and Arash Ajoudani)

ID 28: "Improvements in gait and functional movement quality following an individualized exercise program in pediatric hemato-oncological patients" (Linda Peli, Joel Pollet, Eleonora Finazzi, Elisa Inselvini, Enzo Pintabona, Nicola Sedaboni, Chiara Gorio, Richard Fabian Shumacher, Fulvio Porta and Massimiliano Gobbo)

ID 30: "A synchronized multimodal platform for fatigue assessment integrating cortical, muscular, and kinematic signals: pilot feasibility data from the CARTESIO project" (Fiorenzo Artoni, Giorgia De Lorenzo, Lucia Donno, Augusto Bonilauri, Filippo Motta, Chiara Orsanigo, Andrea Santamato, Stefania Spina, Salvatore Facciorusso, Anna Maria Bianchi and Manuela Galli)

ID 35: "Can rehabilitation modify functional decline in Friedreich's ataxia (FRDA)? A case report" (Daniela Pandarese, Luca Fontanili, Benedetta Casoli, Anna Battini, Silvia Sassi and Silvia Faccioli)

ID 36: "Alpha-synuclein aggregates in the olfactory mucosa as a prognostic marker in Dementia with Lewy Bodies" (Alessio Cirone, Lorenzo Lombardo, Beatrice Orso, Federico Massa, Lucia Argenti, Mattia Losa, Francesco Calizzano, Pietro Mattioli, Guido Schenone, Simona Malagò, Sara Garbarino, Michele Piana, Silvia Morbelli, Giulia Tomassini, Luigi Lorenzini, Martina Pulze, Stefano Raffa, Luca Roccatagliata, Luca Sofia, Gianmario Sambuceti, Matilde Bongianni, Dario Arnaldi, Gianluigi Zanusso, Angelo Schenone, Frank Rikki Mauritz Canevari and Matteo Pardini)

ID 38: "Static and dynamic ankle moments in the swing phase of gait: implication for the estimation of the minimum stiffness of dynamic AFOs for people with foot drop" (Paolo Caravaggi, Roberto Ramaglia Amadasi, Federica Beghetti, Giulia Rogati, Maurizio Ortolani, Zimi Sawacha and Alberto Leardini)

ID 43: "Performance symmetry masks knee work asymmetry during lateral hurdle hopping after ACL reconstruction" (Valeria Vella, Luca Vergani, Nicholas Miraglia, Marco Candiloro and Peppino Tropea)

ID 49: "Stabilometric postural changes based on fall risk in patients with Parkinson's disease: a pilot case-control study" (Mariangela Pisasale, Marco Ranzani, Peppino Tropea, Marco Feligioni, Elda Judica and Leonardo Pantoni)

ID 50: "Gait Analysis as a Guiding Tool for Motor Pattern Characterization and Tailored Rehabilitation Treatment: Clinical Experience in a Cohort of Five Patients with Ischemic Spinal Cord Injury" (Alessandra Leo, Federico Frigerio, Noemi Tessitore, Michele Angelo Spinelli, Giorgio Meloni and Lorenza Maria Flaviani)

ID 52: "Optimization of gait rehabilitation in older women with proximal femur fragility fracture" (Marco Ghislieri, Fabrizio Sciscenti, Gianluca Diana, Valentina Agostini, Carlotta Castiglioni, Marco Di Monaco, Paolo Audasso and Marco Trucco)

ID 56: "Changes in plantar load distribution and spatiotemporal gait parameters following transfemoral osseointegration: a pressure insole analysis" (Salvatore Pinelli, Lorenzo Romano, Emilia Scalona, Lorenzo Fiori, Kevin Morellato, Emanuele Gruppioni and Laura Bragonzoni)

ID 58: "The acute effects of individualized whole-body vibration on postural control and EMG spectral features in individuals with multiple sclerosis and healthy control: an exploratory study" (Stefano La Greca, Stefano Marinelli, Francesco Farina, Sara Fiordigigli, Rocco Totaro and Riccardo Di Giminiani)

ID 61: "Explainable Artificial Intelligence for Digital Biomarkers and Clinical Decision Support in Neurodegenerative Disorders" (Michele Piana, Alessio Cirone, Beatrice Orso, Sara Garbarino, Chiara Razzetta, Federico Massa, Dario Arnaldi and Matteo Pardini)

ID 8: "A Socially Assistive Robotic Coach for Quantitative Fugl-Meyer Assessment in Post-Stroke Rehabilitation" (Laura Fiorini, Elena Adelucci, Erika Rovini, Martina Falagiani, Ludovica Evangelista, Ileana Ciobanu, Mihai Berteanu, Giulio Cherubini, Stefano Doronzio, Tommaso Ciapetti, Julieta Giacani, Francesca Cecchi and Filippo Cavallo)

ID 80: "An inertial and infrared wearable system for stride width monitoring: validation in post-stroke and Parkinson's disease subjects across walking conditions" (Thea Salamone, Rachele Rossanigo, Marco Caruso, Saskia Neumann, Chris Easthope Awai, Matteo Bigoni, Lorenzo Priano and Andrea Cereatti)

ID 82: "An ecological assessment of vestibulo-ocular reflex during walking U-turns in young adults, elderly, and people with vestibular disorders" (Paolo Tasca, Diletta Balta, Rachele Rossanigo, Giancarlo Pecorari, Andrea Canale, Andrea Albera, Marco Caruso, Marco Boldreghini and Andrea Cereatti)

ID 83: "Benchmarking Head-IMU-Based Gait Event Detection Algorithms in People with Parkinson's Disease and Older Adults" (Paolo Tasca, Marco Caruso, Lisa Alcock, Rachael Lawson, Alison Yarnall, Lynn Rochester, Silvia Del Din and Andrea Cereatti)

ID 84: "Exoskeleton-Human Body Relative Motion During Gait: A Preliminary Study on a Unilateral Hip Robotic Device" (Imma Ceriello, Giulio Mazzoni, Marco Notarantonio, Eva Zimei, Lorenzo Rum, Andrea Pergolini, Nicola Vitiello and Ugo Della Croce)

ID 90: "Evaluation of the EMG signal of the lateral deltoid as biofeedback of shoulder abduction in tele-rehabilitation of the upper limb" (Giulia Sedda, Pietro Ferraro, Jessica Vacca, Laura Lutzoni, Andrea Cereatti and Danilo Pani)

ID 96: "Does Fragile X Syndrome Lead to Immature Gait Patterns in Children? A Comparative Analysis"
(Federica Beghetti, Fabiola Spolaor, Elisa Bettella, Roberta Polli, Stefano Sartori, Zimi Sawacha and Nadia Dominici)

ID 117: "An ETL pipeline for harmonizing multicenter GaitLab data: integrating clinical variables from patients with UMNL into a unified REDCap structure" (Farshad Samadi Kohnehshahri, Tullio Malgrati, Lorenzo Cavazzuti, Benedetta Damiano, Turola Elena, Nicola Smania, Isabella Campanini, Davide Mazzoli, Rita Stagni and Andrea Merlo)

ID 72: "An IoT, Edge Computing and Mixed Reality Platform for Personalized Rehabilitation" (Giorgio Delzanno, Ivan Carmosino, Manuela Chessa, Daniele D'Agostino, Andrea De Filippis, Giuseppe Gioco,Giancarlo Mascetti, Alessia Moltani, Luca Noli, Emilia Tasso and Francesca Vitali)

14.30 LEZIONE MAGISTRALE
Alle origini del movimento: come emerge l'intenzionalità e come cambia il nostro modo di abilitare

Speaker: Prof. Andrea Guzzetta

Chair: Lino Nobili

15:15 - 16:15
S60-4

PRESENTAZIONI ORALI

Analisi del movimento in età pediatrica

Chair: Luca Doglio, Susanna Summa

ID 29: "Rethinking spatial exploration: the introduction of sp.ex and its application in developmental movement science" (Eleonora Montagnani, Marta Guarischi and Monica Gori)

ID 152: "Defining objective and personalized motor outcomes in pediatric mitochondrial disorders"
(Maria Cristina Bisi, Ilaria Pettenuzzo, Maria Moriani, Kevin Di Matteo, Alessandra Lenzi, Davide Biserna, Andrea Pasotti, Federica Sperandeo, Anna Fetta, Caterina Garone and Rita Stagni)

ID 189: "From signals to biomarkers: a machine-learning framework for assessing upper limb function in children"
(Silvia Filogna, Elena Beani, Davide Marchi, Giordano Scerra, Alina Sirbu, Giuseppe Prencipe and Giuseppina Sgandurra)

ID 114: "Toward Ecological Postural Assessment: Validation of Trunk Accelerometry in Seated Balance Control" (Susanna Summa, Claudia Bigas Vila, Giulia Stella, Federica Pauciulo, Giada D'Erasmo, Cecilia Cerretani and Gessica Della Bella)

ID 151: "Video-based assessment of head and upper body kinematics during simulated driving in adolescents with ADHD" (Grazia Cravero, Serena Ricci, Camilla Pierella, Francesca Odone, Lorenza Chiarella, Deborah Preiti, Sara Uccella, Francesca Pizzino, Antonio Narzisi, Gabriele Masi, Chiara Pfanner, Francesca Lenzi, Emanuela Inguaggiato, Annarita Milone, Sara Calderoni, Eugenia Conti, Lino Nobili, Maura Casadio, Matteo Moro and Andrea Canessa)

ID 133: "Usability and acceptability of a robotic device (PhiCube) for upper-limb rehabilitation in paediatric population with congenital and acquired neuromotor disabilities: preliminary results" (Federica Camuncoli, Carolina Ferrante, Veronica Barzacchi, Clara Bombonato, Elisa Matteucci, Elena Beani, Valentina Grasso, Anna Falivene, Fabio Storm, Eleonora Diella, Roberta Nicotra, Federica Pregnolato, Antea Galli, Sabrina Signorini, Alessio Fasano, Marco Germanotta, Maria Cristina Mauro, Irene Giovanna Aprile, Angela Cavalagli, Pietro Bondi, Alice Castiglioni, Anna Cavallini, Chiara Tacchino, Alessia Aiello, Matteo Mordeglia, Claudia Coco, Matteo Lavit Nicora, Giovanni Tauro, Giuseppina Sgandurra and Matteo Malosio)

16.15 Coffee break

16:45-18:30
S90-5

PRESENTAZIONI ORALI

Neurosviluppo: biomarcatori e monitoraggio precoce

Chair: Matteo Cioni, Luca Ramenghi, Fabiola Spolaor

ID 174: "Beyond One-Size-Fits-All: Leveraging Unsupervised Clustering to Personalize Therapeutic Exercise in Children with Fragile X Syndrome" (Fabiola Spolaor, Federica Beghetti, Roberta Polli, Elisa Bettella, Elena Cavaliere, Eleonora Lorenzon, Maria Reimers, Damiano Varagnolo, Elisa Di Giorgio, Giorgio Perilongo, Stefano Sartori and Zimi Sawacha)

ID 148: "Energy-based gait event detection from EMG-embedded accelerometers across early walking stages in typically developing toddlers and toddlers with cerebral palsy" (Arianna Tomadin, Maria Cristina Bisi, Nadia Dominici and Rita Stagni)

ID 201: "Early interrelation between sensory and motor profile in toddlers receiving first diagnosis of autism spectrum disorders" (Eva Lattanzi, Chiara Frediani, Sara Vantaggioli, Lucia Paoli, Stefano Scatigna, Jessica Barsotti, Roberta Nencioli, Sara Mazzotti, Alice Martinelli, Viviana Marchi, Alice Mancini, Raffaella Tancredi, Andrea Guzzetta, Sara Calderoni and Eugenia Conti)

ID 106: "Early motor trajectories in infants at neurological risk: impact of treatment exposure within a structured early rehabilitation protocol" (Alessandra Lacopo, Paola Luttazzi, Susanna Summa, Loredana Canzano, Giordana Mariani, Anna Maffongelli, Daniela Branca, Chiara Lomartire and Gessica Della Bella)

ID 179: "Co-design of myCube: a sensorized multisensory device for quantitative sensorimotor and cognitive assessment in typically developing children and children with Cerebral Palsy" (Maddalena Lovotti, Mariacarla Memeo, Dario Pasquali, Matilde Antonj, Riccardo Bergaglio, Matteo Baroncini, Gessica Tealdi, Francesco Rea, Francesca Tinelli and Alessandra Sciutti)

ID 135: "PCA-based characterization of spontaneous movement patterns in typically developing preterm infants" (Sofia Sigismondi, Sara Uccella, Chiara Tacchino, Luca Ramenghi, Lino Nobili, Francesca Odone, Maura Casadio and Matteo Moro)

ID 198: "Normal Neurodevelopmental Outcome in Infants Treated with Hypothermia for Hypoxic-Ischemic Encephalopathy: the role of neonatal MRI" (Andrea Calandrino, Agata Zoia, Chiara Andreato, Mariya Malova, Sara Uccella, Deborah Preiti, Andrea Rossi, Domenico Tortora and Luca Antonio Ramenghi)

ID 169: "Affective contagion in autism: human-human versus human-robot interaction in children with ASC" (Francesca Tambuscio, Valentina Cuccio, Alessandra Sciutti, Liliana Ruta and Giuseppe Di Cesare)

ID 39: "Effects of triceps surae surgery on gait efficiency in children with cerebral palsy: a retrospective 3D gait analysis study" (Luca Fontanili, Daniela Pandarese, Corrado Borghi, Silvia Sassi, Valentina Montemaggiori, Francesco Pelillo, Giada Guidetti, Silvia Alboresi, Benedetta Casoli and Silvia Faccioli)

18.30 Assemblea Soci SIAMOC

19.30 Conclusione della giornata

20.30 Cena Sociale presso il ristorante "i tre Merli"



SABATO 7 NOVEMBRE

08.00 Registrazione congresso

08.30 Apertura del congresso

08:45 - 09:45

S60-5

PRESENTAZIONI ORALI

Dal laboratorio alla vita reale: analisi markerless del movimento e intelligenza artificiale

Chair: Matteo Moro, Paolo De Blasiis

ID 93: "Monocular markerless gait analysis in paediatric pathological populations: a comparison between SMPLify-X and BRIDGE" (Diletta Balta, Jacques Riad, Ugo Della Croce and Andrea Cereatti)

ID 170: "Monocular Gait Analysis Based on 3D Mesh Reconstruction: Bridging Body Pose Estimation and Conventional Biomechanical Frameworks" (Giulio Rigoni, Maria Dalle Vacche, Cristina Impoco, Fabiola Spolaor and Zimi Sawacha)

ID 123: "Preliminary validation of a stereo event-based pipeline for 3D joint localization" (Giorgia Ladislao, Giulia Bodo, Matteo Cappellini, Arren Glover, Marianna Semprini and Chiara Bartolozzi)

ID 183: "Single-camera lower-limb 3D kinematics estimation using SMPLest-X during gait and Frame Runner use: a case study" (Eva Zimei, Paolo Bonato and Ugo Della Croce)

ID 153: "Automated video-based movement analysis for fine-grained classification of sleep-related hypermotor epilepsy and parasomnias" (Federica Sassi, Marco Veneruso, Ramona Cordani, Anna Castelnovo, Francesca Odone, Maura Casadio, Lino Nobili and Matteo Moro)

ID 129: "AI-powered biomechanical risk assessment of lifting activities using the Real-Move markerless RGB motion capture system: from laboratory to workplace" (Irene Gennarelli, Giorgia Chini, Tiwana Varrecchia, Dante Trabassi, Arash Ajoudani, Luca Fortini, Mattia Leonori, Pietro Balatti, Clara Mouawad, Lorenzo Levantesi, Gianluca Giuseppe Maria De Nardi, Christian Micheloni, Niki Martinel and Alberto Ranavolo)

09:45 - 11:15

S90-6

PRESENTAZIONI ORALI

Malattie neurologiche: valutazione e monitoraggio nella vita reale

Chair: Elena Bergamini, Maurizio Ferrarin, Claudio Solaro

ID 79: "Gait sequence detection with a head-worn inertial sensor: a benchmarking of algorithms on older adults and people with Parkinson's disease" (Paolo Tasca, Mirko Longagna, Diletta Balta, Marco Caruso and Andrea Cereatti)

ID 185: "Estimation of digital mobility outcomes during curvilinear and straight walking in healthy adults and people with Parkinson's disease: a MobGap performance evaluation" (Alessandra Bizzarri, Paolo Tasca, Ugo Della Croce and Andrea Cereatti)

ID 136: "Continuous walking reveals progressive fatigue-related gait adaptations in parkinson's disease" (Thomas Bowman, Davide Cattaneo and Alessandro Crippa)

ID 128: "Do repeated trials affect backward walking performance? A mixed-effects analysis in healthy adults" (Gianluca Libiani, Marica Giardini, Ilaria Arcolin, Stefano Corna and Marco Godi)

ID 81: "Altered regulation of lateral stability during in-lab and ecological walking in Multiple Sclerosis and Parkinson's disease: insights from wearable-derived stride width" (Rachele Rossanigo, Marco Caruso, Thea Salamone, Marta Morra, Eleonora Virgilio, Eleonora Favano, Paolo Tasca, Alessandra Audisio, Domizia Vecchio, Marinella Clerico, Matteo Bigoni, Lorenzo Priano and Andrea Cereatti)

ID 77: "Quantitative characterization of dynamic postural strategies during body weight shifting tasks on a 3-DoF robotic platform" (Federica Amitrano, Mattia Bruno, Claudia Cavaggion, Ilaria Consolo, Hermes Giberti, Nicola Giulietti, Francesco Lippiello, Christian Lunetta, Arianna Merli, Rachele Piras, Carol Sergenti and Antonio Nardone)

ID 15: "Toward identification and characterization of near-falls: gait anomaly detection for real-world continuous monitoring" (Cecilia Monoli, Anna C. Render and Peter C. Fino)

ID 209: "Integrated Assessment of the Diabetic Foot: Salivary Biomarkers, Musculoskeletal Alterations, and Wearable Sensor-Based Movement Analysis" (Lorenzo Brognara)

ID 74: "iTUG sensor metrics for early prediction of functional recovery in cardiac rehabilitation" (Marica Giardini, Gianluca Libiani, Ilaria Arcolin, Massimo Pistono, Martina Vigorè, Alessandra Gorini and Marco Godi)

11.15 Coffee break

11:45 - 13:15

S90-7

PRESENTAZIONI ORALI

Biomeccanica e controllo motorio: dalla metodologia alla clinica

Chair: Ugo Della Croce, Andrea Merlo, Jessica Podda

ID 100: "The group as a rhythmic stabilizer: spatio-temporal dynamics in collaborative motor tasks"
(Jessica Vacca, Giulia Sedda, Maria Elena Lai, Pietro Ferraro and Danilo Pani)

ID 120: "Towards prediction of upper limb distal muscle activation from proximal sEMG during 3D Reaching Tasks"
(Pietro Di Bello, Strahinja Dosen, Marianna Semprini)

ID 165: "Optimizing vibrotactile feedback strategies for force discrimination in upper limb prosthetics." (Camilla Arnaud, Lorenzo Fiori, Emilia Scalona, Roberto Di Marco, Sofia Dalmiani, Alessandra Santandrea, Michele Brini, Cristina Chieffo and Emanuele Gruppioni)

ID 76: "Multi-segment foot adaptations during stair and ramp negotiation in healthy adults" (Anna Pace, Matteo Crotti, Giorgio Grioli, Antonio Bicchi and Manuel Giuseppe Catalano)

ID 88: "The effect of multiple osteochondromas disorder on lower limb joints kinematics and on plantar pressure distribution in a cohort of children and adults"
(Giulia Rogati, Paolo Caravaggi, Roberto Ramaglia Amadasi, Marina Mordenti, Alice Moroni, Marco Miceli, Giovanni Luigi Di Gennaro, Manila Boarini, Letizia Barbi, Sofia Bonomo, Zimi Sawacha, Luca Sangiorgi and Alberto Leardini)

ID 16: "Jump mechanics as predictors of bone health in postmenopausal women: a PCA approach" (Salvatore Pinelli, Gonzalo Reverte-Pagola, Sergio Tejero, Laura Bragonzoni and Borja Sañudo)

ID 164: "Characterising neurological deficits in postural control after SCI through muscle synergy analysis: a comparative study with healthy individuals"
(Lucia Ricci, Alex Lando, Giacomo Severini, Marco Tramontano, Andrea Turolla, Ilaria Baroncini and Laura Simoncini)

ID 87: "Weighted pooled wavelet coherence for time–frequency analysis of muscle synergies"
(Daniele Borzelli, Andrea D'Avella, Martina Morano, David Scaradozzi and Francesco Di Nardo)

ID 62: “Multi-segment trunk motion analysis before and after en bloc vertebrectomy for spinal tumors”
(Francesca Bressan, Riccardo Ghermandi, Cristiana Griffoni, Andrea Giacovazzo, Valerio Pipola, Chiara Cini, Bruna Maccaferri, Lisa Berti, Alessandro Gasbarrini and Alberto Leardini)

13.15 CONSEGNA PREMI

13.30 Chiusura del congresso

ISCRIZIONE

L'iscrizione al Congresso include:
- Accesso ai lavori e kit congressuali
- Coffee break e light lunch
- Presentazione e pubblicazione del proprio contributo scientifico
- Attribuzione dei relativi crediti ECM e/o CFP previsti per l'evento

ORDINARIA	QUOTA RIDOTTA Entro il 23/09/2026	QUOTA INTERA Dopo il 23/09/2026
Ordinaria	€ 430,00	€ 480,00
Socio Società patrocinanti*	€ 400,00	€ 450,00
Socio SIAMOC	€ 350,00	€ 400,00

SPECIALIZZANDO	QUOTA RIDOTTA Entro il 23/09/2026	QUOTA INTERA Dopo il 23/09/2026
Ordinario	€ 250,00	€ 290,00
Socio Società patrocinanti*	€ 230,00	€ 270,00
Socio SIAMOC	€ 200,00	€ 240,00

DOTTORANDO/BORSISTA/ASSEGNISTA	QUOTA RIDOTTA Entro il 23/09/2026	QUOTA INTERA Dopo il 23/09/2026
Ordinario	€ 240,00	€ 280,00
Socio Società patrocinanti*	€ 220,00	€ 260,00
Socio SIAMOC	€ 200,00	€ 240,00

STUDENTE	QUOTA RIDOTTA Entro il 23/09/2026	QUOTA INTERA Dopo il 23/09/2026
Ordinario	€ 210,00	€ 250,00
Socio	€ 160,00	€ 200,00

GIORNALIERA	QUOTA RIDOTTA Entro il 23/09/2026	QUOTA INTERA Dopo il 23/09/2026
Ordinaria	€ 220,00	€ 250,00
Socio Società patrocinanti*	€ 190,00	€ 230,00
Socio SIAMOC	€ 160,00	€ 200,00

MINI-SIMPOSIO		
Iscrizione Ordinaria	Gratuito	Gratuito
Iscrizione Socio SIAMOC e società patrocinanti*	Gratuito	Gratuito

CORSO INTER-CONGRESSUALE		
Iscrizione Ordinaria	Gratuito	Gratuito
Iscrizione Socio SIAMOC e società patrocinanti*	Gratuito	Gratuito

INFORMAZIONI ECM

N° EVENTO: 494069
N° CREDITI ECM: 13,3
OBIETTIVO FORMATIVO: 2 - Linee guida - protocolli - procedure

Sono stati richiesti crediti ECM* per le seguenti categorie:

- Medico:
Biochimica clinica
Chirurgia vascolare
Medicina dello sport
Medicina fisica e riabilitativa
Neurochirurgia
Neurofisiopatologia
Neurologia
Neuropsichiatria infantile
Ortopedia e traumatologia
Radiodiagnostica

- Fisioterapista
- Infermiere
- Infermiere pediatrico
- Logopedista
- Podologo

- Psicologo:
Psicologo
Psicoterapeuta

- Tecnico della fisiopatologia cardiocircolatoria e perfusione cardiovascolare
- Tecnico della prevenzione nell'ambiente e nei luoghi del lavoro
- Tecnico di neurofisiopatologia
- Terapista della neuro e psicomotricità dell'età evolutiva
- Terapista occupazionale
- Tecnico ortopedico

* Il rilascio dei crediti ECM è subordinato all'attenta verifica della partecipazione (90% delle ore formative) e del questionario di valutazione (superato con almeno il 75% di risposte corrette).

Si ricorda al partecipante che il limite massimo dei crediti formativi ricondotti al triennio di riferimento acquisibili mediante reclutamento diretto è di 1/3.

ACCREDITAMENTO CFP
Sono stati assegnati **9 crediti CFP** per la categoria Ingegnere

INFORMAZIONI GENERALI

DATA
4-7 NOVEMBRE 2026

SEDE CONGRESSUALE
TEATRO DELLA GIOVENTÙ
Via Cesarea, 16 - Genova

CENA SOCIALE
VENERDÌ 6 NOVEMBRE 2026

RISTORANTE I TRE MERLI
Calata Cattaneo, 17 - Genova

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Informazioni utili per i dottorandi:
Per richiedere l'eventuale rimborso alla propria facoltà universitaria per il costo sostenuto per la cena sociale, è possibile richiedere i documenti di fatturazione scrivendo a:
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