

ISEK 2026 ORAL + POSTER LISTINGS

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ECR Award Oral Presentations

Oral Sessions

O.1.1 - Is the distal-to-proximal redistribution in joint mechanics a significant determinant of the metabolic cost of walking in older adults?

Lauri Stenroth¹, Salla Vasankari¹, Ellen Hellman¹, Jari Arokoski², Rami Korhonen¹

¹ University of Eastern Finland, ² Helsinki University Hospital; Helsinki University

O.1.2 - Effect of pushing activities on spine curvature

Catherine Disselhorst-Klug¹, Finn Jamros²

¹ RWTH Aachen University, ² Rehabilitation & Prevention Engineering, RWTH Aachen University

O.1.3 - Attenuated intersegmental cancellation compromises whole-body angular momentum control during perturbed locomotion

Maria-Elissavet Nikolaidou¹, Christos Theodorakis^{2,3}, Lida Mademli^{4,5}, Falk Mersmann³, Sebastian Bohm^{3,6}, Adamantios Arampatzis²

¹ National and Kapodistrian University of Athens, ² Humboldt University Berlin, ³ Humboldt-Universität zu Berlin, ⁴ School of Physical Education and Sport Science (Serres), ⁵ Aristotle University of Thessaloniki, ⁶ Humboldt-Universität zu Berlin, Germany

O.1.4 - Validity of markerless methods for assessing segmental trunk kinematics during seated reaching

Maria Del Rocio Hidalgo Mas¹, Chuang-Yuan Chiu², Eduardo Martinez-Valdes¹, Tom Nightingale¹, Zubair Ahmed¹, Shin-Yi Chloe Chiou¹

¹ University of Birmingham, ² Sheffield Hallam University

O.1.5 - Muscle deformation of the quadriceps femoris in individuals with knee osteoarthritis

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Jun Umehara¹, Masashi Taniguchi², Masahide Yagi^{1, 2}, Mazen Soufi^{3, 4}, Yoshito Otake³, Yoshinobu Sato³, Ryusuke Nakai², Masashi Kobayashi⁵, Noriaki Ichihashi^{1, 2}

¹ Kansai Medical University, ² Kyoto University, ³ Nara Institute of Science and Technology, ⁴ University of Miyazaki, ⁵ Kobayashi Orthopaedic Clinic

O.1.6 - Paraspinal muscle activation asymmetry during walking and running in adolescents with idiopathic scoliosis

Sara Ylijärvi¹, Mikko Mattila², Andrey Zhdanov², Jari Arokoski³, Juha-Pekka Kulmala⁴

¹ HUS, ² Helsinki University Hospital, ³ University of Helsinki, Finland., ⁴ New Children's Hospital

O.2.1 - Modeling regenerative peripheral nerve interfaces (RPNIS) to inform surgical practices and surface electrode design for prosthesis control

Richard Weir^{1, 2}, Amber Bollinger¹

¹ University of Colorado Denver | Anschutz Medical Campus, ² University of Colorado Denver

O.2.2 - Using whole-system error to update muscle models in a hybrid FES-exoskeleton system

Skye Carlson¹, Cameron Lamack², Marcia O'malley³, Eric Scheerer⁴

¹ Cleveland State University, ² Quinnipiac University, ³ Rice University, ⁴ The MetroHealth System

O.2.3 - To decompose or not to decompose: the necessity of EMG decomposition into motor unit spike trains for identifying neural drives

Tijn Logtens¹, Samuel Deslauriers-Gauthier¹, Simon Avrillon^{2, 3}, Dario Farina⁴, Francois Hug¹

¹ Université Côte d'Azur, ² French Institute of Sport (INSEP), ³ Nantes Université, ⁴ Imperial College London

O.2.4 - Advanced interface for respiratory electromyography simulations

Andra Oltmann¹, Jan Graßhoff¹, Tobias Knopp¹, Philipp Rostalski¹

¹ Fraunhofer IMTE

O.2.5 - MyoLytics: a modern, modular framework for physiologically constrained single-channel EMG decomposition

Devon Rohlf¹

¹ Friedrich-Alexanders-Universität

O.2.6 - Automatic detection of tremor-affected muscles and harmonic components in Parkinsonian needle EMG signals

Alice Tadorelli¹, Sofia Cupini¹, Mattia Tosi², Sara Rinaldo², Roberto Eleopra², Simona Ferrante¹

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O.3.1 - The hand adaptive neuromuscular dynamometer (HAND): one platform for measuring isometric hand forces in neuromuscular studies

Tiffany Hamstreet ¹, Chiara Fantinato ¹, Enrico Merlo ², Silvia Muceli ¹

¹ Chalmers University of Technology, ² OT Bioelettronica

O.3.2 - Naturalistic movement evoked proprioceptive afference from the ankle joint modulates the corticospinal excitability

Vesa Onnia ¹, Feiyue Li ¹, Harri Piitulainen ¹

¹ University of Jyväskylä

O.3.3 - Modulation of corticospinal excitability to proprioceptive afference from the hand

Feiyue Li ¹, Mia Ahinko ¹, Vesa Onnia ¹, Harri Piitulainen ¹

¹ University of Jyväskylä

O.3.4 - An end-to-end, closed-loop model of myoelectric control

Balint Hodossy ¹, Dario Farina ¹

¹ Imperial College London

O.3.5 - Association between patellar tendon morphomechanical characteristics, quadriceps muscle architecture, and motor unit firing properties

Ragul Selvamoorthy ¹, Michail Arvanitidis ¹, Francesco Negro ², Patricio Pincheira ³, David Evans ¹, Eduardo Martinez-Valdes ¹

¹ University of Birmingham, ² Università degli Studi di Brescia, ³ The University of Southern Queensland

O.3.6 - The biarticularity of the gastrocnemii muscles provides relevant mechanisms for managing drop-like gait perturbations in humans

Christos Theodorakis ¹, Sebastian Bohm ¹, Falk Mersmann ¹, Adamantios Arampatzis ¹

¹ Humboldt University Berlin

O.3.7 - Balance-state modulation of the soleus H-reflex is altered by wearing vibrotactile shoe insoles in adults with typical plantar sensation

Wolbert Van Den Hoorn ¹, Eugeenia Wen ², Robert Lees ², Jacob Thorstensen ^{3, 4}, Kylie Tucker ¹, Anna Hatton ^{1, 2}

¹ The University of Queensland, ² The University of Queensland, School of Health and Rehabilitation Sciences, ³ Griffith University, ⁴ Bond University

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O.4.1 - Motor unit responses to electrically evoked somatosensory input: which factors shape excitability?

Yannick Finck¹, Demetris Soteropoulos², Alessandro Del Vecchio³

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O.4.2 - Association between quadriceps activation failure and motor units activation features in patients with end-stage knee osteoarthritis

Federico Temporiti¹, Davide De Leo², Corrado Cescon³, Paolo Ghirardi², Alessandro Gargano², Paola Adamo², Marco Barbero³, Roberto Gatti¹

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O.4.3 - High-density sEMG assessment of tracked motor units across contraction intensities

Daniel Marcos Frutos¹, Kevin Méndez-Bouza², David Colomer-Poveda³, Amador García-Ramos¹, Gonzalo Márquez²

¹ University of Granada, ² University of A Coruna, ³ Rey Juan Carlos University, Madrid

O.4.4 - Clustering of surface HDEMG channels prior to decomposition increases the number of identified motor units

Ales Holobar¹, Jakob Škarabot²

¹ University of Maribor, ² Loughborough University

O.4.5 - Motor unit discharge rates during maximal dynamic fatiguing contractions and recovery in human dorsiflexors

Daniel Basile^{1, 2}, Charles Rice²

¹ University of Western Ontario, ² Western University

O.4.6 - Altered motoneuron excitability in Parkinson's disease and the role of dopaminergic treatment

Parisa Alaei^{1, 2}, Greg Pearcey³, Daryl Wile⁴, Ales Holobar⁵, Jennifer Jakobi⁴

¹ The University of British Columbia, ² University of British Columbia, ³ Memorial University of Newfoundland, ⁴ University of British Columbia, Okanagan, ⁵ University of Maribor

O.5.1 - A robust adaptive pipeline for intramuscular fat detection in MR images reveals altered 2d and 3d spatial distribution patterns in Cerebral Palsy

Zhenkai Zhao¹, Emma Hodson-Tole¹

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O.5.2 - Correlating MU firing behavior from HDsEMG with MU-specific twitch profiles from ultrafast ultrasound

Marco Carbonaro ¹, Robin Rohlén ², Utku S. Yavuz ¹, Dario Farina ², Massimo Sartori ¹

¹ University of Twente, ² Imperial College London

O.5.3 - Similar regional hypertrophy of the biarticular rectus femoris after hip flexion and knee extension training

Naoya Nishizawa ¹, Sumiaki Maeo ¹, Yuto Kobayashi ¹, Momoka Kinoshita ¹, Hoshizora Ichinose ¹, Yuuri Eihara ¹, Haruto Arai ¹, Hiroaki Kanehisa ², Tadao Isaka ¹

¹ Ritsumeikan University, ² National Institute of Fitness and Sports in Kanoya

O.5.4 - Long-term effects of hamstring-tendon ACL reconstruction on explosive knee-flexor strength: morphological and neural mechanisms

Tamara Valenčič ¹, Jakob Škarabot ¹, Thomas Hazeldine ¹, Subhra Dipta Ghosh ¹, Lauren Ayers ¹, Yuhang Li ¹, Ales Holobar ², Stefan Kluzek ^{3, 4}, Jonathan P Folland ¹

¹ Loughborough University, ² University of Maribor, ³ University of Nottingham, ⁴ Wake Forest University

O.5.5 - Muscle unit mapping during stimulated contractions in the mouse triceps surae using high-frame-rate ultrasound imaging

Salomé Vignat ¹, Sébastien Salles ², Veronique Marchand-Pauvert ³, Guillaume Caron ⁴, Quentin Grimal ⁵

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O.5.6 - The use of muscle ultrasound in neuromuscular disease: a systematic review of clinical application and computational analysis

Chloe Boden-Moore ¹, Chuin Hong Yap ¹, Adrian Davison ¹, Moi Hoon Yap ¹, Emma Hodson-Tole ¹

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O.6.1 - Afferent blockade does not abolish late MEP facilitation, revealing central non-corticospinal pathways

Jonathan Shemmell ¹, Dylan Carter ²

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O.6.2 - Passive leg movements immediately reduce crying and EMG activity in human neonates

Samuel Mathieu ¹, Arthur Dewolf ², Sina Salehpour ², Yury Ivanenko ³, Francesco Lacquaniti ⁴

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O.6.3 - H-reflex and M-wave recruitment curves shift during and after complete blood flow occlusion

Amin Chetouani ¹, Basílio Gonçalves ², Arnold Baca ², Janne Avela ³

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O.6.4 - A revised motor unit number estimate detects presymptomatic motor neuron loss in amyotrophic lateral sclerosis

James Bashford ¹, Judith Bilgorai ¹

¹ King's College London

O.6.5 - Neural control of isometric calf muscle contractions in typically developing children and children with cerebral palsy

Andrea Sgarzi ¹, Agnese Grison ², Dario Farina ³, Bart Bolsterlee ⁴, Nigel Lovell ⁵, Luca Modenese ¹

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⁴ Neuroscience Research Australia (NeuRA), ⁵ University of New South Wales, Kensington

O.6.6 - Bilateral activation failure of ankle dorsiflexors in patients with hip osteoarthritis undergoing total hip arthroplasty

Federico Temporiti ¹, Paola Adamo ², Francesco Baldracco ³, Andrea Tarasconi ², Davide De Leo ², Arianna Colpani ², Nicola Maffiuletti ⁴, Roberto Gatti ¹

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O.6.7 - The immediate effect of induced pain in the neuromuscular control of the quadriceps HD-sEMG and force in people with patellofemoral pain

Max Roizman ^{1, 2}, Maria Isabel Orselli ³, Jane S. S. P Ferreira ², Ronaldo H. Cruvinel-Júnior ², Fábio M. Azevedo ⁴, Eneida Yuri Suda ⁵, Isabel C. N Sacco ²

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O.7.1 - Compensatory neuromuscular reorganization with aging revealed through muscle synergies in voluntary upright reaching

Imma Cериello ¹, Marco Ghislieri ², Valentina Camomilla ¹, Andrea Macaluso ¹, Riccardo Borzuola ³

¹ University of Rome Foro Italico, ² Politecnico di Torino, ³ Università di Roma "Foro Italico"

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O.7.2 - Intermuscular coherence at the ankle joint during maximal voluntary contractions

Jonah Dekker¹, David Gabriel², Anita Christie^{1, 3}

¹ University of Western Ontario, ² Brock University, ³ The University of Western Ontario

O.7.3 - Effects of running-induced fatigue on lower limb muscle activity and muscle synergies among male and female endurance runners

Cinthuja Pathmanathan¹, Leonardo Gizzi², Deborah Falla³, Caroline Paquette¹, Julie N Côté⁴

¹ McGill University, ² Fraunhofer Institute for Manufacturing Engineering and Automation, ³ University of Birmingham, ⁴ University of Ottawa

O.7.4 - Knee loading time-series clusters and muscle activation synergies in gait: direct kinematics and static optimization

Harald Penasso¹, Sebastian Durstberger¹, Peter Putz¹, Klaus Widhalm¹

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O.7.5 - How aging reshapes the neuromechanical organization of human running

Sina Salehpour¹, Mario Nuñez-Lisboa², Marine Moulin¹, Alessandro Eburnea³, Michael Trivilini¹, Raphael Mesquita¹, Arthur Dewolf¹

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O.7.6 - Reorganisation of shoulder brain-muscle networks during dynamic movement in acute experimental pain

Giacomo Nardese¹, Tjeerd Boonstra², Paul Hodges³, Wolbert Van Den Hoorn³, Arthur Fabre¹, Simon Summers⁴, Johan Van Der Meer⁴, Eric Su¹, Graham Kerr¹

¹ Queensland University of Technology, ² Maastricht University, ³ The University of Queensland, ⁴ Queensland University of Technology, Brisbane

O.8.1 - Innervation zone detection of the puborectalis muscle using a high-density surface electromyographic vaginal probe

Irina De Alba Alvarez¹, Anique Bellos-Grob¹, Antonio De Jesus Gogiascoechea Hernandez²

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O.8.2 - Kv2.1 regulates excitability and repetitive firing in adult spinal motoneurons

Andrew Deutsch¹, Morgan Highlander¹, Ibrahim Abdulhalim¹, Kalin Gerber¹, Bradley Lehoty¹, Teresa Garrett¹, Sherif Elbasiouny¹

¹ Wright State University

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O.8.3 - Higher-order correlation across motor unit spike trains demonstrates largely shared synaptic inputs to spinal motoneurons

Hélio Cabral ¹, J Greig Inglis ², Silvia Rio ², Francesco Negro ²

¹ Federal University of Rio de Janeiro, ² Università degli Studi di Brescia

O.8.4 - HD-MUNet: integrating artificial intelligence and high-density electromyography for motor unit number estimation

Marco Gagliardi ¹, Andres Ortiz ¹, Taian Martins ¹

¹ Politecnico di Torino

O.8.5 - High-frequency common synaptic inputs to alpha motor neurons are modulated with force gradation

Nijia Hu ¹, Hélio Cabral ², J Greig Inglis ³, Francesco Negro ³

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O.8.6 - Neuromodulation gates persistent sodium currents to enable force-enhancing doublet firing in motoneurons

Robin Rohlén ¹, David Bennett ², Monica Gorassini ², Dario Farina ¹

¹ Imperial College London, ² University of Alberta

O.9.1 - Action observation and motor imagery increase quadriceps voluntary activation in patients with end-stage knee osteoarthritis

Roberto Gatti ^{1, 2}, Paola Adamo ^{2, 3}, Francesca Murer ², Luca Cantaluppi ², Alessandro Valsecchi ², Isabella Barajon ^{4, 5}, Nicola Maffiuletti ⁶, Federico Temporiti ⁵

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O.9.2 - Estimating medial knee contact force during walking using a single video camera

Jere Lavikainen ¹, Hunmin Kim ², David Pagnon ³, Lauri Stenroth ¹

¹ University of Eastern Finland, ² Korea Institute of Sport Science, ³ ForceTeck Ltd.

O.9.3 - Lumbar muscle perfusion-based responses to exercise may predict rehabilitation outcomes in people with low disability presenting with chronic low back pain

Frederique Dupuis ¹, David Berry ¹, Samuel Ward ¹, Kamshad Raiszadeh ², Bahar Shahidi ¹

¹ University of California in San Diego, ² Spine Zone Medical Fitness

O.9.4 - Surface HDEMG and afterhyperpolarisation as biomarker in stroke rehabilitation

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Tanja Botić¹, Mónica Rojas Martínez², Marta Borrás², Ferran Esquinas Dominguez², Miguel Ángel Mañanas², Mark Wrigth³, Hatice Kumru³, Ales Holobar¹

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O.9.5 - Neuromuscular alterations associated with elevated CAF levels in healthy sedentary older women: insights from motor unit behaviour and functional performance

Riccardo Magris¹, Matteo Bozzato¹, Gioi Spinello¹, Alessandro Sampieri¹, Federica Gonnelli¹, Vittorio Giorgio Della Costa¹, Marta Canato¹, Giacomo Valli², Marco Narici³, Giovanni Martino³, Giuseppe De Vito³

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O.9.6 - Design and validation of a HD-sEMG and US-transparent electrode grid functionalized with an adhesive interface replacing conductive gel and foam

Giacinto Luigi Cerone^{1, 2}, Taian Martins^{1, 3}, Marco Gazzoni^{1, 3}, Alberto Botter^{2, 3}

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O.9.7 - Electrotactile stimulation strategies in closed-loop abstract myoelectric control

Felix Jarto¹, Sigrid Dupan¹

¹ University College Dublin

O.10.1 - Explosive and strength training improve the rate of torque development via distinct mechanisms

Francesco Salvaggio¹, Ludovico Grossio¹, Baptiste Bizet², Alberto Rainoldi¹, Andrea Monte², Gennaro Boccia¹

¹ University of Turin, ² University of Verona

O.10.2 - Biceps femoris long-head motor unit discharge rates and recruitment thresholds vary across 9 weeks of eccentric training

Max Andrews¹, Eduardo Martinez-Valdes², Glen Lichtwark³, Patricio Pincheira⁴

¹ The University of Queensland, ² University of Birmingham, ³ Queensland University of Technology,

⁴ The University of Southern Queensland

O.10.3 - Spinal mechanisms in post-activation potentiation: facilitation of presynaptic inhibition contrasts h-reflex amplitude reduction

Miloš Kalc¹, Ales Holobar², Matej Kramberger², Nina Murks², Jakob Škarabot³

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O.10.4 - Head rotation affects contralateral motor-evoked potential amplitude in biceps brachii but the modulation is not specific to late phases of the motor-evoked potential

Simon Walker¹, Luca Ruggiero^{2, 3}

¹ University of Jyväskylä, ² University of Padua, ³ University of Konstanz

O.10.5 - Motor units' behaviour after induced non-functional overreaching period

Marco Gatti¹, Marta Boccardo², Letizia Giusti¹, Marco Carbonaro³, Marta Colosio⁴, Simone Villanova⁵, Alberto Botter⁶, Simone Porcelli¹

¹ University of Pavia, ² Polytechnic of Turin, ³ University of Twente, Enschede, ⁴ University of Wisconsin – Madison, ⁵ University of Rome 'Foro Italico', Rome, ⁶ Politecnico di Torino

O.10.6 - The effects of short-term resistance exercise training on the motor unit firing rates of the first dorsal interosseus

Andrew Veith¹, Trent Herda¹, Keifer Bass¹

¹ University of Kansas

O.11.1 - Locomotor phenotypes: a multivariate analysis of the maturation of locomotor control on irregular surfaces

Silvère De Freitas¹, Fabien Dal Maso¹, Yosra Cherni^{1, 2}

¹ University of Montreal, ² Université de Montréal

O.11.2 - Sex differences in force complexity during low-intensity isometric contractions: the role of entropy parameter selection

Shamim Noroozi¹, Eric Smith², Francesco Negro³, Jennifer Jakobi¹

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O.11.3 - Neurofeedback training on motor cancellation enhances peripheral but not cortical beta-band oscillations

Emanuele Abbagnano¹, Alejandro Pascual Valdunciel², Jaime Ibanez¹, Dario Farina^{1, 3}

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O.11.4 - Modulation of sense of effort during plantarflexion contractions by cutaneous stimulation of the foot sole

Tushar Sharma¹, Ryan Weller², Jayne Kalmar², Leah Bent¹

¹ University of Guelph, ² Wilfrid Laurier University

O.11.5 - How preparatory and motor neural commands shape fast motor output?

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Simon Avrillon ¹, Dario Farina ², Stuart Baker ³

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O.11.6 - Integrating motor control and muscle energetics: A novel experimental framework for studying muscle fatigue

Thomas Klotz ¹, Justus Marquetand ², Franziska Bubeck ¹, Silvia Muceli ³, Jeroen Jeneson ⁴, Melissa Hooijmans ⁵, Jana Disch ¹

¹ University of Stuttgart, ² University of Tübingen, ³ Chalmers University of Technology, ⁴ University Medical Center Utrecht, ⁵ University Medical Center Amsterdam/ Vrije Universiteit Amsterdam

O.12.1 - Task dependency of vastii motor unit firing responses to fatigue during single- and multi-joint actions

Macarena Soldan ¹, Ragul Selvamoorthy ¹, Francesco Negro ², Eduardo Martinez-Valdes ¹

¹ University of Birmingham, ² Università degli Studi di Brescia

O.12.2 - Optimising recovery parameters in a motor unit-based model of muscle fatigue

Ryan Foley ¹, Jim Potvin ², Andrew Fuglevand ³, Nicholas La Delfa ¹

¹ Ontario Tech University, ² McMaster University, ³ University of Arizona, College of Medicine

O.12.3 - The effect of resistance training on muscle fatigue-induced changes in cortico-reticulospinal excitability

Jun Zhou ¹, Juha Ahtiainen ¹, Jarmo Piirainen ¹, Dawson Kidgell ², Janne Avela ¹, Simon Walker ¹

¹ University of Jyväskylä, ² Monash University

O.12.4 - What velocity does not tell you: effects of different velocity loss thresholds on rate of torque development and central/peripheral fatigability

Ludovico Grossio ¹, Francesco Salvaggio ¹, Tommaso Berbenni ¹, Pierre Samozino ², Alberto Rainoldi ¹, Gennaro Boccia ¹

¹ University of Turin, ² Université Savoie Mont Blanc

O.12.5 - Muscle fatigue weakens corticospinal coupling between cortex and ankle muscles

Junru Chen ¹, Toni Mujunen ^{2, 3}, Harri Piitulainen ¹

¹ University of Jyväskylä, ² Aalborg University, ³ Toni Mujunen

O.12.6 - Impaired brain energy metabolism and corticospinal function associate with exaggerated fatigue perception in Multiple Sclerosis

Gemma Brownbill ¹, Jeanne Dekerle ², Mara Cercignani ³, James Stone ⁴

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O.12.7 - Intermittent activation in synergistic muscles during long-duration low-force contractions. Is there more than a simple load sharing among those muscles?

Gennaro Boccia ¹, Alberto Rainoldi ¹

¹ University of Turin

O.13.1 - Estimating deltoid common drive from spatially filtered high-density EMG: comparison against a motor-unit approach

Wolbert Van Den Hoorn ^{1, 2}, Kylie Tucker ¹, Kenneth Cutbush ¹, Francois Hug ³

¹ The University of Queensland, ² Queensland University of Technology, ³ Université Côte d'Azur

O.13.2 - Reciprocal inhibition reflex excitability in transtibial amputees with an agonist-antagonist myoneural interface (AMI)

Luis Angel Pardo Sanches ¹, Viktoria Witowski ², Magnus Kalff ², Frodo Muijzer ³, Jennifer Ernst ², Utku Yavuz ³

¹ Hannover Medical School, Department of Trauma Surgery, Hannover, Germany, ² Hannover Medical School, ³ The University of Twente

O.13.3 - Eccentric-overload resistance training preferentially modifies high-threshold motor unit discharge behaviour

Mohammadhossein Ghasemi ¹, Clarissa Brusco ¹, Giuseppe De Vito ¹, Martino Franchi ¹, Giovanni Martino ¹

¹ University of Padova

O.13.4 - Subthalamic nucleus deep brain stimulation partially entrains motor unit firing times at clinical settings

Jérémy Liegey ¹, Ben O'Callaghan ¹, Richard Walsh ², Madeleine Lowery ¹

¹ University College Dublin, ² Mater Misericordiae University Hospital

O.13.5 - Parallel threshold-based segmentation on motor unit spike trains in HDsEMG decomposition, optimised by differential evolution

Leon Kutos ¹, Matej Kramberger ¹, Miloš Kalč ², Dario Farina ³, Ales Holobar ¹

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O.13.6 - Differences in biceps brachii motor unit discharge rate across tasks and intensities are compartment-specific

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Rafael Fujita ¹, Simon Avrillon ², Kaitlyn Sutton ¹, Riley Pike ¹, Emma Mitchell ¹, Jakob Škarabot ³, Gregory Pearcey ¹

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Poster Session 1

P1-A-1 - Co-contraction training is as effective as traditional resistance training in promoting hypertrophy in older adults: a controlled study

Matheus Gomes ¹, Marina Villalba ², Rafael Fujita ³, Julia Faria ⁴, Veronica Miyasike-Dasilva ⁵, Renato Moraes ²

¹ University of São Paulo, ² University of São Paulo, ³ Memorial University of Newfoundland, ⁴ University of São Paulo, Ribeirão Preto, ⁵ University of Manitoba

P1-A-2 - Central and peripheral variability in older adults

Raphael Mesquita ¹, Sina Salehpour ¹, Marine Moulin ¹, Alessandro Eburnea ², Michael Trivilini ¹, Mario Nuñez-Lisboa ³, Arthur Dewolf ⁴, ⁵

¹ Laboratory of Physiology and Biomechanics of Human Locomotion, IoNs, UCLouvain, ² University of Pavia, ³ Universidad Finis Terrae, ⁴ Università degli studi di Tor Vergata, ⁵ UC Louvain

P1-A-3 - Are there age and sex related differences in tibialis posterior activation during walking when normalised to maximum voluntary contraction?

Joanna Reeves ¹, Neil Postans ², Catriona Heaver ², Caroline Stewart ²

¹ Swansea University, ² RJA Orthopaedic Hospital NHS Foundation Trust

P1-A-4 - Short-term reliability of center of pressure and lower-limb EMG activities during single leg stance

Hyun Kyo Lim ¹

¹ Korea Research Institute of Standards and Science

P1-A-5 - Associations of motor unit remodeling with current muscle strength and longitudinal muscle strength decline in older adults

Masahiro Kuniki ¹, Kaito Igawa ¹, Yu-Ichi Noto ², Kohei Watanabe ¹, Ryosuke Takeda ¹

¹ Chukyo University, ² Kyoto Prefectural University of Medicine

P1-B-6 - Identifying spinal motor unit properties in-vivo using electrophysiological digital twins

Pranav Mamidanna ¹

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P1-B-7 - Uncertainty-aware machine learning for fatigue detection during functional electrical stimulation on the forearm

Sascha Selkmann ^{1, 2}, Andreas Lipphaus ³, Marc Neumann ¹

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P1-B-8 - Can machine learning evaluation of physical behaviour accurately identify cases of motor neurone disease?

Nina Mitic ¹, Amina Chaouch ^{2, 3}, Chuin Hong Yap ¹, Emma Hodson-Tole ¹, Gladys Onambele-Pearson ¹

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P1-B-9 - UMUD: a web application for easy access to musculoskeletal ultrasonography datasets

Paul Ritsche ¹, Fabio Sarto ², Francesco Santini ¹, Christoph Leitner ³, Martino Franchi ², Oliver Faude ¹, Taija Finni ⁴, Olivier Seynnes ⁵, Neil Cronin ⁴

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P1-C-10 - Effect of body orientation on muscle co-contraction in individuals with lower limb amputation

Irene Di Giulio ¹, Salma Errahmouni Barkam ^{1, 2}, Martin Feelisch ³, Mike Miller-Smith ⁴, Ross Pollock ¹, Livia Visai ^{5, 6}, Gabriele Armbrrecht ⁷, Stephen Harridge ¹

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P1-C-11 - Age-related adaptations in acceleration and deceleration control during gait

Naoto Hida ¹, Tomoya Kokue ¹, Kenichi Sugawara ¹

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P1-C-12 - Can vertical ground reaction forces be used as a surrogate to monitor knee joint loading during gait when recovering from a knee injury?

Jere Lavikainen ¹, Lauri Stenroth ¹

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P1-C-13 - Impairments in anticipatory postural adjustments and segmental stabilization strategies in patients undergoing total hip arthroplasty

Roberto Gatti ^{1, 2}, Alessia Bertola ², Davide De Leo ², Francesco Scandelli ², Sean Conrad Stringara ², Simone Illuminati ², Paola Adamo ², Federico Temporiti ³

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P1-C-14 - Muscular load, exertion, and usability of an ergonomic versus conventional laparoscopic device. A simulation box experiment

Karen Sogaard ¹, Henrik Baare Olsen ¹, Tina Dalager ¹

¹ University of Southern Denmark

P1-C-15 - Single motion capture marker is enough for estimating knee joint moments for real-time applications

Minna Rantanen ¹, Ellen Hellman ¹, Rami Korhonen ¹, Jari Arokoski ², Jere Lavikainen ¹, Lauri Stenroth ¹

¹ University of Eastern Finland, ² Helsinki University Hospital

P1-D-17 - Task dependent modulation of neural drive in the deltoid: high density EMG mapping reveals flexible corticomotor organisation

Giacomo Nardese ¹, Yuyao Ma ², Wolbert Van Den Hoorn ^{1, 2}, Graham Kerr ¹, Paul Hodges ²

¹ Queensland University of Technology, ² The University of Queensland

P1-D-18 - Mapping of cortical and corticospinal reactivity along the motor cortex studied by TMS-EMG-EEG

Macey Higdon ¹, Joel Rouste ¹, Martin Häggblom ¹, Tuomas Mutanen ¹, Vadim V. Nikulin ², Elena Ukharova ¹, Selja Vaalto ³, Risto Ilmoniemi ¹, Pantelis Lioumus ¹, Hanna Renvall ^{1, 4}, Maria Nazarova ¹

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P1-E-19 - GABAB-mediated inhibition in plantarflexors is related to walking function in low-functioning stroke survivors

Ilona Ruotsalainen ¹, Theresa Mcguirk ², Elliott Perry ²,Carolynn Patten ³

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P1-E-21 - Detecting motor unit loss and remodelling in lumbo-sacral radiculopathy using the EMG filling analysis

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Javier Rodriguez-Falces ¹, Armando Malanda ¹, Javier Navallas ¹, Cristina Mariscal Aguilar ², Silvia Recalde-Villamayor ¹

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P1-E-23 - Reliability of spatiotemporal neuromuscular activity patterns in magnetomyography across force levels

Haodi Yang ¹

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P1-F-24 - Effect of electrical stimulation on limb edema: a scoping review

David Selkowitz ¹, Rebekah Goodfellow ¹, Elijah Harris ¹, Arvind Geer ¹, L. Patrick Lynott ¹, Jessica Bell ¹

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P1-F-25 - Beyond power grasp: dexterous and proportional multi-gesture control of an FES system using SEMG and a machine learning cascade

Yannick Finck ¹, Laura Michnick ¹, Dominik Braun ², Michael März ¹, Charlotte Rohleder ¹, Vlad Cnejevici ¹, Alessandro Del Vecchio ²

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P1-G-26 - The influence of fatigue on the vestibular control of balance

Hailey Tutt ^{1, 2}, Mathew Debenham ³, Hiya Mahal ¹, Jon Kramer ¹, Chris Mcneil ¹, Brian Dalton ¹

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P1-G-27 - Maintaining performance under fatigue through task-specific training

Mahsa Rahmani ¹, Frederique Dupuis ^{2, 3}, Jean-Sebastien Roy ¹

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P1-G-28 - Effects of changes in running characteristics and muscle activity on running speed during a 400-m sprint

Wako Kajiwara ¹, Shunya Uda ¹, Fumina Eguchi ¹, Takato Okada ¹, Ryoji Horimoto ¹, Hiroshi Nakano ², Masaki Takeda ¹

¹ Doshisha University, ² Doshisha University

P1-G-29 - Physiological determinants of electromyographic thresholds during multistage incremental cycling exercise

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Sakura Tachibana ¹, Hiroshi Nakano ¹, Wako Kajiwara ¹, Ryoji Horimoto ¹, Takato Okada ¹, Shunya Uda ¹, Kaho Murase ¹, Masaki Takeda ¹

¹ Doshisha University

P1-G-30 - A model based approach to predicting early fatigue during neuromuscular electrical stimulation

Aron Teklemariam ¹, William Holderbaum ¹, Alex Ireland ¹, Robert Rockenfeller ², Emma Hodson-Tole ¹

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P1-H-31 - Backpropagating through the spinal cord: towards inverse motor unit modeling via differentiable simulation

Salome Piroshmanishvili ¹, Alessandro Del Vecchio ², Irina Gotsiridze ¹, Raul Simpetru ²

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P1-H-32 - MUnitQuest: A community-driven competition on motor unit identification

Thomas Klotz ¹, Pranav Mamidanna ², Robin Rohlén ², Dario Farina ³, Oliver Röhrle ¹

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P1-H-33 - Computational simulation using HD sEMG features for quadriceps arthrogenic muscle inhibition: preliminary results

Cristian Paris ¹, Klaus Samson ², Roberto Yañez ², Rony Silvestre ²

¹ Universidad Adolfo Ibáñez, ² Clínica MEDs

P1-I-34 - From consensus to translation: The CEDE initiative and development of an interactive decision-support tool for EMG methodological decision-making

Manuela Besomi ¹, Paul Hodges ¹

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P1-I-35 - How does motor preparation affect finger flexor motoneurons state prior to ballistic contractions?

Rachel Borne ¹, Francois Hug ², Simon Avrillon ¹

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P1-I-36 - Preparing for a career change: how can postural muscles be retrained to act as joysticks?

Giovanni Traetta ¹, Thomas Cattagni ¹, Francois Hug ², Simon Avrillon ¹

¹ Nantes Université, ² Université Côte d'Azur

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P1-I-37 - Sensory integration with modulated vision in virtual reality

Satsuki Yamauchi ¹, Matti Itkonen ², Shingo Shimoda ¹, Hitoshi Hirata ¹

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P1-I-38 - Timing-dependent inhibitory modulation of the primary motor cortex by short-latency afferent inhibition: insight from a transcranial magnetic stimulation–electroencephalography study

Tomoya Kokue ¹, Ryoki Sasaki ¹, Kenichi Sugawara ¹

¹ Kanagawa University of Human Services

P1-I-39 - Vibration-induced modulation of spinal and cerebellar activity following motor skill acquisition

Hailey Tabbert ¹, Tanya Najib ¹, Paul Yelder ¹, Bernadette Murphy ¹

¹ Ontario Tech University

P1-I-40 - Experience-dependent tuning of spinal and transcortical stretch reflexes supports goal-directed movement

Taiyeba Akter ¹

¹ Umeå University

P1-I-41 - Effects of preparatory cues on brain functional connectivity during the response preparation period in a Go/NoGo task

Yuya Matsuda ¹, Rin Kosuge ¹, Koki Iwata ¹, Hidekazu Saito ¹, Eriko Shibata ², Takeshi Sasaki ¹, Kazuhiro Sugawara ¹

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P1-I-42 - Increased muscular coactivation for the assessment of motor control under non-optimal conditions

Elisa Romero Avila ¹, Sybele Williams ¹, Maximilian Siebert ¹, Catherine Disselhorst-Klug ¹

¹ RWTH Aachen University

P1-I-43 - Disentangling and recognizing superimposed motor intentions for movement augmentation

Tianyu Jia ¹, Ciaran Mcgeady ¹, Yifeng Li ¹, Yunjia Li ¹, Dario Farina ¹

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P1-I-44 - A wrist exoskeleton for motor control studies

Lara Vila ¹, Dario Farina ¹, Juan Gallego ²

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P1-J-45 - Head tremor's role in the effects of deep-brain stimulation on intention tremor in individuals with essential tremor

Gjergji Cobani ¹, Gudrun Johansson ¹, Amar Awad ¹, Fredrik Öhberg ¹, Helena Grip ²

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P1-J-46 - Automatic characterization of post-stroke motor unit functionality: a novel neural-interfacing paradigm

Marco Carbonaro ¹, Rafael Ornelas Kobayashi ¹, Paravano Michele ¹, Martin Tenniglo ², Gerdienke Prange-Lasonder ², Irfan Refai ¹, Massimo Sartori ¹

¹ University of Twente, ² Roessingh Centre for Rehabilitation

P1-K-47 - Comparison of manual and established automatic motor unit tracking methods including a superior novel approach

Mette Ibs ¹, Marius Oßwald ¹, Alessandro Del Vecchio ¹

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P1-K-48 - Exploring the influence of foot sole cutaneous stimulation on motor unit behaviour during sustained low-level plantarflexion

Laura Marrelli ¹, Tushar Sharma ¹, Ryan Weller ², Jayne Kalmar ², Leah Bent ¹

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P1-K-49 - Reliability of MScanFit motor unit number estimation: a literature review

George Russell ¹, Rodrigo Fernandez-Gonzalo ², Ricardo Mesquita ²

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P1-K-51 - Contraction intensity-dependent modulation of motor unit behaviour during rapid contractions

Haydn Thomason ¹, Jakob Škarabot ¹, Jonathan P Folland ¹

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P1-K-52 - Influence of maximal eccentric contractions with the knee flexors on voluntary torque and motor unit activity

Chrystostomos Sahinis ^{1, 2}, Ioannis Amiridis ³, Roger Enoka ⁴, Elefterios Kellis ²

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P1-K-53 - Differences in shared neural drive between small and large motor units in the soleus and gastrocnemius medialis

Zhihao Duan¹, Ruoli Wang^{1, 2}

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P1-K-54 - Muscle-specific modulation of motor unit behavior across the menstrual cycle in healthy young females: Influence of ovarian hormones on neural drive

Yuichi Nishikawa¹, Kohei Watanabe², Allison Hyngstrom³

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P1-K-55 - Feature-based channel selection for improving motor unit yield in HDsEMG decomposition

Saroj Bista¹

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P1-K-56 - Motor unit firing behavior during repeated isotonic contractions of the first dorsal interosseous

Keifer Bass¹, Trent Herda¹, Andrew Veith¹

¹ University of Kansas

P1-K-57 - Muscle and motoneuron synergies in biomimetic and non-biomimetic 3-DoF control tasks

Johanna Happold¹, Laura Ferrante², Patricia Capsi Morales¹, Deren Y. Barsakcioglu², Dario Farina², Cristina Piazza¹

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P1-K-59 - Motor unit control strategies during submaximal isometric knee extensions in sprinters

Sara Faggian¹, Giuseppe Marcolin¹, Samira Breban¹, Myriam Lubrano², Marta Ronconi¹, Andrea Cutti³, Nicola Petrone¹, Andrea Casolo¹

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P1-K-60 - Effects of local mechanical vibration on MU discharge behavior during isometric knee extension

Corrado Cescon¹, Marco Barbero¹, Alessandro Schneebeli¹, Stefano Vercelli^{1, 2}

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P1-K-61 - Effects of contraction type at similar relative intensities on vastus lateralis activation assessed using high-density electromyography

Anderson Oliveira ¹, Ricardo P. Schiochet ², Leonardo M. Silva ², Guilherme R. Silva ², Fabrizio Caputo ², Francesco Negro ³

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P1-K-62 - Is delta F associated with muscle mechanics?

Giovanni Traetta ^{1, 2}, Marco Draghero ³, Maria Clara Brandão ^{4, 5}, Roger De Mello ⁵, Liliam Oliveira ⁵, Taian Martins ³

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P1-K-63 - Motoneurons rate coding and synaptic input changes in post-stroke paresis

Valentin Goreau ¹, Raphaël Gross ¹, Guillaume Le Sant ¹, Francois Hug ², Thomas Cattagni ^{1, 3}

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P1-K-64 - Effects of upper-limb exoskeleton assistance on motor unit discharge during external load holding

Giacomo Valli ¹, Martina Mosso ¹, Maria Lucia Cavallo ¹, Alessandro Piol ¹, Emilia Scalona ², Tiwana Varrecchia ³, Giorgia Chini ³, Alberto Ranavolo ³, Luca Falciati ¹, Debora Brignani ¹, Nicola Francesco Lopomo ⁴, Francesco Negro ¹

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P1-L-65 - The effect of explicit instructions on muscle synergy analysis

Elisa Maria Fiorino ¹, Silvia Conforto ¹, Maurizio Schmid ¹, Simone Ranaldi ²

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P1-L-66 - Electromyographic study of facial and masticatory muscles in adult women undergoing midface lifting through supraperiosteal hyaluronic acid application in the zygomatic arch

Reinaldo Brunello Junior ¹

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P1-L-67 - Influence of EMG configuration on muscle synergies during isometric single-finger isometric flexion

Lorenzo De Bei ¹, Zhihao Duan ¹, Paul-Peter Arslan ^{2, 3}, Pålvel Lindberg ^{2, 3}, Jeanette Plantin ⁴, Ruoli Wang ^{1, 5}

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P1-L-68 - Wearable multi-channel electromyography garment for automatic synergy-based identification and assessment of ankle muscles activity

Rafael Ornelas Kobayashi ¹, Edwin Van Asseldonk ¹, Massimo Sartori ¹

¹ University of Twente

P1-L-69 - Muscle synergies analysis as a tool to investigate postural control during ballistic upper limb movements

Francesco Scandelli ¹, Valentina Lanzani ², Federico Temporiti ³, Francesca Cappelletti ¹, Emanuele Vitobello ⁴, Luca Canova ¹, Paola Adamo ¹, Alessandro Scano ², Roberto Gatti ^{1, 5}

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P1-M-70 - Off and on, then on again: how does preloading influence cutaneous encoding of changes in load at the foot sole

Luke Cleland ¹, Ashley Vanderhaeghe ¹, Leah Bent ¹

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P1-M-71 - Structural profile of vastus lateralis at one month of anterior cruciate ligament reconstruction

Rony Silvestre ¹, Joan Cadefau ², Josep María Padullés ², Cristián Paris ³, Roberto Yáñez ⁴, Klaus Samson ⁵

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P1-M-72 - The effect of simulated building sway on upper trapezius EMG during computer tasks: a pilot study

Joanna Reeves ¹, Ian Walker ¹, Vanshika Sharma ², Antony Darby ², Alex Pavic ³, Jennifer Davies ⁴

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P1-M-73 - Responses evoked by ambiguous tactile feedback when standing at a virtual height

John Misiaszek ¹, Lukian Podilsky ¹, Juan Forero ²

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P1-M-74 - Neuromechanical adaptations in walking and running gait one year after achilles tendon rupture

Kari Huseth ¹

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P1-M-75 - Selective involuntary pelvic floor activation evoked by passive whole-body motion

Xueqing Zhou ¹, Alison Williams ¹, Jiho Song ¹, Jeff Nickel ¹, Jean-Sébastien Blouin ¹, Tania Lam ¹

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P1-M-76 - Neuromuscular control in individuals with chronic ankle instability: insights from EMG entropy and muscle fiber conduction velocity

Milena Bürgel Murari ¹, Lucas Fernandes ¹, Maria Isabel Orselli ², Grazielle Rodrigues Da Silva ³, Guilherme Sartorelli ¹, Letícia Böttcher ¹, Eneida Suda ⁴, Isabel Sacco ^{5, 6}

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P1-M-77 - Assessment of novel placement guidelines (EPICA) for triceps surae electromyography electrodes

Jeroen Aeles ¹, Liese Bosman ^{1, 2}, Daan De Vlieger ^{1, 3}, Nele Terlaeken ^{1, 2}, Manuela Besomi ⁴, Eva Swinnen ^{1, 3}

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P1-M-78 - Recruitment strategies of the triceps surae muscles during isometric plantarflexion contractions

Timothy Green ¹, Usha Kuruganti ²

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P1-N-79 - Quantifying the micrometre-scale motor unit displacements in human skeletal muscle using ultrafast ultrasound

Simone Ruiter ¹, Robin Rohlén ², Christer Grönlund ¹

¹ Umeå University, ² Imperial College London

P1-N-80 - Automated classification of neuromuscular disease from ultrasound imaging using fasciculation detection and vision transformers

Chuin Hong Yap ¹, Adrian Davison ¹, Nina Mitic ¹, Chloe Boden-Moore ¹, Moi Hoon Yap ¹, Amina Chaouch ^{2, 3}, Emma Hodson-Tole ¹

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P1-N-81 - A SQUID biomagnetic measurement system for magnetoneurography and magnetomyography aiming clinical applications

Yoshiaki Adachi ¹

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P1-O-82 - Pain perception and habituation during electromyostimulation: relation to muscle fatigue

Katja Uhrhan ¹, Hartmut Witte ^{1, 2}

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P1-O-83 - Do individuals with fibromyalgia show significant changes in muscle activity? A pilot study

Michele Guilardi ¹, Beatriz Loscher ¹, Jady Verissimo ¹, Isabel Sacco ², Eneida Suda ¹

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P1-O-84 - Does localized vastus medialis soreness induce vastus-specific neuromuscular adaptations during gait?

Valter Devecchi ¹, Deborah Falla ¹, Alessio Gallina ¹

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P1-O-85 - Movement evoked pain responses to progressive resistance versus circuit training in adolescent cancer survivors: results from a multicentre randomised controlled trial

Mathias Kristiansen ¹, Henrik Riel ¹, Birgitte Klug Albertsen ², Martin Kaj Fridh ³, Christina Friis Jensen ¹, Hanne Bækgaard Larsen ³, Mathias Rathe ⁴, Stine Svilshave ⁴, Ruta Tuckuviene ⁵, Clara Vad ⁶, Joachim Wiskemann ⁷, Pascal Madeleine ¹

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P1-P-86 - Effects of delayed visual feedback on pusher behavior in a wheelchair setting: A single-subject repeated-measures experiment

Yuichi Kato ¹, Yumi Ikeda ², Kazu Amimoto ³

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P1-P-87 - Associations between spasticity, proprioception and movement post-stroke

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Jasmine Usher ¹, Jacqui Morris ¹, Gavin Wylie ¹, Alejandra Aranceta-Garza ¹

¹ University of Dundee

P1-P-88 - Altered shank muscle activation during single-leg hopping after Achilles tendon injury: increased contribution of biarticular muscles

Guðni Rafn Harðarson ¹, Jón Karlsson ², Kari Huseth ³, Katarina Nilsson Helander ¹, Annelie Brorsson ¹, Roy Tranberg ², Per Aagaard ⁴

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P1-P-89 - Exploring spatial high-density EMG features of upper arm muscles to inform myoelectric prosthesis control

Usha Kuruganti ¹, Timothy Green ², Brett Speedy ¹

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P1-P-90 - Investigating the reliability and the effect of age on surface EMG-based features during three swallow assessments in healthy adults

Afua Boakyewaah Appiah ¹, Emer Doheny ¹

¹ University College Dublin

P1-P-91 - Manipulation of visual proprioception with Virtual Reality for the treatment of pathological tremor

Alejandro Pascual Valdunciel ¹, Marcos Sacristán ², Juan Marín-Lahoz ¹, Jaime Ibañez ¹, Daniel Martín ¹

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P1-P-92 - Correlation between hip musculature EMG and goniometric and force measures in persons with patellofemoral pain

David Selkowitz ¹, David Salazar, li ², James Oh ¹, Kaley Swintak ³, Rani Patel ³, George Beneck ⁴

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P1-P-93 - Muscle-specific differences in activation during a dynamic neck movement task in individuals with neck pain

Hirofumi Sageshima ¹, Ruba Albatayneh ², Dagmar Pavlů ¹

¹ Charles University, ² University of Valencia

P1-P-94 - The effects of high-PAS on corticospinal tract plasticity and motor unit characteristics through high-density surface EMG

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Anna Nätkynmäki ¹, Mansour Taleshi ¹, Erika Haaksiluoto ², Janne Avela ¹, Ivan Vujaklia ³, Anastasia Shulga ²

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P1-Q-95 - Robotic rehabilitation design for thumb circumduction of the elderly

Hoang Thuc Minh Vo ¹, Chien-Ju Lin ², Hsiao-Feng Chieh ², Li-Chieh Kuo ³, Kai-Nan An ⁴, Fong-Chin Su ¹

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P1-Q-96 - Characterization of the effect of perturbations during cycling using the Haptic Cycling Trainer

Daniel Koskas ¹, Muhammad Ahmed ¹, Murat Sahin ¹, Andrea Ortiz-Cuadros ¹, Dónal Holland ¹, Giacomo Severini ¹

¹ University College Dublin

P1-Q-97 - Upper-limb loading and muscle activation during the timed up and go test with UNILEXA exoskeleton: a case series

Robert Pastor ¹, Michal Gloger ¹

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P1-R-98 - Plastic changes in corticospinal recruitment properties of the biceps femoris in sprinters and the impact of hamstring injury

Ayako Higashihara ¹, Genki Futatsubashi ²

¹ Keio University, ² Toyo University

P1-R-99 - Neural entrainment during movement synchronized to music: a steady-state evoked potential study

Rin Kosuge ¹, Sumire Hashimoto ¹, Yuya Matsuda ¹, Koki Iwata ¹, Hidekazu Saito ¹, Eriko Shibata ², Takeshi Sasaki ¹, Kazuhiro Sugawara ¹

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P1-R-100 - Kinematics and muscle activation of the lower limb during barefoot and flip-flop running

Chun Wai Wong ¹, Chia-Ming Chang ¹, Ying-Che Tseng ², Chih-Wei Chen ¹

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P1-R-101 - Changes in EMG frequency-domain power ratios during incremental pedaling exercise

Kengo Wakui¹, Shuhei Kameyama², Yuki Sato³, Yukihiro Ushiyama¹

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P1-S-102 - A textile-integrated multi-pad EMG bracelet for high-quality multi-gesture decoding: a feasibility study

Nebojsa Malesevic¹, Vladimir Kojić², Milica Baljic², Matija Strbac², Christian Antfolk¹

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P1-S-103 - Materials for soft electronics

Naveen Tiwari¹

¹ Tampere University

P1-S-104 - Single element ultrasound transducers are a viable alternative to imaging probes for the measurement of muscle fascicle length and pennation angle

Tristan Wen Jie Choo¹, Bruno Grandi Sgambato¹, Letizia Gionfrida², Mengxing Tang¹, Dario Farina¹

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P1-S-105 - Influence of inertial sensor placement on lower-limb kinematics during gait: implications for clinical assessment

Fredrik Öhberg¹, Paula Urbaneja Fernández¹, Helena Grip¹

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Poster Session 2

P2-A-1 - Six-week home-based neuromuscular electrical stimulation training improves foot and lower-leg muscle strength, physical performance and cardiovascular function in older adults

Ryosuke Takeda¹, Masahiro Kuniki¹, Marino Karaki^{1, 2}, Kaito Igawa¹, Kazushi Sumura¹, Kohei Watanabe¹

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P2-A-2 - Effects of whole-body neuromuscular electrical stimulation on neuromuscular function in older adults with and without sarcopenia

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Riccardo Borzuola ¹, Giovanni Martino ², Mohammadhossein Ghasemi ², Chiara Fossati ³, Giuseppe De Vito ², Andrea Macaluso ³

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P2-A-3 - Motor unit behavior in lifelong trained and sedentary older adults: insights from sex-specific analyses

Marta Boccardo ¹, Marco Carbonaro ², Clarissa Brusco ³, Fulvio Lauretani ⁴, Julián Alcázar ⁵, Martino Franchi ³, Simone Porcelli ⁶, Alberto Botter ¹

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P2-A-4 - Effects of very old age on persistent inward currents contribution to motoneuron firing

Vianney Rozand ¹, Cyril Chatain ¹, Rayane Roty ¹, Thomas Cattagni ^{2, 3}, Raphaël Hamard ¹, Romuald Lepers ¹

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P2-B-5 - Towards natural prosthetic control: proportional and simultaneous wrist-hand control from an EMG-driven compact neural network

Jonas Koellner ¹, Bin Yang ¹

¹ University of Stuttgart

P2-B-6 - Neural network approaches for accurate and robust synthetic EMG event detection in neurorehabilitation research

Cristian Riveros-Matthey ¹, Wolbert Van Den Hoorn ¹, Paul Hodges ¹

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P2-C-8 - Investigating the effect of topical menthol and camphor on ankle proprioception

Ashley Vanderhaeghe ¹, Laura Marrelli ¹, Tushar Sharma ¹, Luke Cleland ¹, Leah Bent ¹

¹ University of Guelph

P2-C-9 - The effects of age and speed on multisegment foot kinematics during gait in young and older adults

Brett Speedy ¹, Usha Kuruganti ¹

¹ University of New Brunswick

P2-C-10 - Validating tendon indentation as a biomechanically equivalent alternative to joint rotation for post-stroke stretch reflex assessment

Aryan Jadhav ¹, Sungjin Bae ², William Zev Rymer ²

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¹ Indian Institute of Technology (Banaras Hindu University), ² Shirley Ryan AbilityLab (Northwestern University)

P2-C-11 - The choice of low-pass filter cutoff frequency affects the interpretation of joint moments in gait

Valtteri Huttunen ¹, Juha-Pekka Kulmala ², Tom Thiel ³

¹ Helsinki University Hospital, ² HUS, ³ Metropolia University of Applied Sciences

P2-C-14 - Quantifying changes to paraspinal muscle pennation angle in response to alterations in lumbar posture and muscle activation

Shawn Beaudette ¹, Emma Ratke ¹, Jared Seick ¹, Libby Pirritano ¹, Jane Jowett ¹, Kashish Rakesh Motiyani ¹, Chris Vellucci ¹, Nicole Chimera ¹

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P2-E-16 - Detection of motor unit loss through analysis of the EMG amplitude profile during ramp contractions recorded with needle electrodes

Silvia Recalde-Villamayor ¹, Javier Rodriguez-Falces ¹, Javier Navallas ¹, Cristina Mariscal Aguilar ²

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P2-E-17 - More activation for less force? Increased HD-sEMG rms in charcot-marie-tooth disease type 1a (cmt1a)

Benedict Kleiser ^{1, 2}, Robert Hunter ³, Katie M. Di Sebastiano ³, Justus Marquetand ^{2, 4}, Thomas Klotz ⁵, Burak Senay ^{2, 6}

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P2-E-18 - Mapping the cortical representations of shoulder muscles in adults with rotator cuff related shoulder pain: A TMS study

Yuyao Ma ¹, Wolbert Van Den Hoorn ¹, Giacomo Nardese ², Viana Vuvan ^{1, 3}, Graham Kerr ^{2, 4}, Paul Hodges ^{1, 3}

¹ The University of Queensland, ² Queensland University of Technology, ³ The University of Queensland, School of Health and Rehabilitation Sciences, ⁴ The Queensland University of Technology, School of Exercise and Nutrition Sciences

P2-E-19 - Neural plasticity of the tibial-pelvic floor reflex after sensory stimulation of the foot

Yao Sun ¹, Molly Strain ¹, Tania Lam ¹

¹ University of British Columbia

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P2-E-20 - Muscle weakness and motor unit remodelling in intrinsic foot muscle of individuals with diabetic peripheral neuropathy

Rui Wu ¹, Rujin Tian ², Zhiyuan Lu ², Xiaoli Ma ³, Ping Zhou ², Giuseppe De Vito ⁴, Madeleine Lowery ¹

¹ University College Dublin, ² University of Health and Rehabilitation Sciences, ³ Qingdao Municipal Hospital, ⁴ University of Padova

P2-F-21 - A wearable electrode sleeve to improve functional electrical stimulation delivery for individuals with cervical spinal cord injury

Erin Clark ¹, Eugene Brukhman ², Skye Carlson ¹, Eric Schearer ³

¹ Cleveland State University, ² Pratt Institute, ³ The MetroHealth System

P2-F-22 - Optimisation of neuromuscular electrical stimulation parameters for treating sarcopenia in people on haemodialysis

Meghan Tanel ¹, Siyue Kong ², Katherine Leigh Hull ², Niamh Quann ², Emma Watson ², James O Burton ², Jakob Škarabot ¹, Jonathan P Folland ¹

¹ Loughborough University, ² University of Leicester

P2-G-23 - Acute effects of blood flow restriction on central motor drive and neuromuscular excitability

Franziska Bubeck ¹, Oliver Röhrle ¹, Leonardo Gizzi ^{1, 2}

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P2-G-24 - Changes in EMG-EMG coherence of ankle muscles during a submaximal fatigue task

Martin Bilodeau ¹

¹ University of Ottawa

P2-G-25 - Associations between force control and motor unit characteristics in individuals with anterior cruciate ligament reconstruction

Ava Schwartz ¹, David Sherman ², Tatiana Restrepo ¹, Matt Stock ¹, Jason Defreitas ³, Scott Bonette ⁴, Meredith Chaput ¹, Grant Norte ¹

¹ University of Central Florida, ² Northeastern University, ³ Syracuse University, ⁴ Cincinnati Children's Hospital

P2-G-26 - Pulse number vs. frequency: faster isn't always best

Alexander Paish ¹, Brian Dalton ^{1, 2}, Neil Eves ¹, Chris Mcneil ^{1, 2}

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P2-G-27 - Acute eccentric cycling reduces jump height and reactive strength index, with trial effects in drop jumps

Laura Ghiotto¹, Samuel D'emanuele¹, Mahsa Amini¹, Alessandro Murgia¹, Marta Schiavo¹, Alessandro Pileri¹, Federico Schena¹, Cantor Tarperi¹

¹ University of Verona

P2-G-28 - Multidimensional fatigability assessment in older adults of southern Switzerland: preliminary results

Matteo Beretta-Piccoli¹, Stefano Vercelli², Marco Barbero¹, Griseri Marco¹, Nancy Glynn³, Corrado Cescon¹

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P2-G-29 - Measuring sEMG during long duration hikes: a repeated measure data set to test the sensitivity and robustness of the median frequency for detecting muscle fatigue outside the laboratory - initial results

Laurent Bouyer¹, Cathy Morin², Quentin Mascret², Ali Riaz³, Benoit Gosselin¹, Younès Messaddeq¹

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P2-H-30 - Muniverse: a simulation and benchmarking suite for motor unit decomposition

Pranav Mamidanna¹, Thomas Klotz²

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P2-H-31 - Signal processing standard package for high-density surface electromyography in clinical applications

Francisco Samuel Neves Fidalgo¹, Rafael Castro Aguiar², Miguel Velhote Correia³

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P2-H-32 - Effect of subject-specific anisotropy on motor unit action potential and HDsEMG features

Jérémy Liegey¹, Diego Pereira Botelho¹, Madeleine Lowery¹

¹ University College Dublin

P2-I-33 - Too short to learn: low-force isometric control is stable within a single session

Burak Senay¹, Justus Marquetand², Jannick Sheuber³, Benedict Kleiser⁴

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P2-I-34 - Closed-loop neuroprosthetic control through spared neural activity restores proportional foot movements after spinal cord injury

Vlad Cnejevici ¹, Matthias Ponfick ², Raul Sîmpetru ¹, Alessandro Del Vecchio ¹

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P2-I-35 - Menstrual cycle-related differences in least and most steady periods of sustained submaximal force

Lani Campbell ¹, Cori Calkins ¹, Jennifer Jakobi ¹

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P2-I-36 - Multimodal assessment of finger individuation by cortical, corticospinal, and behavioral features

Macey Higdon ¹, Mansour Taleshi ^{1, 2}, Joel Rouste ¹, Tuomas Mutanen ¹, Vadim V. Nikulin ³, Elena Ukharova ¹, Selja Vaalto ⁴, Risto Ilmoniemi ¹, Pantelis Lioumus ¹, Ivan Vujaklia ¹, Hanna Renvall ^{1, 5}, Maria Nazarova ¹

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P2-I-37 - Does the training of single digits extension adjust the distribution of neural drives to hand muscles?

Rachel Borne ¹, Thomas Praud ¹, Francois Hug ², Simon Avrillon ¹

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P2-I-38 - Myokin3x: a myoelectric interface for single- and multi-digit 3D force feedback

Marius Oßwald ^{1, 2}, Charlotte Rohleder ², Alessandro Del Vecchio ²

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P2-I-39 - Kohnstamm-like EMG activity induced by sustained low-intensity trapezius activation

Marco Barbero ¹, Alessandro Schneebeli ¹, Stefano Vercelli ², Corrado Cescon ¹

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P2-I-40 - Cutaneous sensory stimulation enhances cervicomedullary motor-evoked potential amplitudes

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Hamid Amoozi ^{1, 2}, Rafael Fujita ³, Greg Pearcey ³, Duane Button ³

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P2-I-41 - Assessing corticospinal and spinal excitability of the biceps brachii during maximal repeated arm cycling sprint exercise: A pilot study

Shaemus Best ¹, Garreth Kippenhuck ¹, Evan Lockyer ¹, Hamid Amoozi ², Shahab Alizadeh ³, Duane Button ⁴

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P2-I-42 - Comparisons of the proprioceptive sense of force and position between the sexes

Kaitlyn Sutton ¹, Jordan Winter ¹, Greg Pearcey ¹

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P2-I-43 - Effects of antagonist tendon vibration on the reproduction of torque during dynamic contractions

Kaitlyn Sutton ¹, Greg Pearcey ¹

¹ Memorial University of Newfoundland

P2-J-44 - Multimodal characterisation of gait neural control in peroneal nerve palsy

Monika Jasenska ^{1, 2}, Barbora Kolarova ², Jiri Hornicek ², Petr Hlustik ², Ales Holobar ³

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P2-J-45 - Instrumented clinical scale assessment for the characterization of pediatric dystonia and spasticity

Alice Tadorelli ¹, Federica Graziola ², FRANCESCA LUNARDINI ³, Isabella Piccioni ¹, Eleonora Minacapilli ², Giovanna Simonetta Zorzi ⁴, Simona Ferrante ¹

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P2-J-46 - The effect of various states of muscle activation on tonic vibration reflex responses in the paretic upper limb of chronic hemiparetic stroke survivors with mild to moderate impairment

Kimberly Bassindale ¹, CJ Heckman ¹, Julius Dewald ¹

¹ Northwestern University

P2-K-47 - An exploration of HDsEMG decomposition of the triceps surae during submaximal plantarflexion in males and females

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Timothy Green ¹, Dan Blustein ², Victoria Chester ³, Usha Kuruganti ³

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P2-K-48 - Consistent force control despite distinct motor unit behaviours in tibialis anterior and vastus lateralis

Claudia Sabatini ¹, Balint Hodossy ¹, Simon Avrillon ², Arnault Caillet ³, François Hug ⁴

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P2-K-49 - Modulation of vastus medialis discharge patterns during static squat hold with hip adduction in older adults with knee osteoarthritis

Chia-Chan Wu ¹, Ing-Shiou Hwang ¹, Yueh Chen ²

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P2-K-50 - Estimates of motor unit number and size following two weeks of unilateral lower limb suspension: preliminary findings

Ricardo Mesquita ¹, Kaveh Pourhamidi ², Mirko Mandić ¹, Hatice Tankisi ³, Stefan Schneider ⁴, Constance Badali ⁴, Saul Martin-Rodriguez ¹, Rodrigo Fernandez Gonzalo ¹

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P2-K-51 - When effects are small – best practices for quantifying motor output across the menstrual cycle

Sophia Jenz ¹, Greg Pearcey ², Sophia Jenz ¹

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P2-K-52 - Comparison of surface motor unit potentials obtained from intramuscular EMG and high-density surface EMG for motor unit number estimation

Kaito Igawa ¹, Yu-Ichi Noto ², Ales Holobar ³, Kohei Watanabe ¹

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P2-K-53 - Electrode array segmentation increases the motor unit yield in high-density surface EMG decomposition

Mehdi Shirzadi ¹, Ales Holobar ², Mónica Rojas Martínez ³, Joan Francesc Alonso ⁴, Hamid Reza Marateb ⁵, Miguel Angel Mañanas ⁴, Silvia Muceli ⁶

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P2-K-54 - Evaluating sex differences in motor unit yield by comparing surface EMG electrode densities

J Greig Inglis ¹, Silvia Rio ¹, H lio Cabral ², Emma Ratke ³, Milena Dos Santos ⁴, Francesco Negro ¹

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P2-K-55 - Frequency- and intensity-dependent transmission of afferent synaptic inputs to spinal motoneurons

Elmira Pourreza ¹, Milena Aguiar Dos Santos ^{1, 2}, Nijia Hu ², H lio Cabral ³, J Greig Inglis ¹, Francesco Negro ¹

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P2-K-56 - Motor unit activation during the immediate response to standing external perturbations

Jayne Garland ¹, Tanya Ivanova ¹, Ales Holobar ²

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P2-K-57 - Influence of arm posture on motor unit action potential waveforms during grasping

Indya Ceroni ¹, H lio Cabral ², Francesco Negro ³, Marianna Semprini ¹

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P2-K-58 - Separation of mixed motor unit firing trains using a PCA and PSO-based algorithm

Zuyu Du ¹, Lara Mc Manus ¹

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P2-K-59 - Generating reliable training datasets for neural network-based motor unit counting in high-density surface EMG

Matja  Divjak ¹, Ales Holobar ¹

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P2-K-60 - Residual force enhancement and depression effects on motor unit behaviour

Riley Pike ¹, Ben Nazaroff ¹, Olivia Ryan ¹, Geoffrey Power ², Greg Pearcey ¹

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P2-K-61 - Priming the motor pool: the effects of warmup exercise on triceps surae motor unit firing patterns

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Liam Bavis¹, Riley Pike¹, Rafael Fujita¹, Emma Mitchell¹, Kaitlyn Sutton¹, Jakob Škarabot², Greg Pearcey¹

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P2-K-62 - Motor unit firing patterns across time of day

Nicholas Maher¹, Greg Pearcey¹

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P2-K-63 - Exploring sex differences in motor unit properties with absolute and relative torques

Cori Calkins¹, Ben Nazaroff², Gregory Pearcey³, Jennifer Jakobi¹

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P2-K-64 - Have some patience: determining the time required to mitigate repeated activation effects on motor unit recruitment

Emma Mitchell¹, Ethan Kean¹, Rafael Fujita¹, Nicholas Maher¹, Jakob Škarabot², Greg Pearcey¹

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P2-L-65 - Muscle synergies as a dynamic gait outcome for botulinum toxin therapy in individuals with post-stroke hemiparesis: a pilot study

Yuta Chujo¹, Nobuhiko Takeda¹, Naoto Mano², Hiroaki Tanaka^{1, 2}, Kimihiko Mori¹, Kimitaka Hase¹

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P2-L-66 - Exploring proximal-to-distal muscle coupling patterns in selective motor control impairments in children with Cerebral Palsy

Ellis Van Can¹, Jente Willaert^{1, 2}, Kaat Desloovere^{1, 2}, Anja Van Campenhout^{1, 2}, Friedl De Groote^{1, 2}

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P2-L-67 - Deep brain stimulation alters dual-task prioritization during walking in Parkinson's disease

Marco Ghislieri¹, Lorenzo Locorato¹, Fabrizio Sciscenti¹, Marco Knaflitz², Laura Rizzi³, Daniele Armocida³, Michele Lanotte³, Valentina Agostini¹

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P2-L-68 - Inter-session variability muscle synergies during upper limb elevation tasks in healthy subjects

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Francesco Scandelli ¹, Valentina Lanzani ², Federico Temporiti ³, Francesca Cappelletti ¹, Luca Canova ¹, Paola Adamo ¹, Roberto Gatti ^{1, 4}, Alessandro Scano ²

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P2-M-69 - Muscle activity differs between voluntary torque-matched concentric and eccentric contractions

Abdelmohsen Eldhma ¹, Brent Raiteri ¹, Daniel Hahn ¹

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P2-M-70 - Measure twice, apply once: evaluating the influence of forearm surface electrode placement on data quality

Daniel Cousins ¹, Sophia Nikitin ¹, Jason Aibi ¹, David Gabriel ¹, Mike Holmes ¹

¹ Brock University

P2-M-72 - Greater corticospinal excitability in resistance-trained than untrained individuals during high-level, but not low-level, contractions

Shosuke Shinzaki ¹, Sumiaki Maeo ¹, Nagisa Inubashiri ¹, Kento Dora ¹, Naoya Nishizawa ¹, Hiroaki Kanehisa ², Tadao Isaka ¹

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P2-M-73 - Soleus muscle stiffening through reactive activation promotes tendon decoupling and facilitates body energy management during drop-like perturbations

Sebastian Bohm ¹, Morteza Ghasemi ¹, Falk Mersmann ¹, Thomas Roberts ², Adamantios Arampatzis ³

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P2-M-74 - Changes in neural drive and mechanical properties of the triceps surae following high-intensity passive static stretching

André Brand Bezerra Coutinho ¹, Hélio Cabral ¹, Maria Clara Albuquerque Brandão ¹, Liliam Oliveira ¹

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P2-M-75 - Evolution of quadriceps maximal force after 1, 3 and 6th months post anterior cruciate ligament reconstruction

Rony Silvestre A. ¹, Joan Cadefau ², Josep María Padullés ², Cristian Paris ³, Roberto Yañez ⁴, Klaus Samson Nilo ⁵

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P2-M-76 - Altered step-to-step covariation amongst quadriceps and hamstring muscle activity following anterior cruciate ligament rupture during locomotion

Cristiano Alessandro ¹, Kevin Soter ¹, Celia L. Blanchet ¹, Mauro Nardon ¹, Francesco Parolini ¹, Massimo Dagnelut ¹, Alice Ranzini ², Marco Turati ¹, Marco Bigoni ¹, Matteo Zago ², Francesco Negro ³, Cecilia Perin ¹, Antonio Zaza ¹

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P2-M-77 - The muscle spindle behaves as a tunable feedback controller during perturbed locomotion

Surabhi Simha ¹, Gregory Sawicki ², Timothy Cope ³, Lena Ting ⁴

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P2-N-78 - Ultrasonographic evaluation of bilateral symmetry in Achilles tendon sub-tendon morphology and twist architecture

Masaki Ishikawa ¹, Ayaka Nobue ²

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P2-N-79 - Ultrasound-based methods to track skeletal muscle architecture in unconstrained dynamic tasks: a comparative study

Elena Cesti ¹, Marco Carbonaro ², Marta Boccardo ¹, Francesca Truscello ¹, Silvia Seoni ¹, Giacinto Luigi Cerone ^{1, 3}, Kristen Meiburger ¹, Brent Raiteri ⁴, Alberto Botter ¹

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P2-N-80 - Magnetomyography in a person-sized magnetic shield using optically pumped magnetometers

Eelis Eklund ¹, Lauri Parkkonen ¹, Harri Piitulainen ², Joonas Iivanainen ¹, Olli Pikkarainen ¹

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P2-O-82 - The effect of eccentric exercise-induced delayed onset neck muscle soreness on force steadiness and the spatial distribution of neck extensor muscle activity

Hirofumi Sageshima ¹, Michail Arvanitidis ², Georgios Sidiropoulos ³, Yaron River ⁴, Deborah Falla ²

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P2-P-83 - Electromyographic biomarkers for rehabilitation after stroke (EMBRs)

Jasmine Usher¹, Martin Seyres¹, Jacqui Morris¹, Alejandra Aranceta-Garza¹

¹ University of Dundee

P2-P-85 - The dose-response relationship of musculo-tendinous vibration training: study protocol

Emy Nerriere^{1, 2}, Vincent Malejac², Mathias Velarde^{2, 3}, Hugo Bessaguet⁴, Charles-Étienne Benoît⁵, Thomas Lapole²

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P2-P-86 - Focal vibration as a countermeasure to ULLS-induced neuromuscular deconditioning

Mathias Velarde¹, Leonard Feasson², Vincent Malejac², Emy Nerriere³, Hugo Bessaguet⁴, Geraldine Poenou⁵, Laurence Vico⁶, Maximilien Bowen⁷, Baptiste Morel⁷, Mathieu Berger², Guillaume Millet², Giacomo Valli⁸, Damien Freyssenet², Thomas Lapole

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P2-P-87 - Peroneus brevis muscle size and ankle strength adaptations during the first 12 weeks following lateral ankle ligament reconstruction

Annabelle Calderon^{1, 2}, Christopher Cleary^{3, 4}, Trisha Evans², Sterre Van Der Ziel^{5, 6}, Ian Harmon^{6, 7}, Hunter Post^{6, 7}, Bryan Vopat^{6, 8}, Yu Gu², Wanyan Su², Yu Song², Trent Herda², Ashley Herda²

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P2-P-88 - Augmented reality EMG biofeedback for optimizing upper-to-middle trapezius activation during seated row training: a pilot comparison with conventional coaching

Arman Farsi¹, Giacinto Luigi Cerone^{1, 2}, Michail Arvanitidis³, Deborah Falla³, Marco Gazzoni¹

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P2-P-89 - Routinely used standardized measures of participation after stroke: a systematic review

Tamara Eichelberger¹, Preeti Oza²

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P2-P-90 - Differences in quadriceps and hamstring muscle activation in female anterior cruciate ligament reconstruction surgical patients

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P2-P-91 - Differential recruitment of dorsal root and cutaneous afferents during transcutaneous spinal cord stimulation

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P2-P-92 - Transcutaneous spinal cord stimulation excites biceps femoris motoneurons by recruiting afferents in the dorsal roots and skin of the back

Jonah Rivette ¹, Stephanie A. Larosa ¹, David F. Collins ¹

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P2-P-93 - Evaluating the effects of cognitive load on postural stability and balance recovery mechanisms in younger adults

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P2-R-94 - Hypertrophic and strength adaptations after knee extension and leg press exercises performed alone or in combination

Momoka Kinoshita ¹, Sumiaki Maeo ¹, Yuuto Kobayashi ¹, Yuuri Eihara ¹, Naoya Nishizawa ¹, Hoshizora Ichinose ¹, Yuki Kusagawa ¹, Takashi Sugiyama ², Taku Wakahara ³, Hiroaki Kanehisa ⁴, Tadao Isaka ¹

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P2-R-95 - Effects of bed rest on functional connectivity of the lumbar muscles during treadmill walking

Mathias Kristiansen ¹, Pascal Madeleine ¹, Enrico De Martino ¹

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P2-R-96 - Muscle-specific modulation of motor unit discharge rates during the flat bench press exercise

João Gabriel Portilho ¹, Roger G. T. Mello ¹, Francesco Negro ², Amanda O. Silva ¹, Liliam Oliveira ^{1, 3}, Hélio Cabral ^{1, 3}

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P2-R-97 - Neural drive to the quadriceps across different force levels during parallel and sumo squat exercises

Amanda Silva ¹, Roger G. T. Mello ¹, Francesco Negro ², João Gabriel Portilho ¹, Liliam Oliveira ^{1, 3}, Hélio Cabral ^{1, 3}

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P2-R-98 - Motor unit behavior differs between single joint and multi joint isometric exercises assessed with high density surface EMG

Kevin Méndez-Bouza ¹, Daniel Marcos Frutos ², Amador García-Ramos ², Gonzalo Márquez ³

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P2-R-99 - Bilateral asymmetries in explosive movement time and limb-specific force–power relationships in youth ice hockey goaltenders

Jack Benson ¹, Seamus Best ², Rafa Fujita ², Emma Mitchell ², Ryan Murphy ², Kaitlyn Sutton ², Jordan Winter ², Duane Button ², Gregory Pearcey ², Kevin Power ²

¹ Memorial University of Newfoundland and Labrador, ² Memorial University of Newfoundland

P2-S-101 - Design and validation of a high-resolution wearable 8-channel sEMG system with integrated motion sensing and haptic feedback

Mounir Shaib ^{1, 2}, Vlad Cnejevici ², Devon Rohlf ³, Raul Sîmpetru ², Alessandro Del Vecchio ²

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P2-S-102 - VR headset-based shoulder tracking validated against optical motion capture

Nima Hadavi ¹, Matti Itkonen ¹

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P2-S-103 - Assessing post-stroke gait and stair walk using wearable motion sensors: clinical implications

Helena Grip ¹, Per Ertzgaard ²

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P2-S-104 - A single inertial sensor gait asymmetry score

Ivan Huuva ¹, Helena Grip ²

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