# Saturday, 30<sup>th</sup> June



| Poster<br>Number | Title   | Presenting<br>Author       | Affiliation  | Theme        |
|------------------|---|----------------------------|--|--------------|
| PI.1             | Intramuscular Pressure of Tibialis Anterior Muscle Reflects in vivo Motor Unit Activity   | Filiz Atez                 | Mayo Clinic  | Biomechanics |
| PI.2             | Talocrural and subtalar joint kinematics: is dynamic Computed Tomography a reliable tool to investigate joint motion?                                     | Luca Buzzatti              | Vrije Universiteit Brussel                         | Biomechanics |
| PI.3             | Tracking system of human scapula using sonography: new opportunity to assess scapula diskinesia   | Manuel González<br>Sánchez | University of Málaga                               | Biomechanics |
| PI.4             | Tendon and aponeurosis displacement magnitude is different in gastrocnemius lateralis but not medialis during a submaximal isometric contraction          | Susann Wolfram             | University of Bath                                 | Biomechanics |
| PI.5             | Ultrasound-based strain mapping for quantitative characterization of uterine activity outside pregnancy   | Yizhou Huang               | Eindhoven University of Technology                 | Biomechanics |
| PI.6             | The effects of age and sex on gait muscle activation and activation variability: Unique muscle recruitment at the stance-to-swing phase for aging females | Christopher Bailey         | McGill University                                  | Biomechanics |
| PI.7             | Biomechanics of a "giving way" episode in an individual with chronic ankle instability: a case report   | Alexandria Remus           | UCD/ Insight                                       | Biomechanics |
| PI.8             | Forearm muscle activity and wrist kinematics during dynamic wrist movements with sudden perturbations   | Garrick Forman             | Brock University                                   | Biomechanics |
| PI.9             | Effect of bad posture on the standing balance?  | Rita Kiss                  | Budapest University of Technology and<br>Economics | Biomechanics |
| PI.10            | Effect of Joint Angle on Electromyography and Near Infra-red Spectroscopy during Fatiguing Contractions of the Elbow Flexors in Men and Women             | Usha Kuruganti             | University of New Brunswick                        | Biomechanics |

# Saturday, 30th June



International Society of Electrophysiology and Kinesiology UNIVERSITY COLLEGE DUBLIN

JUNE 29th - JULY 2nd 2018

| Poster<br>Number | Title   | Presenting<br>Author      | Affiliation   | Theme                                     |
|------------------|---|---------------------------|---|---|
| PI.11            | Effect of automobile tire changing work height on upper body muscle activation  | Alexander<br>Vanlderstine | University of New Brunswick   | Biomechanics                              |
| PI.12            | Characterising Human Muscle Postactivation Potentiation by MMG and Force  | Niall Campbell            | Institute of Technology Blanchardstown  | Modelling, Signal<br>Processing & Sensing |
| PI.13            | Use of the variance ratio to facilitate validation of motor unit discharge rates in the flexor carpi radialis (FCR) obtained by decomposition of the surface electromyographic signal | Robert Kumar              | Brock University  | Modelling, Signal<br>Processing & Sensing |
| PI.14            | Static Nonlinear Transformation of Excitation Model Input as an Alternative to Feedback Control in EMG-Force Models   | Eike Petersen             | University of Lübeck  | Modelling, Signal<br>Processing & Sensing |
| PI.15            | Variability of hand motions quantified using EMG root mean square and mean frequency  | Asim Waris                | Aalborg Univeristy Denmark  | Modelling, Signal<br>Processing & Sensing |
| PI.16            | Automatic Window Selection for Quantifying Neuromuscular Jiggle   | Kamil Savaş               | Akdeniz University  | Modelling, Signal<br>Processing & Sensing |
| PI.17            | On the accuracy of single motor unit firing detection from high-density surface electromyograms   | Filip Urh                 | University of Maribor, Faculty of Electrical<br>Engineering and Computer Science      | Modelling, Signal<br>Processing & Sensing |
| PI.18            | Measuring the changes in Soleus EMG activity: Effect of electrode placements  | Sridhar Arjunan           | RMIT University   | Modelling, Signal<br>Processing & Sensing |
| PI.19            | Neck electro-tactile stimulation induces forward leaning during upright posture   | Alessandro De<br>Nunzio   | School of Sport, Exercise and<br>Rehabilitation Sciences, University of<br>Birmingham | Motor Control                             |
| PI.20            | Trunk Muscle Activation Patterns Interact with Clinical Instability to Influence Low Back Reinjury Risk   | D-Adam Quirk              | Dalhousie University  | Motor Control                             |

## Saturday, 30<sup>th</sup> June



| Poster<br>Number | Title   | Presenting<br>Author | Affiliation   | Theme         |
|------------------|---|----------------------|---|---------------|
| PI.21            | Regularity of force control in individuals with and without a recent anterior cruciate ligament rupture   | Sarah Ward           | University of Auckland  | Motor Control |
| PI.22            | Effects of low-intensity vibration exercise on muscle activation  | Lin Xu               | Eindhoven University of Technology  | Motor Control |
| PI.23            | Sit-to-stand task muscular pattern for different backrest inclinations  | Nadège Tebbache      | I.N.U Champollion   | Motor Control |
| PI.24            | Co-contraction in the lower extremity postural control muscles during continuous support-surface perturbations is reduced with previous experience. | Carolyn Duncan       | Virginia Tech   | Motor Control |
| PI.25            | Sex-differences in surface electromyography during pull-up tests  | Pascal Madeleine     | Aalborg University  | Motor Control |
| PI.26            | Intermuscular coherence in the trunk muscles during gait: does fear of movement in chronic low-back pain patients affect intermuscular coherence?   | Bart van Trigt       | The Hague University of Applied<br>Sciences                                       | Motor Control |
| PI.27            | Dependence of EMG signals on body position in arm cycling movements.  | Jozsef Laczko        | Wigner Research Centre for Physics  | Motor Control |
| PI.28            | Reduced sensory input from the feet affects mechanical role of muscle synergies but not related muscles   | Akari Kubo           | Graduate School of Human and<br>Environmental Studies, Kyoto University,<br>Japan | Motor Control |
| PI.29            | Simultaneous and Proportional Myoelectric Control for a Robotic Arm with Multilayer Perception Network and limited samples                          | Chuang Lin           | Shenzhen Institutes of Advanced<br>Technology, Chinese Academy of<br>Sciences     | Motor Control |
| PI.30            | Impairments in motor units firing and recruitment due to diabetic polyneuropathy progression: a high-density sEMG study in isometric contractions   | Eneida Suda          | University of São Paulo   | Motor Control |

# Saturday, 30<sup>th</sup> June



| Poster<br>Number | Title  | Presenting<br>Author            | Affiliation   | Theme                                   |
|------------------|--|---------------------------------|---|---|
| PI.31            | Evaluation of recovery of lumbopelvic movement and motor control of individuals with nonspecific LBP using repeated forward bending task | Sharon Tsang                    | The Hong Kong Polytechnic University  | Motor Control                           |
| PI.32            | The Effects of Virtual and Traditional Golf Programs on Balance During Golf Swing in Chilren With Cerebral Palsy                         | Selda Uzun                      | Marmara Universitesi  | Motor Control                           |
| PI.33            | The fractal fluctuations of kinematic synergy in human gait rhythm   | Naomi Tsugita                   | Graduate School of Human and<br>Environmental Studies, Kyoto University           | Motor Control                           |
| PI.34            | Inter-limb coordination of redundant muscle activation was modularly regulated in shared bimanual reaching tasks                         | Shota Hagio                     | The University of Tokyo   | Motor Control                           |
| PI.35            | Impact of Malocclusion on the Masseter and Temporalis Muscles of Children  | Simone Cecilio<br>Hallak Regalo | School of Dentistry of Ribeirão Preto,<br>University of São Paulo, Ribeirão Preto | Motor Disorders &<br>Neurophysiology    |
| PI.36            | Electromyography and kinetics comparison of the lower extremity between barefoot and high heel gait                                      | Mohammad<br>Barnamehei          | Islamic Azad University of Science and<br>Research Branch                         | Motor Disorders &<br>Neurophysiology    |
| PI.37            | Regularity of force control in participants with and without spastic Cerebral Palsy during isometric contractions of the elbow joint     | Lukas Wiedemann                 | University of Auckland  | Motor Disorders &<br>Neurophysiology    |
| PI.38            | Development Of A Method To Detect The Impact Of Pain Relief On Muscle Activity In Knee Osteoarthritic Patients: Preliminary Results      | Sophie Jeandel                  | CRCHUM  | Motor Disorders &<br>Neurophysiology    |
| PI.39            | The impact of vibration on shoulder muscle activity: An EMG study  | Omid Khaiyat                    | Liverpool Hope University   | Motor Performance and<br>Sports Science |
| PI.40            | Functional connectivity of hand-arm muscles during a repetitive fatiguing task   | Afshin Samani                   | Aalborg University  | Motor Performance and<br>Sports Science |

# Saturday, 30<sup>th</sup> June



| Poster<br>Number | Title   | Presenting<br>Author    | Affiliation  | Theme                                   |
|------------------|---|-------------------------|--|---|
| PI.41            | Comparison of the etiology of neuromuscular fatigue among the lower limb muscles between boys and men.                                | Enzo Piponnier          | AME2P Laboratory, Clermont-Auvergne<br>University, FRANCE          | Motor Performance and<br>Sports Science |
| PI.42            | Surya Namaskar Practice On Body Weight, Body Mass Index, And Body Fat In Obese Females: A Case Study                                  | Khaothin Thawichai      | Suranaree University of Technology                                 | Motor Performance and<br>Sports Science |
| PI.43            | An investigation of the EMGs spatial distribution on pectoralis major during flat and inclined bench press                            | Felipe Mancebo          | Federal University of Rio de Janeiro                               | Motor Performance and<br>Sports Science |
| PI.44            | The Effects Head/Neck Injury on Motor-neuron Reflex Excitability, Motor Preparation and Reaction Time: A Pilot Study                  | James Agostinucci       | University of Rhode Island   | Motor Performance and<br>Sports Science |
| PI.45            | Performance Evaluation on Endoscopic Tasks from Forearms EMG signals within High Trained Surgeons                                     | Hideo Nakamura          | Osaka Electro-Communication University                             | Motor Performance and<br>Sports Science |
| PI.46            | Kinematic and muscular response to impacts on the shoulder  | Elie Truyen             | Royal Military Academy, Brussels                                   | Motor Performance and<br>Sports Science |
| PI.47            | The effects of figure-ground reversal visual clue on the throwing performance of individuals with cerebral palsy                      | Ryo Yonetsu             | Kanagawa University of Human Services/<br>School of Rehabilitation | Motor Performance and<br>Sports Science |
| PI.48            | Neuromuscular coordination and recruitment differences of badminton forehand overhead smash executed by elite and non-elite athletics | Hamidreza<br>Barnamehei | Islamic Azad University of Science and<br>Research Branch          | Motor Performance and<br>Sports Science |
| PI.49            | Angular acceleration of the head of snowboarder that immobilizes the head   | Toshihiko<br>Hashimoto  | Ryotokuji University   | Motor Performance and<br>Sports Science |
| PI.50            | Effect of different pre-processing methods on somatosensory evoked potentials.  | Imran Khan Niazi        | New Zealand College Of Chiropractic                                | Motor Disorders &<br>Neurophysiology    |

# Saturday, 30<sup>th</sup> June



| Poster<br>Number | Title  | Presenting<br>Author | Affiliation   | Theme   |
|------------------|--|----------------------|---|---|
| PI.51            | Upper limb recovery in aphasic patients after vascular accident: a theory.   | Deanna Anderlini     | The University of Queensland  | Motor Disorders &<br>Neurophysiology            |
| PI.52            | Sensory, Visual Spatial, and Motor Planning Activity Supports Motor Cortex Efficiency After Neuromuscular Training                                     | Dustin Grooms        | Ohio University   | Motor Disorders &<br>Neurophysiology            |
| PI.53            | Muscle-tendon Units Localization and Activation Level Analysis based on High-Density Surface EMG signals   | Huang Chengjun       | Guangdong Work Injury Rehabilitation<br>Center                                | Motor Disorders &<br>Neurophysiology            |
| PI.54            | The arms and legs work better when used together: amplification of rhythmic activity-dependent suppression of soleus Hoffmann reflexes                 | Gregory Pearcey      | University of Victoria  | Motor Disorders &<br>Neurophysiology            |
| PI.55            | Electromyographic analysis of shoulder girdle muscles in swimmers with shoulder pain   | Elnaz Sabzehparvar   | Karaj Branch, Islamic Azad University,<br>Karaj, Iran.                        | Rehabilitation /<br>Rehabilitation Technologies |
| PI.56            | A previous knee injury leads to an increase in intermuscular synchronization of the vastii muscles   | Maurice Mohr         | University of Calgary   | Rehabilitation /<br>Rehabilitation Technologies |
| PI.57            | Maintaining lumbar spine stability: A study of the specific and combined effects of abdominal activation and lumbar belt on lumbar intrinsic stiffness | Christian Lariviere  | Institut de recherche Robert-Sauvé en santé et en sécurité du travail (IRSST) | Rehabilitation /<br>Rehabilitation Technologies |
| PI.58            | THE EFFECT OF INSTRUCTION ON THE ACTIVITY OF ANKLE MUSCLES WHILE INDIVIDUALS STAND WITH THE EMG BIOFEEDBACK  | Fabio dos Anjos      | Politecnico di Torino   | Rehabilitation /<br>Rehabilitation Technologies |
| PI.59            | Ulnar nerve Conduction Block Using Surface Kilohertz Frequency Alternating Current- A Feasibility Study  | Shmuel Springer      | Ariel University Israel   | Rehabilitation /<br>Rehabilitation Technologies |
| PI.60            | Effects of Isometric Contractions Superimposed on Vibration Stimulation in Upper and Lower Limb Muscles for Rehabilitation Applications                | Amit Pujari          | University of Hertfordshire and University of Aberdeen                        | Rehabilitation /<br>Rehabilitation Technologies |

# Saturday, 30<sup>th</sup> June



International Society of Electrophysiology and Kinesiology UNIVERSITY COLLEGE DUBLIN

JUNE 29th - JULY 2nd 2018

| Poster<br>Number | Title  | Presenting<br>Author  | Affiliation  | Theme   |
|------------------|--|-----------------------|--|---|
| PI.61            | Cross-education does not accelerate the recovery of muscle strength and neuromuscular function after ACL reconstruction: a randomized controlled clinical trial                        | Tjerk Zult            | School of Medicine, Anglia Ruskin<br>University, Cambridge, United Kingdom | Rehabilitation /<br>Rehabilitation Technologies |
| PI.62            | The effects of static stretching on range of motion and shear elastic modulus with different rest interval duration  | Masatoshi<br>Nakamura | Niigata University of Health and Welfare                                   | Rehabilitation /<br>Rehabilitation Technologies |
| PI.63            | Dynamic gait analysis with two types of knee orthosis in healthy adults  | Keio Ishiguro         | Tokyo University of Technlogy  | Rehabilitation /<br>Rehabilitation Technologies |
| PI.64            | Participants' views on the "blinding" aspect of a RCT study - Experiences from evaluation of TES concept for self-administered treatment of spasticity                                 | Leif Sandsjö          | University of Borås  | Rehabilitation /<br>Rehabilitation Technologies |
| PI.65            | Comparison between the EMG activation of supraspinatus and infraspinatus muscles during shoulder abduction movement while generating different hand grip strength in healthy subjects. | Macarena Soldan       | MEDS clinics   | Rehabilitation /<br>Rehabilitation Technologies |
| PI.66            | Evaluation of the Biomechanics and Neuromechanics of Lifting Tasks for the Real-<br>Time Control of Electrical Stimulation   | Giacomo Severini      | University College Dublin  | Modelling, Signal<br>Processing & Sensing       |
| PI.67            | Investigation of Two Channel Surface Electromyogram Measurement in Lower Extremities for Wearable Devices Targeting Periodic Limb Movements Detection at Home                          | Kana Eguchi           | Kyoto University   | Modelling, Signal<br>Processing & Sensing       |
| PI.68            | Development of MMG / EMG Hybrid Transducer System for Muscle Contraction<br>Evaluation during Dynamic Exercises  | Hisao Oka             | Okayama University   | Modelling, Signal Processing & Sensing          |
| PI.69            | Assessment of breathing effort using surface diaphragm electromyography: preliminary results   | Massimo Mischi        | Eindhoven University of Technology   | Modelling, Signal<br>Processing & Sensing       |
| PI.70            | Estimating Quasi-Static Joint Mechanical Impedance from EMG via Training from a Single Trial   | Ted Clancy            | Worcester Polytechnic Institute  | Modelling, Signal<br>Processing & Sensing       |

## Sunday, 1st July



| Poster<br>Number | Title   | Presenting<br>Author | Affiliation  | Theme        |
|------------------|---|----------------------|--|--------------|
| PII.1            | The effect of distal transverse arch on wrist joint during dart-throwing motion   | Akio Ueda            | Hiroshima University   | Biomechanics |
| PII.2            | Evaluation of Atraumatic Hip Instability Measured by Triaxial Accelerometry During Walking.   | Iver Cristi-Sanchéz  | Universidad Mayor  | Biomechanics |
| PII.3            | Degradation study of biodegradable polylactic acid/ bioactive glass composite screw   | Amir Shafaat         | 1.Arak University of Technology 2.Isfahan University of Medical Sciences 3.Musculoskeletal Research Center Isfahan University of Medical Sciences, Isfahan, Iran | Biomechanics |
| PII.4            | Use of principal component analysis to determine movement characteristics between countermovement jump with and without arm swing   | Emily Cushion        | St Mary's University   | Biomechanics |
| PII.5            | Deltoid antagonistic co-activation at different arm elevation planes  | Vassilios Vardaxis   | Des Moines University  | Biomechanics |
| PII.6            | A study of the toes pressing force in gait.: Analysis of the time when the pressing force peaked.   | Iori Arisue          | Kansai University of Welfare Sciences  | Biomechanics |
| PII.7            | Analysis of the 3-direction force for pedal and the muscle activity, the joint movement during the constant work rate pedaling.   | Atsushi Iwashita     | Yamato university  | Biomechanics |
| PII.8            | Walking critical speed percentage: oxygen consumption, step frequency and perceived effort  | Andreia Aires        | Pontifical Catholic University of Rio<br>Grande do Sul   | Biomechanics |
| PII.9            | Title: The influence of early radiographic evidence of knee osteoarthritis on muscle activation patterns and joint biomechanics: A between-limb comparison in people with unilateral symptoms | Derek Rutherford     | Dalhousie University   | Biomechanics |

# Sunday, 1st July



| Poster<br>Number | Title  | Presenting<br>Author                        | Affiliation   | Theme                                     |
|------------------|--|---|---|---|
| PII.10           | Evaluation of shoulder stability in young and elderly subjects with helical axis technique   | Corrado Cescon                              | University of Applied Sciences and Arts<br>of Southern Switzerland                          | Biomechanics                              |
| PII.11           | Observing sEMG output when doing a maximum voluntary isometric contraction in supine position as compared to a maximum isometric contraction in standing position. | Kari Huseth                                 | University of Gothenburg  | Biomechanics                              |
| PII.12           | Model of phase locking in the subthalamo-pallidal loop in Parkinson's Disease  | Lucas Koelman                               | University College Dublin   | Modelling, Signal<br>Processing & Sensing |
| PII.13           | An automatic procedure for the accurate extraction of the sEMG envelope  | Simone Ranaldi                              | University Roma TRE   | Modelling, Signal<br>Processing & Sensing |
| PII.14           | Advancements in Rapid Calibration of Dynamic EMG-Force Models at the Hand/Wrist Using a Minimum Number of Electrodes   | Ted Clancy                                  | Worcester Polytechnic Institute   | Modelling, Signal<br>Processing & Sensing |
| PII.15           | Activity of biceps brachii's short head and long head during submaximal isometric voluntary contractions   | Subaryani<br>Dambawati<br>Harjaya Soedirdjo | Laboratory for Engineering of the<br>Neuromuscular System (LISiN),<br>Politecnico di Torino | Modelling, Signal<br>Processing & Sensing |
| PII.16           | Scanning-EMG masked least-squares averaging from multiple-discharges recordings  | Javier Navallas                             | Public University of Navarra  | Modelling, Signal<br>Processing & Sensing |
| PII.17           | Automatic High Density Surface EMG Decomposition in Amyotrophic Lateral Sclerosis and a Novel Validation Method  | Maoqi Chen                                  | University of Science and Technology of China   | Modelling, Signal<br>Processing & Sensing |
| PII.18           | Proximal upper limb muscles outperform distal limb muscles when learning the same motor task   | Bernadette<br>Murphy                        | University of Ontario Institute of<br>Technology  | Motor Control                             |
| PII.19           | The reliability of TMS-Derived Indices of Corticomotor Inhibition and Corticospinal Excitability in two distinct populations                                       | Thomas Di Virgilio                          | University of Stirling  | Motor Control                             |

## Sunday, 1st July



| Poster<br>Number | Title  | Presenting<br>Author     | Affiliation                                      | Theme         |
|------------------|--|--------------------------|--|---------------|
| PII.20           | Chiropractic Manipulation Increases Maximal Bite Force in Healthy Individuals  | Mustafa Görkem<br>Özyurt | Koc University                                   | Motor Control |
| PII.21           | Interplay between body sway and intrinsic foot muscle activation for postural balance control in humans                                    | Elisabetta Ferrari       | Manchester Metropolitan University               | Motor Control |
| PII.22           | Characterizing forearm muscle recruitment patterns during radial and ulnar rotation of the wrist using a haptic wrist robot                | Davis Forman             | University of Ontario Institute of<br>Technology | Motor Control |
| PII.23           | Decreased cortical white matter integrity in patients with Degenerative Cervical Myelopathy-A Diffusion Spectrum Imaging Study             | shwufen Wang             | National Taiwan University                       | Motor Control |
| PII.24           | Immediate change in electromyographic activity after different types of trunk muscle exercises   | Takuya Nishikawa         | Kawakubo hospital                                | Motor Control |
| PII.25           | The effect of cooling at the elbow on Nerve Conduction Velocity and Motor Unit behavior: An exploration of a novel Neurological Assessment | Liane Macedo             | Federal University of Rio Grande do<br>Norte     | Motor Control |
| PII.26           | Differences in force normalising procedures on estimates of relative output during submaximal eccentric contractions                       | Jakob Skarabot           | Northumbria University                           | Motor Control |
| PII.27           | Stimulus-locked responses and corrective reaches are selective for low spatial frequency visual stimuli                                    | Rebecca Kozak            | Western University                               | Motor Control |
| PII.28           | Evaluation of shoulder muscle coordination during arm elevation and lowering based on muscle synergy                                       | Jun Umehara              | Kyoto University                                 | Motor Control |
| PII.29           | Acute effects of vibration exercise on human balance   | Massimo Mischi           | Eindhoven University of Technology               | Motor Control |

# Sunday, 1st July



| Poster<br>Number | Title  | Presenting<br>Author                   | Affiliation   | Theme                                |
|------------------|--|--|---|--------------------------------------|
| PII.30           | Time/frequency patterns of EMG wavelet intensity of vastus medialis and lateralis of runners discriminate frequency bands that individually shift while running. | Vinzenz von<br>Tscharner               | University of Calgary   | Motor Control                        |
| PII.31           | The effect of muscle fatigue on neuromuscular activation of quadriceps femoris muscles during isometric sine-wave force tracking task                            | Aya Tomita                             | Nagoya University   | Motor Control                        |
| PII.32           | Position versus velocity controls in a simplified target acquisition task to improve future myoelectric controls   | Mathilde Couraud                       | INCIA - CNRS UMR 5287   | Motor Control                        |
| PII.33           | Effect of neuromuscular stimulation of antagonist muscles for voluntary drive  | Kenichi Sugawara                       | Kanagawa University of Human Services   | Motor Control                        |
| PII.34           | Postural strategies for blind and sighted individuals during standing  | Masaki Iguchi                          | Tsukuba University ofTechnology   | Motor Control                        |
| PII.35           | Influence of Parkinson's Disease in the muscles of the Stomatognathic System   | Simone Cecilio<br>Hallak Regalo        | School of Dentistry of Ribeirão Preto,<br>University of São Paulo, Ribeirão Preto | Motor Disorders &<br>Neurophysiology |
| PII.36           | The association between activity and stiffness of the back extensor muscles in people with low back pain   | Carlos Murillo                         | Centre of precission rehabilitation for spinal pain, University of Birmingham     | Motor Disorders &<br>Neurophysiology |
| PII.37           | Effect of Intermittent Hypoxia on Upper Extremity Function in Individuals with Spinal Cord Injury  | Milap Sandhu                           | Shirley Ryan AbilityLab   | Motor Disorders &<br>Neurophysiology |
| PII.38           | Impact of Osteoarthrosis in the muscles of the Stomatognathic System   | Ligia Maria<br>Napolitano<br>Gonçalves | School of Dentistry of Ribeirão Preto,<br>University of São Paulo                 | Motor Disorders &<br>Neurophysiology |
| PII.39           | Changes in function due to high intensity exercise in Parkinson's Disease examined using instrumented clinical tests   | Ben O'Callaghan                        | University College Dublin   | Motor Disorders & Neurophysiology    |

## Sunday, 1st July



| Poster<br>Number | Title  | Presenting<br>Author        | Affiliation  | Theme                                   |
|------------------|--|-----------------------------|--|---|
| PII.40           | Effect of resistance training on motor unit firing pattern in elderly  | Kohei Watanabe              | Chukyo University  | Motor Performance and<br>Sports Science |
| PII.41           | Investigation of parasympathetic nervous system response with measuring R-R interval of pulse using wrist-watch during different jogging | Takashi Nakayama            | Tokyo University of Technology                                   | Motor Performance and<br>Sports Science |
| PII.42           | Muscle fatigue and metabolic responses during whole-body electrical myostimulation with and without voluntary exercise                   | Shuhei Kawade               | MTG Co.,Ltd.   | Motor Performance and<br>Sports Science |
| PII.43           | Racing Strategy Pattern Of Men's Single Sculls Para-Rowing   | Khaothin Thawichai          | Suranaree University of Technology                               | Motor Performance and<br>Sports Science |
| PII.44           | A Kinematic Comparison of the visual impairment running and low vision running   | Pornthep Rachnavy           | Suranaree University of Technology                               | Motor Performance and<br>Sports Science |
| PII.45           | Muscle activity and steering performance using five steering input devices operating a heavy machine simulator                           | Afshin Samani               | Aalborg University   | Motor Performance and<br>Sports Science |
| PII.46           | Relationship between trunk kinematics measured by smartphone inertial sensor and contact mat scores in plyometric tests                  | Alejandro Galán-<br>Mercant | University of Jaén   | Motor Performance and<br>Sports Science |
| PII.47           | Leg and trunk muscle activity in different positions performing on a double slackline in young adults                                    | Ralf Roth                   | University of Basel  | Motor Performance and<br>Sports Science |
| PII.48           | Evaluating Aberrant Muscle Activity Patterns During Functional Tests   | Paolo Bonato                | Harvard Medical School   | Motor Performance and<br>Sports Science |
| PII.49           | Audiovisual Multisensory Processing and evoked potentials in Adult Attention-Deficit/<br>Hyperactivity Disorder                          | Paul Yielder                | University of Ontario Institute of Technology, Deakin University | Motor Disorders &<br>Neurophysiology    |

# Sunday, 1st July



International Society of Electrophysiology and Kinesiology

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| Poster<br>Number | Title  | Presenting<br>Author | Affiliation  | Theme   |
|------------------|--|----------------------|--|---|
| PII.50           | Long-term changes in the impedance at the electrode-tissue interface of deep brain stimulation electrodes  | Judith Evers         | University College Dublin  | Motor Disorders &<br>Neurophysiology            |
| PII.51           | Why don't we bite our tongue while eating? An intramuscular electromyography study to elucidate the neuroanatomical circuitry between the masseter and the genioglossus in humans during chewing | Beatrice Senocak     | Koç University Shool of Medicine                                   | Motor Disorders &<br>Neurophysiology            |
| PII.52           | Ageing. It's a Trap! Neuromuscular properties of the superior trapezius.   | Eric Kirk            | The University of Western Ontario                                  | Motor Disorders &<br>Neurophysiology            |
| PII.53           | Cutaneous reflexes modulation in arm muscles during self-triggered and/or prolonged stimulation  | Yao Sun              | University of Victoria   | Motor Disorders &<br>Neurophysiology            |
| PII.54           | Effects of an ankle foot orthosis that can recreate dorsiflexion of the metatarsophalangeal joint on gait in a child with spastic hemiplegia cerebral palsy                                      | Ryo Yonetsu          | Kanagawa University of Human Services/<br>School of Rehabilitation | Rehabilitation /<br>Rehabilitation Technologies |
| PII.55           | Effects of subliminal vibration on tactile perception discrimination thresholds  | Junichi Suzuki       | Faculty of Nursing and<br>Rehabilitation,Konan Women's University  | Rehabilitation /<br>Rehabilitation Technologies |
| PII.56           | Myoelectric pattern recognition driven robotic hand assisted training after spinal cord injury   | Huang Chengjun       | Guangdong Work Injury Rehabilitation<br>Center                     | Rehabilitation /<br>Rehabilitation Technologies |
| PII.57           | Analysis of functional role of the human rectus femoris muscle by frequency analysis of EMG  | Masaki Yoshida       | Osaka Electro-Communication University                             | Rehabilitation /<br>Rehabilitation Technologies |
| PII.58           | Electrocardiographic and functional near-infrared spectroscopic analysis of effects of tactile stimulation on relaxation   | Kan Hazaki           | Osaka Electro-Communication University                             | Rehabilitation /<br>Rehabilitation Technologies |
| PII.59           | Effect of transcranial direct current stimulation in the treatment of low back pain  | Hiroshi Maeoka       | Kio University   | Rehabilitation /<br>Rehabilitation Technologies |

# Sunday, 1st July



| Poster<br>Number | Title   | Presenting<br>Author       | Affiliation   | Theme   |
|------------------|---|----------------------------|---|---|
| PII.60           | Effects of long-term Galvanic Vestibular Stimulation (GVS) on blood pressure fluctuation at posture change                      | Koji Nagino                | Kansai University of Welfare Sciences   | Rehabilitation /<br>Rehabilitation Technologies |
| PII.61           | Does gender affect detection threshold and pain threshold in subdermal electrical stimulation?                                  | Jian Dong                  | Faculty of Medicine, Aalborg University   | Rehabilitation /<br>Rehabilitation Technologies |
| PII.62           | A treatment with roller-massager improves the oxygenation of the upper trapezius muscle: A single-subject research design study | Alessandro<br>Schneebeli   | University of Applied Sciences and Arts<br>of Southern Switzerland  | Rehabilitation /<br>Rehabilitation Technologies |
| PII.63           | Inter-Structural Release Can Alter Shear Modulus of Resting Non-Symptomatic Muscle  | Tomoko Yamashita           | Graduate School of Medical Technology<br>and Health Welfare Sciences, Hiroshima<br>International University, Hiroshima, Japan | Rehabilitation /<br>Rehabilitation Technologies |
| PII.64           | Classification Accuracy Of Different Machine Learning Algorithms For Human Activity Recognition                                 | Gabriella Balestra         | Politecnico di Torino   | Modelling, Signal<br>Processing & Sensing       |
| PII.65           | Validation of inertial measurement unit to assess shoulder movement during complex lifting tasks                                | Isabelle Poitras           | Laval university  | Modelling, Signal Processing & Sensing          |
| PII.66           | Effects of vibrotactile stimulation on force steadiness on the behavior of motor units of the first dorsal interosseous muscle  | Carina Germer              | School of Electrical and Computer<br>Engineering, University of Campinas  | Modelling, Signal<br>Processing & Sensing       |
| PII.67           | Relationship between isometric muscle force and fractal dimension of surface electromyogram in the biceps brachii muscle        | Matteo Beretta-<br>Piccoli | University of Applied Sciences and Arts of Southern Switzerland   | Modelling, Signal<br>Processing & Sensing       |

# Monday, 2<sup>nd</sup> July



| Poster<br>Number | Title   | Presenting<br>Author     | Affiliation  | Theme        |
|------------------|---|--------------------------|--|--------------|
| PIII.1           | Phase-dependent gait variability in self-paced treadmill walking  | Kenji Kato               | National Center for Geriatrics and<br>Gerontology                  | Biomechanics |
| PIII.2           | Differentiating Lifting Fatigue Waveforms using a Principal component approach  | Wayne Albert             | University of New Brunswick  | Biomechanics |
| PIII.3           | Kinematic Of The Shoulder During Two Humeral Head Procedures  | Marco Barbero            | University of Applied Sciences and Arts<br>of Southern Switzerland | Biomechanics |
| PIII.4           | The role of head movement in human balancing  | Rita Kiss                | Budapest University of Technology and Economics                    | Biomechanics |
| PIII.5           | Reliability of Spatial Representation of Soleus Muscle Activity Using High Density EMG and Different Electrode Grid Orientations  | Usha Kuruganti           | University of New Brunswick  | Biomechanics |
| PIII.6           | Multisegment Foot Mechanics During Walking in Children with Autism  | Victoria Chester         | University of New Brunswick  | Biomechanics |
| PIII.7           | The Effects of Prolonged Lifting in the Emergency Medical Services  | Brett MacLean            | University of New Brunswick  | Biomechanics |
| PIII.8           | Effect of force plate coverings on vertical ground reaction forces  | Massimiliano<br>Ditroilo | University College Dublin  | Biomechanics |
| PIII.9           | Adaptations in Foot-Ground Interactions During a progressive 12-week Running Intervention in Footwear with Reduced Cushioning   | Yumna Albertus           | University of Cape Town  | Biomechanics |
| PIII.10          | Multivariate analysis reveals effects of hop direction and leg on the biomechanics of a novel one-leg double-hop test for individuals with unilateral anterior cruciate ligament reconstruction | Ashokan<br>Arumugam      | Umeå University  | Biomechanics |

# Monday, 2<sup>nd</sup> July



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| Poster<br>Number | Title  | Presenting<br>Author       | Affiliation  | Theme                                     |
|------------------|--|----------------------------|--|---|
| PIII.11          | Relationship and differences between kinetics parameters and center of pressure during gait with ankle bracing orthosis and barefoot | Hamidreza<br>Barnamehei    | Islamic Azad University of Science and<br>Research Branch          | Biomechanics                              |
| PIII.12          | Recording of EMG activity from tibialis posterior with fine-wire: A protocol   | Joanna Reeves              | University of Salford  | Modelling, Signal<br>Processing & Sensing |
| PIII.13          | Locally-Time-Warped and Gaussian-Kernel-Weighted MUP Template Estimation   | Andrew Hamilton-<br>Wright | University of Guelph   | Modelling, Signal<br>Processing & Sensing |
| PIII.14          | Square Drawing Test for Motor Capacity Modeling in Post-Stroke Individuals   | Mirjana Popovic            | Belgrade University - Institute for Medical<br>Research            | Modelling, Signal<br>Processing & Sensing |
| PIII.15          | Relationship between fractal dimension and firing rate slopes in quadriceps muscle during fatiguing contractions                     | Corrado Cescon             | University of Applied Sciences and Arts<br>of Southern Switzerland | Modelling, Signal<br>Processing & Sensing |
| PIII.16          | A Mathematical Model of Action Potential Propagation, Force Production, and Fatigue in Skeletal Muscle Fibres                        | Sageanne Senneff           | University College Dublin  | Modelling, Signal<br>Processing & Sensing |
| PIII.17          | Influence of electrode locations for evaluation of muscular fatigue on biceps brachii muscle   | Aya Shirai                 | The University of Electro-<br>Communications                       | Modelling, Signal<br>Processing & Sensing |
| PIII.18          | The effects of exercise-induced fatigue and eccentric muscle damage on kinesthesia   | Romeo Chua                 | The University of British Columbia                                 | Motor Control                             |
| PIII.19          | The effects of intermittent blocking of visual information on walking in elderly persons   | Hitoshi Makabe             | Yamagata Prefectural University of<br>Health Sciences              | Motor Control                             |
| PIII.20          | Change of EMG and MMG amplitude on human vastus medial muscle with aging   | Kazuyuki Mito              | The University of Electro-<br>Communications                       | Motor Control                             |

# Monday, 2<sup>nd</sup> July



| Poster<br>Number | Title   | Presenting<br>Author    | Affiliation   | Theme         |
|------------------|---|-------------------------|---|---------------|
| PIII.21          | Beta late than never: Beta rhythm suppression during action observation is sensitive to somatosensory experience in an object manipulation task               | Kelene Fercho           | University of South Dakota  | Motor Control |
| PIII.22          | Mixed nerve silent period evoked from Opponens pollicis muscle during a precision motor task with the isometric contraction of the ipsilateral knee extension | Shinichi Daikuya        | M3 Doctor Support, Inc.   | Motor Control |
| PIII.23          | Opponens pollicis long latency reflex during the ipsilateral sustained knee torque maintenance.   | Yumi Okayama            | Osaka University of Human Sciences  | Motor Control |
| PIII.24          | Effects of sharing goals with others on sense of agency and perceptual motor learning   | Kazuki Hayashida        | Department of Neurorehabilitation,<br>Graduate School of Health Sciences, Kio<br>University | Motor Control |
| PIII.25          | Forearm muscle synergies during ramp-and-hold gripping in individuals with chronic elbow pain   | Nagarajan<br>Manickaraj | Griffith University   | Motor Control |
| PIII.26          | Effects of Self-determined choice on motor skill learning and retention   | Makoto Hiyamizu         | Kio University  | Motor Control |
| PIII.27          | Shared common input to hand muscles during a two-degrees of freedom force task reveals muscle synergies   | Carina Germer           | School of Electrical and Computer<br>Engineering, University of Campinas                    | Motor Control |
| PIII.28          | EMG activity and function of abductor hallucis during fatigue and postural sway   | Kevin Keenan            | University of Wisconsin-Milwaukee   | Motor Control |
| PIII.29          | Sub-sensory electrical stimulation modifies response to haptic perturbations during walking in a clinical exoskeleton   | Giacomo Severini        | University College Dublin   | Motor Control |
| PIII.30          | Bilateral Deficit in Human Upper Body Muscles   | Xin Ye                  | The University of Mississippi   | Motor Control |

# Monday, 2<sup>nd</sup> July



| Poster<br>Number | Title  | Presenting<br>Author       | Affiliation   | Theme                                |
|------------------|--|----------------------------|---|--------------------------------------|
| PIII.31          | Cortical contribution to lower leg muscle function during quiet standing   | Andrew Lavender            | Curtin University   | Motor Control                        |
| PIII.32          | Immediate changes in chest and pelvic kinematics after different types of trunk muscle exercises                                       | Kazuma Uebayashi           | Suzuki Clinic Orthopaedic River City                                    | Motor Control                        |
| PIII.33          | Motor unit recruitment is altered, albeit slightly, when acute pain is induced in the an unrelated or antagonist muscle                | Kylie Tucker               | University of Queensland  | Motor Control                        |
| PIII.34          | Muscle activation patterns of the gluteus maximus and hamstrings during a prone hip extension assessment                               | Kirsty Hopgood             | University of Gloucetsreshire   | Motor Control                        |
| PIII.35          | Effect of relationship between kinematics and neuromuscular parameters on motor control during high-heeled gait                        | Mohammad<br>Barnamehei     | Islamic Azad University of Science and<br>Research Branch, Tehran, Iran | Motor Control                        |
| PIII.36          | Functional interhemispheric connectivity of motor cortices in ALS  | Stefan Dukic               | School of Medicine,Trinity College,The<br>University of Dublin          | Motor Disorders &<br>Neurophysiology |
| PIII.37          | Assessing Cortico-Muscular Communication in Motor Neuron Disease   | Amina Coffey               | Trinity college Dublin  | Motor Disorders &<br>Neurophysiology |
| PIII.38          | Trunk instability with shank muscle co-contraction is masking the potential of walking ability in patients with post stroke hemiplegia | Naomichi Mizuta            | Kio University  | Motor Disorders &<br>Neurophysiology |
| PIII.39          | Myoelectric manifestations of fatigue in people with multiple sclerosis  | Matteo Beretta-<br>Piccoli | University of Applied Sciences and Arts<br>of Southern Switzerland      | Motor Disorders &<br>Neurophysiology |
| PIII.40          | The effect of Exercise on Plantar Pressure Distrubition in Children with Hemiplegic Cerebral Palsy                                     | selda uzun                 | Marmara Universitesi  | Motor Disorders &<br>Neurophysiology |

# Monday, 2<sup>nd</sup> July



| Poster<br>Number | Title   | Presenting<br>Author | Affiliation                        | Theme                                   |
|------------------|---|----------------------|------------------------------------|---|
| PIII.41          | Reliability of knee-extensor neuromuscular function assessment and fatigue in a healthy female population   | Paul Ansdell         | Northumbria University             | Motor Performance<br>and Sports Science |
| PIII.42          | The Effect Of Visual Feedback And Support In The Gluteus Medius Muscle Recruitment During Pelvic Drop Exercise                                      | Juliano Luccas       | Universidade Federal do Amapá      | Motor Performance and Sports Science    |
| PIII.43          | Simulation Of Racing Strategy In Rowing   | Pornthep Rachnavy    | Suranaree University of Technology | Motor Performance and Sports Science    |
| PIII.44          | An example of muscle activity during golf swing in submerged condition  | Koichi Kaneda        | Chiba Institute of Technology      | Motor Performance and Sports Science    |
| PIII.45          | The relativity between quality of double leg circle on the pommel horse and superficial back muscles fatigue trend in gymnastics                    | Shuhei Kameyama      | Niigata.univ                       | Motor Performance and Sports Science    |
| PIII.46          | Effect of resistance tights on neuromuscular activation of biceps femoris muscle  | Shuhei Kawade        | MTG Co.,Ltd.                       | Motor Performance and Sports Science    |
| PIII.47          | Contralateral adaptations in rate of force development and rate of muscle activation following unilateral isometric training                        | Joshua Carr          | University of Oklahoma             | Motor Performance and Sports Science    |
| PIII.48          | The relativity between pedaling characteristics and both EMG aspect and muscle fatigue  | Wakui Kengo          | Niigata University                 | Motor Performance and Sports Science    |
| PIII.49          | Knee Stabilization Strategies In ACL-Injured And ACL-Reconstructed Individuals In Response To Soccer-Specific Loading: A Preliminary Investigation. | Stefano Nuccio       | University of Rome "Foro Italico"  | Motor Performance and Sports Science    |
| PIII.50          | Does it Count if You Can't Count it? Using Multiple Research Methods to Prepare Kinesiology Practitioners   | Sean Sullivan        | California Baptist University      | Motor Performance and Sports Science    |

# Monday, 2<sup>nd</sup> July



| Poster<br>Number | Title   | Presenting<br>Author                   | Affiliation   | Theme   |
|------------------|---|--|---|---|
| PIII.51          | Evaluating Balance, Cognition, Ocular Motor Function & Patient Reported Symptoms to Guide Return to Play after Concussion         | Jeff Sullivan                          | Point Loma Nazarene University                                    | Motor Performance<br>and Sports Science         |
| PIII.52          | Does the myoelectric fatigue manifest locally on pectoralis major muscle during inclined bench press exercise?                    | Leonardo de<br>Souza                   | Federal University of Rio de Janeiro                              | Motor Disorders &<br>Neurophysiology            |
| PIII.53          | Effect of indirect vibration on sensorimotor transmission in the human upper limb   | Amit Pujari                            | University of Hertfordshire and<br>University of Aberdeen         | Motor Disorders &<br>Neurophysiology            |
| PIII.54          | Interhemispheric Facilitation of Corticospinal Pathways Induced by Short Duration tACS  | Glenn Calvert                          | Trinity College Dublin  | Motor Disorders &<br>Neurophysiology            |
| PIII.55          | The Common Drive Index Does Not Change in Patients in an Acute Phase After an ACL Reconstruction Surgery.                         | Rony Silvestre                         | MEDS clinics  | Motor Disorders &<br>Neurophysiology            |
| PIII.56          | Muscle Thickness and Motor Unit Number of Vatus Lateralis Muscle in an Acute Phase After an ACL Reconstruction.                   | Macarena Soldan                        | MEDS clinics  | Motor Disorders &<br>Neurophysiology            |
| PIII.57          | Effects of Spinocerebellar Ataxia on muscular activity in jaw postural conditions   | Ligia Maria<br>Napolitano<br>Gonçalves | School of Dentistry of Ribeirão Preto,<br>University of São Paulo | Motor Disorders &<br>Neurophysiology            |
| PIII.58          | Distinguishing clinical phenotypes in basal ganglia disease using wrist-worn accelerometers during the Clinch Token Transfer Test | Sam Woodgate                           | Cardiff University  | Motor Disorders &<br>Neurophysiology            |
| PIII.59          | Relationship between muscle swelling immediately after resistance training and muscle hypertrophy after 6-week intervention       | Tetsuya Hirono                         | Graduate School of Medicine, Kyoto<br>University                  | Rehabilitation /<br>Rehabilitation Technologies |
| PIII.60          | Coupling robotic tasks and surface electromyography to assess muscle fatigue in children with neuromuscular diseases              | Maddalena<br>Mugnosso                  | Istituto Italiano di Tecnologia                                   | Rehabilitation / Rehabilitation Technologies    |

# Monday, 2<sup>nd</sup> July



| Poster<br>Number | Title  | Presenting<br>Author        | Affiliation  | Theme   |
|------------------|--|-----------------------------|--|---|
| PIII.61          | Muscle Contraction Evaluation during Recumbent bicycle Pedaling by using the MMG/EMG Hybrid Transducer System  | Hisao Oka                   | Okayama University   | Rehabilitation /<br>Rehabilitation Technologies |
| PIII.62          | Immediate effects of Whole Body Vibration on electromyographic activity of ankle muscles in elderly.   | Liane Macedo                | Federal University of Rio Grande do<br>Norte                       | Rehabilitation /<br>Rehabilitation Technologies |
| PIII.63          | Evaluation of Achilles Tendon stiffness during contraction: A comparison of different Sonoelastography   | Alessandro<br>Schneebeli    | University of Applied Sciences and Arts<br>of Southern Switzerland | Rehabilitation /<br>Rehabilitation Technologies |
| PIII.64          | The visual contribution to postural control during visual feedback-based tasks   | Fabio dos Anjos             | Politecnico di Torino  | Rehabilitation /<br>Rehabilitation Technologies |
| PIII.65          | Scan-To-Knit - A platform for personalised smart textiles research and development with a special focus on prosthetics                               | Leif Sandsjö                | University of Borås  | Rehabilitation /<br>Rehabilitation Technologies |
| PIII.66          | Characteristics of writing for persons with Essential tremor and with Parkinsonism tremor and the effect of the restraint appliance (Palm Supporter) | Kazuyoshi<br>Sakamoto       | The University of Electro-<br>Communications                       | Rehabilitation /<br>Rehabilitation Technologies |
| PIII.67          | Dexterous Prosthesis and Structured Training Can Reduce Compensatory Movements in Upper-Limb Amputees  | Ivan Vujaklija              | Imperial College London  | Rehabilitation /<br>Rehabilitation Technologies |
| PIII.68          | Relationship between muscle architecture and functional capacity in older adults   | Alejandro Galán-<br>Mercant | University of Jaén   | Rehabilitation /<br>Rehabilitation Technologies |