



2020 PaduaMuscleDays, November 19-21, Euganei Hills and Padova, Italy

MOBILITY MEDICINE

30 YEARS OF TRANSLATIONAL RESEARCH

Euganei Hills, Padova (Italy), November 19 - 21, 2020

Hotel Petrarca, Montegrotto, Piazza Roma 23, Montegrotto Terme, Euganei Hills, (Padova), 35122 Italy

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Organizers: Ugo Carraro, Helmut Kern, Christiaan Leeuwenburgh, Marco Narici, Feliciano Protasi, Marco Sandri, Lee Sweeney



THURSDAY November 19, 2020

2020 Padua Muscle Days go Virtual: Italy Morning = Japan Afternoon

Italy 09.20 AM; Iceland 08.20AM; USA ET 02.20 AM; Japan 04.20 PM

- Italy 09:10 AM 2020 Padua Muscle Days during the COVID-2020 Outbreak, Ugo Carraro
- Japan 04:20 PM Challenge of Osato Research Institute for Preventive Medicine with the aim to reduce medical costs in super-aging societies, Yuki Hayashi, Gifu, Japan
- Japan 04:40 PM Dietary Phosphorus Overload Aggravates the Phenotype of the Dystrophin-Deficient mdx Mouse. Therapeutic effect of calcium and Vitamin C on muscle degeneration in elevated Pi or at low temperature cultures, Ryoichi Matsuda, Department of Life Sciences, University of Tokyo, Japan
- Italy 10:00 AM The DLK1-DIO3 cluster miRNAs regulate mitochondrial functions in the dystrophic muscle in DMD, Ai Vu Hong, Nathalie Bourg, Peggy Sanatine, Jerome Poupiot, Karine Charton, Evelyne Gicquel, Marco Spinazzi, Isabelle Richard, David Israeli, Evry, France
- Italy 10:20 AM Single-cell analysis revealed the importance of non-coding RNAs for muscle plasticity, Stefano Cagnin, Biology, University of Padova, Italy
- Italy 10:40 AM Relationship between ETFDH mutations, expression levels of serum myomiRNAs and response to treatment in MADD patients, Sara Missaglia, et al., Milan, Italy
- Italy 11:00 AM A nanotechnological device during a postural exercise program in patients with multiple sclerosis: a pilot study, Valerio Giustino, et al. University of Palermo, Italy
- Italy 11:20 AM Factor affecting athletic performance and bone resorption in preadolescence gymnasts, Sara Baldassano, et al. STEBICEF and SPPEFF Departments, University of Palermo, Italy
- Italy 11:40 AM Prospects for the use of Cannabis-based drug in combination with physical activity in the symptom treatment of patients with multiple sclerosis, Patrizia Proia et al. Departments of PESHM, STEBICEF and BiND, University of Palermo, Italy.
- Italy 12:00 AM Blood contamination of human mouth fluid: a non-invasive approach for serological analyses in old and very old persons, Barbara Ravara, et al., A&CM-C Foundation, Padova, Italy and Department of Biomedical Sciences, University of Padova, Italy



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THURSDAY November 19, 2020

2020 Padua Muscle Days go Virtual: Italy Afternoon = USA Morning

Italy 03.00 PM; Iceland 02.00 PM; USA ET 08.00 AM; Japan 10.00 PM

USA ET 08:00 AM SARCOPENIA AND AGING: Nutritional, Pharmacological and Physiological Interventions

Christiaan Leeuwenburgh, Russ Hepple, Chairs

USA ET 8:00 AM Effects of epicatechins on endothelial, mitochondrial and physical function: Clinical Trial Results. *Christiaan Leeuwenburgh, University of Florida, Gainesville, FL, USA***USA ET 8:30 AM** The impact of Fermented Papaya Product (FPP) on cognitive and brain function in older adults: a pilot clinical trial, *Adam J. Woods, University of Florida, Gainesville, FL, USA***USA ET 9:00 AM** Mitochondrial Permeability Transition causes muscle atrophy in advanced age, *Russel T. Hepple, University of Florida, Gainesville, USA***USA ET 9:30 AM** Neuromuscular activity of *C. elegans* and zebrafish models of *FBXL4*-based mitochondrial respiratory chain disease: translational platforms for drug screening, *Manuela Lavorato et al., Department of Pediatrics, The Children's Hospital of Philadelphia, Philadelphia, PA, USA***Italy 5:00 PM** Impact of ageing and exercise on the neuromuscular junction, *Marco Narici, Department of Biomedical Sciences, Padua University, Italy***Italy 5:30 PM** Neurohypophyseal hormones and skeletal muscle: a tale of two faces, *Sergio Adamo, Sapienza University of Rome, Italy***Italy 6:00 PM** A role for fermented papaya in preventing and treating aging and cancer cachexia, through a potent and systemic antioxidant effect, *Mariantonia Logozzi et al., Istituto Superiore di Sanità, Rome, Italy***USA ET 11:30 AM** Prospects for exercise training in the absence of muscle IGF-1, *Elisabeth R. Barton, Dept. of Applied Physiology & Kinesiology, University of Florida, Gainesville, USA***Italy 7:00 PM** A possible strategy to prevent skeletal muscle atrophy induced by immobilization, *Paula Tavares, Faculty of Sport Sciences and Physical Education, University of Coimbra, Portugal*



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Hotel Petrarca, Euganei Hills, (Padova), Italy

FRIDAY November 20, 2020

Virtual-Presentations: Italy Morning = Japan Afternoon

Italy 09.00 AM; Iceland 08.00 AM; USA ET 03.00 AM; Japan 14.00 PM

- Italy 9:20 AM **Commitment to reproducibility in targeting mitochondrial respiratory control: basic and advanced applications of the O2k-FluoRespirometer**
- Italy 9:20 AM **Forewords, Ugo Carraro, A&C M-C Foundation, Padova, Italy**
- Italy 9:30 AM **Commitment to reproducibility in mitochondrial respiration studies with permeabilized muscle fibers, Carolina Doerrier, Marco Di Marcello, Erich Gnaiger, Oroboros Instruments, Innsbruck, Austria**
- Italy 10:30 AM **Mitochondrial ROS production, Nina Kaludercic, CNR Neuroscience Institute, University of Padova, Italy**
- Italy 11:00 AM **Age-related changes of mechanical stiffness of extra-cellular matrix in human skeletal muscle, Lorenzo Marcucci, et al., Department of Biomedical Sciences, Padua University, Italy**
- Italy 11:20 AM **Variability and inter rater reliability of ultrasound imaging of fasciae/muscles, Carmelo Pirri, et al., Dept. Neurosciences, University of Padova, Italy**
- Italy 11:40 AM **Advances in imaging techniques for the study of human skeletal muscle in-vivo, Martino Franchi, Department of Biomedical Sciences, Padua University, Italy**
- Italy 12:00 AM **Testosterone therapy in Alzheimer's disease, Vittorio Emanuel Bianchi, Department of Endocrinology and Metabolism, Falciano, San Marino**



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FRIDAY November 20, 2020

Virtual-Presentations: Italy Afternoon = USA Morning

Italy 1:40 PM; Iceland 0:40 PM; USA ET 7:40 AM; Japan 7:40 PM

- Italy 1:40 PM** Translational Mobility Medicine Lecture 1.
The genetic underpinning of V_{O2max} and trainability, *Hans Hoppeler, Anatomy Institute, University of Berna, Switzerland*
- Italy 2:20 PM** Translational Mobility Medicine Lecture 2.
Ear Stimulation, from Padua 1600 to cochlear implants, *Alessandro Martini, Neuroscience Department, Padua University, Italy*
- Italy 3:00 PM** SESSION III: News on EEG, EMS, FES, TMS and more,
Helmut Kern, Alessandro Martini, Chairs
- USA ET 9:00 AM** Remediating age-related cognitive and physical decline with transcranial direct current stimulation (tDCS), *Adam J. Woods, University of Florida, Gainesville, USA*
- Italy 3:20 PM** Characterisation of diabetic myopathy by high density EMG,
Giuseppe De Vito, CIR-Myo & Dept. Biomedical Sciences, Padua University, Italy
- Italy 3:40 PM** Body mass excess, muscle mass, obesity and mitochondrial fitness, *Erich Gnaiger, Medical University of Innsbruck and Oroboros Instruments, Innsbruck, Austria*
- Iceland 3:00 PM** Using high density EEG to assess TMS treatment in patients with schizophrenia, *Ovidiu C Banea et al., Institute for Biomedical and Neural Engineering, Reykjavík University, Reykjavík, Iceland and Landspítali, Iceland*



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FRIDAY November 20, 2020

Italy 4:20 PM; Iceland 3:20 PM; USA ET 12.00 AM; Japan 11.20 PM

Italy 4:20 PM **SESSION IV – Therapies for genetic diseases**, *Sweeney L, Tavian D, Chairs*USA ET 10.20 AM **Gene Therapies for Duchenne Muscular Dystrophy**, *Lee Sweeney, Myology Institute, University of Florida, Gainesville, USA*Italy 4:40 PM **PABPN1 nuclear aggregates in oculopharyngeal muscular dystrophy**, *Gillian Butler-Browne, Sorbonne Université, Paris, France*Italy 5:00 PM **Mitochondria as targets in Duchenne Muscular Dystrophy**, *Paolo Bernardi, Department of Biomedical Sciences, University of Padova, Italy*Italy 5:20 PM **SESSION V – Mobility Medicine Imaging**, *Feliciano Protasi, Ugo Carraro, Chairs*Italy 5:20 PM **Discovery of Calcium Entry Units: when electron microscopy still counts**, *Feliciano Protasi, Chieti University, Italy*USA ET 11.40 AM **HERG Expression in C2C12 Myotubes leads to upregulation of genes related to Interferon gamma**, *Amber Pond, Southern Illinois University School of Medicine, USA*Italy 6:00 PM **Formation of Tubular Aggregates in muscle: role of STIM1 and Orai1**, *Simona Boncompagni, Chieti University, Italy*Italy 6:20 PM **SESSION VI - Mobility Medicine, Clinical imaging**, *Marco Narici, Paolo Gargiulo, Chairs*USA WT 7.20 AM **Skeletal muscle mechanics in the aging muscle: Advanced Fast MRI technologies provide insights into skeletal muscle dynamics and physiology**, *Shantanu Sinha, University of California at San Diego, CA, USA*USA WT 7.40 AM **Bye, Bye Biopsy: Extracting muscle tissue composition and microstructure from Magnetic Resonance Imaging (MRI), initial validation to biopsy, and application to the aging muscle**, *Usha Sinha, San Diego State University, San Diego, CA, USA*Italy 7:00 PM **Biomarkers of muscle atrophy and of neuromuscular maladaptation during 10-day bed rest**. *Marco Narici, CIR-Myo, Department of Biomedical Sciences, Padua University, Italy*Iceland 6:20 PM **Predicting cardiovascular pathophysiology from a mid-thigh CT image**, *Paolo Gargiulo, et al., Biomedical and Neural Engineering, Reykjavík University, Iceland*USA ET 3:40 PM **Soft tissue radiodensity, self-reported physical activity, and lower extremity function in the AGES-Reykjavík study**, *Kyle Edmunds et al., Reykjavík University, Iceland*



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SATURDAY November 21, 2020**9:00 AM SESSION VI – The Center of Active Aging - Helmut Kern, Chair**

- 9:00 AM** Research in rehabilitation, past & future programs, *Helmut Kern, Wien, Austria*
- 9:20 AM** Centre of Active Ageing: Current status, *Stefan Loeffler, Wien, Austria*
- 9:40 AM** 15 years of Vienna-Padova-Chieti collaboration: what did we learn, *Feliciano Protasi, University of Chieti, Italy*
- 10:00 AM** Signals from the niche to modulate muscle regeneration, *Antonio Musarò, Sapienza University of Rome, Italy*
- 10:20 AM** Resistance training as supplement therapy in hypogonadal men, *Milan Sedliak, Comenius University, Bratislava, Slovakia*
- 10:40 AM** Evaluation of sympathetic arousal by skin conductance measurement: A tool to optimize rehabilitation strategies? *Manfred Bijak, Center for Medical Physics and Biomedical Engineering, MedUni Vienna, Austria*
- 11:00 AM** **The Center of Active Aging – Brainstorming on the Future**
Hans Hoppeler, Lars Larsson, Chairs
Discussants: *Mauro Alaibac, Giovanna Albertin, Simona Boncompagni, Ugo Carraro, Jan Cvecka, Dusan Hamar, Cristian Hofer, Helmut Kern, Stefan Loeffler, Antonio Musarò, Feliciano Protasi, Barbara Ravara, Nejc Sarabon, Sascha Sajer, Milan Sedliak, Veronika Tirpakova, Sandra Zampieri, Attendees ...*
- 12:30 AM** **Translational Mobility Medicine Lecture 3.**
Neurogenic vs. myogenic origin of acquired muscle paralysis in ICU patients: Evaluation of different diagnostic methods
Lars Larsson, Karolinska Institutet, Stockholm, Sweden



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SATURDAY November 21, 2020**Italy 2:00 PM SESSION VII a – Mobility Disorders & Rehabilitation, D Coletti, G Fanò, Chairs**

- 2:00 PM Treatment of Central Core Disease with Functional Electrical Stimulation (FES): a Case Report, Feliciano Protasi, University of Chieti, Italy**
- 2:20 PM Modulation of some vital functions in a patient with angina pectoris using transcutaneous auricular nerve stimulation, Janez Rozman, et al, University of Ljubljana, Slovenia**
- 2:40 PM Medical Emergency in critical environment: Physical capacities of Emergency Team, Francesco Coscia, Paola V. Gigliotti, Rezhna Adil Rasheed, Giorgio Fanò-Illic, Perugia, Italy**
- 3:00 PM Sensitivity of the fasciae to endocannabinoid system and remodeling of fascial matrix: consequences for fascial fibrosis and inflammation, Caterina Fede et al., Dept. Neurosciences, University of Padova, Italy**
- 3:20 PM Comparison of reflex period in pendulum test done in SCI and Stroke patients, Thordur Helgason et al., Reykjavik University, Iceland**
- 3:40 PM Skin and mouth fluids analyses to evaluate biological age in older and oldest persons, Giovanna Albertin et al., Dept. Neuroscience, University of Padova, Italy**

Italy 4:30 PM SESSION VII b – Mobility Disorders & Rehabilitation, C Angelini, S Masiero, Chairs

- 4:30 PM Central Myonuclei and denervation markers in Cancer Cachexia, Dario Coletti, Sapienza University of Rome, Italy**
- 4.30 PM Comparison of morphological and serological analyses of denervation biomarkers in skeletal muscle wasting conditions, Sandra Zampieri, DiSCOG, University of Padova, Italy and Austria**
- 5:00 PM Muscle activity prevents the uncoupling of mitochondria from Ca²⁺ release units induced by ageing and disuse, Laura Pietrangelo et al., Chieti University, Italy**
- 5:20 PM Circulating microRNAs as promising biomarkers for monitoring of NLSM clinical phenotype, Valentina Pegoraro, Roberta Marozzo, Sara Missaglia, Daniela Tavian, Corrado Angelini, Padova Venice, Milan, Italy**
- 5:40 PM Exercise-activated Ca²⁺ entry and enhanced risk of Heat Stroke. Barbara Girolami, et al. University G. d'Annunzio of Chieti-Pescara, Chieti, Italy**
- 6:00 PM Methods to monitor mitochondrial activity in skeletal muscle, Gaia Gheradi, et al., Department of Biomedical Sciences, University of Padova, Italy**
- 6:20 PM Zipora Yablonka-Reuveni, Ugo Carraro: See you to 2021 (Virtual) Padua Muscle & Mobility Medicine Days (2021 V-PM₃DS), March 25-27 - Euganei Hills (Padova), Italy**

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