Muscle Decline in Aging and Neuromuscular Disorders

Mechanisms and Countermeasures

Terme Euganee, Padova (Italy), April 14 - 16, 2016

Hotel Augustus, Viale Stazione 150 - 35136 Montegrotto Terme (Padova), Italy & Villa dei Vescovi, Luvigliano di Torreglia (Padova), Italy

Phone +39 049 793 200 - Fax +39 049 793518 - http://www.hotelaugustus.com/english/pages/hotel_augustus.php - E-mail: info@hotelaugustus.com

Organizers: Ugo Carraro, Helmut Kern, Christiaan Leeuwenburgh, Werner Lindenthaler, Francesco Piccione, Carlo Reggiani, Marco Sandri

THURSDAY April 14, 2016 - Hotel Augustus, Viale Stazione 150, Montegrotto Terme (Padova), Italy

8.00 Registration

9.00 Workshop “Neuromuscular adaptations to exercise and ES in aging – I”, C Leeuwenburgh and U Carraro, Chairs
   Introduction by S Schiaffino, Padova, Italy

9.15 Molecular clocks in skeletal muscle, why muscle needs its own timekeeper, Karyn A Esser, University of Florida, Gainesville, FL, US

10.00 Circadian rhythms and muscle activity, Kenneth A. Dyar, Muenchen, Germany and Padova, Italy

10.30 Coffee break

10.45 Workshop “Diaphragm muscle, structure and function” – C Leeuwenburgh and C Reggiani, Chairs

10.45 Ventilator Induced Diaphragm Muscle Dysfunction (VIDD) and Critical Illness Myopathy (CIM): Mechanisms and specific intervention strategies, Lars Larsson, Stockholm, Sweden

11.15 To Be Announced

11.45 Diaphragm denervation-hypertrophy is also present in oldest rats, Daniela Danieli, Germinario E, et al. Padova, Italy

12.30 Lunch

14.00 Workshop “Neuromuscular adaptations to exercise and ES in aging – II”, C Leeuwenburgh and L Sweeney, Chairs
   Introduction by C Leeuwenburgh

14.10 CIR-Myo-Lecture 1: Autophagy and the control of neuromuscular junction, Marco Sandri, Padova, Italy

14.50 Role of MuRF1 and autophagy for the maintenance of neuromuscular junction, Rüdiger Rudolf, Mennheim, Germany

15.20 CK2-dependent phosphorylation in skeletal muscle regulates neuromuscular junction stability and mitochondrial homeostasis, Said Hashemolhosseini, Erlangen, Germany

15.50 To Be Announced, Thomas Proszyński, Warsaw, Poland

16.20 Mitochondrial Alarmins are key intercellular signals in the degeneration &regeneration of the Neuromuscular Junction, Cesare Montecucco, Padova, Italy

16.50 Coffee break

17.10 Handling growth and glucose through muscle IGF-I, Elizabeth Barton, University of Florida, Gainesville, FL, US

17.40 Therapeutic approach through liposomes carrying antioxidant in skeletal muscle, Rosa Mancinelli et al., Chieti, Italy

18.10 CIR-Myo-Lecture 2: Difference in muscular adaptation due to regular exercise or through electrical stimulation, Christiaan Leeuwenburgh, University of Florida, Gainesville, FL, US

20.00 Dinner
2016 Spring Padua Muscle Days April 14 to 16

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FRIDAY April 15, 2016

Muscle Meeting in Villa Veneta - Villa dei Vescovi, Luvigliano, Euganei Hills

08.30  Courtesy Bus to Luvigliano di Torreglia, Euganei Hills (Padova)
09.00  Openings - Marco Sandri, CIR-Myo, Head, University of Padua, Italy, Rosario Rizzuto, University of Padua, Rector, Italy, Annalena Venneri, IRCCS Fondazione San Camillo Hospital, Science Director, Venice-Lido, Italy
09.15  CIR-Myo-Lectures - Introduction by Carlo Reggiani, Padova, Italy
09.30  CIR-Myo-Lecture 3 – Therapeutic Targets for Muscular Dystrophy and Aging, Lee Sweeney, University of Florida, Gainesville, FL, US
10.15  Coffee Break
10.30  Workshop 1PM “Rehabilitation strategies for neuromuscular disorders and pain” – H Kern, U Carraro, Organizers
10.30  Cutenza experience, Burghart Gustorff, Vienna, Austria
10.45  To be announced, Michael Quittan, Vienna, Austria
11.00  To be announced, Stefan Loefler, Vienna, Austria
11.15  To be announced, Jan Cvecka, Bratislava, Slovakia
11.30  To be announced, Nejc Sarabon, Koper, Slovenia
11.45  CIR-Myo-Lecture 4 – Functional MRI of Neuromuscular Disorders, Annalena Venneri, Venice, Italy/Sheffield, UK
12.30  Lunch
14.00  CIR-Myo-Lecture 5 – Link between malignant hyperthermia (MH) and environmental heat stroke (EHS), Feliciano Protasi, University of Chieti, Italy
14.40  Workshop SK-AT “Mobility in elderly” – H Kern, A Musarò, Chairs
14.00  To be announced, Antonio Musarò, Rome, Italy
14.30  Exercise in sedentary elderlies: effects on muscle and MCU expression, S Zampieri et al., Padova & Vienna, Austria
15.00  To Be Announced, Simone Mosole et al., Padova, Italy
15.20  The gallon-jug shelf-transfer test to evaluate power decline in elderly, Paolo Gava et al., Padova, Italy
15.40  Electroceuticals and home-based bed-gym in borderline advanced septuagenarians, Ugo Carraro et al., Padova, Italy
16.00  Coffee Break
16.20  Workshop on Muscle Imaging – U Carraro, P Gargiulo, Chairs
16.50  Calcium Entry Units (CRUs): discovery of new intracellular junctions that mediate Store-Operated Ca²⁺ Entry (SOCE) in skeletal muscle, Simona Boncompagni, Chieti, Italy
17.10  To Be Announced, Amber Pond, Southern Illinois University, Carbondale, US
17.30  To Be Announced, Andrea Marcante et al., Venice, Italy
17.50  CIR-Myo-Lecture 6 – Muscle&bone assessed by Color CT, gait analysis and EMG, Paolo Gargiulo, Reykjavik, Iceland
18.30  Courtesy Return Bus to Hotel Augustus, Terme Euganei (Padova)

Dinner
**SATURDAY April 16, 2016**

**Hotel Augustus, Viale Stazione 150, Montegrotto Terme (Padova), Italy**

Each time-slot will strictly be half-time data presentation and half-time discussion

**09.00 CIR-Myo-Lecture 7 – The RISE Project: roots, outcomes, byproducts**, Helmut Kern, Vienna, Austria

**09.40 MED*EL Workshop: Functional Rejuvenation in Aging**, Werner Lindenthaler, Winfried Mayr, Chairs

09.40 Electrical muscle stimulation enhances functional recovery following nerve transection in small (rats), human-like (dogs) and large animal (horse) model, Mike P Willand, Toronto, Ontario, Canada

10.20 Seeking economy of charge injection in activation of motor nerves, Jonathan Jarvis, Martin Schmoll, Liverpool/Vienna

11.00 coffee break

11.20 MiniVStim18B: A new member in the family of FES implants for small animals goes towards denervated muscles, Manfred Bijak, Lucas Kneisz, Ewald Unger, Hermann Lammler, Vienna, Austria

11:40 Chronic electrical stimulation in rodents: Results of a feasibility study, Markus Gugatschka, Graz/Stockholm

12.10 Chronic neurostimulation of the aged larynx - first results from a large animal study, Michael Karbiner, Graz

13.00 Lunch

**14.30 MED*EL Workshop: ES in Neuromuscular Disorders**, Jonathan Jarvis, Feliciano Protasi, Chairs

14.30 ES in unilateral vocal fold paralysis, Berit Schneider-Stickler, Matthias Leonhard, Phoniatry Vienna

15.00 ES in facial nerve paralysis, Fabian Volk, Tobias Schmid, ENT Jena

15:30 To Be Announced, Birthe Rubehn, Med-el, Justin Perkins, RVC London

16.00 coffee break

**16.30 Vagus stimulation and other ES managements**

16:30 Vagus stimulation and brain ischemia, an interim report, Marco Patruno, Padova, Italy

17:00 Surface vagus nerve stimulation, medical device, Stefan Kampusch, Vienna, Austria

17.20 Functional electrical stimulation: a possible strategy to improve muscle function in Central Core Disease? Pierpaolo Iodice, Chieti, Italy

17.40 Novel insights into skeletal muscle function by mechanomyography: from the laboratory to practical applications, Fabio Esposito, Milan, Italy

18.00 **Biomarkers and functional tools correlations in aging and neuromuscular disorders**

18.00 Biomarkers of bone and PNS plasticity for neurorehabilitation, Barbara Zavan, Padova, Italy

18.20 Intracellular Ca\(^{2+}\) decoders as biomarkers of skeletal muscle plasticity in neurorehabilitation, Alessandra Nori et al., Padova, Italy

18.40 **Conclusive Remarks**, Winfried Mayr, Vienna Austria

19.00 U. Carraro - Arrivederci, Auf Wiedersehen, Aurevoir, Búcsú, Despedida, Poslovite, Sjámst, See You to 2016 Autumn Padua Muscle Days

20.00 Dinner