**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 Piccone, Carlo Reggiani, Marco Sandri

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**THURSDAY April 14, 2016**

- **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, 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** Mathematical models of diaphragm function, Lorenzo Marcucci, Piero Pavan, Padova, Italy
- **11.35** Aging and training adaptation of mouse diaphragm, Silvia Quartesan, Lina Cancellara Padova, Italy
- **11.55** 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**
  - **14.00** **CIR-Myo-Lecture 1: Autophagy and the control of neuromuscular junction**, Marco Sandri, Padova, Italy
  - **14.40** Role of MuRF1 and autophagy for the maintenance of neuromuscular junction, Rüdiger Rudolf, Mennheim, Germany
  - **15.10** CK2-dependent phosphorylation in skeletal muscle regulates neuromuscular junction stability and mitochondrial homeostasis, Said Hashemolhosseini, Erlangen, Germany
  - **16.40** Mitochondrial Alarmins are key intercellular signals in the degeneration &regeneration of the Neuromuscular Junction, Cesare Montecucco, Padova, Italy
  - **17.00** Handling growth and glucose through muscle IGF-I, Elizabeth Barton, University of Florida, Gainesville, FL, US
  - **17.30** Therapeutic approach through liposymes carrying antioxidant in skeletal muscle, Rosa Mancinelli et al., Chieti, Italy
- **18.00** **Introduction by Gerta Vrbova, London, UK**
  - **18.10** **CIR-Myo-Lecture 2: Difference in muscular adaptation to regular exercise or through electrical stimulation**, Christiaan Leeuwenburgh, University of Florida, Gainesville, FL, US
  - **19.00** Dinner
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**FRIDAY April 15, 2016**

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

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>08.30</td>
<td>Courtesy Bus to Luvigliano di Torreglia, Euganei Hills (Padova)</td>
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<tr>
<td>09.00</td>
<td><strong>Openings - Marco Sandri</strong>, 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</td>
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<td>09.15</td>
<td>CIR-Myo-Lectures - Introduction by Carlo Reggiani, Padova, Italy</td>
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<td>10.15</td>
<td>Coffee Break</td>
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<td>10.30</td>
<td>Workshop <strong>IPM</strong> “Rehabilitation strategies for neuromuscular disorders and pain” – H Kern, U Carraro, Chairs</td>
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<td>10.30</td>
<td>Cuteness experience, Burghart Gustorff, Vienna, Austria</td>
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<td>10.45</td>
<td>To be announced, Michael Quittan, Vienna, Austria</td>
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<tr>
<td>11.00</td>
<td>To be announced, Stefan Loeffer, Vienna, Austria</td>
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<tr>
<td>11.15</td>
<td>To be announced, Jan Cvecka, Bratislava, Slovakia</td>
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<td>11.30</td>
<td>To be announced, Nejc Sarabon, Koper, Slovenia</td>
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<td>11.45</td>
<td><strong>CIR-Myo-Lecture 4 – Functional MRI of Neuromuscular Disorders</strong>, Annalena Venneri, Venice, Italy/Sheffield, UK</td>
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<td>12.30</td>
<td>Lunch</td>
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<td>13.00</td>
<td><strong>CIR-Myo-Lecture 5 – Link between malignant hyperthermia (MH) and environmental heat stroke (EHS)</strong>, Feliciano Protasi, University of Chieti, Italy</td>
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<td>14.40</td>
<td>Workshop <strong>interreg</strong> “Mobility in elderly” – H Kern, A Musarò, Chairs</td>
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<td>14.00</td>
<td>To be announced, Antonio Musarò, Rome, Italy</td>
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<td>14.30</td>
<td>Exercise in sedentary elderly: effects on muscle and MCU expression, S Zampieri et al., Padova &amp; Vienna, Austria</td>
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<td>15.00</td>
<td>To Be Announced, Simone Mosole et al., Padova, Italy</td>
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<td>15.20</td>
<td>The gallon-jug shelf-transfer test to evaluate power decline in elderly, Paolo Gava et al., Padova, Italy</td>
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<td>15.40</td>
<td>Electroceuticals and home-based bed-gym in borderline advanced septuagenarians, Ugo Carraro et al., Padova, Italy</td>
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<td>16.00</td>
<td>Coffee Break</td>
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<td>16.20</td>
<td>Workshop on Muscle Imaging – U Carraro, P Gargiulo, Chairs</td>
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<td>16.50</td>
<td>Calcium Entry Units (CRUs): discovery of new intracellular junctions that mediate Store-Operated Ca²⁺ Entry (SOCE) in skeletal muscle, Simona Boncompagni, Chieti, Italy</td>
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<td>17.10</td>
<td>To Be Announced, Amber Pond, Southern Illinois University, Carbondale, US</td>
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<td>17.30</td>
<td>To Be Announced, Andrea Marcante et al., Venice, Italy</td>
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<td>17.50</td>
<td><strong>CIR-Myo-Lecture 6 – Muscle&amp;bone assessed by Color CT, gait analysis and EMG</strong>, Paolo Gargiulo, Reykjavik, Iceland</td>
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<tr>
<td>18.30</td>
<td>Courtesy Return Bus to Hotel Augustus, Terme Euganei (Padova)</td>
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<td>20.00 Dinner</td>
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SATURDAY April 16, 2016
Hotel Augustus, Terme Euganee (Padua), 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 Bilak, Lucas Kneisz, Ewald Unger, Hermann Lammuller, 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 London2

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 Ca²⁺ decoders as biomarkers of skeletal muscle plasticity in neurorehabilitation, Alessandra Nori et al., Padova, Italy

18.40 Conclusive Remarks, Winfried Mayr, Vienna Austra

19.00 U. Carraro - Arrivederci, Auf Wiedersehen, Aurevoir, Búcșu, Despedida, Poslovite, Sjäms, See You to 2016Autumn PaduaMuscleDays

20.00 Dinner