

iim

Interuniversity Institute of Myology

XII IIM-Myology Meeting ***1-4 October 2015***

**FOCUS ON PATHOGENESIS AND TREATMENT OF
NEUROMUSCULAR DISEASES**

TOPICS

- Stem Cells and therapy
- Genetic and epigenetic alterations in muscle dystrophies and myopathies
- Satellite cells and muscle regeneration in healthy muscle and in dystrophies/myopathies
- Biophysics and E-C coupling in the physiopathology of neuromuscular diseases
- Signalling in muscle homeostasis and diseases
- Metabolic alterations and muscle diseases
- Muscle wasting and cachexia
- Therapeutic approaches for muscle diseases

Scientific Committee:

Musarò A, Puri PL, Sampaolesi M,
Gabellini D, Barbieri E, Protasi F,
Blaauw B, Fulle S, Grassi F, Sorci G,
Mammucari C, Sandri M.

Plenary Lecture-Stefano Ferrari:

Michele De Luca (Centre for Regenerative Medicine;
University of Modena-Reggio Emilia)

Main Lectures

Pura Munoz-Canoves (UPF, Barcelona, Spain)

Rossella Tupler (University of Modena-Reggio Emilia)

Paolo Bonaldo (University of Padua)

Laurent Schaeffer (University of Lyon, France)

Roger Cooke (University of California USA)

With the support of:



Venue: Hotel Matilde di Canossa (Reggio Emilia)

iim secretary

e-mail: fisiologia@unich.it

D'Alfonso Antonella

Info: www.coram-iim.it/

SCIENTIFIC PROGRAMME

Thursday, 1 October

11:30-14:30 Registration

14:00 Welcome and opening of the meeting

14:30 **Plenary Lecture in honor of Stefano Ferrari**

How do stem cells fit into regenerative medicine?

Michele De Luca (Centre for Regenerative Medicine-University of Modena-Reggio Emilia)

Chair: A. Musarò

15:30-18:45 **Session 1: Satellite cells and muscle regeneration in healthy muscle and in dystrophies/myopathies**

Chairs: S. Fulle, C. Gargioli

15:30 Francesca Riuzzi

S100B protein in skeletal muscle regeneration: regulation of myoblast and macrophage functions

15:45 Fiorenza Baruffaldi

Phosphorylation and alternative splicing of MEF2C, a dual switch function in muscle regeneration.

16:00 Viviana Moresi

HDAC4 is necessary for satellite cell differentiation and muscle regeneration

16:15 Filomena Spada

The potential of mass cytometry to reveal the complex interplay between muscle resident mononuclear cells during regeneration

16:30-17:00 **Coffee break**

17:00 Valentina Basile

NF-Y splice variants differentially affect skeletal myogenesis

17:15 Rosa Mancinelli

Role of the oxidative stress in the alteration of muscle homeostasis age-related

17:30 Lorenzo Giordani

Single-cell based analysis of functional populations in aged and dystrophic muscle

17:45 Giorgia Giacomazzi

Exosome-bore microRNAs in muscle hypertrophic and dystrophic conditions

18:00 Elena Serena

Development of a 3D implantable niche of hiPSC-derived satellite cells

18:15 Milica Marinkovic

A stem cell niche in the dish

18:30 Gaia Ziraldo

Extracellular stimulation with human "noisy" electromyographic patterns facilitates myotube activity

20:00 **Dinner**

Friday, 2 October

9:00 **Lecture 1**

The super relaxed state of myosin in skeletal muscle.

Roger Cooke (Department of Biochemistry and Biophysics - The University of California, San Francisco-USA)

Chairs: C. Reggiani, E. Barbieri

9:40-11:40 Session 2: Biophysics and E-C coupling in the physiopathology of neuromuscular diseases

Chairs: Protasi F., Berardi E.

9:40 Lorenzo Marcucci

Oscillatory behaviour in muscle myosin

9:55 Pawel Niewiadomski

The molecular machinery for pretzel formation at the neuromuscular junction

10:10-10:40 Coffee break

10:40 Simona Boncompagni

Discovery of junctions mediating store-operated calcium entry in muscle

10:55 Simona Pisu

Muscle-nerve communication in murine models of ALS

11:10 Leonardo Nogara

Design of a high throughput screening: disrupt the super relaxed state of myosin to cure obesity and diabetes

11:25 Pasquale Bianco

Realization of a sarcomere-like machine based on muscle myosin

11:40-12:30 IIM General meeting: The future of Myology Research

13:00 Lunch

15:00 Lecture 2

Geroconversion of aged muscle stem cells under regenerative pressure.

Pura Muñoz-Cánoves (UPF, Barcelona, Spain)

Chair: P.L. Puri

15:40-17:10 Session 3: Muscle wasting and cachexia

Chairs: C. Mammucari, N. Filigheddu

15:40 Federica Pierucci

Involvement of S1P/ S1PR axis in skeletal muscle atrophy

15:55 Magda Passafaro

Interstitial cell activation during acute muscle denervation

16:10 Riccardo Ballarò

PGC-1alpha overexpression promotes myogenesis: relevance to cancer-induced muscle wasting

16:25 Giulia Benedetta Martinelli

The activation of the SDF1/CXCR4 pathway retards muscle atrophy during cancer cachexia

16:40 Davide Olivari

Role of apelinergic pathway in colon adenocarcinoma-induced muscle wasting

16:55 Fabrizio Pin

Tumor-derived microvesicles: new players in cancer-induced muscle wasting

17:10-17:40 Coffee break

17:40-19:10 Session 4: Metabolic alterations and muscle diseases

Chairs: F. Grassi, A. Fanzani

17:40 Matteo Giovarelli

Drp1 overexpression in skeletal muscle leads to growth defects, mitochondrial stress and translational impairment

17:55 Francesca Pescatore

Role of the new E3 ubiquitin ligase Asb2 β in skeletal muscle

18:10 Maria Conte

Perilipin 2 downregulation induces skeletal muscle hypertrophy

18:25 Lucia Lisa Petrilli

Investigating the cell origin and heterogeneity of embryonal rhabdomyosarcoma

18:40 Silvia Codenotti

MURC/cavin-4 is co-expressed with Caveolin-3 in rhabdomyosarcoma tumors and its silencing prevents myogenic differentiation in the human embryonal RD cell line

18:55 Fiorella Faggi

Cavin-1 and Caveolin-1 are both required to support cell proliferation, migration and anchorage-independent cell growth in rhabdomyosarcoma

20:00 Dinner

Saturday, 3 October

9:00 Lecture 3

Extracellular matrix: a dynamic microenvironment for stem cell niche.

Paolo Bonaldo (University of Padua)

Chair: B. Blaauw

9:40-12:40 Session 5: Signalling in muscle homeostasis and diseases

Chairs: G. Sorci, V. Moresi

9:40 Said Hashemolhosseini

Mitochondrial protein import is regulated by CK2-dependent phosphorylation of outer mitochondrial membrane protein Tom22 in mouse skeletal muscles

9:55 Danyil Huraskin

Canonical Wnt/ β -catenin signaling through Axin2, YAP/TAZ and TEAD1, is essential for myotube formation and small diameter adult fiber types

10:10 Gaia Gherardi

The Mitochondrial Calcium Uniporter controls skeletal muscle trophism *in vivo*

10:25 Alessandra Braga

Role of PKCzeta in skeletal muscle homeostasis

10:40-11:10 Coffee break

11:10 Andrea Cerquone Perpetuini

PAK1 positively modulates p38 activation during myogenic differentiation and muscle regeneration

11:25 Martina Chrisam

Dissecting the role of Ambra1 in developing and adult skeletal muscle

11:40 Maria Carmela Filomena

The role of myopalladin in skeletal muscle growth

11:55 Francesca Lo Verso

Micro-RNA206 and exosomes: a retrograde signaling that controls neuromuscular junction and tissue homeostasis

12:10 Laura Forcina

MicroRNAs signature in mdx dystrophic mice overexpressing mIGF-1

12:25 Ivano Legnini

Circular RNAs expression and function in myogenesis

13:00 Lunch

15:00-17:30 Session 6: Signalling and Therapeutic Approaches for muscle diseases

Chairs: M. Sampaolesi, C. Paolini

15:00 Cesare Gargioli

Muscle derived pericytes for artificial skeletal muscle human-like size

15:15 Alessio Torcinaro

Effects of the HDACi Givinostat on muscle regeneration of mdx mice

15:30 Alessandro De Marco

An anti-oxidant treatment (NAC) reduces formation of cores and improves muscle function in RYR1^{Y522S/WT} mice

15:45 Antonio Michelucci

Lethal exertional strokes in RYR1^{Y522S/WT} and CASQ1-null mice are prevented by drugs used to treat malignant hyperthermia in humans

16:00 Laura Salvadori

Mdx/Ager^{-/-} mice show reduced muscle necrosis and inflammation compared with *mdx* mice

16:15-16:45 Coffee break

16:45 Alessia Di Fonso

Ageing causes ultra-structural modification to calcium release units and mitochondria in cardiomyocytes

17:00 Jordi Camps

Chemokines in dystrophic heart and implications for stem cell homing/therapy

17:15 Felicia Carotenuto

Long and Short-Term Effects of Plant Derived Nutrients on Dystrophic Cardiomyopathy

17:30 Lecture 4

How neuromuscular junction mediates the control of innervation on muscle gene expression.

Laurent Schaeffer (University of Lyon, France)

Chair: M. Sandri

18:10 Free time

Sunday, 4 October

9:00 Lecture 5

Facioscapulohumeral muscular dystrophy: more complex than it appears.

Rossella Tupler (University of Modena-Reggio Emilia)

Chair: D. Gabellini

9:40-12:25 Session 7: Genetic and epigenetic alterations in muscle dystrophies and myopathies

Chairs: R. Piccirillo, L. Latella

9:40 Eva Pigna

HDAC4 modulates the response to oxidative stress in skeletal muscle

9:55 Ilaria Castiglioni

Ash1L as a novel epigenetic regulator of myoblasts fusion

10:10 Matilde Cescon

Collagen VI, a key extracellular matrix protein at the crossroad of skeletal muscle and peripheral nerves

10:25 Carles Sanchez-Riera

miR-143 is activated under TSA conditions and helps cells to choose an anti-adipogenic fate

10:40-10:55 Break

10:55 Andrea Cipriano

Characterization of a nuclear lncRNA involved in skeletal and cardiac muscle differentiation

11:10 Martina Martini

Muscle expression of SOD1^{G93A} modulates microRNA and mRNA expression pattern associated with the myelination process in the spinal cord of transgenic mice

11:25 Valeria Del Re

Characterization of a calsequestrin-1 mutation identified in patients affected by a vacuolar myopathy

11:40 Martina Sandonà

Functional cross-talk between the different cell populations that contribute to DMD progression

11:55 Justine Marsolier

Study of physio-pathological mechanisms implicated in sarcoglycanopathies

12:10 Roberto Giambruno

Molecular characterization of DBE-T lncRNA driving FSHD muscular dystrophy

12:45 light lunch and departure

Patronage & Sponsor

In Collaboration with Anna Berglund and Laura Massoni Travel



SAPIENZA
UNIVERSITÀ DI ROMA



**Aurora
Scientific
Inc.**

With the support of:

