

9th Annual Meeting of Young Researchers in Physiology Firenze May 7-9, 2015

Programme

Thursday May 7

12.00-14.00 **Registration of the participants**

14.30-15.00 **Opening ceremony**

15.00-16.00 **Lecture I**

Fabio Benfenati (University of Genova) - Modulation of neural activity by optogenetics: from the control of firing activity to the modulation of signal transduction and transcription

16.15-17.15 **Oral communications: Neuroscience I**

Elenia Cinelli (University of Firenze) - Involvement of bradykinin and substance P in the lisinopril-induced upregulation of the cough reflex within the caudal nucleus tractus solitarius of the rabbit

Giuditta Gambino (University of Palermo) - Implication of nitric oxide in cannabinoid neuroprotection in distinct rat models of temporal lobe epilepsy

Chiara Criscuolo (University of L'Aquila) - Intranasal treatment, a new tool to deliver BDNF into the brain: Effects in a murine model of Alzheimer's disease

Michael Di Palma (University of Urbino) - Evidence for the existence of A_{2A}-TrkB heteroreceptor complexes in rat hippocampus

17.15-17.45 **Coffee break**

17.45-18.45 **Oral communications: Neuroscience II**

Carlotta Fabiani (Institute of Neuroscience, CNR, Pisa) - New tools to enhance BDNF in the retina

Eglantina Idrizaj (University of Firenze) - Brain-derived neurotrophic factor and fibroblast growth factor 2 affect the membrane biophysical properties of neurons from fetal human caudate nucleus

Francesca Locatelli (University of Pavia) - Evidence for long-term synaptic plasticity at the Mossy Fiber - Golgi cell synapse of cerebellum

David Savelli (University of Urbino) - Long-lasting effects of a short-term voluntary exercise on morpho-functional maturation of adult-generated granule cells in rat hippocampus

18.45- 19.30 **Oral communications: Molecular and Cell Physiology I**

Martino Caramia (University of Perugia) - Silver nanoparticles activate swelling gated chloride current in U251 glioblastoma cells

Chiara Piantoni (University of Milano) - Effects of the Traditional Chinese Medicine drug TMYX on pacemaker activity in freely-moving mice and in isolated SAN cells

Carlotta Ronchi (University of Milano) - Effects of late sodium current (I_{NaL}) blockade during acute myocardial ischemia

Friday May 8

9.00-10.00 **Oral communications: Muscle Physiology I**

Eleonora Bardi (University of Pavia) - Skeletal muscle deterioration in dilated cardiomyopathy: molecular mechanisms and effects of prolonged endurance training in a mice model

Rachele Garella (University of Firenze) - Relaxin inhibits cardiac fibroblast to myofibroblast transition

Josè Manuel Pioner (University of Firenze) - Human iPSC-cardiomyocytes: a novel approach to quantitatively assess maturation and contractile function

Raffaele Coppini (University of Firenze) - Myocardial Dysfunction in Hypertrophic Cardiomyopathy: Primary Effects of Sarcomeric Mutations Versus Secondary EC-Coupling Remodelling

10.15-11.15 **Lecture II**

Vincenzo Lombardi (University of Firenze) - The muscle as a motor and as a brake

11.15-11.45 **Coffee break**

11.45-12.45 **Oral communications: Muscle Physiology II**

Valentina Percario (University of Firenze) - An investigation on the nature of non-linear elasticity of the muscle sarcomere

Francesca Pinzauti (University of Firenze) - Length dependent activation of the heart studied with fast half-sarcomere mechanics in intact trabeculae from rat ventricle

Joseph Powers (University of Washington) - Investigating the role of troponin in modulating sarcomere length dependence of thin filament activation in cardiac muscle

Cecilia Ferrantini (University of Firenze) - Novel insights on the relationship between T-tubular defects and contractile dysfunction in a mouse model of hypertrophic cardiomyopathy

12.50-14.10 **Lunch**

14.30-15.30 **Oral communications: Neuroscience III**

Manuela Medelin (University of Trieste) - Nanocomposite biomaterials based on natural polysaccharides for the development of new implantable devices driving central nervous system (CNS) reconstruction

Niccolò Pampaloni (International School for Advanced Studies, SISSA/ISAS, Trieste) - Carbon nanotubes trigger a faster network maturation which involves a differential regulation of AMPA-mediated synaptic transmission in hippocampal cells

Rossana Rauti (University of Trieste) - From 2D to 3D: novel nanostructured scaffolds to investigate signalling in reconstructed neuronal networks

Lidia De Riccardis (University of Salento, Lecce) - Bioenergetics profile of CD4⁺ T cells in relapsing remitting Multiple Sclerosis subjects

15.30-16.30 **Oral communications: Molecular and Cell Physiology II**

Irene Pertici (University of Firenze) - The length transients elicited by millisecond force steps allow the definition of the structural dynamics of double-stranded and melted DNA

Elena Signoretto (University of Milano) - Characterization of *Dictyostelium discoideum* Nramp1 and Nramp2 transporters expressed in *Xenopus* oocytes

Emanuela Urso (University of Salento, Lecce) - Copper transport mechanisms in human endothelial cells. A possible role for Prion Protein

Milena Ragazzoni (University of Genova) - Blood oxidative stress and metallothionein expression in Rett syndrome

16.30-17.00 **Coffee break**

17.00-18.00 **Oral communications: Molecular and Cell Physiology III**

Veronica Cartocci (University of Roma "Roma Tre") - Modulation of MVA pathway during neuronal differentiation

Manuela Cipolletti (University of Roma "Roma Tre") - Neuroglobin: an estrogen-inducible protein involved in cancer cell survival

Laura Muredda (University of Cagliari) - Impact of dietary omega-3 LCPUFAs in TAG or PL form on metabolic syndrome and endocannabinoid biosynthesis in obese Zucker rats

Maria Teresa Nuzzo (University of Roma "Roma Tre") - Estrogen neuroprotective effects require the synergy between HTT and NGB

18.00-19.00 **Oral communications: Molecular and Cell Physiology IV**

Martina Di Maro (University of Napoli "Federico II") - Effects of citrus flavonoids on rat pial microcirculation during transient bilateral common carotid artery occlusion and reperfusion

Stefania Moretti (University of Milano) - The glutamate signalling in islet of Langerhans: molecular mechanisms of modulation

Annamaria Russo (University of Bari) - Interleukin 13-induced pendrin trafficking in human lung epithelial cells (NCI-H292)

Luigi Sforza (University of Perugia) - Hypoxia modulates the swelling-activated chloride current in human glioblastoma cells: role in volume regulation and cell survival

20.00 **Social Dinner**

21.30 **Concert "Musicanti di Brema"**

Saturday May 9

9.15-10.00 Oral communications: Integrative Physiology I

Mattia Bonzanni (University of Milano) - Endurance training modulates expression levels of circulating myomiR

Paolo Bruseghini (University of Verona) - Effect of high intensity training and isoinertial training on intermuscular adipose tissue in older adults

Nazzareno Fagoni (University of Brescia) - Effects of lower body negative pressure on phase I cardiopulmonary responses at exercise onset in humans

10.15-11.15 Lecture III

Guido Ferretti (University of Brescia) – Looking back into the origin of the general theory of the energetics of muscular exercise from a historical perspective

11.15-11.45 Coffee break

11.45-12.30 Oral communications: Integrative Physiology II

Anna Taboni (University of Brescia) - Cardiovascular responses to dry resting apnoeas in elite divers while breathing pure oxygen

Giovanni Vinetti (University of Brescia)- Effects of recovery interval duration during incremental exercise protocols on peak power and critical power in humans

Alessandro Leone (University of Milano) - Sex hormones effects on the metabolic, endocrine, and eating physiological responses to a mixed meal in women

12.50-14.10 Lunch

14.30-15.00 Award ceremony