



## 3<sup>rd</sup> SYMPOSIUM&WORKSHOP “Skeletal muscle research – from cell to human 2019”

Ljubljana, Slovenia, 26th – 28th May 2019

Organised by: Institute of Pathophysiology, Faculty of Medicine, University of Ljubljana, Slovenia (PAFI UL MF)

In collaboration with: University Medical Centre Ljubljana, Slovenia (UKC)

Institute of Anatomy, Faculty of Medicine, University of Ljubljana, Slovenia (IA UL MF)

Department of Physiotherapy, Faculty of Health Sciences, University of Ljubljana (DP UL ZF)

Venue: Institute of Pathophysiology, Faculty of Medicine, University of Ljubljana (Zaloška cesta 4, Ljubljana, Slovenia),

Participants: researches, academics, PhD students, students, postdocs, A4L project members

### PROGRAMME

#### SUNDAY 26<sup>th</sup> May 2019 (14:00 – 19:30)

14:00-15:00 Registration, welcome

#### 14:45-15:00 Symposium&Workshop opening

**Opening words:** Tomaž Marš (Slovenia), Organising Committee

**Welcome address:** Samo Ribarič (Slovenia), Head of Institute of Pathophysiology, Faculty of Medicine

**A few historical aspects:** Sergej Pirkmajer (Slovenia), Scientific Committee

**15:00-15:40 Keynote plenary lecture:** Marc Gilbert (France) *Role of skeletal muscle lipid content in the pathogenesis of insulin resistance of obesity and type 2 diabetes. Where do we stand today?*

**15:40-16:20 Keynote plenary lecture:** Kathy Myburgh (South African Republic): *Exosomes in the context of skeletal muscle: from cells to humans*

Coffee Break

**16:50-18:10 Section I: In vitro and In vivo models for studying skeletal muscle** (organised by Tomaž Marš, chaired by Kathy Myburgh)

**16:50-17:15 Carlo Reggiani** (Italy): *"Sarcoplasmic Reticulum-Mitochondria interactions in skeletal muscle fibers"*

**17:15-17:35 Natasa Nikolic** (Norway): *"Primary defects in lipid handling and resistance to acute exercise in myotubes from obese donors with and without type 2 diabetes"*

**17:35-17:55 Jozef Ukropec** (Slovak Republic): *"Exercise-induced changes in insulin sensitivity and cognitive performance are linked to improvements in muscle functional and metabolic state in the elderly"*

**17:55-18:10 Jenny Lund** (Norway): *"Exercise in vivo marks human myotubes in vitro - increased energy metabolism with improved exercise status"*

**18:10-18:20 Rhys McColl** (South African Republic): *"Genetically modified primary human myoblasts: the question of fusion competence"*

Get-together dinner for all participants

#### MONDAY 27<sup>th</sup> May 2019 (8:40 – 20:00)

8:30-9:00 Welcome, registration

**9:00-10:30 Section II: Skeletal muscle metabolism: physiological regulation and pharmacological modulation** (organised by Sergej Pirkmajer and Alexander V. Chibalin, chaired by Alexander V. Chibalin)

**9:00-9:25 Alexander V. Chibalin** (Sweden): *"Pumps, ions and energy metabolism"*

**9:25-9:50 Pablo Garcia-Roves** (Spain): *"Cost Action MitoEAGLE: Evolution-Age-Gender-Lifestyle-Environment: mitochondrial fitness mapping. Data repository on muscle tissue"*

**9:50-10:10 Anna Zakharova** (Russia): *"Physical activity as a factor of the metabolic disorders correction: an experimental study"*

**10:10-10:30 Helena Chowdhury** (Slovenia): *"Cytosolic glucose measurements and dynamics in 3T3L1 cells"*

Coffee and discussion

**11:00-12:30 Section III: Skeletal muscle and nerve interactions, NMJ** (organised by Tomaž Marš and Sergej Pirkmajer, chaired by Igor Križaj)

**11:00-11:25 Boris Rogelj** (Slovenia): *"Cellular modelling in amyotrophic lateral sclerosis"*

**11:25-11:50 Igor Križaj** (Slovenia): *"Unravelling snake venom sPLA2 neuro-muscular blockade mechanism provides insight into pathophysiology of mammalian sPLA2"*

**11:50-12:05 Maja Katalinić** (Croatia): *"Neural and muscle cells in organophosphorus compound antidote research"*

**12:05-12:15 Alessandra Bosutti** (Italy): *"Electrical stimulation to counteract skeletal muscle atrophy"*

**12:15-12:30 Tomaž Marš** (Slovenia): *"Co-culture of skeletal muscle cells and spinal cord explants as model for studying neurodegenerative diseases"*

Lunch for all participants

**14:00-15:30 Section IV: Skeletal muscle training response in healthy and injured subjects** (organised by Alan Kacin, chaired NN)

- 14:00-14:25 **Truls Raastad** (Norway): "Muscular adaptations to low-load blood-flow restricted exercise"  
 14:25-14:50 **Jakob Nielsen** (Danmark): "Neuromuscular adaptation to resistance training-effect of aging"  
 14:50-15:05 **Sigve Nyvik Aas** (Norway): "Effects of strength training on muscle quality in frail elderly"  
 15:05-15:15 **Nejc Šarabon** (Slovenia): "Characteristics of eccentric exercise for the hamstrings and their potential for injury prevention"  
 15:15-15:30 **Alan Kacin** (Slovenia): "The effect of low-load blood flow restricted training on muscle activation and hemodynamics in people with joint injuries"

Coffee and discussions

- 15:50-17:10 Section V: Clinical Skeletal Muscle Physiology and Pathophysiology** (organised by Matej Podbregar and Sergej Pirkmajer, chaired by Matej Podbregar)  
 15:50-16:10 **Alojzija Hočevar** (Slovenia): "Inflammatory myopathies – clinical aspects"  
 16:10-16:30 **Saša Čučnik** (Slovenia): "Autoimmune antibodies in inflammatory myopathies"  
 16:30-16:50 **Katja Lakota** (Slovenia): "Adiponectin and rheumatic diseases"  
 16:50-17:10 **Sergej Pirkmajer** (Slovenia): "Metabolic effects of anti-rheumatic drugs"

Coffee and discussions

- 17:30-19:00 Section VI: New approaches for studying skeletal muscle morphology, physiology, plasticity and diseases** (organised by Erika Cvetko)  
 17:30-17:55 **Stefano Schiaffino** (Italy): "Human skeletal muscle: proteomic analysis of single muscle fibers and specific myofiber domains"  
 17:55-18:20 **Jiri Janaček, Ida Eržen** (Czech Republic, Slovenia): "Measuring capillaries in 3D"  
 18:20-18:40 **Lea Leonardis** (Slovenia): "Myasthenia gravis and congenital myasthenic syndrome in adults"  
 18:40-18:50 **Nejc Umek** (Slovenia): "3D analysis of capillary network in diabetic mice"  
 18:50-19:00 **Marija Meznarič** (Slovenia): "Pompe disease in Slovenia"

**Closing Remarks**

**19:00 – 21:00 DINNER for all participants**

**TUESDAY 28<sup>th</sup> May 2019 (8:45-12:00)**

**09:00–12:00 Individual discussions, networking, Laboratories and Clinics tour and presentation**

Scientific committee: Alan Kacin, Kathy H. Myburgh, Sergej Pirkmajer, Stefano Schiaffino, Vika Smerdu, Alexander V. Chibalin

Organising committee: Tomaž Marš, Sergej Pirkmajer, Matej Podbregar, Marija Meznarič, Erika Cvetko, Vika Smerdu, Vita Čebašek, Nejc Umek, Alan Kacin, Matej Drobnič, Tatjana Stopar Pintarič, Katarina Miš, Urška Matkovič, Vid Jan, Nives Škorja, Metka Petrič, Klemen Dolinar in Ksenija Babič



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