Obesity and type 2 diabetes are frequent pathological conditions, often presenting in association in the same subject. Despite decades of research, the scientific interest in discovering and dissecting the mechanisms behind these two related metabolic disorders is still very high, with the aim to improve therapy, to permit an earlier and more precise diagnosis and phenotyping, and more importantly to discover new proteins and signaling pathways which may serve as new potential therapeutic targets.

With this background the Meeting will be focused on organs, cells and subcellular organelles which have been recently implicated in several biological processes interplaying with the genesis of obesity, insulin resistance and diabetes. Each Session will contain a Lecture from a recognized expert in the field, introducing the general theme, and two talks presenting original data in specific areas, with large space left to the general discussion.

We will start the Meeting learning the role of the Adipose Organ in insulin resistance from monogenic diseases, and unraveling new actors in the metabolic activity of White Adipose Tissue and the possibility to recruit and activate the Brown Adipose Tissue (Session I). Afterwards, the role of mitochondria, autophagy and circulating stem cells in metabolism (Session II) will be examined. Session III will dissect the new therapeutic strategies in obese and diabetic patients discussing the preliminary data under a clinical perspective. Sessions IV and V will be dedicated to the relationship between the ciliary dysfunction and metabolism, underlying the emerging role of the cilium structure in several pathways potentially connected with the metabolic homeostasis in different cells and tissues. In particular, Session V will focus on ALMS1 protein whose alterations are responsible for Alström Syndrome, a rare monogenic disease presenting childhood obesity, early and severe insulin resistance and often diabetes. This protein is a component of the centrosome and the basal body and, interacting with other proteins, could play a role in regulating the insulin sensitivity at different levels. In this Session we will also have the opportunity to explore the utility of some advanced technological approaches as the in silico Protein Modeling and the Next Generation Sequencing.

The Meeting will also host the ceremony award of the “PREMIO MARIO E LINA AUSTONI” when two young scientists will present their innovative researches in the field of metabolism. Finally, the Meeting will introduce the forthcoming Obesity Week (October 2-10 2015), seven days entirely dedicated to Obesity and Nutrition events with the participation of the Center for the Study and the Integrated Treatment of Obesity of the Veneto Region, directed by Prof. Roberto Vettor, Internal Medicine 3, Department of Medicine (DIMED), University of Padua.
08.30 Opening. Roberto Vettor-Pietro Maffei

I SESSION: FOCUS ON ADIPOSE ORGAN
CHAIRMEN: Arianna Donella, Marco Rossato
08.45 LECTURE: Robert K. Semple. How is adipose tissue linked to insulin sensitivity? New lessons from monogenic disease
09.15 Gabriella Milan. White adipose tissue: new metabolic aspects
09.35 Andrea Frontini. Brown adipose tissue in humans: recruitment and activation
09.55 Discussion
10.15 -10.45 Coffee break

II SESSION: FOCUS ON MITOCHONDRIA AND STEM CELL ABNORMALITIES
CHAIRMEN: Angelo Avogaro, Carlo Foresta
10.45 LECTURE: Marco Sandri. Autophagy and the control of mitochondria and metabolism
11.15 Enzo Nisoli. Mitochondria and metabolic diseases
11.35 Gian Paolo Fadini. Circulating stem cells in metabolic diseases
11.55 Discussion

PREMIO MARIO E LINA AUSTONI
CHAIRMEN: Cesare Scandellari, Roberto Vettor
12.15 Marta Sanna. Lipomatous tissue: white, brown or beige?
12.30 Elisabetta Trevellin. Exercise and mitochondrial biogenesis in adipose tissue
12.45-14.00 Pausa

III SESSION: NEW THERAPEUTIC STRATEGIES IN OBSE AND DIABETIC PATIENTS
CHAIRMEN: Roberto Fabris, Roberto Serra
14.00 Roberto Vettor. The incretin sistem revisited and GLP1 analogs
14.20 Paola Fioretto. SGLT2: more than a simple glucose lowering effect

IV SESSION: FOCUS ON CILIARY DYSFUNCTION AND METABOLISM
CHAIRMEN: Pietro Maffei, Jan D. Marshall
15.20 Brunella Franco. A system biology approach to dissect new functions for ciliary proteins: the example of OFD1
15.40 Alessandra Boletta. Metabolic dysfunction in Polycystic Kidney Disease, the most frequent ciliopathy
16.00 Discussion
16.15-16.45 Coffee break

V SESSION: FOCUS ON ALMS1 PROTEIN AND ITS INTERACTIONS
CHAIRMEN: Marco Boscaro, Luca Busetto
16.45 LECTURE: Silvio Tosatto. Protein modelling and ALMS1 function
17.15 Francesca Favaretto. Alms1 expression in obesity models
17.35 Stefano Cagnin. Splice variants and secreted miRNAs characterization by NGS
17.55 Discussion
18.15 Concluding Remarks and Introduction to Obesity Week October 2-10 2015