

# ATLAS x ADIPOSIGN x FGM

## Joint Distinguished Seminar

Friday, September 6, 10:15-11.15 AM

BMB Seminar Room

## “Adipose Tissue Plasticity and Energy Metabolism”



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Host: Prof. Susanne Mandrup

### Abstract:

White adipose tissue (WAT) is a central organ of lipid and glucose metabolism that impacts systemic energy homeostasis. WAT actively senses nutritional changes and accordingly stores extra energy in the form of triglycerides or supplies nutrients to other organs. Also, WAT regulates whole-body energy metabolism by communicating locally and with distant tissues by secreting signaling molecules such as adipokines, lipokines, metabolites, and exosomes. In obesity, multiple insults promote aberrant gene expression in WAT and lead to WAT dysfunction. Obesity is one of the major risk factors for the development of metabolic diseases such as cardiovascular diseases,

type 2 diabetes, and atherosclerosis as well as cancer. One hallmark of obesity is the extensive expansion of WAT that is characterized by maladaptive remodeling events including increased adipocyte hypertrophy, impaired formation of new adipocytes, and accumulation of pro-inflammatory immune cells. Accordingly, significant advances have been made over the past few decades in the understanding of obesity-induced aberrant WAT remodeling and its pathophysiology with respect to obesity-related metabolic disorders. In this presentation, I will discuss the heterogeneity of adipose tissue and energy homeostasis with crosstalk between multiple cell types.