Instituts thématiques Inserm
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Institute of Psychiatry and Neuroscience of Paris

Université Paris Cité

Psychiatry and Neuroscience Seminar Series 2023

Dr Sophie STECULORUM

(Host V Tolle)

Max Planck Institute, Köln, Germany

Sensory regulation of feeding behaviour and metabolism

Friday, July 7th, 2023, noon

Room D Levy, 102-108 rue de la santé - 75014 Paris & VISIOCONFERENCE

Dr Sophie STECULORUM

Neurocircuit Wiring and Function, Max Planck Institute for Metabolism Research, Köln, Germany

We seek at further defining the architecture and the functional principles of neuronal-based circuits controlling energy and glucose homeostasis in adults. By doing so, we hope to better delineate how the brain controls metabolic processes and to identify the exact neurocircuits involved in these events. Our projects notably intend to understand how the organism senses and integrates its environment and adapt its behavior according to its physiological and nutritional needs. To answer these fundamental questions, we are employing state-of-the-art technologies in systems neuroscience such as optogenetics, chemogenetics, and in vivo calcium imaging in concert with a broad range of tests assessing metabolism and behavior. Metabolic disorders are increasingly diagnosed in childhood and have recognized roots in very early life. Indeed, changes in the nutritional and/or hormonal environment during gestation and/or lactation (e.g. maternal obesity/malnutrition or diabetes) can permanently alter the development of "brain-metabolic" pathways. Those alterations will in turn lead to life-long changes in homeostatic functions and predisposes individuals to develop metabolic diseases later in life. We are focusing on uncovering new mechanisms underlying the developmental programming of metabolic neuronal networks. We try to pinpoint novel brain-metabolic pathways sensitive to abnormal perinatal milieus that could ultimately contribute to the onset of metabolic dysfunctions.

Keywords:

Neuroendocrinology | Animal Physiology | Neurobiology and Brain Physiology | Metabolism | Neuroanatomy | Leptin | Endocrinology | Neuroscience | Insulin Resistance | Developmental Biology

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