UNIVERSITY OF WARSAW | CeNT CENTRE OF NEW TECHNOLOGIES

invites to a seminar by

Prof. Jose Luis Ferran
University of Murcia

"Brain induced changes in motor responses and fat tissue content during a forced exercise program in rodents"

October 12th , 2018 at 12 p.m.
Venue: Centre of New Technologies, Banacha 2C,

Host: Marta B. Wiśniewska

It has been shown that exercise is associated with a reduction in the risk of suffering non-communicable diseases, whereas the lack of physical activity is a risk factor for obesity and mortality. Moreover, regular physical activity is associated with the reduction of obesity and the prevention of neurodegenerative diseases. Nevertheless, we have scarce knowledge about the regulatory mechanisms in the CNS that account for the benefits of exercise. A limiting aspect is that the usual protocols developed for studying the effects of physical activity in animal models do not produce uniform results. A novel protocol reported recently adds a phase of habituation previous to forced wheel exercise, thus obtaining animal groups homogeneous as regards the amount of physical activity to which all individual subjects are exposed, and shows a clear cut improvement in their motor response, compared with control groups. Using this model we define two lines of research: motor response, and metabolic response. A) Motor response: Our aim is to determine whether the period of habituation to forced exercise produces a dopaminergic activation, which might lead to a higher resistance to fatigue. B) Metabolic response: It is still not understood precisely how the increased exercise acts on the central nervous system to modify the metabolic response. Our aim here is to determine the effects of a program of forced physical activity in the hypothalamic neural regulation of body adipose tissue content, under circadian effects and in different periods of life.

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