



L4H SEMINAR LESZEK KACZMAREK 'Watch the Mind'

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Nencki Institute, Warsaw, POLAND

September 15, 2014

Seminar, September 15, 2014, 12:00. Seminar Room

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Since middle eighties our research question is about brain-mind connection. To understand it, we have followed learning and memory. Initially, we have hypothesized and then discovered gene expression in learning. The first such identified gene, c-fos encodes a gene regulator controlling, i.a., extracellular proteolytic system operating at the synapses, allowing for their plastic reorganization underlying dynamics of the neuronal network connectivity. Besides revealing underpinnings of the brain molecular operations, this knowledge can be also used to generate tools to visualize active brain-mind functions. In particular, c-Fos expression labels the neurons that are submitted to plastic changes, whereas c-Fos driven

MMP-9 (matrix metalloproteinase-9) can be used to visualize plastic synapses. Presently, the major challenge is to develop optical tools to imagine these molecules deeply in the brain in the context of specific behaviors. I shall present our attempts to monitor brain emotional center, the amygdala in the context of appetitive vs. aversive activities.

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Hosted by Dr. Pablo Loza