



PHYSIKALISCHES KOLLOQUIUM

des Fachbereichs Physik
der Johann Wolfgang Goethe-Universität Frankfurt

Mittwoch, den 08.11.2017, 16 Uhr c.t.
Großer Hörsaal, Raum _0.111,
Max-von-Laue-Str. 1



Dr. Tatjana Tchumatchenko

Theory of Neural Dynamics Max Planck Institute
for Brain Research Frankfurt am Main, Germany

"Dynamics and computation in neural networks"

Many theoretical developments in physics are guided by the principle put forward by Einstein that "a model should be as simple as possible, but not simpler". Walking a delicate line between intricately detailed models and simple, yet biologically less realistic, is a particularly challenging task when it comes to understanding the brain's neural networks. Finding out the right level of detail to work on and identifying strategies for how to connect different microscopic aspects (e.g. ion channels, synapses, proteins etc) to the macroscopic computations (e.g. learning, attention, information transmission) carried out in the neural networks shall be the topic of this lecture. I will present my recent work connecting the different micro and macroscopic level related to neural computation in the cortex.

Die Dozenten der Physik

local host: Prof. Dr. Jochen Triesch, j.triesch@fias.uni-frankfurt.de