Zentrum für Hochleistungsrechnen

TECHNISCHE
UNIVERSITÄT
DRESDEN

EINLADUNG
zum
ZHR - KOLLOQUIUM

Titel: **Neural Mechanism of Learning**

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Kurzfassung:

The neural mechanism of learning has been a central question in neurobiology. Although it appears to be the most complex phenomenon some amount of understanding and conceptualization has taken place as a result of hundred years of rigorous experiments and investigations by neuro-physiologists, neuro-anatomists, molecular biologists, and psychologists. Moreover, the newer ideas of learning and memory developed by the scientists in the field of artificial intelligence have contributed to the process.

Human brain comprises of two hemispheres, left and right. Each hemisphere is divided into a number of compartments, known as cortexes, each responsible for a particular function of the brain. It has also been established that each cortex is made up of thousands of neurons. A neuron is constantly firing, e.g. throwing electrical fluxes via its ion channels. The firing profile of the neurons constitutes a dialogue among the neurons in a cortex as well as in the whole brain. Any external signal, e.g. visual, auditory etc. is converted into electrical signal by the receiving organs, e.g. retina, hair cells in the ear, etc. The electrical signal travels through nerve fibres to a specific cortex in the brain, where all the input signals of the same class are processed.

In the present work we have looked into the synaptic dynamics as the basis of neural mechanism of learning and have proposed a hypothesis, which, we believe, is important so far the aforesaid mechanism is concerned.

Ort: **Willers-Bau C 207**
Zeit: **Donnerstag, den 24. März 2005, 11 Uhr**

gez. Prof. Dr. Wolfgang E. Nagel