



## Dynamics in Neuronal Microcircuits

By Jean-Vincent Le Bé

LAP LAMBERT Academic Publishing. Paperback. Book Condition: New. Paperback. 136 pages. Dimensions: 8.6in. x 5.7in. x 0.4in. The neocortex is the most computationally advanced portion of the brain. It is currently assumed to be composed of a large number of cortical columns intricate arrangements of cortical neurons approximately 300-500m in diameter and 2-5 mm in height in humans that might serve as the elementary computational unit of the neocortex. Understanding the computation performed by this microcircuit is one of the keys to our comprehension of the brain. The so-called cortical column is not a static entity as it evolves throughout a lifetime and continually adapts to the information from its cortical environment. Despite the differences between cortical columns across the cortex, a number of common features have been identified such as a laminar structure, the dynamics of connections between identified neurons or the mechanisms for these connections to be modified. This book presents the description of the differential connectivity and synaptic dynamics across two cell populations and the long term neuronal rewiring in a particular neuronal population within the cortical column. These results were obtained during a PhD work done at the Swiss Federal Institute of Technology in Lausanne. This item...



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