

The Efficient Coding Strategies in the Cerebellum

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The cerebellum contains a large portion of the neurons in the brain and has been extensively studied in theoretical analysis. However, the neuronal principles responsible for efficient computation in the cerebellum remain unclear. It is crucial to integrate our growing understanding of ion channel dynamics, neuronal properties, and circuit structure into computational principles for the circuit. During the presentation, the speaker will first summarize his previous research on the biological mechanisms underlying efficient computations in the cerebellum [1-5]. In the second part, the speaker will present his unpublished results regarding the cerebellar coding strategy and its application in AI tasks.

References:

- [1] Y. Zang, S. Hong and E. De Schutter, eLife. e60692 (2020)
- [2] Y. Zang and E. De Schutter, J. Neurosci. 41 1850 (2021)
- [3] Y. Zang and E. De Schutter, Curr. Opin. Neurobiol. 82 102765 (2023)