

CALL FOR PAPERS

2013 Special Issue of Neural Networks Computations, Neural Circuits, Behavior and Anatomy of the Cerebellum

Functions of the cerebellum; new theoretical and experimental approaches

The cerebellum is one of the best brain regions where multidisciplinary approaches have proven powerful in elucidating principles of neural function embedded in the neural circuitry and anatomy. Recently, major advances were made in these different approaches. Historically, several leading theories such as learning theory, motor control, and control of timing have guided major streams of neurophysiological and behavioral studies in the cerebellum. Some of them appeared quite exclusive with each other for a few decades, but theoretical integration of different streams have been explored recently and turned out very fruitful. Modeling of cerebellar circuits and function has been carried out at several different levels from molecules to behavior over several decades. For example, systems biology model of cerebellar synaptic plasticity explored characteristics of learning algorithms utilized in the cerebellum.

Up-to-date cellular biology techniques such as photo-uncaging, optogenetics, 2-photon imaging, whole cell patch clamp enormously expanded our detailed knowledge about cellular and circuit functions in the cerebellum. Molecular genetics significantly contributed to understanding of molecular to behavioral understanding.

This special issue integrates these new advances in the cerebellar study with the special emphasis on new modeling and theoretical approaches as well as new experimental techniques that have advanced and widened our understandings recently.

Guest Editors

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Submission

Submission instructions can be found at:

<http://ees.elsevier.com/neunet/>

Please select “Computations, Neural Circuits, Behavior and Anatomy of the Cerebellum”
in the submission page.

Important Dates

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