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Nota di contenuto	Spike trains as event sequences : fundamental implications / Jonathan D. Victor and Sheila Nirenberg -- Neural coding and decoding with spike times / Ran Rubin, Robert Gutig, and Haim Sompolinsky -- Can we predict every spike? / Richard Naud and Wolfram Gerstner -- Statistical identification of synchronous spiking / Matthew T. Harrison, Asohan Amarasingham, and Robert E. Kass -- Binless estimation of mutual information in metric spaces / Ayelet-Hashahar Shapira, Jonathan D. Victor, and Israel Nelken -- Measuring information in spike trains about intrinsic brain signals / Gautam Agarwal and Friedrich T. Sommer -- Role of oscillation-enhanced neural precision in information transmission between brain areas / Paul H. Tiesinga, Sasa Kozelj, and Francesco P. Battaglia -- Timing information in insect mechanosensory systems / Alexander G. Dimitrov and Zane N. Aldworth -- Neural encoding of dynamic inputs by spike timing / Matthew H. Higgs and William J. Spain -- Relating spike times to perception : auditory detection and discrimination / Laurel H. Carney -- Spike timing and neural codes for odors / Sam Reiter and Mark Stopfer -- Spike timing as a mechanism for taste coding in the brainstem /

Patricia M. Di Lorenzo -- Increases in spike timing precision improves gustatory Discrimination upon Learning / Ranier Gutierrez and Sidney A. Simon -- Spike timing in early stages of visual processing / Paul R. Martin and Samuel G. Solomon -- Cortical computations using relative spike timing / Timothy J. Gawne.

Sommario/riassunto

Neuronal communication forms the basis for all behavior, from the smallest movement to our grandest thought processes. Among the many mechanisms that support these functions, spike timing is among the most powerful and-until recently-perhaps the least studied. In the last two decades, however, the study of spike timing has exploded. The heightened interest is due to several factors. These include the development of physiological tools for measuring the activity of neural ensembles and analytical tools for assessing and characterizing spike timing. These advances are coupled with a growing appr