

1. Record Nr.	UNINA9910298449503321
Titolo	Sensorimotor Integration in the Whisker System // edited by Patrik Krieger, Alexander Groh
Pubbl/distr/stampa	New York, NY : , : Springer New York : , : Imprint : Springer, , 2015
ISBN	1-4939-2975-5
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (277 p.)
Disciplina	610
Soggetti	Neurosciences Artificial intelligence Neurology Artificial Intelligence Neurology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Introduction -- Comparative Studies of Somatosensory Systems and Active Sensing -- The Whisker Thalamus -- Synaptic Microcircuits in the Barrel Cortex -- Imaging the Cortical Representation of Active Sensing in the Vibrissa System -- The Rodent Vibrissal System as a Model to Study Motor Cortex Function -- The Central Pattern Generator for Rhythmic Whisking -- Functional principles of Whisker-mediated Touch Perception -- Location Coding by the Whisking System -- The Robot Vibrissal System: Understanding Mammalian Sensorimotor Co-ordination through Biomimetrics -- Impact of Monoaminergic Neuromodulators on the Development of Sensorimotor Circuits.
Sommario/riassunto	Sensorimotor integration, the dynamic process by which the sensory and motor systems communicate with each other, is crucial to humans' and animals' ability to explore and react to their environment. This book summarizes the main aspects of our current understanding of sensorimotor integration in 10 chapters written by leading scientists in this active and ever-growing field. This volume focuses on the whisker system, which is an exquisite model to experimentally approach sensorimotor integration in the mammalian brain. In this book, authors

examine the whisker system on many different levels, ranging from the building blocks and neuronal circuits to sensorimotor behavior. Neuronal coding strategies, comparative analysis as well as robotics illustrate the multiple facets of this research and its broad impact on fundamental questions about the neurobiology of the mammalian brain.

---