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Altri autori (Persone)	KirkcaldieMatthew PaxinosGeorge
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Nota di contenuto	Front Cover; The Brain: An introduction to Functional Neuroanatomy; Copyright Page; Dedication; Preface; Acknowledgments; Introduction; Table of contents; Chapter 1: Nerve cells and synapses; Membrane potentials and action potentials; Neurons and their connections; Glia; Chapter 2: Central nervous system basics-the brain and spinal cord; Why study animal brains?; The main parts of the brain; External features of the brain; The language of brain anatomy; The spinal cord; Chapter 3: A map of the brain; Mini-atlas of the rat brain; Chapter 4: Peripheral nerves; Motor and sensory nerves Somatic and visceral motor and sensory elements Spinal nerves; Spinal nerves supplying the limbs; Cranial nerves; Chapter 5: Command and control-the motor systems; Command and control of skeletal muscles; Areas of the motor cortex; The role of non-cortical motor centers; Survival skills: the hypothalamus; Brainstem and spinal cord modules for control of organized movement; Descending control pathways other than the corticospinal tract; The role of the cerebellum in motor control; The roles of the striatum and pallidum in motor control; The final common pathway for all motor systems-the motor neuron

Command and control of the viscera-the autonomic nervous systemCommand and control of the neuroendocrine system; Chapter 6: Gathering information-the sensorysystems; Receptors; Keeping sensory mapsintact; Interpretation and understanding; Sensory areas in the cerebral cortex; Vision; Hearing; Vestibular system; Taste; Smell; Sensory processing outside the cortex; An example: rolling an ankle; Chapter 7: The human cerebralcortex; The cerebral cortex-anatomy and histology; Guiding principles of cortical structure and function; The functional layout of the human cerebral cortex
The cerebral cortex and behaviorChapter 8: Higher level functions-consciousness, learning, memory, andemotions; Consciousness; Memory; Sleep; Emotions and the amygdala; Chapter 9: When things go wrong-brain disease andinjury; Infections of the brain and spinal cord; Multiple sclerosis; Parkinson's disease; Stroke (cerebrovascular accident); Alzheimer's disease anddementia; Epilepsy; Brain trauma and brain death; Mental illness; The tragic history of the treatment of severe mental illness; Chapter 10: The development of the brain and spinalcord; Genes and brain development
Early development of the brain and spinalcordRegional development of the nervous system-segmentation and organizingcenters; Formation of synapses; Environmental influences on gene expression; Critical periods; Later processes that refine the structure of the brain; Chapter 11: Techniques for studying thebrain; Cutting thin sections of the brain; Staining brain sections; Cell culture; Hodology: using tracers to map connections; Molecular genetics; Non-invasive imaging techniques; Functional imaging; Electrophysiology; Appendix A: Voltages, potentials, and cellmembranes; AppendixB; AppendixC
Supplementaryreading

Sommario/riassunto

The authors of the most cited neuroscience publication, *The Rat Brain in Stereotaxic Coordinates*, have written this introductory textbook for neuroscience students. The text is clear and concise, and offers an excellent introduction to the essential concepts of neuroscience. Based on contemporary neuroscience research rather than old-style medical school neuroanatomy Thorough treatment of motor and sensory systems A detailed chapter on human cerebral cortex The neuroscience of consciousness, memory, emotion, brain injury, and mental
