

## From Neuron To Brain A Cellular And Molecular Approach To The Function Of The Nervous System Fourth Edition

This book is a valuable compendium of up-to-date reviews of neuronal molecular biology by leading researchers in the field. It covers all aspects of neuron structure and function, with the emphasis on genetic and molecular analysis.

Up-to-date third edition which presents a coherent description of the nervous system from the perspective of modern work on molecular biology, cellular and developmental biology, biophysics, neurophysiology, neurochemistry and neuroanatomy.

In the 25 years since *From Neuron to Brain* was first published, the authors' aim has remained constant: to describe how nerve cells go about their business of transmitting signals, how the signals are put together, and how, out of this integration, higher functions emerge. The new Fourth Edition, while maintaining this focus, has been completely reformatted and updated. Intended for use in upper-level undergraduate, graduate, psychology and medical school Neuroscience courses, *From Neuron to Brain* will be of interest to anyone, with or without a specialized background in biological sciences, who is curious about the workings of the nervous system. It presents a readable and coherent account of how cellular and molecular approaches can provide insights into the workings of the brain.

Addressing all those interested in the history of American science and concerned with its future, a leading scholar of public policy explains how and why the Office of Naval Research became the first federal agency to support a wide range of scientific work in universities. Harvey Sapolsky shows that the ONR functioned as a "surrogate national science foundation" between 1946 and 1950 and argues that its activities emerged not from any particularly enlightened position but largely from a bureaucratic accident. Once involved with basic research, however, the ONR challenged a Navy skeptical of the value of independent scientific advice and established a national security rationale that gave American science its Golden Age. Eventually, the ONR's autonomy was worn away in bureaucratic struggles, but Sapolsky demonstrates that its experience holds lessons for those who are committed to the effective management of science and interested in the ability of scientists to choose the directions for their research. As military support for basic research fades, scientists are discovering that they are unprotected from the vagaries of distributive politics. Originally published in 1990. The Princeton Legacy Library uses the latest print-on-demand technology to again make available previously out-of-print books from the distinguished backlist of Princeton University Press. These editions preserve the original texts of these important books while presenting them in durable paperback and hardcover editions. The goal of the Princeton Legacy Library is to vastly increase access to the rich scholarly heritage found in the thousands of books published by Princeton University Press since its founding in 1905.

Glutamate is the most pervasive neurotransmitter in the central nervous system (CNS). Despite this fact, no validated biological markers, or biomarkers, currently exist for measuring glutamate pathology in CNS disorders or injuries. Glutamate dysfunction has been associated with an extensive range of nervous system diseases and disorders. Problems with how the neurotransmitter glutamate functions in the brain have been linked to a wide variety of disorders, including schizophrenia, Alzheimer's, substance abuse, and traumatic brain injury. These conditions are widespread, affecting a large portion of the United States population, and remain difficult to treat. Efforts to understand, treat, and prevent glutamate-related disorders can be aided by the identification of valid biomarkers. The Institute of Medicine's Forum on Neuroscience and Nervous System Disorders held a workshop on June 21-22, 2010, to explore ways to accelerate the development,

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validation, and implementation of such biomarkers. Glutamate-Related Biomarkers in Drug Development for Disorders of the Nervous System: Workshop Summary investigates promising current and emerging technologies, and outlines strategies to procure resources and tools to advance drug development for associated nervous system disorders. Moreover, this report highlights presentations by expert panelists, and the open panel discussions that occurred during the workshop.

First released in the Spring of 1999, *How People Learn* has been expanded to show how the theories and insights from the original book can translate into actions and practice, now making a real connection between classroom activities and learning behavior. This edition includes far-reaching suggestions for research that could increase the impact that classroom teaching has on actual learning. Like the original edition, this book offers exciting new research about the mind and the brain that provides answers to a number of compelling questions. When do infants begin to learn? How do experts learn and how is this different from non-experts? What can teachers and schools do-with curricula, classroom settings, and teaching methods--to help children learn most effectively? New evidence from many branches of science has significantly added to our understanding of what it means to know, from the neural processes that occur during learning to the influence of culture on what people see and absorb. *How People Learn* examines these findings and their implications for what we teach, how we teach it, and how we assess what our children learn. The book uses exemplary teaching to illustrate how approaches based on what we now know result in in-depth learning. This new knowledge calls into question concepts and practices firmly entrenched in our current education system. Topics include: How learning actually changes the physical structure of the brain. How existing knowledge affects what people notice and how they learn. What the thought processes of experts tell us about how to teach. The amazing learning potential of infants. The relationship of classroom learning and everyday settings of community and workplace. Learning needs and opportunities for teachers. A realistic look at the role of technology in education.

Foundational studies of the activities of spiking neurons in the awake and behaving human brain and the insights they yield into cognitive and clinical phenomena. In the last decade, the synergistic interaction of neurosurgeons, engineers, and neuroscientists, combined with new technologies, has enabled scientists to study the awake, behaving human brain directly. These developments allow cognitive processes to be characterized at unprecedented resolution: single neuron activity. Direct observation of the human brain has already led to major insights into such aspects of brain function as perception, language, sleep, learning, memory, action, imagery, volition, and consciousness. In this volume, experts document the successes, challenges, and opportunity in an emerging field. The book presents methodological tutorials, with chapters on such topics as the surgical implantation of electrodes and data analysis techniques; describes novel insights into cognitive functions including memory, decision making, and visual imagery; and discusses insights into diseases such as epilepsy and movement disorders gained from examining single neuron activity. Finally, contributors consider future challenges, questions that are ripe for investigation, and exciting avenues for translational efforts. Contributors Ralph Adolphs, William S. Anderson, Arjun K. Bansal, Eric J. Behnke, Moran Cerf, Jonathan O. Dostrovsky, Emad N. Eskandar, Tony A. Fields, Itzhak Fried, Hagar Gelbard-Sagiv, C. Rory Goodwin, Clement Hamani, Chris Heller, Mojgan Hodaie, Matthew Howard III, William D. Hutchison, Matias Ison, Hiroto Kawasaki, Christof Koch, Rüdiger Köhling, Gabriel Kreiman, Michel Le Van Quyen, Frederick A. Lenz, Andres M. Lozano, Adam N. Mamelak, Clarissa Martinez-Rubio, Florian Mormann, Yuval Nir, George Ojemann, Shaun R. Patel, Sanjay Patra, Linda Philpott, Rodrigo Quian Quiroga, Ian Ross, Ueli Rutishauser, Andreas Schulze-Bonhage, Erin M. Schuman, Demetrio Sierra-Mercado, Richard J. Staba, Nanthia Suthana, William Sutherling, Travis S. Tierney, Giulio Tononi, Oana Tudusciuc, Charles L. Wilson

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Why our human brains are awesome, and how we left our cousins, the great apes, behind: a tale of neurons and calories, and cooking. Humans are awesome. Our brains are gigantic, seven times larger than they should be for the size of our bodies. The human brain uses 25% of all the energy the body requires each day. And it became enormous in a very short amount of time in evolution, allowing us to leave our cousins, the great apes, behind. So the human brain is special, right? Wrong, according to Suzana Herculano-Houzel. Humans have developed cognitive abilities that outstrip those of all other animals, but not because we are evolutionary outliers. The human brain was not singled out to become amazing in its own exclusive way, and it never stopped being a primate brain. If we are not an exception to the rules of evolution, then what is the source of the human advantage? Herculano-Houzel shows that it is not the size of our brain that matters but the fact that we have more neurons in the cerebral cortex than any other animal, thanks to our ancestors' invention, some 1.5 million years ago, of a more efficient way to obtain calories: cooking. Because we are primates, ingesting more calories in less time made possible the rapid acquisition of a huge number of neurons in the still fairly small cerebral cortex—the part of the brain responsible for finding patterns, reasoning, developing technology, and passing it on through culture. Herculano-Houzel shows us how she came to these conclusions—making “brain soup” to determine the number of neurons in the brain, for example, and bringing animal brains in a suitcase through customs. *The Human Advantage* is an engaging and original look at how we became remarkable without ever being special.

Written by one of the world's leading neuroscientists, *Making Up the Mind* is the first accessible account of experimental studies showing how the brain creates our mental world. Uses evidence from brain imaging, psychological experiments and studies of patients to explore the relationship between the mind and the brain. Demonstrates that our knowledge of both the mental and physical comes to us through models created by our brain. Shows how the brain makes communication of ideas from one mind to another possible.

*Neuronal Networks in Brain Function, CNS Disorders, and Therapeutics*, edited by two leaders in the field, offers a current and complete review of what we know about neural networks. How the brain accomplishes many of its more complex tasks can only be understood via study of neuronal network control and network interactions. Large networks can undergo major functional changes, resulting in substantially different brain function and affecting everything from learning to the potential for epilepsy. With chapters authored by experts in each topic, this book advances the understanding of: How the brain carries out important tasks via networks How these networks interact in normal brain function Major mechanisms that control network function The interaction of the normal networks to produce more complex behaviors How brain disorders can result from abnormal interactions How therapy of disorders can be advanced through this network approach This book will benefit neuroscience researchers and graduate students with an interest in networks, as well as clinicians in neuroscience, pharmacology, and psychiatry dealing with neurobiological disorders. Utilizes perspectives and tools from various neuroscience subdisciplines (cellular, systems, physiologic), making the volume broadly relevant. Chapters explore normal network function and control mechanisms, with an eye to improving therapies for brain disorders. Reflects predominant disciplinary shift from an anatomical to a functional perspective of the brain. Edited work with chapters authored by leaders in the field around the globe – the broadest, most expert coverage available.

This book provides eloquent support for the idea that spontaneous neuron activity, far from being mere noise, is actually the source of our cognitive abilities. In a sequence of "cycles," György Buzsáki guides the reader from the physics of oscillations through neuronal assembly organization to complex cognitive processing and memory storage. His clear, fluid writing—accessible to any reader with some scientific knowledge—is supplemented by extensive footnotes and references that make it just as gratifying and instructive a read for the specialist. The

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coherent view of a single author who has been at the forefront of research in this exciting field, this volume is essential reading for anyone interested in our rapidly evolving understanding of the brain.

Your Own Neuron is a daring adventure of parapsychology through the darkest and most enigmatic regions of the human mind. The human mind possesses various mysterious abilities that are often considered as science fiction. In this book the author investigates the foggy world of paranormal activities with the tools of modern neuroscience. International bestselling author, Neuroscientist Abhijit Naskar elucidates how the bizarre parapsychological phenomena such as telepathy, clairvoyance, precognition, premonition, afterlife do not possess any kind of paranormal element after all. The book illustrates the hardcore biological foundation behind all kinds of paranormal experiences. These fascinating experiences are the gift from Mother Nature that make human beings the most inexplicable species on planet earth.

Linden sets the record straight about the construction of the human brain; rather than the “beautifully-engineered optimized device, the absolute pinnacle of design” portrayed in many dumbed-down text books, pop-science tomes, and education televisions programs, Linden’s organ is a complicated assembly of cobbled-together functionality that created the mind as a by-product of ad-hoc solutions to questions of survival. His guided tour of the glorious amalgam of “crummy parts” includes pit-stops in the histories and fundamentals of neurology, neural-psychology, physiology, molecular and cellular biology, and genetics.

“Accessible, witty . . . an important new researcher, philosopher and popularizer of brain science . . . on par with cosmology’s Brian Greene and the late Carl Sagan” (The Plain Dealer). One of the Wall Street Journal’s 10 Best Nonfiction Books of the Year and a Publishers Weekly “Top Ten in Science” Title Every person is unique, but science has struggled to pinpoint where, precisely, that uniqueness resides. Our genome may determine our eye color and even aspects of our character. But our friendships, failures, and passions also shape who we are. The question is: How? Sebastian Seung is at the forefront of a revolution in neuroscience. He believes that our identity lies not in our genes, but in the connections between our brain cells—our particular wiring. Seung and a dedicated group of researchers are leading the effort to map these connections, neuron by neuron, synapse by synapse. It’s a monumental effort, but if they succeed, they will uncover the basis of personality, identity, intelligence, memory, and perhaps disorders such as autism and schizophrenia. Connectome is a mind-bending adventure story offering a daring scientific and technological vision for understanding what makes us who we are, as individuals and as a species. “This is complicated stuff, and it is a testament to Dr. Seung’s remarkable clarity of exposition that the reader is swept along with his enthusiasm, as he moves from the basics of neuroscience out to the farthest regions of the hypothetical, sketching out a spectacularly illustrated giant map of the universe of man.” —TheNew York Times “An elegant primer on what’s known about how the brain is organized and how it grows, wires its neurons, perceives its environment, modifies or repairs itself, and stores information. Seung is a clear, lively writer who chooses vivid examples.” —TheWashington Post

Cellular Physiology of Nerve and Muscle, Fourth Edition offers a state of the art introduction to the basic physical, electrical and chemical principles central to the function of nerve and muscle cells. The text begins with an overview of the origin of electrical membrane potential, then clearly illustrates the cellular physiology of nerve cells and muscle cells. Throughout, this new edition simplifies difficult concepts with accessible models and straightforward descriptions of experimental results. An all-new introduction to electrical signaling in the nervous system. Expanded coverage of synaptic transmission and synaptic plasticity. A quantitative overview of the electrical properties of cells. New detailed illustrations.

The aim of this new edition is, once again, to provide a readable, up-to-date book for use in undergraduate, graduate, and medical school

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courses in neuroscience. As in previous editions, the emphasis is on experiments made by electrical recordings, molecular and cellular biological techniques, and behavioral studies on the nervous system, from simple reflexes to cognitive functions. Lines of research are followed from the inception of an idea to new findings being made in laboratories and clinics today. A major change is that this edition begins with the anatomy and physiology of the visual system, from light receptors in the retina to the perception of images. This allows the reader to appreciate right away how nerve cells act as the building blocks for perception. Detailed mechanisms of signaling are then described in later chapters. All chapters have been rewritten, and new chapters added. From Neuron to Brain will be of interest to anyone, with or without a specialized background in biological sciences, who is curious about the workings of the nervous system.

The diversity of contemporary investigative approaches included in this volume provides an exciting account of our current understanding of brain mechanisms responsible for sensory and perceptual experience in the areas of touch, kinesthesia, and pain. Postgraduate research students in sensory physiology, neurology, psychology and anatomy, and researchers themselves will find that this volume addresses many of the key issues in our attempts to understand the neural mechanisms that mediate sensory experience arising from the body as a whole, the so-called somatic senses, in particular for touch and pain. The volume provides a record of the occasion of the St Petersburg IUPS symposium, chaired by the editors of this volume, and includes some added recent contributions from other leading international figures in the field. Brought together under the sponsoring banner of the IUPS Commission for Somatosensory Physiology and Pain, these scientists with their different experimental approaches seek collectively to understand the brain mechanisms that underlie our own nature and experience.

"For the instructor of Introduction to Neuroscience or Neurobiology courses with students who are intimidated by the study of the brain, our textbook From Neuron to Brain is designed to present difficult material on the nervous system through the process of experimentation. Lines of research are followed from the inception of an idea to new findings being made in laboratories and clinics today, allowing students to follow the path of experimentation toward an understanding of how the nervous system works. Nicholls et al. have built a readable and informative text that explains how nerve cells go about their business of transmitting signals, how the signals are put together, and how higher function emerges from this integration, all in an accessible and exciting way that will appeal to students. From Neuron to Brain, Sixth Edition and its exploration of the intricate workings of the nervous system will be of interest to instructors teaching undergraduate, graduate, and medical school courses in neuroscience"--

Gap junctions between glial cells or neurons are ubiquitously expressed in the mammalian brain and play a role in brain development including cell differentiation, cell migration and survival, and tissue homeostasis, as well as in human diseases including hearing loss, neuropathies, epilepsy, brain trauma, and cardiovascular disease. This volume provides neuroscience researchers and students with a single source for information covering the physiological, behavioral and pathophysiological roles of gap junctions in the brain. In addition, the book also discusses human disease conditions associated with mutations in single gap junction connexin genes, making it applicable to clinicians doing translational research. Finally, it includes reviews of pharmacological studies with gap junction blockers and openers, summarizing information obtained from phenotyping gap junction mouse mutants. Serves as the most current and comprehensive

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reference available covering the physiological, behavioral and pathophysiological roles of gap junctions in the brain. Chapters summarize knowledge of the basic physiology of gap junctions in the brain, as well as of human disease conditions associated with mutations in single gap junction connexin genes. Includes reviews of pharmacological studies with gap junction blockers and openers, summarizing information obtained from phenotyping gap junctions mouse mutants.

The brain ... There is no other part of the human anatomy that is so intriguing. How does it develop and function and why does it sometimes, tragically, degenerate? The answers are complex. In *Discovering the Brain*, science writer Sandra Ackerman cuts through the complexity to bring this vital topic to the public. The 1990s were declared the "Decade of the Brain" by former President Bush, and the neuroscience community responded with a host of new investigations and conferences. *Discovering the Brain* is based on the Institute of Medicine conference, *Decade of the Brain: Frontiers in Neuroscience and Brain Research*. *Discovering the Brain* is a "field guide" to the brain--an easy-to-read discussion of the brain's physical structure and where functions such as language and music appreciation lie. Ackerman examines how electrical and chemical signals are conveyed in the brain. The mechanisms by which we see, hear, think, and pay attention--and how a "gut feeling" actually originates in the brain. Learning and memory retention, including parallels to computer memory and what they might tell us about our own mental capacity. Development of the brain throughout the life span, with a look at the aging brain. Ackerman provides an enlightening chapter on the connection between the brain's physical condition and various mental disorders and notes what progress can realistically be made toward the prevention and treatment of stroke and other ailments. Finally, she explores the potential for major advances during the "Decade of the Brain," with a look at medical imaging techniques--what various technologies can and cannot tell us--and how the public and private sectors can contribute to continued advances in neuroscience. This highly readable volume will provide the public and policymakers--and many scientists as well--with a helpful guide to understanding the many discoveries that are sure to be announced throughout the "Decade of the Brain."

This solid introduction uses the principles of physics and the tools of mathematics to approach fundamental questions of neuroscience.

Several excellent monographs exist which deal with axons. These, however, focus either on the cellular and molecular biology of axons proper or on network organization of connections, the latter with only an incidental or abstract reference to axons per se. Still relatively neglected, however, is the middle ground of terminations and trajectories of single axons in the mammalian central nervous system. This middle level of connectivity, between networks on the one hand and local, in vitro investigations on the other, is to some extent represented by retrograde tracer studies and labeled neurons,

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but there have so far been many fewer of the complementary anterograde studies, with total visualization of the axonal arborization. The present volume brings together in one source an interrelated treatment of single axons from the perspective of microcircuitry and as substrates of larger scale organization (tractography). Especially for the former area - axons in microcircuitry - an abundance of published data exists, but these are typically in specialty journals that are not often accessed by the broader community. By highlighting and unifying the span from microcircuitry to tractography, the proposed volume serves as a convenient reference source and in addition inspires further interactions between what currently tend to be separate communities. The volume also redresses the imbalance between in vitro/local connectivity and long-distance connections. Focusing on mammalian systems, Part 1 of this book is devoted to anatomical investigations of connections at the single axon level, drawing on modern techniques and classical methods from the 1990s. A particular emphasis is on broad coverage of cortical and subcortical connections from different species, so that common patterns of divergence, convergence, and collateralization can be easily appreciated. Part 2 addresses mechanisms of axon guidance, as these seem particularly relevant to pathways and branching patterns. Part 3 covers axon dynamics and functional aspects; and Part 4 focuses on tractography, notably including comparisons between histological substrates and imaging. A novel innovative reference on the axon as a connectional unit, encompassing microcircuitry, axon guidance, and function Featuring chapters from leading researchers in the field Full-colour text that includes both an overview of axon function and the multiple underlying molecular mechanisms The only volume to bring together the configuration of individual axons at a circuit level and to relate the histological geometry of axons and axon bundles to in vivo tractography imaging studies

Mathematics for Neuroscientists, Second Edition, presents a comprehensive introduction to mathematical and computational methods used in neuroscience to describe and model neural components of the brain from ion channels to single neurons, neural networks and their relation to behavior. The book contains more than 200 figures generated using Matlab code available to the student and scholar. Mathematical concepts are introduced hand in hand with neuroscience, emphasizing the connection between experimental results and theory. Fully revised material and corrected text Additional chapters on extracellular potentials, motion detection and neurovascular coupling Revised selection of exercises with solutions More than 200 Matlab scripts reproducing the figures as well as a selection of equivalent Python scripts In the 25 years since From Neuron to Brain was first published, the author's aim has remained constant: to describe how nerve cells go about their business of transmitting signals, how the signals are put together, and how, out of this integration, higher functions emerge. The fourth edition, while maintaining this focus, has been completely reformatted and updated.

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The authoritative reference on NEURON, the simulation environment for modeling biological neurons and neural networks that enjoys wide use in the experimental and computational neuroscience communities. This book shows how to use NEURON to construct and apply empirically based models. Written primarily for neuroscience investigators, teachers, and students, it assumes no previous knowledge of computer programming or numerical methods. Readers with a background in the physical sciences or mathematics, who have some knowledge about brain cells and circuits and are interested in computational modeling, will also find it helpful. The NEURON Book covers material that ranges from the inner workings of this program, to practical considerations involved in specifying the anatomical and biophysical properties that are to be represented in models. It uses a problem-solving approach, with many working examples that readers can try for themselves.

How we raise young children is one of today's most highly personalized and sharply politicized issues, in part because each of us can claim some level of "expertise." The debate has intensified as discoveries about our development-in the womb and in the first months and years-have reached the popular media. How can we use our burgeoning knowledge to assure the well-being of all young children, for their own sake as well as for the sake of our nation? Drawing from new findings, this book presents important conclusions about nature-versus-nurture, the impact of being born into a working family, the effect of politics on programs for children, the costs and benefits of intervention, and other issues. The committee issues a series of challenges to decision makers regarding the quality of child care, issues of racial and ethnic diversity, the integration of children's cognitive and emotional development, and more. Authoritative yet accessible, *From Neurons to Neighborhoods* presents the evidence about "brain wiring" and how kids learn to speak, think, and regulate their behavior. It examines the effect of the climate-family, child care, community-within which the child grows.

At the crossroads of art and science, *Beautiful Brain* presents Nobel Laureate Santiago Ramón y Cajal's contributions to neuroscience through his groundbreaking artistic brain imagery. Santiago Ramón y Cajal (1852–1934) was the father of modern neuroscience and an exceptional artist. He devoted his life to the anatomy of the brain, the body's most complex and mysterious organ. His superhuman feats of visualization, based on fanatically precise techniques and countless hours at the microscope, resulted in some of the most remarkable illustrations in the history of science. *Beautiful Brain* presents a selection of his exquisite drawings of brain cells, brain regions, and neural circuits with accessible descriptive commentary. These drawings are explored from multiple perspectives: Larry W. Swanson describes Cajal's contributions to neuroscience; Lyndel King and Eric Himmel explore his artistic roots and achievement; Eric A. Newman provides commentary on the drawings; and Janet M. Dubinsky describes contemporary neuroscience imaging techniques. This book is the companion to a traveling exhibition opening at the Weisman Art Museum in Minneapolis in February 2017, marking the first time that many of these works, which are housed at the Instituto Cajal in Madrid, have been seen outside of Spain. *Beautiful Brain* showcases Cajal's contributions to neuroscience, explores his artistic roots and achievement, and looks at his work in relation to contemporary neuroscience imaging, appealing to general readers and professionals alike.

A comprehensive, integrated, and accessible textbook presenting core neuroscientific topics from a computational perspective, tracing a path from cells and circuits to behavior and cognition. This textbook presents a wide range of subjects in neuroscience from a computational perspective. It offers a comprehensive, integrated introduction to core topics, using computational tools to trace a path from neurons and circuits to behavior and cognition. Moreover, the chapters show how computational neuroscience—methods for modeling the causal interactions underlying neural systems—complements empirical research in advancing the understanding of brain and behavior. The

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chapters—all by leaders in the field, and carefully integrated by the editors—cover such subjects as action and motor control; neuroplasticity, neuromodulation, and reinforcement learning; vision; and language—the core of human cognition. The book can be used for advanced undergraduate or graduate level courses. It presents all necessary background in neuroscience beyond basic facts about neurons and synapses and general ideas about the structure and function of the human brain. Students should be familiar with differential equations and probability theory, and be able to pick up the basics of programming in MATLAB and/or Python. Slides, exercises, and other ancillary materials are freely available online, and many of the models described in the chapters are documented in the brain operation database, BODB (which is also described in a book chapter). Contributors Michael A. Arbib, Joseph Ayers, James Bednar, Andrej Bicanski, James J. Bonaiuto, Nicolas Brunel, Jean-Marie Cabelguen, Carmen Canavier, Angelo Cangelosi, Richard P. Cooper, Carlos R. Cortes, Nathaniel Daw, Paul Dean, Peter Ford Dominey, Pierre Enel, Jean-Marc Fellous, Stefano Fusi, Wulfram Gerstner, Frank Grasso, Jacqueline A. Griego, Ziad M. Hafed, Michael E. Hasselmo, Auke Ijspeert, Stephanie Jones, Daniel Kersten, Jeremie Knuesel, Owen Lewis, William W. Lytton, Tomaso Poggio, John Porrill, Tony J. Prescott, John Rinzel, Edmund Rolls, Jonathan Rubin, Nicolas Schweighofer, Mohamed A. Sherif, Malle A. Tagamets, Paul F. M. J. Verschure, Nathan Vierling-Claasen, Xiao-Jing Wang, Christopher Williams, Ransom Winder, Alan L. Yuille

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