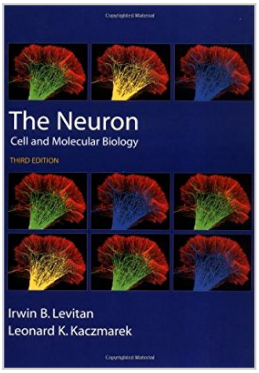

The Neuron: Cell and Molecular Biology

By Irwin B. Levitan, Leonard K. Kaczmarek

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The third edition of *The Neuron* provides a comprehensive first course in the cell and molecular biology of nerve cells. The first part of the book covers the properties of the many ion channels that shape the way a single neuron generates varied patterns of electrical activity, as well as the molecular mechanisms that convert electrical activity into the secretion of neurotransmitter hormones at synaptic junctions between neurons. The second part covers the biochemical pathways that are linked to the action of neurotransmitters and can alter the cellular properties of neurons or sensory cells that transduce information from the outside world into the electrical code used by neurons. The final section reviews our rapidly expanding knowledge of the molecular factors that induce an undifferentiated cell to become a neuron, and then guide it to form appropriate synaptic connections with its partners. This section also focuses on the role of ongoing experience and activity in shaping these connections, and finishes with an account of mechanisms thought to underlie the phenomena of learning and memory.

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Editorial Review

Review

"In spite of the overwhelming amount of information on all things neuronal, the authors have succeeded in providing in-depth coverage on many new discoveries in neuroscience and integrating the material into a readable text. ... The Neuron promises to be a very useful textbook ... and a helpful introductory guide for scientists just becoming interested in the nervous system."--The Quarterly Review of Biology

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"The text is impressively modern, with up-to date information on the trendiest areas of neurobiology . . . .the book is highly visual, with figures on virtually every page. The figures deserve special comment because they are a teacher's dream: simple and uncluttered, but conceptually powerful. Frankly, although the recommendation is often absurd, The Neuron is one of those books that really does belong on every shelf. "--Nature

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About the Author
Irwin B. Levitan, Ph.D., is the Nancy Lurie Marks Professor of Neuroscience at Brandeis University. Leonard K. Kaczmarek, Ph.D., is Professor of Pharmacology and Cellular and Molecular Physiology, and Chairman of the Pharmacology Department at Yale University School of Medicine.

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