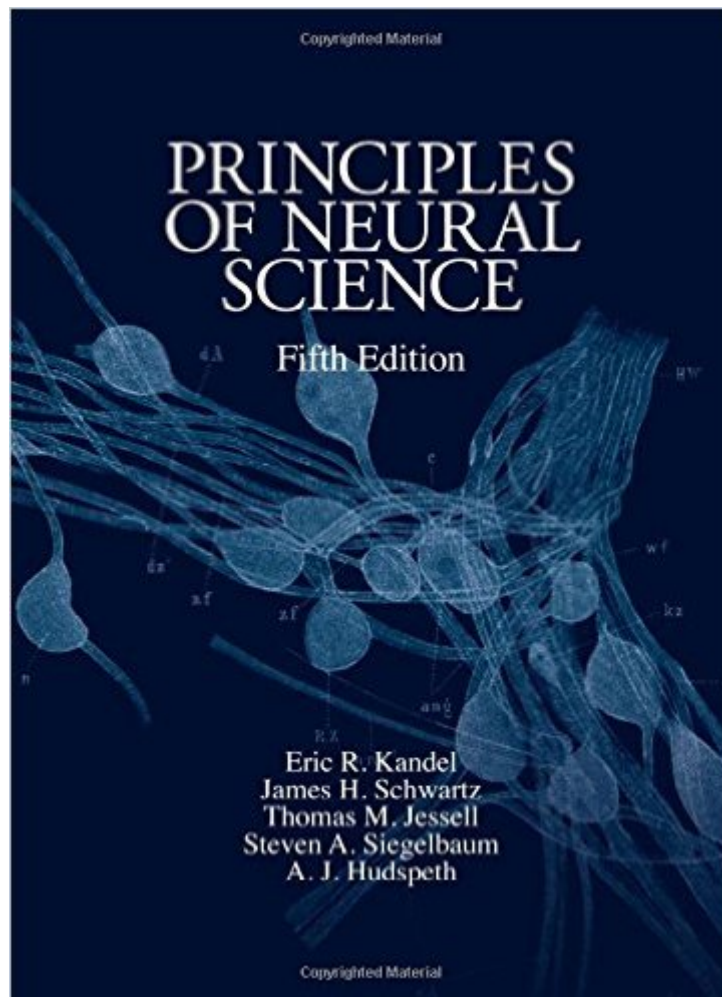# Principles Of Neural Science, Fifth Edition (Principles Of Neural Science (Kandel))

Synopsis

Now updated: the definitive neuroscience resourceâ •from Eric R. Kandel, MD (winner of the Nobel Prize in 2000); James H. Schwartz, MD, PhD; Thomas M. Jessell, PhD; Steven A. Siegelbaum, PhD; and A. J. Hudspeth, PhDA Doody's Core Title for 2015!900 full-color illustrations

Book Information

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Customer Reviews

I purchased the 4th edition of Principles of Neural Science back in 2001, when I was studying at McGill in cognitive science and neuroscience. This was the most useful introduction on the subject matter of neuroscience, and its amazing breadth and depth was sufficient to cover all the basics and find references for further readings on specific topics.I used it extensively when I started my PhD in cognitive science at Carleton University and had a challenging, full-year course in behavioral neuroscience. The fourth edition has aged well as an introduction, but the neuroscience community was longing for an update in a field which is less forgiving about years-old sources. It is sad that it took 12 years (!) for an update, but what an update it is!The 5th edition clocks at 350 additional pages approximately, and while the original material has been preserved where it is required, it *has been updated*. Sections on cognitive processes and behavioral features have been added, more details on aging and neuropathologies/lesions, and of course, the artwork is wonderful. It is slightly more pedagogically-oriented, which was not even a shortcoming in the previous edition. Awesome updates on the reference material to cover the work between 2000 and 2008-ish (I know, it's not up

to 2012, but that's how editing and publishing works, viz., slowly).The icing on the cake is the new computational neuroscience stuff, which is to me invaluable, considering that I study cognitive science in general, and computational cognitive modeling in particular. Add appendices on the theory of neural wiring/engineering and computational modelling, and this is a good A+.I might be biased, since I wanted this book to be awesome, but hey, they did it again.

This book covers fundamental aspects of neuroscience. Its purpose is to be conservative, so it doesn't delve into controversial, rare, or truly cutting edge research. Nearly every student and professor of neuroscience has this or its 4th edition.Basically, an undergraduate degree in neuroscience consists of taking fundamental classes in chemistry, biology, physics, and psychology, as well as reading a big chunk of this book (the principles of neural science) and getting some neuroscience related lab experience (if the program is good). But, the neuroscience part of the neuroscience degree mostly has to do with reading lots of this huge book. A PhD in neuroscience consists of reading a million journal articles, conducting research, and often consulting the principles of neural science (mostly during the first year or two...I didn't, but most do). The book still remains on the desk or in the bookcase of even the most veteran researchers and professors, since there is no better way, in theory, to brush up on or become familiar with a traditional area of neuroscience quickly than starting with this book. Say I'm a new assistant professor and am asked to give a lecture on a neuroscience area far outside my specialty. First, I might quickly scan the topic in the principles of neural science; second, I might go to pubmed and read an up-to-date review on the topic; finally, I might focus in on a couple specific research papers in the area that most attract my curiosity. And bam. In three or four hours I've gone from not knowing a single thing about the topic to being able to give an hour long lecture or lead a discussion on it.

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