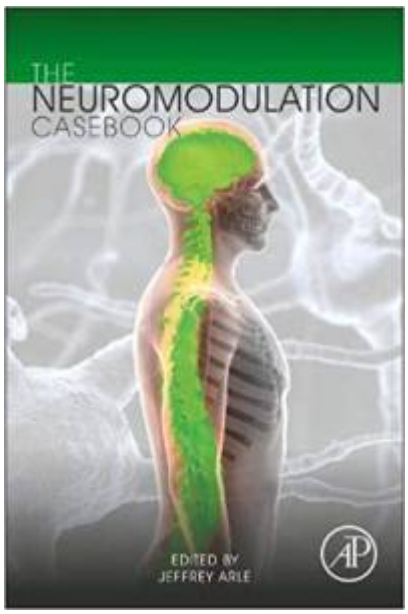
The Neuromodulation Casebook

by Jeffrey Arle (Editor)



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The Neuromodulation Casebook is a case-based volume for practical, hands-on decision-making using realistic case examples from the field of neuromodulation. It encompasses a variety of techniques and therapies, ranging from deep brain stimulation for a multitude of disorders to spinal cord stimulation, peripheral nerve stimulation, cortical stimulation, and cranial nerve stimulation, as well as non-invasive therapies and other implanted types of devices that interface with the nervous system. Allowing readers to better learn via case-based examples, this practical volume depicts real examples of decisions neuroscientists and neurosurgeons need to make every day from leaders in the field.

This book serves as a companion text to the editor's previous titles Essential Neuromodulation and Innovative Neuromodulation for neuroscience, neural engineering, and biomedical engineering courses.

About the Author

Jeff Arle, MD, PhD, FAANS

Dr. Arle is currently the Associate Chief of Neurosurgery at Beth Israel Deaconess Medical Center in Boston, the Chief of Neurosurgery at Mt. Auburn Hospital in Cambridge, and an Associate Professor of Neurosurgery at Harvard Medical School. He received his BA in Biopsychology from Columbia University in 1986 and his MD and PhD from the University of Connecticut in 1992. His dissertation work for his doctorate in Biomedical Sciences was in computational modeling in the Cochlear Nucleus. He then went on to do a residency in neurosurgery at the University of Pennsylvania, incorporating a double fellowship in movement disorder surgery and epilepsy surgery under Drs. Patrick Kelly, Ron Alterman, and Werner Doyle, finishing in 1999.

He edited the companion text Essential Neuromodulation with Dr. Shils, the first edition published by Elsevier in 2011. He has now practiced in the field of functional neurosurgery for 17 years and is experienced in all areas of neuromodulation from deep brain stimulators to vagus nerve, spinal cord, peripheral nerve, and motor cortex stimulators, contributing frequent peer-reviewed publications and numerous chapters to the literature on many aspects of the neuromodulation field. He currently serves as an associate editor at the journals Neuromodulation and Neurosurgery, is the co-chair of the Research and Scientific Policy Committee for the International Neuromodulation Society, and is on the Board of Directors for the International Society for Intraoperative Neurophysiology. His long-standing research interests are in the area of computational modeling in the understanding and improved design of devices used in neuromodulation treatments.