Beyond the Synapse

Formation of synapses and the changes in their connections during life are the basis for learning and memory and recovery from brain disease or injury. Much interest has been focussed on how synapses function at the molecular level, while the cell–cell interactions controlling their formation and function receive far less attention. This book expands the scope of inquiry beyond the synaptic cleft to provide a comprehensive insight into how intercellular signaling enables neurons to communicate beyond the synapse, and to interact with other cells in the brain to alter synaptic connections appropriately. These are chapters devoted to consideration of glia, brain cells which have thus far been ignored in the majority of studies of learning and memory. Writing for academic researchers and professionals, contributors to this book reveal that there is much to learning and memory that lies beyond the synapse.

R. Douglas Fields has worked at the NIH, where he now runs the Nervous System Development and Plasticity section, since 1987. Originally a marine biologist, Dr Fields has always based his primary research interests around the synapse. He is currently Editor-in-Chief of Neuron Glia Biology.
Beyond the Synapse
Cell–Cell Signaling in Synaptic Plasticity

Edited by
R. Douglas Fields
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