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Neuroscientists, biomedical researchers, grad students, postdocs

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Molecular-Genetic and Statistical Techniques for Behavioral and Neural Research

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An up-to-date reference on the molecular-genetic techniques used by neuroscientists and all biomedical scientists performing neural research

KEY FEATURES

- Introduces relevant aspects of genomic research and neuroinformatics
- Describes numerous methods employed for the analysis of brain function and behavior
- Considers bioinformatics, genomics, and molecular biology strategies for phenotypic analysis
- Discusses forward and reverse genetic approaches and genetic animal models of disease
- Features a section on ethical concerns arising from these methods and their applications

DESCRIPTION

The use of recombinant DNA technologies has revolutionized neuroscience research over the past five decades. Discoveries made possible by these technologies in this new field of biotechnology propelled translational research and medicine, engaged the media, and fascinated scientists and the public with their widespread use in laboratories, pharmacies, hospitals, and supermarkets.

Molecular-Genetic and Statistical Techniques for Behavioral and Neural Research provides an informative account of the most exciting molecular and recombinant DNA techniques used in the analysis of brain function and behavior. This information is critical for clinicians, scientists, course instructors and advanced undergraduate and graduate students. Chapters examine neuroinformatics, genetic and neurobehavioral databases and data mining, analysis of natural genetic variation, and principles and applications of forward (mutagenesis) and reverse genetics (gene targeting). In addition, it discusses approaches for studying gene expression for understanding brain function and behavior, as well as discussions about the ethical use of animals in neurobehavioral genetics research. Written and edited by leading international experts, this book provides a clear presentation of the frontiers of basic research as well as translationally relevant techniques that are used by neurobehavioral geneticists.

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