

Journal Of Neuroscience Impact Factor

The conference focuses on performance, reliability and dependability evaluation of telecommunication networks, computer systems and related areas in emerging technologies e.g. regarding big data handling, security and multiparadigm modelling and simulation. Applications of new methodologies are also expected.

Connectomic Deep Brain Stimulation (DBS) covers this highly efficacious treatment option for movement disorders such as Parkinson's Disease, Essential Tremor and Dystonia. The book examines its impact on distributed brain networks that span across the human brain in parallel with modern-day neuroimaging concepts and the connectomics of the brain. It asks several questions, including which cortical areas should DBS electrodes be connected in order to generate the highest possible clinical improvement? Which connections should be avoided? Could these connectomic insights be used to better understand the mechanism of action of DBS? How can they be transferred to individual patients, and more. This book is suitable for neuroscientists, neurologists and functional surgeons studying DBS. It provides practical advice on processing strategies and theoretical background, highlighting and reviewing the current state-of-the-art in connectomic surgery. Written to provide a "hands-on" approach for neuroscience graduate students, as well as medical personnel from the fields of neurology and neurosurgery. Includes preprocessing strategies (such as co-registration, normalization, lead localization, VTA estimation and fiber-tracking approaches). Presents references (key articles, books and protocols) for additional detailed study. Provides data analysis boxes in each chapter to help with data interpretation.

Frontiers in Cognitive Neuroscience is the first book of extensive readings in an exciting new field that is built on the assumption that "the mind is what the brain does," and that seeks to understand how brain function gives rise to mental activities such as perception, memory, and language. The editors, a cognitive scientist and a neuroscientist, have worked together to select contributions that provide the interdisciplinary foundations of this emerging field, putting them into context, both historically and with regard to current issues. Fifty-five articles are grouped in sections that cover attention, vision, auditory and somatosensory systems, memory, and higher cortical functions. They range from Gazzaniga and Bogen's discussion of functional effects of sectioning the cerebral commissure in man and Geschwind's classic study of the organization of language in the brain, published in the 1960s, to contemporary investigations by Schiller and Logothetis on color-opponent and broad-band channels of the primate visual system and by Bekkers and Stevens on presynaptic mechanisms for long-term potentiation in the hippocampus. The editors have provided both a general introduction and introductions to each of the five major sections. Stephen Kosslyn is Professor of Psychology at Harvard University. Richard Andersen is Professor of Neuroscience and Director of the McDonnell-Pew Center for Cognitive Neuroscience at the Massachusetts Institute of Technology.

The first two editions of this title had a tremendous impact in neuroscience. Between the Second edition in 1989 and today, there has been an explosion of information in the field, including advances in molecular techniques, such as genomics and proteomics, which have become increasingly important in neuroscience. A renaissance in

fluorescence has occurred, driven by the development of new probes, new microscopes, live imagers, and computer processing. The introduction of new markers has enormously stimulated the field, moving it from tissue culture to neurophysiology to functional MRI techniques.

Neurobiology of Language explores the study of language, a field that has seen tremendous progress in the last two decades. Key to this progress is the accelerating trend toward integration of neurobiological approaches with the more established understanding of language within cognitive psychology, computer science, and linguistics. This volume serves as the definitive reference on the neurobiology of language, bringing these various advances together into a single volume of 100 concise entries. The organization includes sections on the field's major subfields, with each section covering both empirical data and theoretical perspectives. "Foundational" neurobiological coverage is also provided, including neuroanatomy, neurophysiology, genetics, linguistic, and psycholinguistic data, and models. Foundational reference for the current state of the field of the neurobiology of language Enables brain and language researchers and students to remain up-to-date in this fast-moving field that crosses many disciplinary and subdisciplinary boundaries Provides an accessible entry point for other scientists interested in the area, but not actively working in it – e.g., speech therapists, neurologists, and cognitive psychologists Chapters authored by world leaders in the field – the broadest, most expert coverage available

The endocannabinoid signaling system is a key modulator of central nervous function. This volume, essential reading for interested neuroscientists, provides in-depth coverage of the roles of the endocannabinoid signaling system in the neurobiology of behavior.

Synaptic Function Wiley-Interscience

Serotonin (5-hydroxytryptamine, often cited as 5-HT) is one of the major excitatory neurotransmitter, and the serotonergic system is one of the best studied and understood transmitter systems. It is crucially involved in the organization of virtually all behaviours and in the regulation of emotion and mood. Alterations in the serotonergic system, induced by e.g. learning or pathological processes, underlie behavioural plasticity and changes in mood, which can finally results in abnormal behaviour and psychiatric conditions. Not surprisingly, the serotonergic system and its functional components appear to be targets for a multitude of pharmacological treatments - examples of very successful drugs targeting the serotonergic system include Prozac and Zoloft. The last decades of research have not only fundamentally expanded our view on serotonin but also revealed in much more detail an astonishing complexity of this system, which comprises a multitude of receptors and signalling pathways. A detailed view on its role in basal, but also complex, behaviours emerged, and, was presented in a number of single review articles. Although much is known now, the serotonergic system is still a fast growing field of research contributing to our present understanding of the brains function during normal and disturbed behaviour. This handbook aims towards a detailed and comprehensive overview over the many facets of behavioural serotonin research. As such, it will provide the most up to date and thorough reading concerning the serotonergic systems control of behaviour and mood in animals and humans. The goal is to create a systematic overview and first hand reference that can be used by students and scholars alike in the fields of genetics,

anatomy, pharmacology, physiology, behavioural neuroscience, pathology, and psychiatry. The chapters in this book will be written by leading scientists in this field. Most of them have already written excellent reviews in their field of expertise. The book is divided in 4 sections. After an historical introduction, illustrating the growth of ideas about serotonin function in behaviour of the last forty years, section A will focus on the functional anatomy of the serotonergic system. Section B provides a review of the neurophysiology of the serotonergic system and its single components. In section C the involvement of serotonin in behavioural organization will be discussed in great detail, while section D deals with the role of serotonin in behavioural pathologies and psychiatric disorders. The first handbook broadly discussing the behavioral neurobiology of the serotonergic transmitter system Co-edited by one of the pioneers and opinion leaders of the past decades, Barry Jacobs (Princeton), with an international list (10 countries) of highly regarded contributors providing over 50 chapters, and including the leaders in the field in number of articles and citations: K. P. Lesch, T. Sharp, A. Caspi, P. Blier, G.K. Aghajanian, E. C. Azmitia, and others The only integrated and complete resource on the market containing the best information integrating international research, providing a global perspective to an international community Of great value not only for researchers and experts, but also for students and clinicians as a background reference

What will future sci-tech libraries be like? Who will be the key players? In this insightful volume, first published in 1992, leaders in sci-tech librarianship reflect on their years in the profession and predict how the sci-tech library will look in ten years. It takes a close look at the revolution in the communication of scientific information and how technology has transformed the process of knowledge delivery and acquisitions. It prepares libraries to react to new channels of scholarly communication that in the future may challenge the viability of the research library. Most importantly, it emphasizes how the rapid pace of change in science, communication, and computers has pushed libraries to aggressively seek to become central to the knowledge formation and transfer process - just to survive. These provocative chapters reveal how sci-tech librarians need to work with scientists and engineers to understand their changing information needs and to participate in the planning and development of new information systems. This book examines all areas of the scientific process that will be affected by change: the way research is conducted, communicated, transferred, stored, and delivered. The changes discussed in this book encompass researchers, librarians, information managers, publishers, and users. Some of the important topics discussed include an in-depth analysis of the information needs of science and engineering and how to best develop the electronic means to meet them; leadership challenges in the future electronic, computer, or virtual library; concern over the quality of information services for scientists delivered by non-scientist librarians; a ten-year prediction for sci-tech librarians and sci-tech publishers; the science library building of the future; the impact of increasingly interdisciplinary scientific research; and the effect of federal policy on sci-tech libraries.

Current Protocols in Neuroscience (CPN) draws from techniques in molecular neurobiology, neurophysiology, neuroanatomy, neuropharmacology, and behavioral neuroscience to meet the specific needs of researchers in the full range of disciplines that is involved in studying the brain, nervous system, and corresponding behaviors.

The editorial board of CPN have assembled an outstanding range of methods to enable users to explore their fields in greater depth and branch into related areas. The one-volume, looseleaf manual features carefully edited techniques with authors' troubleshooting tips and helpful comments that come from extensive experience in using these procedures. Quarterly updates, filed into the looseleaf, keep you and your laboratory current with the latest developments in this rapidly changing field. The initial purchase includes one year of updates and then subscribers may renew their annual subscriptions. Current Protocols publishes a family of laboratory manuals for bioscientists, including Molecular Biology, Immunology, Human Genetics, Protein Science, Cytometry, Cell Biology, Pharmacology, and Toxicology.

The Advances in Pharmacology series presents a variety of chapters from the best authors in the field. Includes the authority and expertise of leading contributors in pharmacology Presents the latest release in the Advances in Pharmacology series This book consists of five sections. The first section details methods for analyzing both presynaptic and postsynaptic function and emphasizes the molecular aspects of synapses. It describes ongoing studies of neurotransmitter release, voltage-sensitive ion channels, and electronic transmission at gap junctions. The second section focuses on the growing menagerie of neurotransmitters: their categorization into chemical families, their relation to ion channels, their modulation by second messenger systems and their role in pharmacologic action. The third section considers the important relationship of transmitter diversity and synaptic types to the behavior of actual cellular networks. All of the studies described in these sections point to the necessity of considering interactions between anatomy, chemistry, physiology and pharmacology if synaptic function is to be understood at any one of these levels of analysis.

Memory Mechanisms is an edited review volume that summarizes state-of-the-art knowledge on memory mechanisms at the molecular, cellular and circuit level. Each review is written by leading experts in the field, presenting not only current knowledge, but also discussing the concepts, providing critical reflections and suggesting an outlook for future studies. The memory mechanisms are also discussed in the context of diseases. Studies of memory deficits in disease models are introduced as well as approaches to restore memory deficits. Finally, the impact of contemporary memory research for psychiatry is illustrated.

Psychiatric disorders are brain disorders, reflecting dysfunction within and across neural networks. Advances in functional neuroimaging and cellular neuroscience offer hope of revolutionizing the approach to diagnosis and treatment of mental illnesses. This resource presents an introduction to network neuroscience and demonstrates the relationship of advances in this field to the future of psychiatry. Oxford Clinical Neuroscience is a comprehensive, cross-searchable collection of resources offering quick and easy access to eleven of Oxford University Press's prestigious neuroscience texts. Joining Oxford Medicine Online these resources offer students, specialists and clinical researchers the best quality content in an easy-to-access format.

Chamine exposes how your mind is sabotaging you and keeping you from achieving your true potential. He shows you how to take concrete steps to unleash the vast, untapped powers of your mind.

From speech to breathing to overt movement contractions of muscles are the only way other than sweating whereby we literally make a mark on the world. Locomotion is an essential part of this equation and exciting new developments are shedding light on the mechanisms

underlying how this important behavior occurs. The Neural Control of Movement discusses these developments across a variety of species including man. The editors focus on highlighting the utility of different models from invertebrates to vertebrates. Each chapter discusses how new approaches in neuroscience are being used to dissect and control neural networks. An area of emphasis is on vertebrate motor networks and particularly the spinal cord. The spinal cord is unique because it has seen the use of genetic tools allowing the dissection of networks for over ten years. This book provides practical details on model systems, approaches, and analysis approaches related to movement control. This book is written for neuroscientists interested in movement control. Provides practice details on model systems, approaches, and analysis approaches related to movement control Discusses how recent advances like optogenetics and chemogenetics affect the need for model systems to be modified (or not) to work for studies of movement and motor control Written for neuroscientists interested in movement control, especially movement disorders like Parkinson's, MS, spinal cord injury, and stroke

Decision Neuroscience addresses fundamental questions about how the brain makes perceptual, value-based, and more complex decisions in non-social and social contexts. This book presents compelling neuroimaging, electrophysiological, lesional, and neurocomputational models in combination with hormonal and genetic approaches, which have led to a clearer understanding of the neural mechanisms behind how the brain makes decisions. The five parts of the book address distinct but inter-related topics and are designed to serve both as classroom introductions to major subareas in decision neuroscience and as advanced syntheses of all that has been accomplished in the last decade. Part I is devoted to anatomical, neurophysiological, pharmacological, and optogenetics animal studies on reinforcement-guided decision making, such as the representation of instructions, expectations, and outcomes; the updating of action values; and the evaluation process guiding choices between prospective rewards. Part II covers the topic of the neural representations of motivation, perceptual decision making, and value-based decision making in humans, combining neurocomputational models and brain imaging studies. Part III focuses on the rapidly developing field of social decision neuroscience, integrating recent mechanistic understanding of social decisions in both non-human primates and humans. Part IV covers clinical aspects involving disorders of decision making that link together basic research areas including systems, cognitive, and clinical neuroscience; this part examines dysfunctions of decision making in neurological and psychiatric disorders, such as Parkinson's disease, schizophrenia, behavioral addictions, and focal brain lesions. Part V focuses on the roles of various hormones (cortisol, oxytocin, ghrelin/leptin) and genes that underlie inter-individual differences observed with stress, food choices, and social decision-making processes. The volume is essential reading for anyone interested in decision making neuroscience. With contributions that are forward-looking assessments of the current and future issues faced by researchers, Decision Neuroscience is essential reading for anyone interested in decision-making neuroscience. Provides comprehensive coverage of approaches to studying individual and social decision neuroscience, including primate neurophysiology, brain imaging in healthy humans and in various disorders, and genetic and hormonal influences on decision making Covers multiple levels of analysis, from molecular mechanisms to neural-systems dynamics and computational models of how we make choices Discusses clinical implications of process dysfunctions, including schizophrenia, Parkinson's disease, eating disorders, drug addiction, and pathological gambling Features chapters from top international researchers in the field and full-color presentation throughout with numerous illustrations to highlight key concepts This volume addresses one of the Holy Grails in Psychiatry, namely the evidence for and potential to adopt 'Biomarkers' for prevention, diagnosis, and treatment responses in mental health conditions. It meshes together state of the art research from international renowned pre-

clinical and clinical scientists to illustrate how the fields of anxiety disorders, depression, psychotic disorders, and autism spectrum disorder have advanced in recent years.

Advances in the Study of Behavior

The book presents a basis for the interaction of the brain and nervous system with painting, music and literature, and a discussion of art from multiple facets – such as anatomy, migraine, illusion and evolutionary biology. The book explores several aspects of the neurobiology of painting, including evolutionary neurobiology, sensation vs. perception, the visual brain and how the mind works, and also explores the affects of brain disorders and trauma on artist, with a concluding chapter on Frida Kahlo and the spinal cord injury that influenced her painting. Up-to-date discussion of the etiology, diagnosis, treatment, and prevention of this common cause of stroke and cognitive impairment.

'The Orbitofrontal Cortex' explores a part of the brain that is important in human emotion, pleasure, decision-making, valuation, and personality. The book is unique in providing a coherent multidisciplinary approach to understanding the functions of one of the most interesting regions of the human brain, in both health and in disease.

'Represents the culmination of an 18-month-long project that aims to be the definitive review of this important topic. Accompanied by a scholarly literature review, some new analysis, and a wealth of evidence and insight... the report is a tour de force; a once-in-a-generation opportunity to take stock.' – Dr Steven Hill, Head of Policy, HEFCE, LSE Impact of Social Sciences Blog 'A must-read if you are interested in having a deeper understanding of research culture, management issues and the range of information we have on this field. It should be disseminated and discussed within institutions, disciplines and other sites of research collaboration.' – Dr Meera Sabaratnam, Lecturer in International Relations at the School of Oriental and African Studies, University of London, LSE Impact of Social Sciences Blog Metrics evoke a mixed reaction from the research community. A commitment to using data and evidence to inform decisions makes many of us sympathetic, even enthusiastic, about the prospect of granular, real-time analysis of our own activities. Yet we only have to look around us at the blunt use of metrics to be reminded of the pitfalls. Metrics hold real power: they are constitutive of values, identities and livelihoods. How to exercise that power to positive ends is the focus of this book. Using extensive evidence-gathering, analysis and consultation, the authors take a thorough look at potential uses and limitations of research metrics and indicators. They explore the use of metrics across different disciplines, assess their potential contribution to the development of research excellence and impact and consider the changing ways in which universities are using quantitative indicators in their management systems. Finally, they consider the negative or unintended effects of metrics on various aspects of research culture. Including an updated introduction from James Wilsdon, the book proposes a framework for responsible metrics and makes a series of targeted recommendations to show how responsible metrics can be applied in research management, by funders, and in the next cycle of the Research Excellence Framework. The metric tide is certainly rising. Unlike King Canute, we have the agency and opportunity – and in this book, a serious body of evidence – to influence how it washes through higher education and research.

The Cerebellum and Cognition pulls together a preeminent group of authors. The cerebellum has been previously considered as a highly complex structure involved only with motor control. The cerebellum is essential to nonmotor functions, and recent research has revealed new medically important roles of the cerebellum and cognitive

processes. Selected for inclusion in Doody's Core Titles 2013, an essential collection development tool for health sciences libraries Comprehensive coverage of cerebellum in motor control and cognition New developments regarding the cerebellum and motor systems Therapeutic implications of cerebellar contributions to cognition Preeminent group of contributors

Glial Neuronal Signaling fills a need for a monograph/textbook to be used in advanced courses or graduate seminars aimed at exploring glial-neuronal interactions. Even experts in the field will find useful the authoritative summaries of evidence on ion channels and transporters in glia, genes involved in signaling during development, metabolic cross talk and cooperation between astrocytes and neurons, to mention but a few of the timely summaries of a wide range of glial-neuronal interactions. The chapters are written by the top researchers in the field of glial-neuronal signaling, and cover the most current advances in this field. The book will also be of value to the workers in the field of cell biology in general. When we think about the brain we usually think about neurons. Although there are 100 billion neurons in mammalian brain, these cells do not constitute a majority. Quite the contrary, glial cells and other non-neuronal cells are 10-50 times more numerous than neurons. This book is meant to integrate the emerging body of information that has been accumulating, revealing the interactive nature of the brain's two major neural cell types, neurons and glia, in brain function. Neurogerontology tells the story of how the aging brain affects all aspects of cognition and physical performance. It comprehensively links the principles and substance of neuroscience with gerontology and psychology. Written largely from a behavioral neuroscience perspective, Neurogerontology explores the functional relationships between the central nervous system and psychological phenomena of aging, including perception, arousal, learning, cognition, and motor behavior. Willot emphasizes healthy aging, but dementia and other pathological conditions are discussed when relevant. This evidence-based approach to the neuroscience of aging makes this a valuable reference for professionals, as well as an informative textbook for students in gerontology courses.

This new, fully revised and expanded edition of Ionic Channels of Excitable Membranes includes new chapters on fast chemical synapses, modulation through G protein coupled receptors and second messenger systems, molecules cloning, site directed mutagenesis, and cell biology. It begins with the classical biophysical work of Hodgkin and Huxley and then weaves a description of the known ionic channels together with their biological functions. The book continues by developing the physical and molecular principles needed for explaining permeation, gating, pharmacological modification, and molecular diversity, and ends with a discussion of channel evolution. Ionic Channels of Excitable Membranes is written to be accessible and interesting to biological and physical scientists of all kinds.

History of Cognitive Neuroscience documents the major neuroscientific experiments and theories over the last century and a half in the domain of cognitive neuroscience, and evaluates the cogency of the conclusions that have been drawn from them.

Provides a companion work to the highly acclaimed Philosophical Foundations of Neuroscience - combining scientific detail with philosophical insights Views the evolution of brain science through the lens of its principal figures and experiments

Addresses philosophical criticism of Bennett and Hacker's previous book Accompanied

by more than 100 illustrations

In recent decades, developments in research technologies and therapeutic advances have generated immense public recognition for neuroscience. However, its origins as a field, often linked to partnerships and projects at various brain-focused research centres in the United States during the 1960s, can be traced much further back in time. In *A New Field in Mind* Frank Stahnisch documents and analyzes the antecedents of the modern neurosciences as an interdisciplinary field. Although postwar American research centres, such as Francis O. Schmitt's Neuroscience Research Program at MIT, brought the modern field to prominence, Stahnisch reveals the pioneering collaborations in the early brain sciences at centres in Germany, Austria, and Switzerland in the first half of the twentieth century. One of these, Heinrich Obersteiner's institute in Vienna, began its work in the 1880s. Through case studies and collective biographies, Stahnisch investigates the evolving relationships between disciplines – anatomy, neurology, psychiatry, physiology, serology, and neurosurgery – which created new epistemological and social contexts for brain research. He also shows how changing political conditions in Central Europe affected the development of the neurosciences, ultimately leading to the expulsion of many physicians and researchers under the Nazi regime and their migration to North America. An in-depth and innovative study, *A New Field in Mind* tracks the emergence and evolution of neuroscientific research from the late nineteenth century to the postwar period.

The study of language has increasingly become an area of interdisciplinary interest. Not only is it studied by speech specialists and linguists, but by psychologists and neuroscientists as well, particularly in understanding how the brain processes meaning. This book is a comprehensive look at sentence processing as it pertains to the brain, with contributions from individuals in a wide array of backgrounds, covering everything from language acquisition to lexical and syntactic processing, speech pathology, memory, neuropsychology, and brain imaging.

The physics of transition metal oxides has become a central topic of interest to condensed-matter scientists ever since high temperature superconductivity was discovered in hole-doped cuprates with perovskite-like structures. Although the renewed interest in hole-doped perovskite manganites following the discovery of their colossal magnetoresistance (CMR) properties, began in 1993 about a decade after the discovery of high temperature superconductivity, their first investigation started as early as 1950 and basic theoretical ideas were developed during 1951-1960. Experience in sample preparation and characterization, and in growth of single crystals and epitaxial thin films, gained during the research on high temperature superconductors, and the development of theoretical tools, were very efficiently used in research on CMR manganites. In early nineties it appeared to many condensed matter physicists that although the problem of high temperature superconductivity is a difficult one to solve, a quantitative

understanding of CMR phenomena might be well within reach. This book is intended to be an account of the latest developments in the physics of CMR manganites. When I planned this book back in 2000, I thought that research on the physics of CMR manganites would be more or less consolidated by the time this would be published. I was obviously very optimistic indeed. We are now in 2003 and we still do not have a quantitative understanding of the central CMR effect. Meanwhile the field has expanded. It is still a very active field of research on both the experimental and theoretical fronts.

Pharmacognosy is a term derived from the Greek words for drug (pharmakon) and knowledge (gnosis). It is a field of study within Chemistry focused on natural products isolated from different sources and their biological activities. Research on natural products began more than a hundred years ago and has continued up to now with a plethora of research groups discovering new ideas and novel active constituents. This book compiles the latest research in the field and will be of interest to scientists, researchers, and students.

Pandemics are large-scale epidemics that spread throughout the world. Virologists predict that the next pandemic could occur in the coming years, probably from some form of influenza, with potentially devastating consequences. Vaccinations, if available, and behavioral methods are vital for stemming the spread of infection. However, remarkably little attention has been devoted to the psychological factors that influence the spread of pandemic infection and the associated emotional distress and social disruption. Psychological factors are important for many reasons. They play a role in nonadherence to vaccination and hygiene programs, and play an important role in how people cope with the threat of infection and associated losses. Psychological factors are important for understanding and managing societal problems associated with pandemics, such as the spreading of excessive fear, stigmatization, and xenophobia that occur when people are threatened with infection. This book offers the first comprehensive analysis of the psychology of pandemics. It describes the psychological reactions to pandemics, including maladaptive behaviors, emotions, and defensive reactions, and reviews the psychological vulnerability factors that contribute to the spreading of disease and distress. It also considers empirically supported methods for addressing these problems, and outlines the implications for public health planning.

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